



N61414.AR.001067
NAB LITTLE CREEK
CH2M HILL 5090.3a
5700 Cleveland Street
Suite 101
Virginia Beach, VA 23462
Tel 757.518.9666
Fax 757.497.6885

October 2, 2009

Mr. Jeffrey Boylan
NPL/BRAC
Federal Facilities Branch (3HS11)
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Subject: Response to Comments, *Draft Revised Ecological Risk Assessment Work Plan and Sampling and Analysis Plan for SWMU 7b – Desert Cove*, Naval Amphibious Base Little Creek, Virginia Beach, Virginia.

Dear Mr. Boylan:

On behalf of the Navy, CH2M HILL has prepared the following responses to comments received via email from USEPA on the *Draft Revised Ecological Risk Assessment Work Plan and Sampling and Analysis Plan for SWMU 7b – Desert Cove*, Naval Amphibious Base Little Creek, Virginia Beach, Virginia.

1. **SAP Worksheet #9-1, Comments/Decisions, 3rd Paragraph, Page 28** The text states “The data evaluation suggested the data collected from the connector channel and the cove may be risk manageable.” The text should detail why these areas may be addressed through risk management strategies.

Response: The text has been revised to include the lines of evidence presented during the September 18, 2008 meeting.

2. **SAP Worksheet #9-2, Comments/Decisions, 5th Paragraph, Page 32** The presence of PAHs is attributed to site use and storm water run-off and therefore, toxicity testing would not “...provide an accurate representation of ecological risk resulting from activities relating to SWMU 7b.” EPA Superfund risk assessment clearly indicates that risk at a site needs to be assessed regardless of attribution. Toxicity testing is not a tool to be used to determine attribution, but one that would help to assess risk present at the sample locations. The logic presented in cited discussion is irrelevant when trying to assess risk.

Response: The second sentence of the 5th paragraph was revised to read: “However, given site conditions, and because toxicity testing is not intended to attribute toxicity results to particular constituents, it is not expected to be an appropriate tool for this site.” Additionally, the last sentence of the 5th paragraph was revised to read: “Toxicity

testing is not expected to provide an accurate representation of ecological risk resulting from sandblasting activities at SWMU 7b.”

3. SAP Worksheet #9-2, Action Items, Page 32 Change "BTAG" to "USEPA".

Response: The text was revised accordingly.

4. SAP Worksheet #9-3, Comments/Decisions, 2. Pier Area, 7th Bullet, Page 35 The statement is made “The Team agreed arsenic, selenium, silver, and PAHs could be removed from the COC list.” As stated in a preceding bullet, PAHs are identified as COCs. Removal of any contaminant as a COC based on reasons other than risk related reasons is premature (if nothing else, these compounds may either confound later analyses or impact the toxicity of known site-specific contaminants).

Response: The 1st sentence of the 7th bullet was revised to read: “The Team agreed that potential ecological risks associated with arsenic, selenium, silver, and PAHs were acceptable and that these constituents do not require further investigation based on the lines of evidence presented in Worksheet #10.”

5. SAP Worksheet #9-3, Comments/Decisions, 2. Pier Area, 8th Bullet, Page 35 The statement is made “The RQ will be used for COCs to identify the areas of high and low concentrations in the area not dredged during the MILCON action.” The text must detail how the RQ (risk quotient) is calculated and how it differs from the HQ (hazard quotient).

Response: The following was added to the 8th bullet on Page 35: “The RQ is defined as the average HQ [HQ is equal to the concentration of an individual constituent divided by its screening value (PEL)] for copper, lead, mercury, and zinc. Since tin does not have a PEL it will not be included in the RQ calculation and will be evaluated through a comparison to background concentrations. A high concentration area is defined as having an RQ>1 and/or individual HQ>1.5. The use of an HQ > 1.5 criterion was based upon professional judgment and was included to ensure that a relatively high concentration of an individual COC was not “diluted” by low concentrations of the other COCs included in the RQ calculation, resulting in a potentially inappropriate risk conclusion.”

