



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

December 2, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Brian Hennessey,
Area Completion Project
U.S. Department of Energy
Savannah River Operations Office
Post Office Box A
Aiken, South Carolina 29802



Dear Mr. Hennessey:

The U.S. Environmental Protection Agency (EPA) has reviewed the 2016 Groundwater Monitoring Report for the D Area Groundwater Operable Unit Report, CERCLIS #63.

EPA cannot provide approval for the above referenced report until the attached comments have been addressed.

If you have any concerns or questions, please contact me at (404) 229-9500.

Sincerely,

Diedre Lloyd
Remedial Project Manager
Superfund Division
Restoration and Sustainability Branch

Attachment:

cc: Angelia Holmes, DOE-SRS
C. L. Bergren, SRNS-ACP (Signed Original)
Susan Fulmer, SCDHEC-Columbia

**EPA COMMENTS on the
2016 GROUNDWATER MONITORING REPORT for the
D AREA GROUNDWATER OPERABLE UNIT**

**CERCLIS NUMBER: 63
DATED JULY 2017**

**SAVANNAH RIVER SITE
AIKEN, SOUTH CAROLINA**

EPA Comments:

1. The D-Area Groundwater Operable Unit (DAG OU) groundwater model may no longer be useful for comparing and predicting long-term plume behavior since the site conditions have changed and an update to the conceptual site model (CSM) and groundwater model is warranted.
 - a. For example, Section 4.2, Comparison to Model/Expectation for Long-Term Plume Behavior, Page 17 of 24, states, "Overall, the results from recent analytical monitoring are consistent with those predicted from the groundwater modeling for the DAG OU."
 - b. Additionally, Section 5.1.2 VOC Plume, Page 20 of 24, indicates there have been no releases of river water into Beaver Dam Creek since May of 2012 and therefore no dilution of the groundwater contamination by the river water has occurred since the shutdown of the 484-D Powerhouse.

It is not currently known if the initial DAG OU modeling assumed the water balance changes that have occurred and that impact the fate and transport of contaminants of concern (COCs) in groundwater as they migrate and discharge to surface water. As such, as the CSM requires updating, it appears the groundwater model should also be updated. Please revise the 2016 Groundwater Monitoring Report for the D-Area Groundwater Operable Unit to address these issues.

2. The text in Subsection DAG OU FFA Schedule, Page 21 of 24, states, "The FFA Field Start for additional characterization for groundwater at the DAG OU is scheduled for June 2020. Subsequent to completion of the D-Area Ash Basins/Landfill removal activities, additional characterization will occur in order to address any additional data gaps..." Based on the review of the information and data presented in the Report, the following data gaps in the horizontal and vertical extent of groundwater contamination have been identified:
 - a) Horizontal extent of metals (e.g., Be, Co, Mn) contamination southeast of Beaver Dam Creek and surface water monitoring stations DSWM-5, -6 and -7 is poorly constrained in the Upper Three Runs Aquifer (UTRA). As such, it is unclear if

the metal(s) plume extends across Beaver Dam Creek where no monitoring wells are currently installed.

- b) Vertical extent of trichloroethylene (TCE) contamination in the Gordon Aquifer beneath the VOC source zone near well DCB 62 has not been adequately assessed or characterized and is currently not known. Although Gordon Aquifer zone well DCB 51D measured non-detect for TCE, the well is located up-gradient of the source zone. Figure D-32, D-Area Groundwater Cross-Section A-A' for Trichloroethylene (TCE), 2Q16, Page D-67 of D-80, shows the vertical extent of TCE contamination near the source area is not adequately defined as indicated by the dashed >5 $\mu\text{g/L}$ iso-concentration contour.
- c) Additionally, the "Time Series Plot for Trichloroethylene (TCE) for Station DCB 33", Page E-123 of E-188 shows an increasing TCE trend in this Gordon Aquifer well DCB 33D. The TCE concentration measured in DCB 33D during 2Q15 measured 3.85 micrograms per liter ($\mu\text{g/L}$), 4Q15 measured 2.7 $\mu\text{g/L}$, 2Q16 measured 2.6 $\mu\text{g/L}$ and in 4Q16 measured 3.57 $\mu\text{g/L}$.
- d) Gordon Aquifer well DCB 33D is located more than 1,000 feet southeast of source area well DCB 62 and TCE remains stable just below the maximum contaminant level (MCL) of 5 $\mu\text{g/L}$.

Therefore, additional characterization in the UTRA southeast of Beaver Dam Creek in the Gordon Aquifer from beneath the source area is warranted to ensure the appropriate range of remedial alternatives is proposed.

- 3. To demonstrate the uncertainty in the vertical extent of TCE contamination below the source area, it is also recommended Figure D-5, D-Area Cross-Section A-A', Page D-13 of D-80 be revised to include source area well DCB 62 in the cross-section line.