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JEB LITTLE CREEK
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LETTER AND THE U S NAVY RESPONSE TO THE U S EPA REGION III COMMENTS ON THE DRAFT SAMPLING AND ANALYSIS PLAN FOR 1, 4 DIOXANE GROUNDWATER SAMPLING IN SUPPORT OF FIVE YEAR REVIEW REMEDY PROTECTIVESS DETERMINATION AT SITE 11 JEB LITTLE CREEK VIRGINIA BEACH VA (PUBLIC DOCUMENT)
04/21/2015
CH2M HILL

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April 21, 2015

NPL/BRAC Federal Facilities Branch (3HS11)
Office of Federal Facility Remediation and Assessment
USEPA Region 3
Attn: Mr. Jeffrey Boylan
1650 Arch Street
Philadelphia, PA 19103

Subject: Responses to USEPA Comments on the
Draft Sampling and Analysis Plan for 1,4-Dioxane Groundwater Sampling in Support of Five-Year Review Remedy Protectiveness Determination at Site 11
Joint Expeditionary Base Little Creek, Virginia Beach, Virginia
Navy CLEAN 8012, Contract N62470-11-D-8012, Contract Task Order WE61

Dear Mr. Boylan:

On behalf of the Navy, CH2M HILL is pleased to submit the following response to the comments from USEPA received via email on March 25, 2015 on the *Draft Sampling and Analysis Plan for 1,4-Dioxane Groundwater Sampling in Support of Five-Year Review Remedy Protectiveness Determination at Site 11,* Joint Expeditionary Base Little Creek, Virginia Beach, Virginia (CH2M HILL, March 2015):

Hydro Comments:

Comment 1: Page31, Worksheet #10 Conceptual Site Model, 5th paragraph states, "The Columbia aquifer extends to a depth of approximately 24 feet bgs, where the Yorktown confining unit separates the Columbia aquifer from the underlying Yorktown aquifer." Typically geologic formations are not broken up into confining unit and an aquifer. This may be done in a hydrostatic mapping endeavor but using Yorktown confining unit in the same sentence as Yorktown aquifer causes confusion. Please provide more clarity.

> **Response:** The sentence has been revised to state, "The Columbia aquifer, representative of Holocene and Pleistocene age deposits (Tabb Shirley, Chuckatuck, Charles City and upper Windsor Formations), extends to a depth of approximately 24 feet bgs. At the base of the Columbia aquifer lies Yorktown confining unit, representative of the lower Windsor and Bacon Castle Formation. The Yorktown confining unit separates the Columbia aquifer from the underlying Yorktown aquifer, representative of the Yorktown Formation."

Comment 2: Page 29, has Jeff's email listed as boylan.jeffrey@epamail.usepa.gov which may not currently be valid based on multiple sub domains. Please use boylan.jeffrey@epa.gov.

> **Response:** The email address has been updated.

Comment 3: It is interesting relating the groundwater contours on Figure 4 and the plume map on Figure 5. EPA appreciates the updated conceptual site model and it's explanation of this in the text on page 31 and the figures.

Response: Comment has been noted. No changes to the document have been made.

Comment 4: Conceptual Site Model 4th paragraph states, "The majority of precipitation is lost through infiltration or evaporation; stormwater runoff is collected by man-made storm water drainage ditches and discharged to the storm water sewer system." Infiltration is the least of losses, maybe 3-5% max, EPA would suggest putting it at the end, i.e. The majority of precipitation is lost through storm water runoff, evaporation and infiltration.

Response: The sentence has been revised to list infiltration at the end as suggested.

Comment 5: The sampling plan called for preserving the samples at 6 degrees centigrade (C). To this EPA Hydro's knowledge it has always been 4 degrees C. Water attains it's highest density at 4 degrees C, which is uncommon in fluids, hence ice floats. What this means in a sampling setting is a degassing issue. This is typically more in VOCs but it applies to SVOCs.

Response: The sampling plan's temperature guidance is based on guidance from EPA's SW-846 Manual: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* Chapter 3 (Inorganic Analytes) and Chapter 4 (Organic Analytes) specify that the proper temperate upon arrival at the laboratory is ≤ 6° C. Since 1,4-dioxane is being analyzed by a SW-846 method, it would be preferable to keep the preservation guidelines consistent with the method. No changes to the document have been made.

Tox Comments:

Comment 1: Worksheets #9-1, #11, and #17: According to the report, one round of groundwater samples will be collected from: two source wells, five perimeter wells, three side-gradient wells, and two down-gradient wells. The EPA Tox defers to the EPA Hydro regarding the selection of wells to be sampled, but it seems sampling more than two down-gradient wells would be prudent.

Response: Note that the groundwater flow direction at the site has changed over time and the three side-gradient wells are also representative of historic down-gradient wells. Additionally, perimeter wells MW11D, MW13D, and MW14D are also representative of downgradient current and historical flow. The intent of the investigation is to identify the presence or absence of 1,4-dioxane in groundwater and assess the current protectiveness of the remedy (contamination outside the existing LUC boundary). If 1,4-dioxane is identified at levels posing potentailyl unacceptable risks, the extent of the plume will be evaluated as part of a separate investigation. No changes to the well metwork were made.

Comment 2: Worksheet #9-1: As a reminder, for the calculation of Exposure Point Concentrations for use in risk estimates, EPA guidance should be followed (OSWER Directive 9283.1-42).

Response: The comment has been noted and EPA guidance will be followed for the calculation of Exposure Point Concentrations for use in risk estimates.

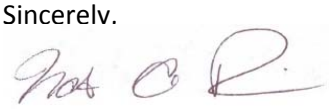
Comment 3: Worksheet #11: According to the fourth paragraph, if 1,4-dioxane is detected in groundwater at concentrations posing a potentially unacceptable risk, then a determination will be made regarding whether the same threat exists outside of the LUC boundary. Please note, however, that there is no point of compliance for groundwater under CERCLA. If the objective of this

statement is to determine how quickly action (passive or aggressive) needs to be considered (as implied in Figure 7 of the report), then that should be clearly stated.

> **Response:** The second sentence of the environmental question was revised to read: "In order to determine if the remedy is currently protective of the human health (i.e. contamination is within the existing LUC boundary), data collected from side/downgradient monitoring wells will be compared to the interim cleanup level to determine whether concentrations posing potentially unacceptable risks are present outside of the LUC boundary or may be approaching the LUC boundary"

Please do not hesitate to contact me at 757.671.6280 if you have any questions concerning these responses.

Sincerely,



Nathaniel Price, P.E.
Project Manager

cc: Mr. Matthew Stepien/NAVFAC Mid-Atlantic
Mr. Paul Herman/VDEQ
Ms. Cecilia Landin/CH2M HILL
Administrative Record File