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

MAR 1 1 2025

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 Environmental Services
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund and Emergency Management 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 488-4D Ash Landfill Annual Groundwater Monitoring Report 2023 Data (SRNS-RP-2024-00941, Revision 0, July 2024) SEMS Number: 63

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's (EPA) and South Carolina Department of Environmental Services' (SCDES) comments were received on November 20, 2024. This report will not be revised; however, all comment responses will be included in the next report, as applicable. Please review the enclosures and provide your approval within thirty (30) days from receipt. The effort and time that the EPA and the SCDES have provided on this operable unit are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 952-6211, or the DOE Operable Unit Manager, Khari Bell, at (803) 952-5085.

Sincerely,

MATTHEW BAKER Digitally signed by MATTHEW BAKER Date: 2025.03.11 10:28:53 -04'00'

Matthew R. Baker
Acting FFA Remedial Project Manager
DOE-Savannah River Operations Office
Remediation, Deactivation, and Decommissioning Division

RDDD-25-125

Ms. Susan Fulmer
Mr. Jon Richards

MAR 1 1 2025

Enclosures:
1. SRS Responses to the South Carolina Department of Environmental Services' Comments on the 488-4D Ash Landfill Annual Groundwater Monitoring Report 2023 Data (SRNS-RP-2024-00941, Revision 0, July 2024) SEMS Number: 63
2. SRS Responses to the U.S. Environmental Protection Agency's Comments on the 488-4D Ash Landfill Annual Groundwater Monitoring Report 2023 Data (SRNS-RP-2024-00941, Revision 0, July 2024) SEMS Number: 63

cc w/o encl:
M. Reece, SCDES-Columbia
H. J. Porter, SCDES-Columbia
J. Blalock, SCDES-Columbia
S. French, SCDES-Columbia
R. G. Stewart, SCDES-Columbia
M. Mehta, SCDES-Columbia
T. G. Corley, SCDES-Midlands Aiken Environmental Affairs Office
G. O'Quinn, SCDES-Midlands Aiken Environmental Affairs Office
E. G. Downing, SCDES-Midlands Aiken Environmental Affairs Office
H. L. Herlong, SCDES-Midlands Aiken Environmental Affairs Office

cc w/encl:
B. Martin, EPA-Atlanta
H. H. Cathcart, SCDES-Columbia
M. McRae, TechLaw, Inc.

SRS Responses to South Carolina Department of Environmental Services Comments on the 488-4D Ash Landfill Annual Groundwater Monitoring Report – 2023 Data
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Comments received November 20, 2024

SCDES SPECIFIC COMMENTS

1. Section 3.0, Results, page 4. The third sentence of the first paragraph states that monitoring wells DCB 8 and DCB077 are also used for monitoring in the D-Area Treatability Study (SRNS 2024) and include additional metal sample analyses in October/November. Based on review of the referenced Treatability Study and Table 3 in the report, monitoring well DCB078 was also used for monitoring in the referenced Treatability Study and additional metal sample analyses were taken in November 2023. Please revise the third sentence to include monitoring well DCB078.

   Response: Agree/Clarification

   Well DCB078 is also used for monitoring the DAG OU Treatability Study and should have also been included in the text in section 3.0. Future reports will include well DCB078 in the text in Section 3.0 Results. No changes to the July 2024 Monitoring Report are proposed.

   Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

2. Figure 10, Beryllium Times Series Plots at DCB078 and DCB079, page 21. The Times Series Plot for Beryllium Station for DCB078 contains a black line for monitoring well DCB 47C and a red line for monitoring well DCB078. However, monitoring well DCB 47C is not mentioned in the report. Please clarify if monitoring well DCB 47C is associated with monitoring well DCB078, and if so, the relationship between the two monitoring wells.

   Response: Clarification

   During closure of the D-Area ash basins, monitoring wells in the area had to be abandoned and replaced with new wells following closure. Well DCB078 is the replacement well for DCB 47C; therefore, the data for DCB 47C is included in the time-series plot with DCB078. Future reports will show the figure title as "Beryllium Time Series Plots at DCB078 (and abandoned well DCB 47C)". No changes to the July 2024 Data Report are proposed.

   Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

3. Table 2, Monitored Constituents for the 488-4D Ash Landfill, page 23. According to Table 3, field parameters, metals, sulfate and uranium were each sampled during the fourth quarter of 2023 at monitoring wells DCB 8, DCB077 and DCB078. Table 2 lists water elevation only for these wells during the fourth quarter. Also, uranium was sampled at these three wells during the second quarter, but Table 2 does not reflect this. Please revise.

