

10/14/08 - 01476



October 14, 2008

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

Subject: Naval Amphibious Base Little Creek
Draft Remedial Action Construction Closeout Report
Site 12, Former Navy Exchange Laundry/Dry Cleaning Facility
NAB 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 Remedial Action Construction Closeout Report*, NAB Little Creek, Virginia Beach, Virginia:

1. Section 1.2: In either the 1st or 2nd paragraph of this Section please insert a brief discussion of the risk to indoor air presented by the VOCs in groundwater and the new commissary construction requirements that eliminated the potential exposure pathway.

Response: In the first paragraph, the following sentence was inserted to address vapor intrusion, "Consequently, during the construction of the commissary, a sub slab passive vapor extraction system and an engineered vapor barrier were installed to mitigate potential vapor intrusion of VOCs."

2. Section 4.2: The "delivery of light plants" bullet can be misinterpreted, please revise similar to, "delivery of work area lighting".

Response: The bullet was revised to "delivery of work area lighting".

3. Section 4.4: During baseline sampling several of the monitoring wells showed supersaturated levels of dissolved oxygen (DO), a highly unusual condition for groundwater. More than likely, the supersaturated readings are an artifact of equipment calibration or taking reading too soon after a well was purged. The actual DO levels in the aquifer are probably much lower. However, should the DO data prove to be accurate, what problems does a highly aerobic aquifer present for an anaerobic process such as reductive dechlorination that is to be brought about by the injection of EOS®? In this Section, please include a detailed review of the DO data and its impact on the volume of substrate needed for this remedial action. The U.S Geological Survey has published a Field Manual that provides methods for measuring DO in groundwater and provides some common sources of interference (water.usgs.gov/owq/FieldManual/Chapter6/6.2_v2.1.pdf).

Response: The Horiba readings for groundwater parameters (pH, temperature, conductivity, ORP, and DO) are evaluated by the field team during well purging to indicate stabilization of the aquifer before sample collection. According to standard operating procedures, parameters are considered stabilized over three successive readings when measurements agree as follows:

- a) pH within 0.1 pH units
- b) Temperature measurements within 10%
- c) Conductivity within 3%
- d) ORP within 10 mV
- e) DO within 10%

While the Horiba provides sufficient DO measurements for stabilization purposes, a number of factors can interfere with the accuracy of the Horiba measured DO reading. To obtain a more accurate representation of the DO in groundwater, CHEMets® field test kits are used measure DO. The DO measurements taken from both the Horiba and the CHEMets® test kits are provided in Appendix B of the report. Based on the CHEMets® test kits, the DO readings are not indicative of an aerobic environment.

4. Section 4.5: In the 4th sentence of the last paragraph, please revise the beginning portion of the sentence as follows, “To minimize *this* “daylighting””. Also, include an approximate volume of material that daylighted and briefly discuss any clean up of the daylighted material that was necessary. Further discussion of the daylighting substrate is appropriate in Section 4.9.2, as well.

Response: The paragraph has been revised “To minimize this “daylighting,” the pump rate was limited to 10 gallons per minute (gpm). At injection well I08D the pump rate was decreased to 8 gpm; nonetheless, approximately two gallons of substrate daylighted. Consequently, injection ceased and this injection well received approximately half of the specified injection volume... Substrate that daylighted during application was soaked up with absorbent pads and disposed as solid waste.”

5. Section 4.9.2: Please include some discussion concerning the disposal of the absorbent pads used to clean up the daylighted solution.

Response: The following sentence was inserted into the text, “Since the substrate is composed of food grade material, the pads were disposed of as solid waste at the end of the working period.”

If you have any questions concerning any of these comments, please call me at (757) 671-6213.

Sincerely,



Adina Carver
Project Manager

cc: Mr. Scott Park/NAVFAC Mid Atlantic
Mr. Tim Reisch/NAVFAC Mid Atlantic
Mr. Jeffrey Boylan, USEPA Region III
Ms. Bonnie Capito/NAVFAC Midlant
Mr. Jason Chebetar/AGVIQ
Mr. John Noel/NABLC ROICC