Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

FEB 15 2024

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Savannah River Site's Responses to the Regulatory Comments on the Calendar Year 2022 D-Area Oil Seepage Basin Operable Unit (631-G) Groundwater Mixing Zone Letter Report, SEMS Number: 27 (RDDD-23-019, Dated July 25, 2023)

In accordance with the terms of the Federal Facility Agreement (FFA), the U.S. Department of Energy (DOE) is submitting the subject comment responses for your review. The U.S. Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) provided comments on the report on November 20, 2023. The report will not be revised; however, all comment responses will be included and/or addressed in the next report, as applicable. Please review these responses and provide your approval thirty (30) days from receipt. The time and effort that the SCDHEC and the EPA have given on the subject operable unit are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 952-7805, or the DOE Operable Unit Manager, Karen Adams, at (803) 952-7871.

Sincerely,

AVERY HAMMETT Digitally signed by AVERY HAMMETT
Date: 2024.02.15 09:33:41 -05'00'

Avery G. Hammett
FFA Project Manager, DOE-Savannah River
Remediation and Deactivation & Decommissioning Division

RDDD-24-120

FEB 15 2024

Enclosures:
1. SRS Responses to South Carolina Department of Health and Environmental Control Comments on the Calendar Year 2022 D-Area Oil Seepage Basin Operable Unit (631-G) Groundwater Mixing Zone Letter Report, SEMS Number: 27 (RDDD-23-019, Dated July 25, 2023)
2. SRS Responses to United States Environmental Protection Agency Comments on the Calendar Year 2022 D-Area Oil Seepage Basin Operable Unit (631-G) Groundwater Mixing Zone Letter Report, SEMS Number: 27 (RDDD-23-019, Dated July 25, 2023)

cc w/o encl:
J. Blalock, SCDHEC-Columbia
S. French, SCDHEC-Columbia
M. Reece, SCDHEC-Columbia
G. K. Taylor, SCDHEC-Columbia
G. Stewart, SCDHEC-Columbia
T. R. Fuss, SCDHEC-Aiken Environmental Affairs Office
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SRS Responses to the United States Environmental Protection Agency Comments on the Calendar Year 2022 D-Area Oil Seepage Basin (631-G) Groundwater Mixing Zone Letter Report, SEMS Number: 27, RDDD-23-019, July 2023, Savannah River Site, Aiken, South Carolina Comments received November 20, 2023

EPA GENERAL COMMENTS

1. **The Letter Report does not discuss the meaning of "not decision data" (NDD), which is used to characterize the results of compliance wells that are noted in various site figures, including Figure 4 (2022 TCE Plume and Concentrations at DOSB OU).** The Letter Report discusses monitoring results for compliance wells DOB16, DOB19 and DOB19A and their associated analytical results are depicted in several site figures; however, the relative site figures characterize the results for these wells as NDD without discussing the meaning in the text. *Please revise the Letter Report to discuss the meaning of the NDD characterization.*

   Response: Clarification

   The code "NDD" refers to "Not Decision Data (Estimated Value)" as shown in the legend on Figures 4 to 7. Because this is a summary level letter report, an explanation for the codes is not provided in the text. The bi-annual full reports (refer to 2021 report, SRNS-RP-2022-00396, Appendix A) state the following description in the text for the NDD code: "An estimate can still provide useful information. Although there may be a range of uncertainty around the actual value, the value itself may still grossly exceed a regulatory standard. However, an estimated value is less certain than an unqualified result. Therefore, this would be labeled as "NDD" (not decision data)." For the 2022 DOSB data that were labeled as NDD, all estimated concentrations were low (below the corresponding MCL). No changes are proposed for the 2022 letter report.

   Contact: Rohit Goswami, (803) 989-5383, rohit.goswami@srs.gov

2. **A hydrogeological summary in support of the conceptual site model (CSM) that introduces the various hydrostratigraphic units should be included within the Letter Report text.** The discussion in the 2022 Data Analyses section (Page 4) describes the water elevations in the AQ1/AQ2 and AQ3 aquifer zone; however, a summary of each aquifer zone is not provided. Although aquifer context (depth, confining units) can be derived from the cross-sections (Figure 3 and Figure 7), a short description should be provided in the text for context regarding the relative aquifer zones discussed. Additionally, the aquifer zone Gordon Aquifer Unit (GAU) is shown in the cross-section figures and listed in Tables 1 and 2 but not discussed in the text. *Please revise the text to include a short summary of the hydrostratigraphic units, including the GAU.*

   Response: Clarification

   The 2022 data report is a summary level letter report submitted for an even-numbered year. Summary of hydrostratigraphic units including the Gordon Aquifer Unit is provided in the full data reports submitted for odd-numbered years. This level of detail for the hydrostratigraphic

units was provided in the 2021 full report and will be included in the 2023 full report. No changes are proposed for the 2022 letter report.

