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ST JULIENS CREEK
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U S NAVY RESPONSE TO VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
COMMENTS REGARDING DRAFT FIVE YEAR REVIEW REPORT ST JULIENS CREEK
ANNEX CHESAPEAKE VA (PUBLIC DOCUMENT)

03/26/2010
CH2M HILL

**Responses to Comments
Draft Five Year Review Report
St. Juliens Creek Annex
Chesapeake, VA**

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DATE: March 26, 2010

**Comments from VDEQ, provided 16 March 2010.
Risk Assessor Comments**

1. *Comment:* Please include additional general information in the text of Section 1 on Sites 2, 5, 21 and UXO 1.

Response: Additional general information on Sites 2, 5, 21, and UXO 0001 has been added to the end of Section 2.3. As a result, the text in Section 1 has been revised.

2. *Comment:* Please include pre-remediation GW concentrations of site COCs for Site 4 in Section 3.4.5 or as a figure and referred to in Section 3.4.5 and a paragraph indicating removal actions were verified based on confirmation samples in Section 3.3.2.

Response: The pre-remediation groundwater concentrations of select analytes were added to what is now Figure 3-5 (previously Figure 3-4 in the draft report), which is referenced at the end of the sixth sentence of the first paragraph of Section 3.4.5. The third bullet of Section 3.3.2 has been amended as follows: "Removal and offsite disposal of 1foot of sediment from the floor and sidewalls of the eastern drainage ditch adjacent to the landfill and extending through the wetland to Blows Creek to prevent direct contact of human and ecological receptors with mercury in sediment. The one foot excavation depth and lateral extent was based on pre-confirmation samples collected from one to two feet bgs for mercury analysis and compared to the cleanup level. The cleanup level was based on the site-specific background 95% UTL for dredge fill (CH2M HILL, October 2001). Confirmation sample results are shown on Figure 3-4."

3. *Comment:* Please add a paragraph to Section 3.4.5 discussing the phasing out of site COCs from groundwater monitoring.

Response: The voluntary groundwater performance monitoring was conducted as a result of a consensus statement drafted by the SJCA Partnering Team, which based discontinuation of monitoring on statistical analysis, rather than comparison to screening values. The following information has been added after

the third sentence of the first paragraph of Section 3.4.5: "No statistical exceedance of downgradient concentrations of total and dissolved cadmium, lead, and thallium or total iron over the upgradient concentrations was observed. Total and dissolved arsenic and dissolved iron concentrations were identified to be present in downgradient monitoring wells at levels that statistically exceed concentrations in the upgradient monitoring well; however, all iron concentrations were below the 95% background UTL. There are no significant increases of concentrations in any monitoring well based on the results of the time trend analysis conducted." Additionally, the last sentence has been clarified to indicate that an additional round of for arsenic would be conducted while monitoring of iron, cadmium, lead, and thallium would be discontinued.

- 4. Comment:** *Please include the following additional information on community involvement – (in Section 3.4.4) number of written surveys mailed out to community members, number of community members contacted for a phone interview – (in Section 3.4.1) date the RAB was established, site visits are sometimes conducted in conjunction with RAB meetings.*

Response: The first paragraph of Section 3.4.4 has been amended as follows: "Community members were contacted in order to obtain the community's views about current site conditions, problems, or related concerns. Persons who live within neighborhoods adjacent to SJCA and employees of SJCA were selected for interviews and surveys. Interviews were conducted either in person or over the phone. Thirteen local residents and one employee were mailed a survey; of these, five surveys were returned from local residents (one of which is an active RAB member) and one from an employee. Two local residents and six employees were contacted for an interview. Of these, one local resident (the RAB member who completed a survey) and five employees (one of which was the employee who completed a survey) agreed to be interviewed. The interview logs and completed surveys are provided in Appendix C." The second sentence of Section 3.4.1 currently states the date the RAB was established; therefore, no change to the text has been made. The following sentence has been added as the fourth sentence in Section 3.4.1, "RAB meetings have included site visits in the past."

Comments from EPA, provided 16 March 2010.

Legal Comments

- 1. Comment:** *According to the Report, LUC implementation has consisted of signage (presumably prohibiting digging), and fencing to restrict access, as well as the filing of a survey plat with the City of Chesapeake to provide public notice of the environmental conditions and limitation on the use of the property. It would be helpful to include the specific statement that is posted on the signs, as well as the specific prohibitions included in the survey plat.*

Is there a reference to a Base Master Plan or some other type of Base planning device that would incorporate the restrictions specified in the Land Use Controls. If such a plan exists, the LUCs should be included in it as long as the Navy owns the Site.

