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LETTER AND U S NAVY RESPONSE TO VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY COMMENTS REGARDING DRAFT SITE INSPECTION REPORT FORMER MORALE, WELFARE AND RECREATION SKEET RANGE JEB LITTLE CREEK VA
10/15/2010
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October 15, 2010

Mr. Paul E. Herman, P.E.
Remedial Project Manager
Virginia Department of Environmental Quality
629 East Main Street, 4th Floor
Richmond, VA 23219

Subject: Response to Comments, *Draft Site Inspection Report, Morale, Welfare, and Recreation Skeet Range, Military Munitions Response Program*, Joint Expeditionary Base Little Creek-Fort Story, Naval Amphibious Base Little Creek, Virginia Beach, Virginia.

Dear Mr. Herman:

On behalf of the Navy, CH2M HILL has prepared the following responses to comments received from VDEQ on the *Draft Site Inspection Report, Morale, Welfare, and Recreation Skeet Range, Military Munitions Response Program*, Joint Expeditionary Base Little Creek-Fort Story, Naval Amphibious Base Little Creek, Virginia Beach, Virginia.

1. Section 2.2: In order to understand what the soil sampler was looking for when deciding how deep to collect a "surface" soil sample, please consider moving some of the lithologic discussion found in the last paragraph of Section 3.1 and use it to introduce the 2nd paragraph's sample depth discussion.

Response: The 2nd paragraph of Section 2.2 was revised to read: "The surface and subsurface geology within the area of investigation is generally characterized by two varieties of fill material: dredge fill, which is representative of the ground surface during range operation, and post-range closure fill. Surface soil samples were collected in 6 inch intervals selected to be representative of the ground surface during range operation. Sample depths were field determined based on lithologic descriptions. Dredge fill is currently present at the ground surface in southeastern portion of the site, therefore surface soil samples were collected at the ground surface in this area. In areas where fill material had been placed following range closure (i.e., near the LCAC pad and northeastern portion of the site), surface soil samples were generally collected from 1 to 6 feet below ground surface (bgs) within the first encountered dredge fill. Subsurface soil samples were collected from the 1.5 foot interval directly below the co-located surface soil sample. Soil sample collection depths are presented on **Table 2-1**." Additionally, Table 2-1 was updated to contain a column outlining the soil material from which the sample was collected.

2. Section 2.6.2, Background UTLs: Certain soil samples were collected from depths where the original ground surface or native material was encountered. It does not seem appropriate to use Background UTLs developed for dredge fill when evaluating data from those native/original ground surface soil samples. Please explain.

Response: Dredge fill was encountered at all sample locations, either at the ground surface or buried beneath post-range closure fill material. The use of the term "native" is intended to describe the soil material present prior to placement of dredge fill for creation of the area; however, the use of "native" within the borelogs is not consistent. Borelogs SO04 and SO10 have been updated to accurately reflect the soil material described. No revisions to the text were made.

3. Section 3.2.1, PAHs: The PAHs detected in surface and subsurface soil may be anthropogenic or they may be associated with the known CERCLA release. While skeet target fragments may not have been found during the investigation does not mean they aren't present. The absence of skeet target fragments may be due to the volume of heavy machinery that reworked the site during grading and construction of the LCAC and in the process pulverized any target fragments that remained after the range closed. Is there a way to fingerprint the PAHs detected to determine their origin? If not is may be necessary to determine if the detected PAH levels drive risk? If there is risk, a hotspot removal may be needed.

Response: Comment noted. Because PAHs cannot definitely be determined to not be CERCLA related, the last sentence of the 3rd paragraph under Polycyclic Aromatic Hydrocarbons was deleted. While fingerprinting of PAHs is possible, new samples would need to be collected for this analysis. As discussed during the September 29, 2010 Partnering Team meeting, human health risk associated with constituents detected on soil was calculated. Text was added (Section 3.3) to describe the risk assessment methodology and discuss the results. Additionally, RAGS Part D tables were added as Appendix E. Section 4 was updated per the results of the risk assessment.

4. Section 4.1: The 1st bullet should note those areas where native soil was sampled at the surface which would imply subsurface geology would also be native soil rather than dredge fill. Please revise the 3rd bullet as necessary to incorporate the response to comment 3 above.

Response: See response to Comment #1. The bullet was revised to read: "The surface and subsurface geology is generally characterized by two varieties of fill material overlying native soil: dredge fill, which is representative of the ground surface during range operation, and post-range closure fill, which was placed above the dredge spoils following range closure (i.e., for LCAC pad and building construction). Soil samples were collected from within dredge-fill material."

5. Section 4.2: VDEQ does not agree with the recommendation at this time. VDEQ believes the source of the PAH contamination may be related to the CERCLA activity (pulverized skeet targets). Additional information is needed regarding PAH contamination present as to whether or not the levels drive a human health risk. Also, since the area underneath the LCAC pad has not been investigated, the LCAC pad would need to remain in place and a land use control implemented to ensure the area beneath the pad

is investigated for the presence/absence of site related metals and PAHs should it ever be removed.

Response: Comment noted. See response to Comment #3. Following inclusion of the risk assessment results, the overall recommendation for site closure did not change. As discussed during the September 29, 2010 partnering Team meeting, based upon the layout of the skeet range and the location of the shooting stations, samples collected within the eastern portion of the shot fall zone are expected to be representative of conditions underlying the LCAC pad. Therefore, no LUCs are needed at this time to be protective of human health and the environment. The following language was added to Section 4.2: "Based on the results of the data evaluation it is concluded the MWR Skeet Range does not pose a threat, or potential threat to public health, welfare, or the environment, and therefore, the area should be removed from further study. In the event contamination posing an unacceptable risk to human health or the environment is discovered or the LCAC pad is removed after site closure, it is recommended the Navy reevaluate the area as deemed necessary."

6. Appendix C: In the core description, what does SAA mean?

Response: SAA stands for "same as above". The acronym was defined within the core description where first used.

If you have any questions concerning these responses to comments, please feel free to contact me at (757) 671-6239.

Sincerely,

David Livingston,
Project Manager

cc: Mr. Jeffrey Boylan/ USEPA
Mr. Bryan Peed/ NAVFAC Mid Atlantic
Administrative Record File