Department of Energy
Savannah River Operations Office
P.O. Box A
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August 31, 2026

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Environmental Services
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund and Emergency Management Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) Aiken, South Carolina (SRNS-RP-2025-01064, Revision 1, August 2026) (Redline Pages), Seventh Five-Year Remedy Review Report for SRS Operable Units with Engineered Cover Systems Fact Sheet (SRNS-RP-2025-01066, August 2026) (Redline Page), and Savannah River Site's Responses to Regulatory Comments on the Revision 0 Document, SEMS Number: 00

In accordance with the terms of the Federal Facility Agreement, the U.S. Department of Energy (DOE) is submitting the subject information for your review and approval. The Savannah River Site (SRS) submitted the *Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) Aiken, South Carolina* (SRNS-RP-2025-01064, Revision 0, January 2026) and supporting documentation to the regulators on February 5, 2026. The U.S. Environmental Protection Agency (EPA) and South Carolina Department of Environmental Services (SCDES) provided comments on the report on April 13, 2026, and May 5, 2026, respectively. SRS submitted the draft responses via email for regulatory review on July 20, 2026. The EPA and SCDES replied on July 24, 2026, and July 30, 2026, respectively, that the draft responses were acceptable. The final SRS' responses to the SCDES' and EPA's comments on the Revision 0 document were incorporated into the Redline Revision 1 pages for the report. The Fact Sheet was also revised based on the responses to the regulatory comments.

Please review the enclosures and provide your response within forty-five (45) days of receipt. The time and effort that the SCDES and the EPA have given on the subject report are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 522-6427.

Sincerely,

MATTHEW BAKER

Digitally signed by MATTHEW BAKER
Date: 2026.08.31 08:02:17 -04'00'

Matthew R. Baker
Acting FFA Remedial Project Manager
DOE-Savannah River Operations Office
Remediation, Deactivation, and Decommissioning Division

RDDD-26-171

Enclosures:
1. Savannah River Site's Responses to the South Carolina Department of Environmental Services' Comments on the Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) Aiken, South Carolina (SRNS-RP-2025-01064, Revision 0, January 2026)
2. Savannah River Site's Responses to the U. S. Environmental Protection Agency's Comments on the Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) Aiken, South Carolina (SRNS-RP-2025-01064, Revision 0, January 2026)
3. Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) Aiken, South Carolina (SRNS-RP-2025-01064, Revision 1, August 2026) (Redline Pages) SEMS Number: 00
4. Seventh Five-Year Remedy Review Report for SRS Operable Units with Engineered Cover Systems Fact Sheet (SRNS-RP-2025-01066, August 2026) (Redline Page)

c w/encl:
M. Reece, SCDES-Columbia
H. J. Porter, SCDES-Columbia
J. Blalock, SCDES-Columbia
S. French, SCDES-Columbia
R. G. Stewart, SCDES-Columbia
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SRS Responses to South Carolina Department of Environmental Services Comments on the Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U), SEMS Number: 00, SRNS-RP-2025-01064, Revision 0, January 2026 Savannah River Site, South Carolina

GENERAL COMMENTS

1. Please ensure findings are documented from the September 4, 2025, SCDES Annual Groundwater Comprehensive Monitoring Evaluation (CME) that are relevant to the engineered cover systems in Appendices E, G, I, J and K. For example, a small amount of erosion was noted on one of the H-Area Basin Covers during the CME. It is unclear if this was captured in the inspection notes.

Response: Agree.

Appendices E, G, I, J, and K, Summary of Inspections and Interviews, will be revised to include the results of the 2025 Groundwater Comprehensive Monitoring Evaluation as shown below.

Appendix E – F-Area HWMF

"The FHWMF OU was inspected by SCDES on September 4, 2025, as part of the RCRA annual comprehensive groundwater monitoring evaluation. The basins were observed to be in good condition and no issues were identified."

Appendix G – H-Area HWMF

"The HHWMF OU was inspected by SCDES on September 4, 2025, as part of the RCRA annual comprehensive groundwater monitoring evaluation. Overall, the basins were observed to be in good condition. There was a small amount of erosion observed on the edge of the H-Area Basin 4 cover along the northwest curve and in the vicinity opposite of monitoring well HSB 119D. On September 16, 2025, and September 23, 2025, SRS personnel conducted a visual inspection of the entire HHWMF OU cover system with emphasis on the areas noted during SCDES' inspection. SRS personnel also reviewed all design and as-built drawings of the closed HHWMF OU. The results of the evaluation, including recommendations, were documented in the HHWMF OU Perimeter Erosion Observation that was submitted to SCDES on October 24, 2025 (SRNS 2025). The cover system drainage is performing as designed and no repairs to the exposed drainage layer were required."