In addition, a copy of, or specific reference to, the language included in the LUC RD specifying the Navy's responsibilities regarding implementation of LUCs should be included in the Five-Year Review Report.

Response: A graphic of the main site sign language has been added under the sixth bullet of Section 3.3.2. The following sentence has been added to the last paragraph of Section 3.3.2, "A copy of the survey plat is included in the RACR."

LUCs are controlled through notation in the Internet Navy Facility Assets Data Store (iNFADS) maintained by Commander Naval Region Mid-Atlantic, as stated in Section 3.2.2. LUCs are also controlled through the Site Management Plan for SJCA. Therefore, the following text has been added to the last paragraph of Section 3.3.2: "Additionally, Section 4 of the annually-updated Site Management Plan for SJCA addresses land use planning at the Base. This section includes a compact disc which provides maps and geographic information system layers in Arcview® of the ERP sites with LUCs. This information is provided to facility personnel for environmental considerations during operational planning and decision-making, and to ensure that LUCs are maintained at sites where they are identified in the ROD as part of the remedy."

The following text has been added to the first paragraph of Section 3.3.2 to reference the Navy's responsibilities associated with implementation of the LUCs, "The Navy will implement, maintain, monitor, report on, and enforce the LUCs according to the LUC RD." A reference to the LUC RD is provided in the first sentence of the paragraph.

2. **Comment:** *The Report states at p. 3-8, Section 3.5, Question B, Changes in Toxicity and Other Contaminant Characteristics: "Although there have been some changes in toxicity values, regulatory levels, and risk characteristics of some constituents detected in Site 4, these changes would not affect the protectiveness of the selected remedy as it would not substantially change the results of the risk assessment. The landfill contents and contaminated soil have been covered and the contaminated drainage ditch sediment has been excavated, eliminating potential transport/exposure pathways. Additionally, LUCs restrict unauthorized activities which may result in exposure to landfill waste and/or contaminated soil. Therefore, any changes in toxicity would not affect the protectiveness of the remedy." The original ARARs, toxicity values, and risk characteristics and the changes thereto should be included in a chart in the Five-Year Review. The statement above may be true, but it needs documentary support.*

Response: The original ARARs, toxicity values, and risk characteristics are summarized in the ROD. A summary of the original ARARs have been added as Table 3-1, which is referenced in the third bullet of Section 3.4.2. A qualitative comparison to current toxicity values is presented in Section 3.5. A detailed comparison is not included because there are no longer any complete exposure pathways at the site. Implementation of the selected remedy, including a soil cover to the site limits and emplacement of LUCs, eliminated the exposure pathways for human health and ecological receptors. The extent of the remedy was based on the limits of the waste rather than chemical-specific cleanup levels (with the exception of the sediment excavated and disposed off site, for which

the cleanup level was established as site-specific background 95% upper tolerance limit for dredge fill and has not changed); therefore, a change in toxicity values would not impact the remedy.

3. **Comment:** *p. 1-1, last paragraph, 2d line from the bottom of page: Shouldn't this be "Engineering Evaluation/Cost Analysis"?*

Response: The text has been revised to include "Cost" before "Analysis".

4. **Comment:** *p. 1-1, last paragraph, last line: ". . . Site Inspection; therefore, it is not included . . ." (Please add comma after "therefore.")*

Response: The requested revision has been made.

5. **Comment:** *p. 1-2, last paragraph, first sentence: "SJCA has elected to follow the Navy recommendation . . ." (Please add "the" before "Navy.")*

Response: The requested revision has been made.

6. **Comment:** *p. 3-2, Section 3.2.1, first line at top of page: ". . . aquifer is predominately sandy and typically . . ." (Please change "predominately" to "predominantly.")*

Response: The requested revision has been made.

