

N69118.AR.001114
ST JULIENS CREEK
5090.3a

LETTER AND U S NAVY RESPONSE TO SECOND ROUND VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY COMMENTS REGARDING DRAFT RECORD OF DECISION FOR SITE 2 WASTE DISPOSAL AREA B ST JULIENS CREEK ANNEX CHESAPEAKE VA

08/09/2010
CH2M HILL

**Responses to Comments
Draft 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: August 9, 2010

**Comments from VDEQ, provided 12 May 2010.
Responses to VDEQ, provided 27 July 2010.
Second comments from VDEQ, provided 2 August 2010.**

ARARs comments:

Table A -2, Virginia Chemical -Specific ARARs

1. **Comment:** *Water Quality Standards: 9 VAC 25-260-20 and 30 - Add the following sections 50, 140, 185, 280, 310, and 410.*

Response: The relocation of the storm water channel and outfall are subject only to those requirements that relate to the location and configuration of the channel and outfall. The chemical make-up of the point source discharge is not related to the remedial actions at Site 2. Therefore, 9 VAC 25-260- 50, 140, 185, 280, 310, and 410 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *The ROD identifies one SVOC, one pesticide and several inorganic compounds that were detected in the surface water above Virginia Water Quality Standards. Other constituents were detected as well at concentrations below Virginia Water Quality Standards. Section 140 of 9 VAC 25-260, identifies the numerical water quality criteria for specific parameters. Section 310 and 410 identify the River Basin and special standards for the water body in which St. Juliens Creek is located. For the reasons stated sections 140, 310 and 410 are requested to be added to the Virginia Water Quality Standards: 9 VAC 25-260-(20) and (30) currently listed on Table A-2, Virginia Chemical-Specific ARARs.*

Response: The exceedances of Virginia Water Quality Standards in surface water were not from samples taken in St. Juliens Creek, but from a small surface water body located inside the site. This water body is being removed during

implementation of the remedy, and therefore sections 140, 310, and 410 are not applicable or relevant and appropriate and have not been added to the table.

2. **Comment:** *Groundwater Quality Standards: 9 VAC 25-280-30* – Add the following sections 20, and 50 to 70.

Response: Section 20 is not chemical specific. Section 50 regulates constituents that have not been identified as COCs. Section 60 outlines that groundwater quality criteria presented in Section 70 are not enforceable standards and are not mandatory. Additionally, Section 70 regulates constituents that have not been identified as COCs. Therefore, 9 VAC 25-280-20 and 50-70 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *The remedial actions are being implemented with the target goal of achieving MCLs. In Virginia, both MCLs and SMCLs are contained in the Department of Health's Waterworks Regulations and will be addressed in comment number 3 below.*

Response: Please see response to Comment 3.

3. **Comment:** In Virginia, both MCLs and SMCLs are contained in the Department of Health's *Waterworks Regulations: 12 VAC 5-590-10 to 1280*. The statutory basis for the *Waterworks Regulations* is found in Chapter 6 of Title 32.1 of the Virginia Code, *Environmental Health Services: Va. Code Ann. §§ 32.1-163 to 248.2*. In the absence of MCLs/SMCLs, other health-based standards or criteria, or best professional judgment based on risk assessment, may be employed. Where groundwater that is a potential drinking water source discharges to surface water, the cleanup level at the discharge point would be the more stringent of either the MCL/SMCL or a discharge limit based on the *Water Quality Standards: 9 VAC 25-260-5 to 550*. Please add *Waterworks Regulations: 12 VAC 5-590-10, 370, 380, 390, 410, 420, 440, and 530*.

Response: 12 VAC 5-590-10, 370, 380, 390, 410, 420, 440, and 530 are not applicable or relevant and appropriate because these regulations apply to waterworks facility standards and sampling, are not applicable or relevant and appropriate to activities being conducted at Site 2.