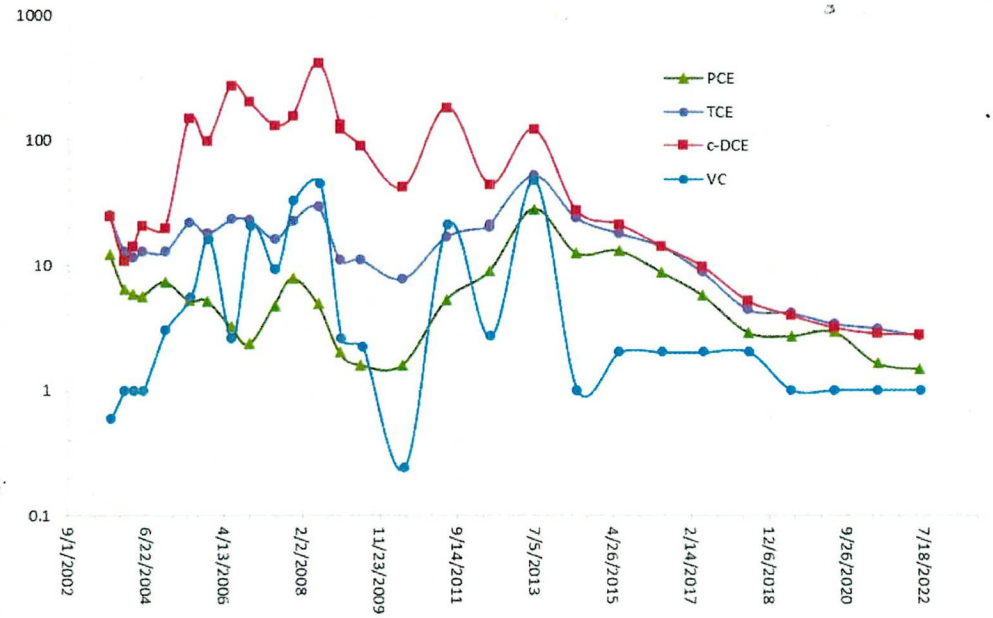
Contact: Rohit Goswami, (803) 989-5383, rohit.goswami@srs.gov

EPA SPECIFIC COMMENTS:

1. **2022 Data Analyses, Page 4:** The last paragraph in the text on Page 4 discusses the trends in wells DOB 12 and DOB 11; however, a trend graph for DOB 12 was not provided in the Letter Report. A trend graph should be provided for DOB 12 to support the statement that DOB 12 has displayed decreasing concentrations in the last eight years. *Please revise the Letter Report to include a trend graph for DOB 12.*

   Response: Clarification

   Since the 2022 submittal was a summary level letter report, trends for only a select few wells were plotted. Time series plots for DOB 12 and other wells are provided in the full report from 2021 and can be referenced to support the text in the 2022 letter report. For reference, the time series plot for DOB 12 has been updated to include the data from 2022 and provided below. It can be observed that the analyte concentrations continue to show a decreasing trend. In future submittals of the report, SRS will take care to provide relevant reference to the data in the text. No changes are proposed for the 2022 letter report.