7. **Comment:** *p. 3-2, Section 3.2.1, end of first paragraph: "The flow direction in the Yorktown aquifer at SJCA is to the southwest and east, towards Blows Creek and the Southern Branch of the Elizabeth River (Figure 3-3)." (Please switch "east" and "southwest" to correlate to the order of the water bodies.)*

Response: The predominant groundwater flow direction of the Yorktown aquifer at the Base is east towards the Southern Branch of the Elizabeth River. The last sentence of the first paragraph of Section 3.2.1 has been revised as follows, "The predominant flow direction in the Yorktown aquifer at SJCA is to the east, towards the Southern Branch of the Elizabeth River (Figure 3-3)."

8. **Comment:** *p. 3-2, Section 3.2.3, 4th sentence: This sentence doesn't make sense; how could the trenches be filled with trash, etc., from "subsequent" trenches? Perhaps what was meant is the following: "The trenches were subsequently filled with trash, wet garbage, and soil."*

Response: The fourth sentence of Section 3.2.3 has been revised as follows, "The trenches were filled with trash, wet garbage, and soil."

9. **Comment:** *p. 3-2, Section 3.2.3, 5th sentence: What is the "IAS"? Has this been referenced before? If not, please spell out the acronym.*

Response: "IAS" is the acronym for the Initial Assessment Study, which is initially referenced in Section 2.3; therefore, no change to the text has been made.

10. **Comment:** p. 3-2, Section 3.2.5, first sentence: "An HHRA . . ." ("H" is pronounced "aitch", which commences with a vowel sound, and should be preceded by the indefinite article "an")

Response: The requested revision has been made.

11. **Comment:** p. 3-3, Section 3.2.5, last paragraph, second line: ". . . human health and ecological risks from exposure to waste, soil and sediment. . ." (Please replace "to" with "from" before "exposure.")

Response: The requested revision has been made.

12. **Comment:** p. 3-3, Section 3.3.1, last sentence re LUCs: "The LUCs shall be maintained within the boundaries of the landfill indefinitely, or until all parties (Navy, USEPA, and Commonwealth of Virginia) agree that waste left in place is at such levels to allow for unlimited use and unrestricted exposure." (Please transcribe the entire sentence from the ROD selected remedy section [p. 2-34, Section 2.12.2], including the UU/UE language.)

Response: The requested revision has been made.

13. **Comment:** p. 3-3, Section 3.3.2, first paragraph, second line: ". . . actions were developed in an RD for LUCs . . ." (Please change "a" to "an" before "RD.")

Response: The requested revision has been made.

14. **Comment:** p. 3-4, Section 3.3.2, bullet at top of page: "Removal and offsite disposal of 1 foot of sediment from the floor and sidewalls of the eastern drainage ditch." (Please delete "a" before "1" and delete the hyphen between "1" and "foot.")

Response: The requested revision has been made.

15. **Comment:** p. 3-4, Section 3.3.3, Heading: "Operation and Maintenance" (Please delete the "s" from "Operations.")

Response: The requested revision has been made.

16. **Comment:** p. 3-5, Section 3.4.2, 1st sentence: What is meant by "the applicable groundwater cleanup standards, as listed in the ROD . . ."? There is no groundwater cleanup specified in this ROD. Where are groundwater cleanup standards listed in the ROD?

Response: No cleanup standards were established for groundwater in the ROD because there no unacceptable risks in site groundwater. The first sentence of Section 3.4.2 has been corrected as follows, "This Five-Year Review consisted of a review of the following:"

17. **Comment:** p. 3-6, Section 3.4.5, second paragraph, last line on page: ". . . however, all arsenic concentrations are below . . ." (Please insert comma after "however.")

Response: The requested revision has been made.

18. **Comment:** p. 3-7, Section 3.5, Remedial Action Performance, end of 1st sentence: Please change "amendment" to "modification." As I understand it, the ROD was not amended with public comment; it was modified through a Technical Memorandum.

Response: The ROD was not amended with public comment; instead minor modifications to the ROD were documented in a technical memorandum. Therefore, "amendment" has been changed to "modification" in what is now the fourth bullet under Section 3.4.2 and the first sentence under "Remedial Action Performance" in Section 3.5.

19. **Comment:** p. 3-7, Section 3.5, Optimization: Is there no concern that the vegetation, if not mowed, will grow large enough to develop roots that penetrate into the waste layer, below the 18" "vegetative support layer" and 6" of topsoil?

Response: As discussed during the February 2006 partnering meeting, RAOs will still be met if roots penetrate the waste layer. Any impacts from trees (i.e, uplifted soil from trees falling) will be documented during the annual site inspections and corrective action considered, if necessary.