2nd Comment: *Environmental Health Services: Va. Code Ann. §§ 32.1-163 to 248.2, provides the statutory basis for the Department of Health's Waterworks Regulations. DEQ requests that 12 VAC 5-590-440, Table 2.2 and 2.3 be added to Table A-2, Virginia Chemical-Specific ARARs.*

Response: 12VAC 5-590-440 specifies analytical methods to be employed by a waterworks operation and therefore they are not applicable or relevant and appropriate to activities being conducted at Site 2. In any event, the criteria specified are not more stringent than Federal MCLs which have been included as applicable chemical-specific ARARs.

4. **Comment:** Please add *Ambient Air Quality Standards: 9 VAC 5-30-10 to 80*.

Response: There are no direct impacts to air quality from CERCLA release or Site 2 activities. Therefore, 9 VAC 5-30-10 to 80 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *No Comment.*

5. **Comment:** Please add *Pollutant Discharge Elimination System (VPDES) Permit Regulations: 9 VAC 25-31-10 to 90.*

Response: The relocation of the storm water channel and outfall are subject only to those requirements that relate to the location and configuration of the channel and outfall. The chemical make-up of the point source discharge is not related to the remedial actions at Site 2. The Site 2 outfall is currently covered under the facility VPDES permit. Therefore, 9 VAC 25-31-10 to 90 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *No Comment.*

Table A -3, Federal Location –Specific ARARs

6. **Comment:** Correct the grammar or spelling for “meeting” located under the header comment for Wetlands.

Response: Last sentence of comment was revised to read: “They are, however, required to meet the intent of the permit.”

2nd Comment: *No Comment.*

Table A -4, Virginia Location –Specific ARARs

7. **Comment:** Please add *Definitions and Miscellaneous in General: 4 VAC 15-20-130 to 140.*

Response: No endangered species have been identified at Site 2. Therefore, 4 VAC 15-20-130 to 140 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *Please provide the basis for this determination.*

Response: A search of the Threatened and Endangered Species database indicated the potential presence of the federally threatened piping plover and brown pelican and state endangered peregrine falcon in the vicinity of SJCA. However, there have been no documented sightings of the species at SJCA, including by ecologists during past site investigation activities and to perform a wetland delineation. Due to the site being previously disturbed and developed and the entire surrounding habitat intensely developed Site 2, does not have the required habitat or resources to support any populations of state threatened or endangered plants or animals.

8. **Comment:** Please add *Rules and Regulations for the Enforcement of the Endangered Plant and Insect Species Act: 2 VAC 5-320-10.*

Response: No endangered plant and insect species have been identified at Site 2. Therefore, 2 VAC 5-320-10 is not applicable or relevant and appropriate and has not been added to the table.

2nd Comment: Please provide the basis for this determination.

Response: Please see response to Comment 7.

9. **Comment:** Please add *Chesapeake Bay Preservation Area Designation and Management Regulation*: 9 VAC10-20-10 to 260.

Response: Zoning law does not apply to federal facilities. Therefore, 9 VAC10-20-10 to 260 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: No Comment.

10. **Comment:** Please add *Water Quality Management Planning Regulations*: 9 VAC 25-720-10 to 40, and 60.

Response: Regulations apply to a point source discharge. No such discharge is included with Site 2 activities. Therefore, 9 VAC 25-720-10 to 40, and 60 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: No Comment.

Table A -5, Federal Action –Specific ARARs

11. **Comment:** Correct the spelling for “greater” located under the header prerequisite for PCB management.

Response: Spelling was corrected.

2nd Comment: No Comment.

Table A -6, Virginia Action –Specific ARARs

12. **Comment:** *Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-1)*: 9 VAC 5-50-90 add the following sections 20 to 60, 80, 90, and 240 to 370.

Response: Regulations outline requirements that are not applicable or relevant and appropriate to the generation of fugitive dust or apply only to sources that are subject to the new source review program. Therefore, 9 VAC 5-50-20 to 60, 80, and 240 to 370 are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: No Comment.

