



REGION 4

ATLANTA, GA 30303

November 20, 2025

ARF-025230

ENVIRONMENTAL COMPLIANCE &

SRNS-OS-2025-00380

NOV 20 2025

Mr. Matthew Baker
Acting FFA Remedial Project Manager
Remediation, Deactivation, and Decommissioning Division
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

AREA COMPLETION PROJECTS

EPA Comments: Remedial Investigation Report with Baseline Risk Assessment for the Automotive Repair Shop (716-A) Operable Unit (U), SEMS Number: 62, SRNS-RP-2025-00719, Revision 0, for the Savannah River Site, Aiken, South Carolina, September 2025

Dear Mr. Baker:

The U.S. Environmental Protection Agency, Region 4 (EPA) has reviewed and provided comments on the Remedial Investigation Report with Baseline Risk Assessment for the Automotive Repair Shop (716-A) Operable Unit (U), SEMS Number: 62, SRNS-RP-2025-00719, Revision 0, for the Savannah River Site, Aiken, South Carolina, September 2025

If you have any questions or require additional information, please contact Brianne Martin at (404) 683-2220.

Sincerely,

BRIANNE MARTIN Digitally signed by BRIANNE MARTIN
Date: 2025.11.20 14:34:16 -05'00'

Brianne Martin, RPM
Federal Facilities Branch
Superfund and Emergency Management Division

cc: C.L. Bergren, SRNS-ACP
Susan Fulmer, SCDES

GENERAL COMMENTS

1. It is unclear whether the soil sampling conducted beneath drain lines and/or sewer lines was sufficient to determine whether there has been a release to the environment. According to Section 3.2 (Site Characterization and Data Usability), at the soil boring beneath the Washing 101 area remnant concrete slab located at the southern end of Building 716-A (i.e., ARS-006-SB), four samples could not be collected from the first 21 feet (ft) below ground surface (bgs) of core. Based on Figure 2-2 (South End Floor Plan of Building 716-A), at least four floor drains appear to have been located in the Washing 101 area. It is noted that the activities that occurred in the Washing 101 area could have contributed contaminants to subsurface soils if there was a leak, and the nearest soil sample collected from approximately 0 to 21 ft bgs is 40 ft to the north under the lubrication pit. Therefore, it is unclear whether additional investigation in the Washing 101 area is necessary to determine whether contamination is present. It is recommended that the RI/BRA provide additional discussion to address the potential data gap from 0 to 21 ft bgs at ARS-006-SB, or to support that characterization is sufficient. For example, the RI/BRA should specifically discuss as a line of evidence how the results of the soil samples collected from 21 to 57 ft bgs at ARS-006-SB were used in the contaminant migration (CM) analysis to confirm that the contaminants at the Automotive Repair Shop (Building 716-A) are not a potential source for groundwater contamination. Please revise the RI/BRA to address the potential for soil contamination to be present to a depth of 21 feet in the southern area of Building 716-A.
2. The RI/BRA should clearly describe how all of the areas where potential releases could have occurred have been addressed or characterized. Based on Section 1.3 (Operable Unit History), there were many vehicle lifting systems and a waste oil underground storage tank (UST) on the southeast side of the building. Section 2.3.1 (Primary Sources of Contamination) states that motor oil stains were found in the maintenance areas, lubrication pit (Room 103), side trench, hydraulic lifts, cylinders, and narrow trenches, but Section 1.3.1 (Previous Actions) indicates that only the concrete slab in the former Spray Paint Room was sampled. It is noted that the penetrations greater than five centimeters in diameter and pits associated with the hydraulic lift systems were grouted, but it is unclear if these pits were inspected to ensure there were no releases beneath the slab. Also, Section 3.8.1 (Automotive Repair Shop (716-A) Description) notes that the trenches and sumps were sampled, but this is not discussed in Section 1.3.1. Please revise the RI/BRA to clearly and consistently describe the characterization of areas of potential releases at the Automotive Repair Shop (716-A).
3. It is unclear what values were used for the source zone concentrations in the Appendix B (Contaminant Fate and Transport Modeling) Tier I screen as shown in Table B-5 (Tier I Screening Results for the Automotive Repair Shop [716-A] OU). Section B.2.2 (Screening Methods) states that the Tier I screen compares the maximum concentration of all detected constituents to the EPA default soil screening limits (SSLs); however, Sections B.2.1 (Background) and B.2.4 (Modeling Parameters) indicate the 95% upper confidence level (UCL) was used to represent the soil concentration. Please revise Appendix B to clarify the values used for the source zone concentrations in the Tier I screening.
4. The specific Regional Screening Levels (RSLs) used to screen for constituents of potential concern (COPCs) are not discussed in the RI/BRA. For example, it is unclear which target hazard quotient (THQ) was used for the RSLs (i.e., 0.1 or 1). As shown in Appendix B (Contaminant Fate and Transport Modeling) Table B-1 (Chemical Parameters Used for Screening), the RSL for di-n-butyl phthalate uses the RSL with a THQ of 1.0 (i.e., 900 micrograms/liter [ug/L] instead of 90 ug/L), but this is not explained in Appendix B. In addition, Section B.2.5 (Results of the Tier I and Tier II Analyses) and Table B-1 indicate that di-n-octyl phthalate does not have a RSL or Maximum Contaminant Level (MCL), but there is a Tapwater RSL for this compound in the November 2024 RSL tables. It is also noted that the RSLs for butylbenzyl phthalate and diethyl phthalate as presented in Table B-1 are inconsistent with the November 2024 Tapwater RSLs. Please revise the RI/BRA to discuss the specific RSLs used for all screening procedures and ensure the RSLs for di-n-octyl phthalate, butylbenzyl phthalate, and diethyl phthalate are consistent with the most recent Tapwater RSLs.
5. The results of the human health risk assessment (HHRA) presented on Table C-1 (Preliminary Human Health Risk/Hazard Calculation for Spray Paint Room Remnant Concrete Slab) have not been calculated properly. The issues are as follows: 1) arsenic is not evaluated as a noncarcinogen, leading to an underestimate of site

