



November 18, 2022

Mr. Brian T. Hennessey, SRS Remedial Project Manager  
Infrastructure and Area Completion Division  
U. S. Department of Energy  
Savannah River Operations Office  
Post Office Box A  
Aiken, South Carolina 29802

ENVIRONMENTAL COMPLIANCE &

NOV 21 2022

AREA COMPLETION PROJECTS

Re: 2021 Groundwater Mixing Zone Report for the D-Area Oil Seepage Basin (631-G) (U), SEMS  
Number: 27 (SRNS-RP-2022-00396, Revision 0, July 2022) received July 28, 2022.

Dear Mr. Hennessey:

The Department has completed its review of the above referenced document pursuant to the Savannah River Site Federal Facility Agreement. The attached comments were generated as a result of this review. These comments must be addressed prior to final approval of the above referenced document. As specified in Section XXII, Review/Comment on Documents, the appropriate technical staff will be available to participate in a joint DOE/EPA/DHEC comment resolution meeting to discuss these comments, if necessary.

To schedule a meeting to resolve the attached comments or to obtain further information, please contact me at (803) 898-4331.

Sincerely,

**Susan B. Fulmer** Digitally signed by Susan B. Fulmer  
Date: 2022.11.18 07:50:17 -05'00'

Susan B. Fulmer, P.G., Manager  
Federal Remediation Section  
Division of Site Assessment, Remediation, Revitalization  
Bureau of Land and Waste Management

cc: C. L. Bergren, SRNS-ACP (Signed Original)  
Travis Fuss, Aiken Environmental Affairs Office (via email)  
Jon Richards, EPA Region IV  
Heather Cathcart, BLWM

**South Carolina Department of Health and Environmental Control Comments on:**  
2021 Groundwater Mixing Zone Report for the D-Area Oil Seepage Basin (631-G) (U), SEMS  
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General Comments

1. Appendix C, DOSB 2021 Hydrographs. It may be beneficial to plot the hydrographs with the VOC concentration time series to better understand the correlation between fluctuating water table levels and VOC concentrations.
2. Appendix D, DOSB 2021 Time Series Plots for COC. It may be beneficial to reorganize Appendix D so that time series plots for each well go from PCE to VC and then from source wells to distal wells (group plots by well number).

Specific Comments

1. Section 2.0, Site Hydrology, page 6. The Department recommends including a reference to Figure B-2, DOSB Conceptual Cross-Section A-A'.
2. Section 3.3 Natural Attenuation, pages 8-10. The section states that reductive dichlorination is not considered a viable process at the D-Area Oil Seepage Basin, but then focuses mainly on discussing reductive dichlorination and not the processes that are remediating the groundwater plume. There should be some discussion of the natural attenuation processes that are working to remediate the groundwater plume.
3. Section 4.4, Compliance and Mixing Zone Monitoring, pages 12-13. The Department recommends adding references to plume maps B-6 through B-9 in Sections 4.4.1 through 4.4.4.
4. Section 4.4.6, Trend Analysis, page 13. This section references Figures B-6 through B-12 as opposed to Appendix D. Figures B6 through B-12 are a snapshot of concentrations of COCs for 2Q2021 and not a trend analysis. Appendix D Time series plots would be a more appropriate reference.
5. Section 4.4.6, Trend Analysis, page 15. The fifth sentence states, "however, VOC concentrations intermittently increase/decrease in various wells, including one additional well DOB 11 and plume compliance wells DOB 15A, DOB 15D and DOB 16." The Department recommends referencing the associated trend plot figure numbers.
6. Section 4.4.6, Trend Analysis, page 15. The last paragraph states, "Contaminant trends at the highest concentration well, DOB 15, show steady concentrations of VC, cDCE, and TCE, (Figure D-8, D-31, and D-77, respectively)." Figures D-8, D-31 and D-77 are for well BOB-15PZ, which typically has lower concentration.

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7. Section 4.4.6, Trend Analysis, pages 15 through 16. Paragraph 3 on page 15 describes VOC concentrations intermittently increasing/decreasing due to core plume movement and degradation of VOC contaminants. However, page 16 discusses a lack of vinyl chloride accumulation and a retardation of plume movement. It appears that plume movement and degradation of VOCs are not the primary cause of the increasing/decreasing trends seen DOB 11, DOB 15A, DOB 15D, and DOB 16.
  8. Figure 1 through Figure 4, pages 23-26. These figures focus on VOC concentrations versus rainfall. Please clarify why only some of the wells are compared to total rainfall.
  9. Figure 4, VC Concentrations Vs. Rainfall at Plume Compliance Wells (DOB 15, 15A, 15D and DOL 2) and Additional Wells (DOB 11, 12, 13 and 14) at the DOSB OU, page 26. Why is the MZCL compliance line missing?