



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

February 26, 2021

ENVIRONMENTAL COMPLIANCE &

FEB 26 2021

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

AREA COMPLETION PROJECTS

RE: EPA Comments on the Groundwater Report for the P-Area Groundwater (PAGW) Operable Unit (OU)(U), April 2019 through March 2020 Data, SEMS Number: 81, SRNS-RP-2020-00621, Revision 0, October 2020, Savannah River Site, Aiken, South Carolina

Dear Mr. Hennessey,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the Groundwater Report for the P-Area Groundwater (PAGW) Operable Unit (OU)(U), April 2019 through March 2020 Data, SEMS Number: 81, SRNS-RP-2020-00621, Revision 0, October 2020. EPA comments are attached.

If you have any questions or require additional information, please contact me at (404) 562-8513.

Sincerely,

**JENNIFER
TUFTS**

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JENNIFER TUFTS
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Jennifer Tufts
Remedial Project Manager
Superfund Division

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

EPA Comments on the Groundwater Report for the P-Area Groundwater (PAGW) Operable Unit (OU)(U), April 2019 through March 2020 Data, SEMS Number: 81, SRNS-RP-2020-00621, Revision 0, October 2020, Savannah River Site, Aiken, South Carolina

GENERAL COMMENT

1. Based on the data presented in the Groundwater Report for the P-Area Groundwater (PAGW) Operable Unit (OU) (U) April 2019 Through March 2020 Data, SEMS Number: 81, SRNS-RP-2020-00621, Revision 0, dated October 2020 (the Report), the current monitoring well network for the lower aquifer zone (LAZ) and Gordon Aquifer (GA) appear to be inadequate. Data gaps have been identified in the LAZ and GA monitoring well networks resulting in uncertainty in the delineation of the vertical and lateral extents of groundwater contamination. For example the following data gaps in the monitoring network were identified:
 - The lateral extent of tritium contamination is poorly defined in the GA at wells PSB002AA and PSB002AL. For example, as seen in Figure 32. Gordon Aquifer Tritium Plume for the P-Area Groundwater Operable Unit, GA wells PSB002AA and PSB002AL measured tritium at a concentration of 5680 pCi/mL and 47 pCi/mL, respectively. However, since no monitoring wells are located downgradient of PSB002AA and PSB002AL the lateral extent of tritium contamination in the GA is unknown.
 - The vertical extent of trichloroethylene (TCE) contamination is not defined at LAZ well PGW027C. As seen in Figure 38. Cross-Section of the Trichloroethylene Plume in P Area, TCE was measured at 173 micrograms per liter ($\mu\text{g/L}$) in PGW027C; however, no wells are monitored deeper than PGW027C to define the vertical extent of TCE contamination in the LAZ. Additionally, increasing TCE concentration trends are noted for LAZ wells PGW027C and PGW026B as seen in Figure 45. Time-Series Plots for Trichloroethylene at Distal Area Wells in the Lower Aquifer Zone.

The Report states the overall objective of the monitoring at PAGW OU is to assess the state of groundwater contamination in the unit for future response actions. It is currently unknown whether LAZ and/or GA wells exist that are not currently being monitored, that could be used for future monitoring to address the identified data gaps and uncertainties. If no existing monitoring wells are available, then additional monitoring well installation will be warranted to adequately characterize groundwater contamination in the PAGW OU. Please revise the Report to address these data gaps to ensure the noted uncertainties in the LAZ and GA are adequately addressed in support future response actions.

SPECIFIC COMMENTS

1. **Section 2.1.5, PAGW OU NTC Removal action, Pages 4-5 of 90:** The assertion regarding the effectiveness or expected performance of the ZVI-PRB non-time critical removal action (NTCRA) is currently not supported through an assessment of the groundwater monitoring data. For example, the text in the first paragraph states “The ZVI-PRB intersects the cVOC plumes at the Neck Area, essentially cutting off down-gradient migration of cVOC contaminants from the Source Area. Contaminated groundwater that comes in contact with the ZVI-PRB by groundwater flow through the permeable barrier, is remediated and clean groundwater flows down-gradient.” However, the text further states “Monitoring and assessment of the ZVI-PRB performance is conducted in accordance with the ZVI-PRB Effectiveness Monitoring Plan and will be discussed in the annual NTC RA Effectiveness Monitoring Report (EMR).” Since no effectiveness evaluation of the data was presented in the Report, please revise the text to clarify that it is currently unknown whether the ZVI-PRB

is cutting off downgradient migration of chlorinated volatile organic compound (cVOC) contaminants from the Source Area

2. **Figure 12. Upper Aquifer Zone Potentiometric Surface for the P-Area Groundwater Operable Unit, Page 31 of 90:** Steel Creek is not clearly identified on Figure 12. For example, the identifier for Steel Creek on Figure 12 is not in the area of a surface water body. In addition, Steel Creek is not identified on the legend. Please revise Figure 12 to address these issues.
3. **Figure 32. Gordon Aquifer Tritium Plume for the P-Area Groundwater Operable Unit, Page 57 of 90:** The direction of groundwater flow is unclear based on the data presented on the figure. For example, the elevation of the minor contours are not defined; thus, the direction of groundwater flow is unclear based on the data presented on the figure. Please revise the figure to address this issue.
4. **Figure 38. Cross-Section of the Trichloroethylene Plume in P Area, Page 67 of 90:** The relative aquifer zones and confining units have not been identified in the figure. Please revise the figure to clearly identify the aquifer zones and confining units depicted.