13. **Comment:** Add the following sections 390, and 1182 to 1188 to the *Virginia Stormwater Management Program (VSMP) Permit Regulations*: 4 VAC 50-60-30 to 80, 300, 310, 380, 420, 430, 1100 to 1140, 1160, 1170.

Response: Per 4 VAC 50-60-1170, discharge monitoring for construction activities is not required. Therefore, 4 VAC 50-60-390 is not applicable or relevant and appropriate and has not been added to the table. 4 VAC 50-60-1182 to 1188 are

applicable as they pertain to design and construction of storm water management channels during the remedial action, and have been added to the table.

2nd Comment: DEQ appreciates the action taken in the response.

14. **Comment:** *Solid Waste Management Regulations: 9 VAC 20-80-140, 150, 240.(c). Add the following sections 60, 120, 210, 220, 230, 300, 310, 320, 470, 650, and 700.*

Response: 9 VAC 20-80-60 and 320 do not contain substantive requirements; therefore, they are not applicable or relevant and appropriate and have not been added to the table. ARARs only apply to on-site activities; therefore, 9 VAC 20-80-120, 650, and 700 are not applicable or relevant and appropriate and have not been added to the table. 9 VAC 20-80-210, 220, 230 and 310 describe closure requirements for a regulatory framework other than CERCLA; therefore, they are not applicable or relevant and appropriate and have not been added to the table. 9 VAC 20-80-300 lists requirements for active, permitted disposal facilities; therefore it is not applicable or relevant and appropriate and has not been added to the table. Treatment units are not being utilized at Site 2; therefore, 9 VAC 20-80-470 is not applicable or relevant and appropriate and has not been added to the table.

2nd Comment: Relevant and Appropriate Requirements are those cleanup standards, standards of control, and other substantive environmental protections requirements, criteria, or limitations promulgated under "State Law" that, while not "applicable" to the circumstances found at the CERCLA site, address problems or situations sufficiently similar to those found at the CERCLA site. Solid Waste Management Regulation: 9 VAC 20-80-210, 220, 230 describe closure requirements similar to the circumstances found at a CERCLA site and therefore should be considered relevant and appropriate.

Response: 9 VAC 20-80-210 is administrative and is not substantive, and is therefore not applicable or relevant and appropriate. 9 VAC 20-80-220 does not provide more stringent requirements than federal and is therefore not applicable or relevant and appropriate. 9 VAC 20-80-230 is administrative and applies to the Virginia Waste Management Board director, and therefore is not applicable or relevant and appropriate.

15. **Comment:** Correct the citation contained on Table A-6 for the Air Pollution Control Board to VA Code Ann §10.1-1300 to 1328.

Response: Table A-6 has been updated accordingly.

2nd Comment: No Comment.

16. **Comment:** *Hazardous Waste Regulations: 9 VAC 20-60-261 and 262. Add the following section 490.*

Response: ARARs only apply to on-site activities; therefore, 9 VAC 20-60-490 is not applicable or relevant and appropriate and has not been added to the table.

2nd Comment: please change the following in the text to be inserted – first sentence change “MCL” to “MCLs” – second sentence insert “indicated that contaminants” after “but instead”

Response: *No Comment.*

17. **Comment:** Please add *Regulations Governing the Transportation of Hazardous Materials:* 9 VAC 20-110-10 to 130.

Response: 9 VAC 20-110-10 to 100 and 130 are administrative; therefore they are not applicable or relevant and appropriate and have not been added to the table. 9 VAC 20-110-110 is not substantive but instead defaults to federal regulations; therefore, it is not applicable or relevant and appropriate and has not been added to the table. 9 VAC 20-110-115 and 120 have been repealed and have therefore not been added to the table. 9 VAC 20-110-121 and 122 apply to the transport of radioactive materials, which are not present at Site 2; therefore, they are not applicable or relevant and appropriate and have not been added to the table.

2nd Comment: *No Comment.*

18. **Comment:** Please add *Private Well Regulations:* 12 VAC 5-630-360 to 480.