The following information will be added to Section XII, Documents Reviewed:

SRNS, 2025. *Submittal of the H-Area Hazardous Waste Management Facility Erosion Evaluation and Recommendation*, SRNS-J2000-2025-00750, dated October 24, 2025, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

Appendix I – M-Area HWMF

"The MHWMF OU was inspected by SCDES on September 4, 2025, as part of the RCRA annual comprehensive groundwater monitoring evaluation. The M-Area Settling Basin was observed to be in good condition and no issues were identified."

Appendix J – Met Lab HWMF

"The Met Lab HWMF OU was inspected by SCDES on September 4, 2025, as part of the RCRA annual comprehensive groundwater monitoring evaluation. The Met Lab Settling Basin was observed to be in good condition and no issues were identified."

Appendix K – MWMF

"The MWMF OU was inspected by SCDES on September 4, 2025, as part of the RCRA annual comprehensive groundwater monitoring evaluation. The MWMF OU was observed to be in good condition and no issues were identified."

Responsible Party: Shelia McFalls, 803-952-6819, shelia.mcfalls@srs.gov

2. The reference to the latest revision of the RCRA Permit Renewal Application is inconsistent. In Appendices E, G, and K, the actual revision number is used while the generic statement is used in Appendices I and J. The latest approved Revision is Revision 4, with Revision 5 being approved once the current draft permit is approved.

Response: Agree.

In Appendices I and J, the Documents Reviewed will be revised to reflect Revision 4 since it was the approved revision at the time of document development.

SRNS, 2020. *2013 RCRA Permit Renewal Application (U), Volume III, M-Area Metallurgical Laboratory Hazardous Waste Management Facilities (M-Area and Met Lab HWMFs) Postclosure*, SRNS-IM-2012-00002, ~~latest r~~Revision 4, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

Responsible Party: Shelia McFalls, 803-952-6819, shelia.mcfalls@srs.gov

3. The information pertaining to groundwater (water table depth, groundwater flow direction, etc.) that is provided for the Ford Building Seepage Basin in the "Physical Characteristics" section of Appendix F is useful and would be appreciated in the same section of appendices for the other operable units that have groundwater associated with them (Appendices C and H).

Response: Clarification.

Appendix C – The following sentence will be added to Section III. Background, Physical Characteristics as the last sentence in the 1st paragraph:

"The water table is approximately 4.6 m (15 ft) below land surface and flows to the west."

Appendix H – The following sentences will be included in Section III. Background, Physical Characteristics as the 3rd sentence in the newly added last paragraph based on USEPA Specific #6:

"Depth to groundwater at the unit is approximately 9 m (30 ft) below ground surface. In the Upper Aquifer Zone (UAZ) of the UTRAU, groundwater flow is towards the south west (Figure H-2)."

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

SPECIFIC COMMENTS

1. Appendix A, Table A-4, Chronological Listing of SRS Issued Decision Documents, pages A-17 through A-19. ROD Issuance Dates for the following operable units are inconsistent with the dates provided in Table 1 for each OU-specific appendix: M-Area Hazardous Waste Management Facility, H-Area Hazardous Waste Management Facility, K-Area Burning/Rubble Pit and K-Area Rubble Pile, and Central Shops Burning/Rubble Pits.

Response: Agree.

The ROD Issuance Date for the Central Shops Burning/Rubble Pits (631-1G and 631-3G) is listed correctly in Appendix C, Table C-1. The date in Table A-4 will be revised from June 30, 2023 to June 30, 2003.

The ROD Issuance Date for the H-Area Hazardous Waste Management Facility is listed correctly in Appendix G, Table G-1. The date in Table A-4 will be revised from October 1, 1993 to September 10, 1993.

The ROD Issuance Date for the K-Area Burning/Rubble Pit (131-K) and K-Area Rubble Pile (631-20G) is listed correctly in Appendix H, Table H-1. The date in Table A-4 will be revised from August 8, 2001 to August 20, 2001.

