



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ENVIRONMENTAL COMPLIANCE &

October 12, 2023

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

OCT 12 2023

AREA COMPLETION PROJECTS

**RE: EPA Comments on the TECHNICAL REVIEW OF THE EFFECTIVENESS
MONITORING REPORT FOR THE MONITORED NATURAL ATTENUATION
(MNA) AT THE CHEMICALS, METALS, AND PESTICIDES (CMP) PITS
OPERABLE UNIT (OU) (U) APRIL 2022 THROUGH MARCH 2023 SEMS
NUMBER: 24, REVISION 0 DATED JUNE 2023**

Dear Mr. Hennessey,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the
CMP MNA Report for 4/22 through 3/23 and has the attached comments:

If you have any questions or require additional information, please contact me at
(404) 562-8648.

Sincerely,

**JON
RICHARDS**

Digitally signed
by JON RICHARDS
Date: 2023.10.12
15:31:29 -04'00'

Jon Richards
FFA Remedial Project Manager
Superfund & Emergency Management
Division

ec: C.L. Bergren, SRNS-ACP
Susan Fulmer, SCDHEC

GENERAL COMMENTS

1. It is unclear whether a cost analysis will be provided in the 2024 CMP Pits EMR, along with the updated model evaluation. The EMR states, “Savannah River Site (SRS) will use the 2021 data, as well as recent groundwater data, to update the source term (and plumes) in the 2017 model to simulate if an additional action to reduce the residual source would improve cleanup timeframes;” however, a cost analysis should also be performed and provided with the updated model evaluation. The costs associated with the reduced cleanup timeframes, including capitol and operational costs of contingency actions, should be compared to the costs to perform long-term monitoring (LTM), including five year reviews (FYRs) for the next approximately 100 years. Please revise the EMR to indicate that a cost analysis will be prepared, along with the model update, and provided in the 2024 CMP Pits EMR.
2. It is unclear why Section 1.3 (Observed Hydrostratigraphy at the CMP Pits OU) does not discuss all the stratigraphy that is depicted in the cross sections. For example, Figures 12 through 14 and Figures 21 through 28 illustrate stratigraphic layers designated as “A-Horizon, AA-Horizon” that are not discussed elsewhere in the text. Please revise the text to discuss the A-Horizon and AA-Horizon that are depicted in the cross sections.
3. The EMR does not include data validation reports; as such, it is unclear whether the data was validated. All monitoring data should undergo data validation. Please revise the EMR to include data validation reports.
4. The term “not decision data” (NDD) is used on figures and in tables within the EMR; however, the text does not discuss the meaning of this term. This term is used in Table 4 (CMP Pits OU PCE Max Results from 2008 and 2022 ($\mu\text{g/L}$)) and Table 5 (CMP Pits OU Lindane Max Results from 2008 and 2022 ($\mu\text{g/L}$)), as well as for all site figures containing sampling data; however, the meaning of this term and how it affects the data are unclear. Please revise the EMR to discuss the meaning of NDD, including how it affects data.
5. The EMR does not use bookmarks. All sections, subsections, figures, tables, and attachments should be denoted with a bookmark in the portable document format (PDF) for easier navigation. Please revise the EMR to include bookmarks.

SPECIFIC COMMENTS

1. **Section 1.3, Observed Hydrostratigraphy at the CMP Pits OU, Page 4, and Figure 4, Stratigraphic Surfaces of the TCCZ and TCLC with 2Q2022 Dry Zones of the TZ and MAZ, PDF Page 47:** It is unclear why the data from the 2002 modeling effort and well installation records that were used to map the confining unit surfaces were not compared to the most recent water elevation data. The text indicates the confining unit surfaces were compared to, “the most current fourth quarter 2021 (4Q2021) water elevation;” however, it is noted a more accurate representation of current conditions would be to compare to data collected within the reporting period. Additionally, the referenced Figure 4 does not state which water elevation data was used to generate the figure. Please revise the EMR to use the most recent groundwater elevations for comparison, and ensure Figure 4 includes a reference to the data used to generate the groundwater elevations.
2. **Section 1.4, Observed Hydrology at the CMP Pits OU, Page 6:** There is a discrepancy in the text regarding total rainfall in 2022. The first paragraph states, “Rainfall during 2022