Response: 12 VAC 5-630-420(c) and 450(c)(1), (2), (4), (5), and (7) to (9) are applicable and have been added to the table. Observation, monitoring, and remediation wells are subject only to the requirements relating to well abandonment.

2nd Comment: *DEQ appreciates the action taken in the response.*

RPM comments:

1. **Comment:** *Section 1.3* – Please include waste in this section

Response: The requested revision has been made. The first sentence now begins: “Previous investigations have identified waste and the presence of chemicals of concern (COCs) at concentrations that pose a potential threat to human health and/or the environment, consisting of:”

2. **Comment:** *Section 1.4, First bullet* – add “inlet” before “sediment”

Response: The requested revision has been made.

3. **Comment:** *Section 1.4, third bullet* – change second “within” to “of”

Response: The requested revision has been made.

4. **Comment:** *Figure 2* – define black line in legend, clarify if the UST is really long and rectangular

Response: The black line has been added to the legend as the “Extent of waste”. The size and shape of the UST are not known; however, based on the shape of the surrounding berm, the shape has been changed to a circle.

5. **Comment:** Table 1 – rectify the date discrepancy of the Site 2 RI.

Response: No change has been made to the dates of the RI in Table 1; the investigation was conducted from 1997 to 2001 and the report was finalized in 2004. However, the 2010 revisions of the Expanded RI and FS have been added to the table.

2nd Comment: *The reason for the difference in the dates is still unclear to the reader – please either update the information in the header row or insert a note to provide additional clarification.*

Response: The headers of the first and second columns of Table 1, respectively, have been changed to “Previous Study/Investigation (Document and Document Date)” and “Dates of Study/Investigation.”

6. **Comment:** Section 2.3, second paragraph – public meeting date should be May 18, 2010

Response: The public meeting date has been updated as requested to reflect the current document schedule.

7. **Comment:** Section 2.4 – we should include a statement indicating that the Site 21 and Site 2 GW plumes are not comingled.

Response: The following sentence has been inserted prior to the last sentence of Section 2.4 to address this request: “The chlorinated Site 21 chlorinate plume does not extend to the Site 2 border; therefore, the CVOC plumes at Sites 2 and 21 are not co-mingled.”

2nd Comment: *the response inserts this sentence, “The chlorinated Site 21 chlorinate plume...” – please change “chlorinate” to “groundwater”*

Response: The requested revision has been made.

8. **Comment:** Section 2.5, second sentence – remove “Most of”

Response: The requested revision has been made.

9. **Comment:** Figure 3 – include updated figure to include corrections made in the Site 2 PP

Response: The requested revisions have been made.

10. **Comment:** Figure 4 – a) sample locations 17SS03 and 17SS04 as discussed in Section 2.5.1 (Waste and Soil) cannot be located on this figure, b) the purple line (VOC impacted area) extends outside of the red lines (site boundary), please correct, c) add the St. Juliens Creek sediment area to this figure, d) the additional delineation sample in St. Juliens Creek and the additional waste delineation plans should be added to this figure, e) SB204 should be included within the DNAPL area and we should ensure that area is included in the high concentration area to be treated, f) individual sample locations are difficult to see, please include another figure that is zoomed in to the site boundary

Response:

- a) The text has been revised to refer to sample locations 17SO03 and 17SO04.
- b) The site boundary has been revised to encompass the shallow groundwater CVOC plume. This revision has been applied to all of the figures depicting the site boundary.
- c) St. Juliens Creek sediment area has been added to the figure.
- d) The recent sediment sample location has been added to the figure. The following note has been added to the extent of waste label in the figure: "Additional waste delineation activities are planned and may result in a revision to the eastern waste boundary."
- e) Figure 4 has been revised to include SB204 within the potential DNAPL source area because the TCE concentration at that location (500,000 µg/kg) is within Site 2's calculated soil saturation TCE concentration range of 403,000 to 13,550,000 µg/kg (ERI report calculation), indicating the potential for DNAPL. Please note that the figure is not intended to depict the high-concentration target area, which is based on the natural attenuation capacity of the plume, and that SB204 is included within the high-concentration target area on Figure 5.
- f) Figure 4 has been revised. The figure is now zoomed in on Site 2 and includes an inset depicting the locations of the St. Juliens Creek sediment samples that fall outside of the figure range.

