



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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ATLANTA, GEORGIA 30303-8960

May 12, 2021

ENVIRONMENTAL COMPLIANCE &

Mr. Brian Hennessey, 730-B
SRS Remedial Project Manager
Savannah River Operations Office
Area Completion Projects
Post Office Box A
Aiken, South Carolina 29802

MAY 13 2021

AREA COMPLETION PROJECTS

Dear Mr. Hennessey:

The U.S. Environmental Protection Agency (EPA) has received the Department of Energy, Savannah River Site Treatability Study Data Report for the Groundwater Injection and Discharge Canal Neutralization at the D-Area Groundwater Operable Unit, SEMS #63, Revision 0 dated January 2021.

Should you have any questions or concerns, please feel free to call me at on my cell number 404-229-9500.

Sincerely,

A handwritten signature in cursive script that reads "Diedre Lloyd".

Diedre Lloyd
Remedial Project Manager
DOD Section
Superfund & Emergency Management Division

cc: Angelia Holmes, DOE-SRS, Brian Hennessey, DOE-SRS, Phil Prater, DOE-SRS, Karen Adams, DOE-SRS, C.L. Bergren, SRNS-ACP (Signed Original), Susan Fulmer, SCDHEC

**EPA COMMENTS on the
TREATABILITY STUDY DATA REPORT for
GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION at the
D-AREA GROUNDWATER OPERABLE UNIT**

SEMS #63, REVISION 0

DATED JANUARY 2021

**SAVANNAH RIVER SITE
AIKEN, SOUTH CAROLINA**

EPA General Comment:

- 1) It is uncertain whether the treatability study test objective to displace the acidic groundwater out of the upper water table aquifer of the Upper Three Runs Aquifer (UTRA) in the vicinity and downgradient of the D-Area Coal Storage Area (DCSA) and 489-D Coal Pile Runoff Basin (CPRB) can be achieved based on current site conditions. For example, the text in Section 4.2, Injection Well Installation, states although the injection wells were installed in the mid to lower (UTRA) and deeper than originally designed, increases in water elevations measured in nearby lower and upper aquifer zone wells during slug testing indicated there is sufficient communication within the UTRA. However, the text does not discuss if the groundwater communication is sufficient enough to meet the treatability study test objective to displace the acidic groundwater out of the upper water table aquifer of the UTRA in the vicinity and downgradient of the DCSA and 489-D CPRB.
 - a. Please revise the Treatability Study Data Report for Groundwater Injection and Discharge Canal Neutralization at the D-Area Groundwater (OU) (U), SEMS Number: 63; SRNS-TR-2021-00005, Revision 0, dated January 2021 (Data Report) to address this concern/issue to ensure that the test objective can be achieved despite injection wells being installed deeper than originally designed.

EPA Specific Comments:

1. **Section 1.0, Introduction, Page 1 of 54:** The text discusses the presence of a metals plume and a sulfate plume in the UTRA due to acidic conditions. However, the location of the sulfate plume was not presented on Figure 2, D-Area Groundwater 2Q2020 pH and Beryllium Plume, as suggested in the text. Please revise the Data Report to ensure the location of the sulfate plume relative to the treatability study area is clearly documented and understood.
2. **Section 2.0, Project Description, Injection of Production Well Water, Page 2 of 54:** The text states the pH of the production well groundwater is approximately 6.0 to 6.5. However, according to Table 2, D-Area Production Wells Sample Results – December 6, 2018, Page 17 of 54, the pH of groundwater samples collected from production wells PW 3D and PW 136D was 6.7 and 5.8, respectively. Please revise the text to address the discrepancy in the reported pH levels measured in samples collected from production wells PW 3D and PW 136D.
3. **Section 4.2, Injection Well Installation, Pages 7-8 of 54:** The second paragraph states water levels in nearby wells, when available, were also measured during the slug tests. Furthermore, the text

asserts that although the injection wells were installed deeper than originally designed, both lower aquifer zone and upper aquifer zone wells showed an increase in water elevations indicating that there is sufficient communication within the UTRA. However, water level data measured in nearby wells during the slug tests was not presented. As such, the assertion that there is sufficient communication within the UTRA based on increased water elevations in the lower and upper aquifer zone wells, respectively, could not be adequately assessed. Please revise the Data Report to include the water level data measured during the slug tests to support the assertion that there is sufficient communication within the UTRA based on increased water elevation.

- 4. Figure 2, D-Area Groundwater 2Q2020 pH and Beryllium Plume, Page 25 of 54:** An isolated beryllium plume defined south of the D-Area Discharge Canal and the 488-1D Ash Basin at well cluster DCB085A, DCB085C and DCB085D is shown on the figure. However, the laboratory results for beryllium detected in these wells was not presented in the Data Report. Wells DCB085A and DCB085C are screened within the UTRA unit, and well DCB085D is screened in the deeper Gordon Aquifer unit. As such, without the beryllium results it is currently unknown if beryllium contamination has been detected in the UTRA and/or the deeper Gordon Aquifer unit. Please revise the Data Report to include the beryllium results for wells DCB085A, DCB085C and DCB085D.