

N69118.AR.001094  
ST JULIENS CREEK  
5090.3a

LETTER AND U S NAVY RESPONSE TO U S EPA REGION III COMMENTS REGARDING  
DRAFT FINAL RECORD OF DECISION FOR SITE 2 WASTE DISPOSAL AREA B ST JULIENS  
CREEK ANNEX CHESAPEAKE VA

12/16/2010  
CH2M HILL

**Responses to Comments**  
**Draft Final Record of Decision, Site 2: Waste Disposal Area B,**  
**EPA Designation: OU-2 Landfill B**  
**St. Juliens Creek Annex**  
**Chesapeake, Virginia**

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DATE: December 16, 2010

**Comments from EPA HSCD Director, provided 13 December 2010.**

1. **Comment:** Section 1.5 change is okay.

**Response:** Comment noted.

2. **Comment:** Page 2-5, bold blue text in table 1 is okay.

**Response:** Comment noted.

3. **Comment:** Page 2-9, Table 2-define the “J” qualifier

**Response:** The following qualifiers have been defined in Table 2:

C - presence confirmed by gas chromatography/mass spectrometry

J - reported value is estimated

K - reported value may be biased high

L - reported value may be biased low

4. **Comment:** Page 2-12 what are the concentrations of the dioxin that is referred to in the paragraph and more specifically where are they located.

**Response:** The range of concentrations has been added and the text has been revised to clarify the distribution.

5. **Comment:** Page 2-13, Section 2.6, is the iron and manganese referred to in this paragraph naturally occurring and if so say that it is.

**Response:** There is no known anthropogenic source of the iron and manganese in the groundwater, and iron and manganese are known to be pervasive in the Virginia

coastal plain region<sup>1</sup>. Therefore, “naturally-present” has been inserted in front of “iron and manganese above secondary drinking water standards.”

6. **Comment:** Page 2-22, no change needed.

**Response:** Comment noted.

7. **Comment:** Page 2-24, Section 2.8 third bullet add “and groundwater” at the end should read “from waste to site media and groundwater.”

**Response:** The bullet has been changed to: “Prevent or minimize transport of COCs from waste to site media, including groundwater.”

8. **Comment:** Page 2-25, Section 2.9 – reference a map in the second bullet where the sediment area is defined. Define NAC in layman’s terms for readers who wouldn’t have access to the Admin. Record.

**Response:** The figure (Figure 5) depicting the areas defined in each of the bullets, including the St. Juliens Creek sediment area, is referenced in the introductory paragraph to the bullet list and has, therefore, not been added to the individual bullet. The sentence containing NAC has been revised to better define the term as follows: “...concentrations of chlorinated VOCs are detected above the aquifer’s calculated natural attenuation capacity (NAC). This is the aquifer’s ability to degrade constituents to below cleanup levels *by natural physical, chemical, or biological processes* prior to offsite migration and discharge into...”

9. **Comment:** Page 2-29, Section 2.9.1, what are we doing with the excavated sediment should be included in the description of the RAs. Define “Funnel and Gate” in Alternative 6. This is just a comment no language change. “Since all of the RAs seem so similar it seems like this is a presumptive remedy how did we come to the conclusion that these were the only technologies that should be retained.” Maybe the technology screening process can be spelled out somewhere.

**Response:** Throughout the text where appropriate, “excavation” has been replaced with “excavation and offsite disposal.” “Funnel and Gate”, along with all of the remedial components, are defined in Table 8. The Table is referenced immediately below the bulleted lists of retained alternatives; therefore, no changes have been made to the bullet. The technology screening process, which is summarized in Section 2.9.1 and detailed in the Feasibility Study, was actually quite extensive. Although components for some of the remediation areas (e.g., the St. Juliens Creek sediment) are the same across all of the alternatives, they are very small in context of the overall remedy, and the overall remedies are considerably different. Additional text has been added to further clarify the differences.

10. **Comment:** Page 2-33, No language change he just wants to know how the numbers in the comparative analysis table were developed are they just subjective.