11. **Comment:** *Section 2.5.1, Waste and Soil* – discuss the additional waste delineation in this section

Response: The following text has been added to the end of the first sentence prior to the Figure 4 reference: "; however, the area may be refined through additional waste delineation activities." Additionally, a note has been added to Figure 4 as indicated in the response to comment 10d.

12. **Comment:** *Section 2.5.1, Sediment, second paragraph* – discuss the additional St. Juliens Creek sediment sampling event in this section

Response: The following sentence has been added to the paragraph to address this request: "Because multi-depth sediment samples were not collected, additional investigation will be performed during the Remedial Design or Remedial Action to define the vertical extent of the sediment exceeding the cleanup levels."

13. **Comment:** *Section 2.5.2, fourth bullet* – please explain why specific contaminants are not included in this bullet as they are included in others

Response: The bullet has been revised to include VOCs rather than contaminants. The other COCs (i.e., naphthalene and heptachlor epoxide) are not migrating by advection.

14. **Comment:** *Section 2.5.2* – include transport of contaminated sediment into St. Juliens Creek

Response: The following bullet has been added to Section 2.5.2: "Surface water flow/tidal flux transport of SVOCs and inorganics in sediment from Site 2 to St. Juliens Creek and from St. Juliens Creek to Site 2."

15. **Comment:** *Section 2.7.1, Deep Groundwater, last paragraph* – please include updated language found in the Site 2 PP

Response: The last paragraph of the Deep Groundwater section of Section 2.7.1 has been revised to the following: "Although VOCs were detected above the MCL in deep groundwater during the initial phases of the ERI, VOC concentrations detected during the most recent investigation phases are below the MCLs. The more recent ERI investigation activities confirmed that the earlier MCL exceedances were not an indication of deep groundwater contamination, but instead had been carried down from the shallow groundwater during monitoring well installation and had naturally degraded to below MCLs. Therefore, the RI conclusion was considered appropriate and this medium was not evaluated further during the HHRA conducted as part of the ERI."

2nd Comment: *please change the following in the text to be inserted – first sentence change "MCL" to "MCLs" – second sentence insert "indicated that contaminants" after "but instead"*

Response: The requested revision has been made.

16. **Comment:** *Table 3, Terrestrial Receptors* – please describe how the Screening Toxicity Values for aluminum and iron were formulated

Response: The screening toxicity value for aluminum is the USEPA (1995) Region III BTAG value for flora and the value for iron is the USEPA (1995) Region III value for fauna. Note 2 of the table provides the reference.

17. **Comment:** *Table 4* – a) note * - remove comma after "indicating", b) note 2 – remove semi-colon at end of note

Response: The requested revision has been made.

18. **Comment:** *Section 2.9.1, Contingency Remedy Component* – when will the details of the contingency remedy be documented?

Response: Details of the Contingency Remedy are documented in Section 2.11.3 of the ROD.

19. **Comment:** *Table 7* – 30 year timeframe is not realistic for any alternative except 7 & 8, it underestimates cost for O&M

Response: Comment noted. The explanation of why a longer timeframe is not estimated is provided in the Cost section of Section 2.9.2. The cost for each alternative was calculated based on the assumption of a 30-year implementation period because of the significant uncertainty associated with the timeframes and the fact that costs beyond 30 years have minimal impact to the overall evaluation as a result of the present worth adjustment.

20. **Comment:** Section 2.9.2, Contingency with ARARs, first sentence – change “regulations” to “requirements”

Response: Because the acronym was defined earlier in the document, the definition has been removed and the comment has become overcome by events.