6. SAP Worksheet #9-3, Consensus Decisions, Page 35 The text states “The Team agreed only the primary metal COCs would be retained for further evaluation at SWMU 7b.” The text should document the basis for this decision.

Response: The consensus decision was revised to read: “Based on the lines of evidence presented in Worksheet #10, the Team agreed only the primary metal COCs would be retained for further evaluation at SWMU 7b.”

7. SAP Worksheet #10, Environmental Questions Answered by this Project, 2nd Question, Page 39 It is noted that “Surface sediment samples will be collected from 7 discrete locations within the dredged portion of the Pier Area to evaluate post-dredge conditions.” Given the potential heterogeneity of contamination throughout

the sediment, the document must provide additional rationale to demonstrate that seven discrete samples will be sufficient for this evaluation.

Response: The number of samples within the dredged area was based upon the density of statistically based sampling conducted during the RI. The second question was revised to read: "Surface sediment samples will be collected from 7 discrete locations within the dredged portion of the Pier Area to evaluate post-dredge conditions. RI sample locations were statistically based and collected approximately 420 feet apart in a grid pattern. Although a grid pattern will not be used within the dredged area, samples will be collected between approximately 200 and 400 feet apart for similar spatial coverage as completed during the RI. The samples are generally placed evenly throughout the dredged area with some specific locations focused on areas where the highest ABM content and primary COC concentrations were determined from pre-dredge 2002 RI data. Since the removal of the surface sediments is likely to have resulted in less heterogeneity in sediment COC concentrations within this area, this sampling density is expected to be sufficient for characterizing this portion of the site."

8. **SAP Worksheet #10, Environmental Questions Answered by this Project, 2nd Question, Page 40** In the non-dredged area, eight discrete surface sediment samples will be collected in the vicinity of the two sample locations identified as high concentration areas. Again, the document must provide additional rationale to demonstrate that eight discrete samples will be sufficient for this evaluation.

Response: The following sentence was added to the first bullet of Environmental Question 2: "Similar to the RI evaluation, three samples surrounding each of the re-sampled RI sampling points are considered sufficient for deriving an initial estimate of lateral spatial extent."

9. **SAP Worksheet #10, Environmental Questions Answered by this Project, 2nd Question, Page 40** The high concentration areas are defined as those where the RQ > 1 and/or HQ > 1.5. Again, the calculation of the RQ needs to be explained. Also, the rationale supporting the use of a HQ > 1.5 as a criteria needs to be detailed (See Comment 5 above).

Response: As described in the response to Comment 5, Worksheet #9-3 was revised to outline the calculation and use of the RQ and HQ. A reference to Worksheet #9-3 was added to the first and second bullets of Environmental Question 2.

10. **SAP Worksheet #10, Environmental Questions Answered by this Project, 2nd Question, Page 40** In the non-dredge area, "Two discrete surface sediment samples will be collected...in the vicinity of two locations identified as low concentration areas (RQ < 1 and individual HQ < 1.5...." It is not clear why two samples are sufficient here, when eight samples were the recommendation for the high concentration areas. The rationale for this sample number needs to be detailed.

Response: The following sentence was added to the second bullet of Environmental Question 2: "Since the initial risk estimates associated with these locations were acceptable, additional characterization of lateral spatial extent (the purpose of the

additional three samples around each point for the high concentration areas) is not warranted at this time.”

If you have any questions concerning these responses to comments, please feel free to contact me at (757) 671-6266.

Sincerely

A handwritten signature in black ink, appearing to read 'Cecilia Landin', with a long horizontal flourish extending to the right.

Cecilia Landin,
Project Manager

cc: Mr. Paul Herman/ VDEQ
Mr. Tim Reisch/ NAVFAC Mid Atlantic
Ms. Jamie Butler/CH2M HILL