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<sup>1</sup> McFarland, E.R., 2010, Groundwater-quality data and regional trends in the Virginia Coastal Plan, 1906-2007: U.S. Geological Survey Professional Paper 1772, 86 p., 14 pls.

**Response:** Table 9 summarizes the outcome of the detailed evaluation performed during the Feasibility Study. Each of the sub-criterion for the NCP criteria were given a score of 1 to 10, then the subcriteria scores were averaged to provide an overall score for each of the NCP criteria. Numerical scores were not provided for Protection of Human Health and the Environment and Compliance with ARARs criteria because those were interpreted as “yes or no” criteria. The table of scores for the subcriteria is provided within the Feasibility Study report but not duplicated in the ROD.

11. **Comment:** Page 2-37, Paragraph 2.11.1, What is the time frame to reach the RAOs, paragraph 2.11.1, is inconsistent with table 8 regarding time frames they all say 30 years. Section 2.11.2 bullet- The statement about DNAPL is a concern, if there is confidence in reducing the contaminants in a particular timeframe why is there not a contingency remedy.

**Response:** Additional discussion regarding the timeframe to reach the RAOs has been added to the short-term effectiveness discussion in Section 2.9.2. The timeframes referenced in Table 8 reflect the timeframe of the cost estimate but not the timeframe to achieve RAOs. An explanation is provided in the Cost paragraph of Section 2.9.2; however, to eliminate the perceived inconsistency between Table 8 and Section 2.11.1, within Table 8 “Timeframe” has been changed to “Cost estimate timeframe”.

There is no contingency remedy for the DNAPL because there is currently no known technology proven to be capable of reducing DNAPL concentrations to the site’s established cleanup levels (MCLs), given the site complexities including potential munitions and explosives of concern and heterogeneous subsurface conditions. ERD has been demonstrated to be effective at significantly reducing contaminant mass at DNAPL sites and was therefore determined to be the appropriate technology for the site during the FS process; however, the timeframe for achieving the cleanup levels cannot be projected.

12. **Comment:** Page 2-39 – end of paragraph should the accumulation daughter products 1,2-DCE and vinyl chloride be of concern. Is there a plan to do a pilot test before implementing the remedy. (I told him that the performance monitoring kinds of act as a pilot test) maybe we can enhance that language a bit to make it obvious.

**Response:** The text has been revised to qualify that accumulation of daughter products may occur “if if an adequate quantity of electron donor and/or the appropriate biological community are not present.” ERD will provide the necessary organic donor for full reductive dechlorination and is effective at treating the daughter products. The following paragraph has also been revised and now states that, “The microbial culture may be necessary if it is determined through groundwater performance monitoring that an appropriate population of reductive dechlorinators is not present at the site to prevent the accumulation of cis-1,2-DCE and vinyl chloride”. The final daughter products ethene and ethane have been detected in site groundwater; therefore it is assumed that the appropriate biological community is currently present.

The team elected to not conduct a pilot study prior to full-scale implementation of the remedy based on its proven effectiveness at similar sites; therefore, no additional information regarding pilot study testing has been added to the text.

13. **Comment:** Page 2-40, first paragraph can we expand the discussion a bit here regarding the evaluation of the annual groundwater monitoring data. He wants to see something that says that if the remedy is not performing as we think it should that we would consider a change prior to the five year review and that we would be evaluating the remedy throughout the process.

**Response:** The sentences preceding the five-year review sentence discuss an annual evaluation of groundwater data and re-consideration of the type and quantity of substrate, frequency of injection, and locations of injection. The five-year review sentence has been revised to refer more clearly to that text. The sentences now read as follows: "If the evaluation of groundwater monitoring data, which will be conducted annually, determines that favorable geochemical conditions are no longer present for reductive dechlorination, subsequent rounds of ERD may be injected. If necessary, as treatment progresses and the concentrations of COCs and their daughter products change, the type and quantity of substrate, frequency of injection, and the location of injection may be revised to address current site conditions. In addition to the annual evaluation, need for additional action to achieve the cleanup levels will be evaluated and documented during CERCLA Five-Year Reviews."