21. **Comment:** Section 2.9.2, Cost, third sentence – change “costs beyond 30 years has” to “costs beyond 30 years have”

Response: The requested revision has been made.

22. **Comment:** Section 2.11.2, ERD within High Concentration Target Area, third paragraph – a) first sentence is confusing, please reword, b) last sentence – the need for additional action should be evaluated annually

Response:

- a) The first sentence of the third paragraph has been split into the following two separate sections: “ERD will be implemented in the high-concentration target area through direct injection of a suitable carbon substrate (e.g., emulsified vegetable oil) and, if necessary, a microbial culture into shallow groundwater. The microbial culture may be necessary if it is determined through groundwater monitoring that an appropriate population of reductive dechlorinators is not present at the site.”
- b) The fifth sentence of the paragraph (formerly the fourth sentence) has been revised to include annual evaluation of the data: “If the evaluation of groundwater monitoring data, which will be conducted annually, determines that favorable conditions...”

23. **Comment:** Section 2.11.3, MNA, first paragraph, last sentence – move “and” behind “volume”

Response: The requested revision has been made.

24. **Comment:** Section 2.11.3 – is the PRB expected to break TCE down to ethene?

Response: Yes, the PRB is expected to break TCE down to ethane.

25. **Comment:** Section 2.11.3, last sentence – the need for additional action should be evaluated annually

Response: The following sentence has been added as the fourth sentence of the paragraph: “Effectiveness will be evaluated annually within groundwater monitoring reports.”

26. **Comment:** Table 9 – a) include periods in all boxes or remove them all for consistency, b) shallow GW, HH Risk – why is vinyl chloride listed for inhalation and other VOCs aren’t? c) shallow GW & surface water, remedy component – add “and performance monitoring” to “ERD”, d) shallow GW, metric (ERD) – define NAC the first time it’s used, e) shallow GW & surface water, remedy component – add “and LUCs” to “Soil Cover”

Response:

- a) The periods have been removed from Table 9.
- b) Inhalation of VOCs is listed in the first row under shallow groundwater under the future potable use scenario. Vinyl chloride is singled out under the construction worker scenario because the other VOCs don't pose unacceptable risk under that scenario. However, the vinyl chloride construction worker risk is for dermal exposure and the row has been corrected. Naphthalene is the only shallow groundwater COC that poses an unacceptable risk to construction workers from inhalation.
- c) The requested revision has not been made because the performance monitoring is not the remedy component that achieves the RAO but instead the metric for determining if the RAO has been achieved. The monitoring is listed in the Metric column.
- d) The requested revision has not been made because NAC is defined the first time that it is used in the document (Section 2.9).
- e) The requested revision has been made.

27. **Comment:** Section 3, last sentence – change “Proposed Plan” to “ROD”

Response: The requested revision was not made because the public meeting discussed in Section 3 is the Proposed Plan public meeting. The entire section will be updated after the public meeting is held.

28. **Comment:** Acronyms and Abbreviations, ARAR – change “regulation” to “requirement”

Response: The requested revision has been made.

29. **Comment:** References – a) #5 – it isn't clear where the reader can find this information, please include more specific information, i.e. page numbers, b) #15 – this information can also be found in Tables 3-1 and 3-6, please add, c) #22 – please include section number

Response:

- a) Reference #5 has been changed to the following: “CH2M HILL, 2010 revision. *Final Feasibility Study Report for Site 2. St. Juliens Creek Annex, Chesapeake, Virginia. Section 2 (including Table 2-1).*” In addition, all of the references for the Expanded RI and Feasibility Study have been updated to the 2010 revision.
- b) Reference #15 has been changed to the following: CH2M HILL, 2010 revision. *Final Feasibility Study Report for Site 2. St. Juliens Creek Annex, Chesapeake, Virginia. Section 3.2.3 (including Tables 3-1 and 3-6) and Appendix A.*”
- c) Section 6.1.3 has been added to Reference #22.