(total of 51.55 inches) measured more than the 2021 measurements and was above the 20-year average (48.88 inches);” whereas, the last sentence of the second paragraph states, “With lower rainfall totals in 2022, flow patterns have not changed significantly from 2021.” Please revise the text to address the discrepancy.

3. **Section 1.4, Observed Hydrology at the CMP Pits OU, Page 7:** The EMR does not include a reference for the calculated hydraulic conductivity constant and porosity in the Gordon Aquifer (GA). The text indicates the values were based on other data reports in the vicinity of the landfill; however, a specific reference should be included. Please revise the EMR to include a reference for the hydraulic conductivity and porosity in the GA.
4. **Figure 2, CMP Pits OU Subunits, PDF Page 43:** The figure contains symbology that is not defined in the figure legend; as such, it is unclear what they represent. Examples include green filled circles and orange filled triangles. Please revise the figure legend to include a description of all symbology used on the figure.
5. **Figure 7, 2022 Potentiometric Surface for the TZ and MAZ and 8, 2022 Potentiometric Surface for the LAZ and GA, PDF Pages 53 and 55:** Figure 7 and Figure 8 do not provide a north arrow for orientation. All maps should include northward orientation to provide context. Please revise the figures to include north arrows for orientation.
6. **Figure 8, 2022 Potentiometric Surface for the LAZ and GA, PDF Page 55:** The 182-foot (ft) above mean sea level (amsl) contour line is drawn as a solid line east of well CMP 8A; however, there is no groundwater elevation data to support this interpretation. Please revise the figure to draw a dashed contour line to indicate groundwater elevation is inferred where no supporting groundwater elevation data exists.
7. **Figure 9, Monthly Rainfall Measurements in L-Area for 2022, 2021, 2020, 2019, and the 20-Year Average, PDF Page 57:** The figure does not contain monthly rainfall measurements for the entire reporting period. The reporting period is from April 2022 through March 2023, but monthly rainfall measurements are only included from January 2022 through December 2022. Please revise the figure to include the monthly rainfall measurements for all months during the reporting period.
8. **Table 3, CMP Pits OU Annual MNA Results, April 2022 through March 2023, PDF Pages 119 to 131:** The formatting of the table makes it difficult to determine individual well results. The name of the well is only shown on the first three pages of the table, whereas the results for each well are shown on the fourth to last page; as such, it is difficult to discern which result is for which monitoring location. Please revise the table to ensure the monitoring well name is shown on each page of the table.
9. **Appendix C, Additional Sampling Efforts, PDF Page 357:** It is unclear whether additional cation-anion speciation data should be collected downgradient of the pits. Section 1.4 (Observed Hydrology at the CMP Pits OU) indicates, “As groundwater approaches Pen Branch, the downward gradient may decrease or even flow upward near and underneath Pen Branch as water discharges into Pen Branch;” however, no cation-anion speciation data has been collected downgradient in order to evaluate the potential vertical component. Please revise the text to clarify whether additional cation-anion speciation analyses should be collected downgradient of the pits.

ARF: EPA COMMENTS ON THE TECHNICAL REVIEW OF THE EFFECTIVENESS MONITORING REPORT FOR THE MONITORED NATURAL ATTENUATION (MNA) AT THE CHEMICALS, METALS, AND PESTICIDES (CMP) PITS OPERABLE UNIT (OU) (U) APRIL 2022 THROUGH MARCH 2023, SEMS NUMBER: 24, SRNS-RP-2023-00474, REVISION 0, DATED JUNE 2023

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