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NAB LITTLE CREEK
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LETTER AND U S NAVY RESPONSE TO U S EPA REGION III COMMENTS REGARDING
DRAFT ENHANCED REDUCTIVE DECHLORINATION ANNUAL GROUNDWATER
MONITORING SUMMARY FOR SITE 11 JEB LITTLE CREEK VA

06/16/2011
CH2M HILL



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June 16, 2011

USEPA Region 3
NPL/BRAC Federal Facilities Branch (3HS11)
Attn: Mr. Jeff Boylan
1650 Arch Street
Philadelphia, PA 19103-2029

Subject: Response to USEPA Comments on the
Draft Enhanced Reductive Dechlorination Annual Groundwater Monitoring Summary, Site 11—School of Music Plating Shop
Joint Expeditionary Base (JEB) Little Creek-Fort Story, JEB Little Creek, Virginia Beach, Virginia
Navy CLEAN 1000, Contract N62470-08-D-1000, Task Order 0062

Dear Mr. Boylan:

On behalf of the Navy, CH2M HILL is pleased to submit the following response to the comments received from USEPA on the *Draft Enhanced Reductive Dechlorination Annual Groundwater Monitoring Summary, Site 11—School of Music Plating Shop, Joint Expeditionary Base (JEB) Little Creek-Fort Story, JEB Little Creek, Virginia Beach, Virginia* (CH2M HILL, March 2011):

Comment 1: According to the report, the groundwater flow direction southwest to south changed drastically in May 2010 northwest to west. No significant changes in groundwater flow direction have been recorded since the repair of the sanitary sewer in October 2007. Is the sewer line leaking again or there are other conditions affecting the direction of the groundwater?

Response 1: With the exception of the May 2010 groundwater elevation survey, the groundwater flow direction has been southwest to south following the sewer repair in October 2007. Due to the single shift in flow direction and subsequent return to the southwest to south flow direction, it is assumed the change in groundwater flow direction was more likely influenced by well development and injection activities at nearby ER Site 13 and not an indication of a leaking sewer line. No changes to the document were made.

Comment 2: EPA understands that the increase of Cis-1,2-Dichloroethene is expected as part of the dechlorination process, however are the concentrations of Cis-1,2-Dichloroethene found in the aquifer in the 12 month period higher than the anticipated?

Response 2: The concentrations of cis-1,2-DCE found in the aquifer in the 12 month period are not higher than anticipated. Concentrations of cis-1,2-DCE often increase to levels well above the initial concentrations when ERD is initiated, particularly in

Response 3: The following sentence was added to the introductory paragraph of Section 2: "Substrate injection was completed between April 27 and May 6, 2009 followed by performance monitoring 1-, 3-, 6-, 9-, and 12-months post-injection."

Comment 4: Section 3.2.2: Monitoring Well MW41D: In the 2nd paragraph, please correct the VC concentration provided (30 ug/L) to reflect what is listed on Figure 3-1 (35 ug/L).

Response 4: The VC concentration has been updated to reflect what is listed on Figure 3-1 (35 ug/L).

Comment 5: Table 3-1: Why are certain detections bolded and others not for TOC? Are detections of ferrous iron supposed to be bolded as well? Why are certain L-flagged detections bolded while others are not?

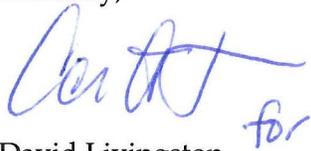
Response 5: Table 3-1 has been updated to correctly bold all TOC detections and L-flagged results. Detections of field parameters, including ferrous iron, are not bolded. A note indicating that bold detections do not include field parameters has been added to Table 3-1.

Comment 6: Section 4: VDEQ agrees with the conclusion, "the ERD approach at Site 11 was successfully implemented in the source zone and the downgradient plume." However, the opening paragraph should bring forth the hypothesis concerning groundwater velocity and injectate migration to MW42D.

Response 6: The opening paragraph has been revised to read: "The ERD approach at Site 11 was successfully implemented in the source zone and the downgradient plume. This conclusion is supported by the increase in the TOC concentrations, the achievement of the geochemical conditions amenable to reductive dechlorination, and decreasing COC concentrations, with appropriately trending concentrations of daughter products observed at most performance monitoring wells. Although monitoring well MW09D is not optimally located to evaluate the system one-year post-injection, reduction in COC concentrations was observed; therefore, it is expected to be useful in evaluating the long-term effectiveness of the system. Although conditions indicative of reductive dechlorination were not observed in the post-injection groundwater data collected from monitoring well MW42D, based upon the distance of the monitoring well from the nearest upgradient injection well and the estimated yearly groundwater velocity, it is assumed that injected substrate did not have adequate time to migrate to the monitoring well. Given additional time, detection of elevated TOC at monitoring well MW42D may occur. While the post-injection areal extent...".

Please do not hesitate to contact me at 757-671-6239 if you have any questions concerning these responses to comments.

Sincerely,



David Livingston
Project Manager

cc: Mr. Bryan Peed/NAVFAC Mid-Atlantic
Mr. Jeffrey Boylan/USEPA
Ms. Cecilia Landin/CH2M HILL
Administrative Record File