hazards; and 2) lead is not screened or assessed correctly. The average soil lead concentration should be screened against the Regional Screening Level (RSL) of 200 milligrams per kilogram (mg/kg) and if lead is found to be in exceedance, then modeling (using the Integrated Exposure Uptake Model (IEUBK) for the residential scenario and the Adult Lead Model (ALM) for the industrial exposure) should be performed to determine whether the blood lead level (BLL) is increased above background. Please revise the HHRA to add the noncarcinogenic hazard calculation for arsenic and report the correct hazard index (HI), remove lead from the hazard index, and perform modeling as discussed, if warranted.

6. The HHRA is not a baseline risk assessment. EPA defines “baseline” risks as risks that might exist if no remediation or institutional controls were applied at a site (RAGS; EPA 1989). For this Automotive Repair Shop (716-A) OU site, the concrete slab data underpinning the HHRA were final verification data post-decommissioning samples. Further, the HHRA does not consider risks from exposure to the subsurface soil collected beneath the Automotive Repair Shop storm sewer lines or soils collected from the 103 Lubrication Pit Area to which receptors could potentially be exposed. Therefore, please rename this evaluation as an HHRA Update and not a Baseline Risk Assessment and revise the name wherever it appears.
7. The EPA guidance documents which underpin the HHRA are not presented in either the text or the references section. Please revise the HHRA accordingly.
8. The data used for the HHRA (i.e., concrete slab data) are not reproduced in the HHRA with summary tables. As a result, the concentration data shown on Table C-1 (Preliminary Human Health Risk Calculations for Spray Paint Room Remnant Concrete Slab) cannot be verified. Please revise Appendix C to include pertinent data tables.
9. The risk management range of 1E-06 to 1E-04 from the National Contingency Plan (NCP), by which risk assessments are determined to be within acceptable limits, is not mentioned in Appendix C. Please revise the HHRA to discuss the NCP risk management range, and also include it in Section C-4, References.
10. The chromium species evaluated in the HHRA is not identified. It is standard practice to calculate risks based on the more toxic chromium species, Chromium VI (CrVI), and then apply a weight of evidence approach to evaluate whether CrVI is present on the site. Please revise the HHRA to first calculate risks for chromium based on CrVI, and then recalculate the risks based on the less toxic form of chromium (i.e., CrIII), as appropriate.
11. Cumulative carcinogenic risks were not presented as one significant figure. The use of limited significant figures is a standard practice that properly conveys the significant uncertainties involved in these estimates. Please revise text and tables to present individual pathway risks as two significant figures but cumulative risk as only one significant figure.

