

**Responses to Comments
Revised Draft Final Feasibility Study Report for Site 2
St. Juliens Creek Annex
Chesapeake, Virginia**

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Comments from VDEQ, provided 31 August 09.

1. **Comment:** Section 3.2.2, *Soil and Sediment*, second bullet, last sentence – please explain what is meant by “the remediation is required” (Should this say “remediation is not required”?).

Response: The sentence has been amended to read, “Therefore, the concentration detected is likely associated with historical basewide application of pesticides, and remediation is not required.”

2. **Comment:** Please include disclaimer on Figure 4-3 through 4-9 that final monitoring well network has not yet been determined (Add that the partnering team will make decision on final network).

Response: The following note has been added to the legend of Figures 4-3 through 4-9, “The final monitoring well network will be developed in the remedial design”.

3. **Comment:** Correct typo in right-hand header throughout document.

Response: The right-hand header has been corrected.

4. **Comment:** Section 3.2.2, *Soil and Sediment*, first bullet, first line – change SJS07 to either SJS02-SS07 or SS07.

Response: “SJS07” has been changed to “SJS02-SS07”

5. **Comment:** Figures 3-2 and 4-1 – change High Concentration Target Area (COCs > 10,000ug/L) to (TCE > 7,800 ug/L).

Response: The requested changes have been made.

6. **Comment:** *Page 4-5, second redlined text* – change “area are assumed” to “area is assumed”.

Response: The requested change has been made.

7. **Comment:** *Page 4-6, last redlined paragraph, first phrase* – change “which is the reason” to “which is likely the reason”.

Response: The requested change has been made.

8. **Comment:** *Page 4-8, second redlined text* – undo the cross out of the “o” in dioxide.

Response: The requested change has been made.

9. **Comment:** *Page 4-11, large middle paragraph and Page 4-13, fifth line from top, redlined sentence starting “The EOS solution...”* – change “a injection contact” to “an injection contact”.

Response: The requested changes have been made.

10. **Comment:** *Page 4-11, last redlined text* – change “and determine” to “and to determine”.

Response: The requested change has been made.

11. **Comment:** *Section 4.2.10, fifth line from top* – change “may changed” to “may change”.

Response: The requested change has been made.

12. **Comment:** *Page 4-17, second line from bottom* – this phrase is said twice in this paragraph “the EOS would be injected every 2 years”.

Response: The second instance of the repeated text has been removed.

13. **Comment:** *Page 5-7, first redlined sentence* – is resultantly a word?

Response: The word “resultantly” has been deleted from the sentence.

14. **Comment:** *Table 5-3* – what does green shading indicate? Please include explanation in figure.

Response: The following note was included at the bottom of the table, “Highlighted cells represent those that have changed since the draft. They will be unhighlighted in the final document, but are shown for ease of review.”

15. **Comment:** *Section 3.2.2, Shallow Groundwater, first bullet* – As discussed during the August 2009 partnering meeting, I am concerned that this new definition of the high-concentration are (TCE > 7,800 ug/L) leaves SJS02-GW17 (see Figure 2-3) out of the high concentration area, it would have been included using the previous definition (total COCs > 10,000 ug/L).

Response: The high concentration area was previously based on the solubility level for TCE in order to provide some definition of the potential DNAPL area at Site 2. However, the 10,000 µg/L value was applied to total CVOC concentrations even though the degradation products (DCE and vinyl chloride) would not be present as DNAPL, which was overly conservative. Furthermore, selection of the 10,000 µg/L value did not take into consideration site-specific conditions. Therefore, a more technically defensible definition of the high-concentration area was determined.

The current definition of the high concentration area is based on the delineation of the CVOC source area by the MIP and the assimilative capacity of the existing groundwater system. Based on the assimilative capacity at Site 2, the fate and transport modeling suggested that TCE concentrations would need to be reduced to 7,800 ug/L in order to attenuate to PRGs before reaching St. Juliens Creek. Although cis-1,2-DCE and vinyl chloride concentrations are also elevated in shallow groundwater, the model results suggested that the current assimilative capacity of the system could effectively reduce these concentrations before reaching the creek. Use of the fate and transport model versus a semi-arbitrary number is beneficial to select target treatment areas since CVOC groundwater concentrations are dynamic at Site 2 and anticipated to change by the time the remedial action is implemented. Therefore, the model can be updated during the design phase of the selected technology to incorporate any changes in the plume delineation. Dissolved contamination at the SJS02-GW17 location should still be favorably impacted by the high concentration area since it is located directly downgradient of this area (once the inlet is filled in).

16. **Comment:** Section 3.2.2, *Soil and Sediment*, second paragraph – sample location SJS02-SS05 is not included in the remediation area, please include a bullet in this section to explain.

Response: SJS02-SS05 has been added to the first bullet in Section 3.2.2, *Soil and Sediment*, because the same rationale applies.

17. **Comment:** *All figures* – depending on resolution of Comment 15 above, please update the high concentration area on all figures to include GW17.

Response: No changes have been made based on the response to Comment 15.

18. **Comment:** *Figures 5-1 and 5-2* – According to these figures all of the alternatives have the same score, please explain.

Response: Figures 5-1 and 5-2 have been revised to depict the correct scores.