   Response: Clarification

   Table 2 correctly lists the required 488-4D Ash Landfill monitoring requirements. However, for the sake of completeness, data collected for wells DCB 8, DCB077, and DCB078 as part of the DAG OU Treatability Study are also included in Table 3, as stated in Section 3.0 of the report. All metals and sulfate data collected for 2nd and 4th quarter of 2023 at any of the 488-4D monitoring wells are reported in Table 3, which includes the data collected as part of the DAG OU Treatability Study. Any additional analyses or field measurements outside of the required 488-4D Ash Landfill annual sampling (2nd quarter) are color coded in blue text as noted in the

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explanation at the bottom of Table 3. Field parameters, other than water levels, should have also been color coded in blue text for the 4Q measurements in Table 3. No changes to the July 2024 Monitoring Report are proposed.

Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

4. Table 3, 488-4D Ash Landfill 2023 Groundwater Monitoring Data. According to the legend provided at the bottom of Table 3, the "NS" listed for mercury at monitoring well DCB078 in the fourth quarter of 2023 has the following explanation: "Requested to be sampled but was not. See comments as to why not." It is unclear if or where these comments are provided. Please explain.

   Response: Clarification

   The "Field Conditions" column for mercury at monitoring well DCB078 in the 4Q23 should have listed "MC" which means "miscommunication with the lab; analyte not analyzed for". In this case, the lab incorrectly processed some of the samples from one of the 4Q23 DAG OU sampling events and did not include mercury. Explanations for the "Field Conditions" field at the bottom of Table 3 were mistakenly not included.

   Additionally, the comment "MS" that is shown in the Field Conditions column means "mistakenly not sampled". Future tables will rename the "Field Conditions" column as "Field Conditions/Comments" and will ensure explanations are included for all Field Conditions/Comments at the bottom of the table.

   No changes to the July 2024 Data Report are proposed.

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USEPA SPECIFIC COMMENTS

1. **Section 2.1, Site Geology and Hydrogeology, Page 2 of 24 and Figure 5, Lithostratigraphic and Hydrostratigraphic Units at SRS, Page 15 of 24:** The text states that the pertinent stratigraphic component beneath D-Area in ascending order, is the Snapp, Fourmile Branch, Congaree, Warley Hill, Tinker/Santee, and Clinchfield Formations, however, the Clinchfield Formation is not shown on Figure 5. Please revise Figure 5 to include the location of the Clinchfield Formation or revise the text as appropriate.

   Response: Agree/Clarification

   The Clinchfield Formation is located above the Tinker/Santee Formation. A similar lithostratigraphic and hydrostratigraphic unit figure that depicts the Clinchfield Formation as shown in figure EPA-CR-1 below will be included in future 488-4D Monitoring Reports. No changes to the July 2024 Monitoring Report are proposed.

   Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

2. **Table 2, Monitored Constituents for the 488-4D Ash Landfill, Page 23 of 24:** Uranium is a monitored constituent in well DCB 8; however, according to Table 3 (2023 Sampling Results for the 488-4D Ash Landfill) samples collected from wells DCB077 and DCB078 were also analyzed for uranium. Additionally, uranium is not included in the Metals constituents section of Table 2. Please revise the information presented in Table 2 to be consistent with the information reported in Table 3.

   Response: Clarification

   Table 2 is a listing of the required 488-4D Ash Landfill monitoring requirements. Uranium is not a required analysis under the DAG OU for DCB077 or DCB078; however, uranium was additionally analyzed for at wells DCB077 and DCB078 since the analysis was at no additional cost with the other metal analyses. All metals and sulfate data collected for 2nd and 4th quarter of 2023 at any of the 488-4D Ash Landfill monitoring wells was reported in Table 3. This included the data collected for the DAG OU Treatability Study. Any additional analyses or field measurements outside of the required 488-4D Ash Landfill annual sampling (2nd quarter) are color coded in blue text as noted in the explanation at the bottom of Table 3. Field parameters other than water levels should have also been color coded in blue text for DCB 8, DCB077, and DCB079 for the 4Q measurements in Table 3 similar to the analytical data for these wells in 4Q. Redox is not a required field measurement for the 488-4D Ash Landfill monitoring wells (as shown in Table 2) but was measured as part of the DAG OU Treatability Study and was therefore color coded in blue text. No changes to the July 2024 Monitoring Report are proposed.

   Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

3. **Table 2, Monitored Constituents for the 488-4D Ash Landfill, Page 23 of 24:** There is a discrepancy between the information presented in Table 2 and the text of the AMR. For example, according to Table 2, monitoring of field parameters, metals, sulfate and uranium occurred during the second quarter only and gauging of water elevation data only occurred during the fourth quarter;

however, Table 3 (2023 Sampling Results for the 488-4D Ash Landfill) shows that monitoring of field parameters, metals, sulfate and uranium were performed for DCB 8, DCB077, and DCB078, with the exception of Mercury at DCB078, during the fourth quarter of 2023. Also, the text in Section 2.2 (Groundwater Flow) states that water elevation data for April/May 2023 and October/November 2023 are provided in Table 3. The text states, "Monitoring wells DCB 8 and DCB077 are also used for monitoring in the D-area Treatability Study (SRNS 2024) and include additional metal sample analyses in October/November"; however, this statement does not address the metals analysis performed at DCB078 during the fourth quarter. Please revise the AMR text and tables as appropriate to clarify the frequency of monitoring of field parameters, metals, sulfate and uranium and water level gauging performed for the 488-4D Landfill.

Response: Clarification

Table 2 lists the required 488-4D Ash Landfill monitoring analyses and measurements. However, for the sake of completeness, data collected for wells DCB 8, DCB077, and DCB078 as part of the DAG OU Treatability Study are also included in Table 3, as stated in Section 3.0 of the report. Well DCB078 will be included in the text in section 3.0 in the next 488-4D Ash Landfill groundwater monitoring report. Any additional analyses or field measurements outside of the required 488-4D Ash Landfill annual sampling (2nd quarter) are color coded in blue text as noted in the explanation at the bottom of Table 3. Field parameters other than water levels should have also been color coded blue for the 4Q measurements. No changes to the July 2024 Monitoring Report are proposed.

Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

USEPA MINOR COMMENTS

1. There are two sets of page numbers shown on every page, one in the header and one in the footer, and they do not match. Furthermore, the last page (Table 3 - 2023 Sampling Results for the 488-4D Ash Landfill) is not included in the total page count for the numbering system used in the header and Table of Contents. Please revise the AMR to use one page numbering system, ensure the inclusion of the last page in the total page count, and ensure consistency with the Table of Contents.

   Response: Clarification

   Page numbers were added to the bottom left in the PDF version of the document because many documents have to be split for electronic submittal due to email file size limitations. This additional PDF page numbering was to assist recipients in recombining the document in the correct order if the report was split. Although this smaller report did not exceed email file size limitations, the PDF page numbering was still added to the bottom of PDF pages. Future reports will list additional page numbering on the PDF version of the report as "PDF Page ## of ##" for clarity.

   Larger tables, such as Table 3, are physically printed as posters and are folded to fit in a plastic sleeve in the printed version of the document. Microsoft Word has page size limitations that do not support inserting these tables into the document at their appropriate sizes. These are the reasons

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why Table 3 in not included in the Word document, not included within the header page numbers of the Word document, and are referenced to the next page/insert. These data tables are also available to view in Microsoft Excel.

No changes to the July 2024 Monitoring Report are proposed.

Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

2. **Figure 10, Beryllium Time Series Plots at DCB078 and DCB079, Page 21 of 24:** The title of Figure 10 states that the beryllium time series plots shown are for DCB078 and DCB079; however, DCB 47C is also shown. Please revise the title of Figure 10 to reflect that the beryllium time series plot for DCB 47C is also shown.

   Response: Clarification

   During closure of the D-Area ash basins, monitoring wells in the area had to be abandoned and replaced with new wells following closure. Well DCB078 is the replacement well for DCB 47C; therefore, the data for DCB 47C is included in the time-series plot with DCB078. Future reports will show the figure title as "Beryllium Time Series Plots at DCB078 (and abandoned DCB 47C)". No changes to the July 2024 Data Report are proposed.

   Contact: Ashley Shull (803)952-7090 ashley.shull@srs.gov

3. **Table 3, 2023 Sampling Results for the 488-4D Ash Landfill, PDF Page 29:** The title of Table 3, is shown on page 24 of 24; however, Table 3 is presented on the following Page 29 of 29. Please revise the AMR and move Table 3 to Page 24 of 24.

   Response: Clarification

   See response to EPA minor comment #1. No changes to the July 2024 Data Report are proposed.

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Figure EPA-CR-1. Lithostratigraphic and Hydrostratigraphic Units at SRS