SPECIFIC COMMENTS

1. **Executive Summary, Page ES-3 of ES-6:** According to this section, the RI and the baseline human health risk assessment (BRA) determined, “...there is no risk to human health and the environment at the Automotive Repair Shop (716-A) Operable Unit. There are no human health, ecological, principal threat source material, or contaminant migration constituents of concern, and the Automotive Repair Shop (716-A) supports unrestricted land use;” however, human health risks were not evaluated for the 103 Lubrication Pit Area soils in the event that the remnant concrete slab is removed, and therefore, unrestricted land use is not supported. Additionally, although not part of the OU and being addressed under a Resource Conservation and Recovery Act (RCRA) permit, the groundwater is contaminated, which also precludes the unrestricted land use designation. Please revise the Executive Summary to remove the reference to unrestricted land use.
2. **Section 2.3.7, Potential Receptors (Human Health), Page 2-6 of 2-16:** There are two issues associated with this section. First, this section states, “Complete exposure pathways to potential human receptors for

evaluation in this document are potentially [sic] industrial workers exposed to deep soil (Figure 2-8);” however, the HHRA does not evaluate any risks from exposure to soil, only concrete. Further, it is uncertain why an industrial worker described in this scenario would be exposed to deep soils (according to Section 2.3.5, Exposure Media, these are soils down to a depth of 167 feet below ground surface). The HHRA states in Appendix C, Section C-1.3 (Receptors) that the future industrial worker evaluated in the HHRA is referred to as a “composite worker” by EPA, yet EPA defines the composite worker as, “...a long-term receptor exposed during the work day who is a full-time employee working on-site and spends most of the workday conducting maintenance activities outdoors. The activities for this receptor (e.g., moderate digging, landscaping) typically involve on-site exposure to surface soils.” Thus, this statement is contradictory to the HHRA. Additionally, Figure 2-8 (Preliminary Conceptual Site Model [CSM]) does not depict any complete exposure pathways from any exposure medium for industrial workers. Please revise this section to correct these errors by removing any discussion of exposure to soils so that the text matches what is shown on the CSM.

3. **Figure 2-8, Preliminary Conceptual Site Model for the 716-A Automotive Repair Shop, Page 2-14 of 2-16, and Figure 3-3, Refined Conceptual Site Model for the 716-A Automotive Repair Shop, Page 3-13 of 3-14:** There are several issues associated with these two CSM figures, as follows:
 - Figure 2-8: The legend shows two different symbols that are both representative of incomplete exposure pathways (dash = “Incomplete exposure pathway” and cross/filled circle at the center = “Incomplete exposure pathway for quantitative evaluation”);
 - Figure 2-8: The concrete slab does not have an arrow connecting it to a secondary release mechanism;
 - Figure 3-3: As mentioned previously, the excavation of deep soils is not a relevant pathway for an industrial worker; and
 - Figure 3-3: There is a gap between the under building soil Secondary Source arrow and the arrow to the Exposure Route (i.e., there is no secondary release mechanism or exposure medium shown – if these categories are not relevant, then the arrows should be joined).

Please revise these figures to remove one of the symbols for incomplete exposure pathways, include an arrow from the concrete pad (secondary source) to the concrete slabs (secondary release mechanism) in Figure 2-8, and correct Figure 3-3 as described.

