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May 4, 2004

Ms. Mary Cooke
US EPA Region III
1650 Arch Street
Philadelphia, PA 19103

SUBJECT: Response to comments, *Draft Remedial Investigation/Human Health Risk Assessment (RI/HHRA) for Site 8, Demolition Debris Landfill*, NAB Little Creek, Virginia Beach, Virginia

Dear Ms. Cooke:

On behalf of the Navy, CH2M HILL has prepared the following responses to comments received from USEPA on the *Draft RI/HHRA for Site 8, Demolition Debris Landfill*, Naval Amphibious Base Little Creek, Virginia Beach, Virginia:

Comment No. 1:
The primary objectives statement (see page iii of the Executive Summary) of this remedial investigation (RI) needs to include the determination of the nature and extent of contamination in soil, sediment, surface water, and groundwater, the identification of potential routes of exposure of ecological receptors to site contaminants, and to evaluate the potential risks to the environment.

Response to Comment No. 1:
The primary objectives statement in the referenced third paragraph of the Executive Summary has been modified to address sediment and surface water in addition to soil and groundwater. Ecological risks to potential receptors and risks to the environment are being evaluated in the *Ecological Risk Assessment for Site 8*, which has been concurrently prepared along with this RI/HHRA report. Data gathered during the RI sampling activities were used for both human health and ecological risk assessments. Text will be revised to reflect the comment.

Comment No. 2:
There is no summary of the ecological risk assessment (ERA) in this RI and the Conclusions and Recommendations, Section 8, do not take into account the results of the ERA. This section will need to be re-written to incorporate the results of the ERA.

Response to Comment No. 2:
The ERA for Site 8 was prepared concurrently to the RI/HHRA (using the same sample data set) and ecological risks at Site 8 are presented in the Ecological Risk

Assessment for Site 8. A brief summary of the ecological risk assessment has been included in Section 8 (in new Section 8.1.5).

Comment No. 3:
The report indicates that a relatively low hydraulic gradient exists across the site. Groundwater in the Columbia aquifer flows generally in a northeast direction, following the topography, and discharges to the inlet to the little creek cove, wetlands, and ponds at site 8. However, monitoring well LS08-MW05 shows a difference in water level elevation of about 2 feet from the rest of the wells creating a high hydraulic gradient to the west of the site opposite to the groundwater flow direction indicated in the report. The monitoring well LS08-MW05 was excluded from the interpretation of the potentiometric surface map of the Columbia aquifer in Figure 4-9. Neither the text nor the figures 4-8 and 4-9 explain the possible cause for the fluctuation in well LS08-MW05 and how these fluctuations may affect the groundwater flow direction at the site. The data of water levels and groundwater flow direction is confused and should be clarified .

Response to Comment No. 3:
Monitoring well LS08-MW05 was constructed in the western portion of Site 8. Figure 4-8 and the boring log associated with this monitoring well (Appendix E) indicate the soil type in the vicinity of this monitoring well is comprised of fine-grained materials (mostly clay with some silt and fine sand) throughout the depth of the boring (20 feet below ground surface). Other site monitoring wells were installed in areas of the site where sandy or silty sand soil types were present within the monitoring well screen interval. These soil types promote groundwater flow that is more representative of groundwater flow in the surficial aquifer at the site. A note has been added to Figure 4-9 to better clarify the omission of groundwater measurement data from LS08-MW05.

As stated in Section 4.3.4.2 (Site Hydrogeology), clay layers in the surficial (Columbia) aquifer may produce localized semi-confined conditions. LS08-MW05 is located in an area where these conditions are likely present and was a poor producer of groundwater and slow to recharge during RI groundwater sampling activities. A clarification has been added to Section 4.3.4.2 (third paragraph) to further address the localized clay observed around LS08-MW05.

If you have any questions concerning any of these comments, please call me at (757) 460-3734, ext. 12.

Sincerely,

Paul Landin, P.E.

Activity Manager

cc: Ms. Dawn Hayes, LANTDIV
Mr. Paul Herman, VDEQ
Mr. Dennis Orenshaw, USEPA
Ms. Donna Caldwell, CH2M HILL
Ms. Lora Fly, IR Coordinator
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Ms. Jamie Butler, CH2M HILL