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2. **2022 Data Analyses, Page 5:** The text indicates methylene chloride was not detected in DOSB OU Plume Compliance wells; however, it is unclear whether the non-detected results were due to elevated laboratory detection limits. The information in Table 1 (2022 DOSB OU Groundwater Mixing Zone Monitoring Results) indicates the estimated quantitation limit (EQL) for methylene chloride analysis was 5 micrograms per liter (µg/L) which is equal to the maximum contaminant level (MCL). *Please revise the text to discuss how the elevated EQL impacts the assessment of methylene chloride in the DOSB OU Plume Compliance wells.*

   Response: Clarification

   Methylene chloride has been previously detected at the DOSB and such data is presented in the time series plots (Appendix D) in previous reports. However, methylene chloride has not been detected in the wells since 2019 and hence has not been plotted in the reports since then. Also, the detection limit, as reported by the laboratory is 0.5 µg/L and the EQL is 5 µg/L. Methylene chloride, if present above the detection limit (0.5 µg/L), would be reported at the value detected and J qualified. Since all results were non detects, it is likely that methylene chloride is not present, and can be quantitatively confirmed that it is not present above the MCL of 5 µg/L. No changes are proposed for the 2022 letter report.

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3. **2022 Data Analyses, Page 6:** The text states surface water concentrations continue to be below MCLs or remain non-detect; however, according to Table 1 (2022 DOSB OU Groundwater Mixing Zone Monitoring Results) and Table 2 (2022 DOSB OU Natural Attenuation Field Parameters), surface water station DOSBSW1 was dry and not sampled. *Please revise the text to address this discrepancy.*

   Response: Agree.

   The text should have only referenced the downgradient monitoring wells and not the surface water concentrations as a sample was not obtained in 2022. In future submittals of the report, SRS will verify the data is available. No changes are proposed for the 2022 letter report.

   Contact: Rohit Goswami, (803) 989-5383, rohit.goswami@srs.gov

4. **2022 Data Analyses, Page 6 and Table 1, 2022 DOSB OU Groundwater Mixing Zone Monitoring Results, PDF Page 19:** There is a discrepancy between the text and Table 1 regarding the mixing zone concentration limit (MZCL) and MCL for 1,4-dioxane. The table describes both the MZCL and MCL for 1,4-dioxane as 5 micrograms per liter (ug/L); however, the text indicates there is no MZCL or MCL for 1,4-dioxane and the current U.S. Environmental Protection Agency (USEPA) regional screening level (RSL) is 0.46 ug/L. *Please revise the table to address the discrepancy.*

Response: Agree

There should be no value for the MZCL for 1,4-dioxane in Table 1, as correctly identified in the review comment. The MCL and MZCL values presented for 1,4-dioxane in Table 1 are typographical errors. SRS proposes that the RSL of 0.46 µg/L be used in the table in lieu of the MCL and footnoted appropriately. No changes are proposed for the 2022 letter report.

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5. **VOC Degradation and Field Parameter Measurements, Page 7 and Table 2, DOSB OU Natural Attenuation Field Parameters, PDF Page 20:** There is a discrepancy between the text and Table 2 regarding the reported range of dissolved oxygen (DO) recorded for 2022. The text indicates DO ranged from 0.89 milligrams per liter (mg/L) to 4.8 mg/L; however, Table 2 indicates the highest observed DO concentration was 5.82 mg/L. *Please revise the text to address the discrepancy.*

Response: Agree

Review of the raw data as well as data provided in Table 2 showed that the range of dissolved oxygen (DO) values has been accurately identified as 0.89 to 5.8 mg/L. The reported highest DO value in the text is a typographical error. SRS will be more careful to eliminate such errors in future submittals of the report. No changes are proposed for the 2022 letter report.

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SRS Responses to the South Carolina Department of Health and Environmental Control (SCDHEC) Comments on the Calendar Year 2022 D-Area Oil Seepage Basin (631-G) Groundwater Mixing Zone Letter Report, SEMS Number: 27, RDDD-23-019, July 2023, Savannah River Site, Aiken, South Carolina Comments received November 20, 2023

SCDHEC SPECIFIC COMMENTS:

1. **Table 1, 2022 DOSB OU Groundwater Mixing Zone Monitoring Results, page 19.** A few wells with COCs above MCLs appear to be missing the orange shading as specified in the explanation beneath the table. The relevant results are listed below.

   a. DOL 2: TCE = 5.35 µg/L.
   b. DOB 15: PCE = 6.16 µg/L, TCE = 16.6 µg/L, cis-1,2-DCE = 72 µg/L, VC = 12.2 µg/L.

   Response: Agree.

   These values were inadvertently not shaded orange in the 2022 Report and will be verified in future reports. No changes are proposed for the 2022 letter report.

   Contact: Rohit Goswami, (803) 989-5383, rohit.goswami@srs.gov