4. **Section 3.8.2, Automotive Repair Shop (716-A) Characterization and Data Summary, Page 3-7 of 3-14:** The text does not discuss the deviation from the RI Work Plan at boring ARS-006-SB, where samples could not be collected from the first 21 feet of the boring. The text states that the five locations beneath the drain lines and/or sewer lines that include ARS-006-SB were continuously cored to a depth of 57 feet and samples collected every 5 feet; however, no soil samples were collected from the first 21 feet at ARS-006-SB and the four samples were distributed throughout the remaining core as indicated in Section 3.2 (Site Characterization and Data Usability). Please revise Section 3.8.2 to note this deviation in the samples collected at ARS-006-SB.
5. **Section 3.8.3, Automotive Repair Shop (716-A) Nature and Extent of Contamination, Page 3-7 of 3-14, and Appendix A, Investigation Data/Data Summary Tables, Table A.2-2, Unit Specific Constituent Screening Table Automotive Repair Shop (716-A) OU Soil (All Depths), Page A-8 of A-8:** One of the unit-specific constituents (USCs) in Section 3.8.3 is listed as “butyl(2-ethylhexyl)phthalate” but Table A.2-2 does not include this compound and identifies butyl benzyl phthalate instead. Please revise Section 3.8.3 and Table A.2-2 to consistently identify the USCs.
6. **Appendix A, Investigation Data/Data Summary Tables, Table A.2-1, Data Summary Table Automotive Repair Shop (716-A) OU Soil (All Depths) and Table A.2-2, Unit Specific Constituent Screening Table Automotive Repair Shop (716-A) OU Soil (All Depths), Pages A-7 to A-8 of A-8:** It is unclear why the 95% UCLs listed in each table are inconsistent. For example, the 95% UCL for arsenic is 7.39 milligrams/kilogram (mg/kg) in Table A.2-1 and 6.52 mg/kg in Table A.2-2. Please revise Appendix A to consistently present the 95% UCLs or explain the difference in values presented in each table, including justification for which values should be used in the contaminant migration analysis.

7. **Appendix B, Contaminant Fate and Transport Modeling, Table B-5, Tier I Screening Results for the Automotive Repair Shop (716-A) OU, Page B-31 of B-34:** It is unclear why antimony and cadmium are included in this table. Section B.2.1 (Background) states that only the 31 USCs are included in the contaminant migration analysis (i.e., those identified in Table A.2-2, Unit Specific Constituent Screening Table Automotive Repair Shop [716-A] OU Soil [All Depths]). According to Table A.2-2, the antimony and cadmium results were less than two times the SRS mean background value. Please revise Appendix B to clarify why antimony and cadmium are included in Table B-5 or remove these constituents from the Tier I screening.
8. **Appendix B, Contaminant Fate and Transport Modeling, Table B-5, Tier I Screening Results for the Automotive Repair Shop (716-A) OU, Pages B-31 to B-32 of B-34:** Multiple contaminants exceed the Tier I Mass Limit SSL (e.g., benzo[b]fluoranthene, aluminum, etc.), but this is not noted or discussed in the text. Please revise the text of Appendix B to discuss these exceedances.
9. **Appendix C, Human Health Risk Assessment, Section C-1.2, Data, Page C-9 of C-20:** This section states that sixteen sample locations were obtained and analyzed for RCRA metals, and nine samples were collected for volatile organic compound (VOCs) analysis, and the references given for the data are Figures 1-3 and 1-4, respectively; however, these two figures are photographs of the site, and it is uncertain whether the references in text are intended to be sample locations (Figures 1-5 and 1-6) or another type of figure (e.g., aerial site maps containing data tables). Please revise this section to provide the correct figures and/or references.
10. **Appendix C, Human Health Risk Assessment, Table C-1, Preliminary Human Health Risk/Hazard Calculation for Spray Paint Room Remnant Concrete Slab, Page C-15 of C-20:** This table does not cite the concentration units (i.e., mg/kg or micrograms per kilogram ($\mu\text{g}/\text{kg}$), as appropriate). Please revise the table accordingly.

MINOR COMMENTS

1. **Figure 2-2, South End Floor Plan of Building 716-A, Page 2-8 of 2-16:** This figure is missing a north arrow and scale measurement. Please revise Figure 2-2 to include a north arrow and scale.

Figure 2-3, Northwest Corner Floorplan of Building 716-A, Page 2-9 of 2-16: The north arrow direction shown on this figure is inconsistent with the true north as shown on the other figures. Please revise Figure 2-3 to clarify the north direction shown is the northern end of the plant and depict the directional north to be c