The ROD Issuance Date for the M-Area Hazardous Waste Management Facility is listed correctly in Appendix I, Table I-1. The date in Table A-4 will be revised from September 16, 1992 to September 6, 1992.

Responsible Party: Shelia McFalls, 803-952-6819, shelia.mcfalls@srs.gov

2. Appendix F, Basis for Taking Action, page F-3. The first sentence of the last paragraph on this page states: "The soil that required remedial action is located in the Seepage Basin Area (surface and subsurface) and Tank/Process Sewer Line Area (fully contained within a 1.2-m [4-ft] depth)." This statement implies there is contaminated soil left in place at the Sewer Line Area and appears to contradict information in the next couple of pages which clearly states that all contaminated soil from the Sewer Line Area has been removed and placed in the Seepage Basin Area. Please explain.

Response: Agree.

The first sentence should have been in the past tense "was". As reported in the PCR/CMIR/FRR for the Ford Building Seepage Basin, WSRC-RP-2003-4038 Revision 1, Section 2.6 "Characterization performed during the RFI/RI investigation demonstrated that all soils exceeding 1x10-6 risk (industrial) were fully contained within the 0 to 4-ft interval at the Tank/Process Sewer Liner Area. Hence, the contaminated soil was excavated to a depth of 4.0 ft from the ground surface and dispositioned in the basin on top of the basin bank soil and containerized soil." Appendix F, Basis for Taking Action, page F-3, first sentence of the last paragraph will be revised as follows.

"The soil that required remedial action ~~is~~ was located in the Seepage Basin Area (surface and subsurface) and Tank/Process Sewer Line Area (fully contained within a 1.2-m [4-ft] depth)."

Responsible Party: Eric Schiefer, 803-952-6273, eric.schiefer@srs.gov

3. Appendix F, Figure F-5, Aerial Photograph of the Ford Building Seepage Basin, page F-15 and Attachment F-1, Section III Onsite Documents and Records Verified, page F-21. The Groundwater Monitoring Records subsection of Section III in Attachment F-1 is checked as applicable to the Ford Building Seepage Basin, yet there is no mention of any monitoring wells in Appendix F, nor do any appear to be shown in Figure F-2. Figure F-5, however, shows what appears to be at least one monitoring well at the seepage basin. This appendix should be revised to clarify the status of any monitoring well network associated with this operable unit and include discussion of these monitoring wells in the applicable sections. Also, please verify that the "N/A" box checked for Subsection D, Cover Penetrations, under Section VII, Landfill Cover/Containment, on page F-25 is correct regarding any monitoring wells associated with the covers.

Response: Agree.

The media associated with the FBSB OU includes soil and groundwater beneath the OU. However, the results of the groundwater investigation contained in the RCRA Facility Investigation (RFI) / Remedial Investigation (RI) with Baseline Risk Assessment (BRA) for the FBSB OU (WSRC 2000), which included a collection of groundwater samples and

analyses, revealed that the groundwater associated with FBSB OU is not contaminated. Five groundwater monitoring wells, HXB 1, 2, 3, 4D and 5D have been abandoned. The last remaining well, HXB 6D, is inactive and does not penetrate the cover system. There are no groundwater monitoring records after 3/26/1998 (closure of the basin was completed on 12/31/1998). "Readily Available" and "Up to Data" were inadvertently checked. These boxes will be unchecked, and the "N/A" box will be checked under Section III, Onsite Documents & Records Verified.

Responsible Party: Eric Schiefer, 803-952-6273, eric.schiefer@srs.gov

4. Appendix F, Figure F-6, FBSB OU LUC Boundary, page F-16. Please include the locations of the soil covers for the seepage basin and excavated areas of the Tank/ Process Sewer Area in this figure.

Response: Agree

Figure F-6 will be modified to include the locations of the soil covers for the seepage basin and excavated areas of the Tank/Process Sewer Area. The updated figure is included at the end of these responses.

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

5. Appendix K, Data Review, page K-7, and "Are the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Still Valid?", page K-10. For pages K-7 and K-10, the correct reference to the RCRA Permit Application is the 2023 application. The reference on page K-11 is correct.

Response: Agree.

The text in Data Review and "Is the Remedy Functioning as Intended by the Decision Document?" will be revised to state "…~~2013~~ 2023 RCRA Permit Renewal Application…".

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

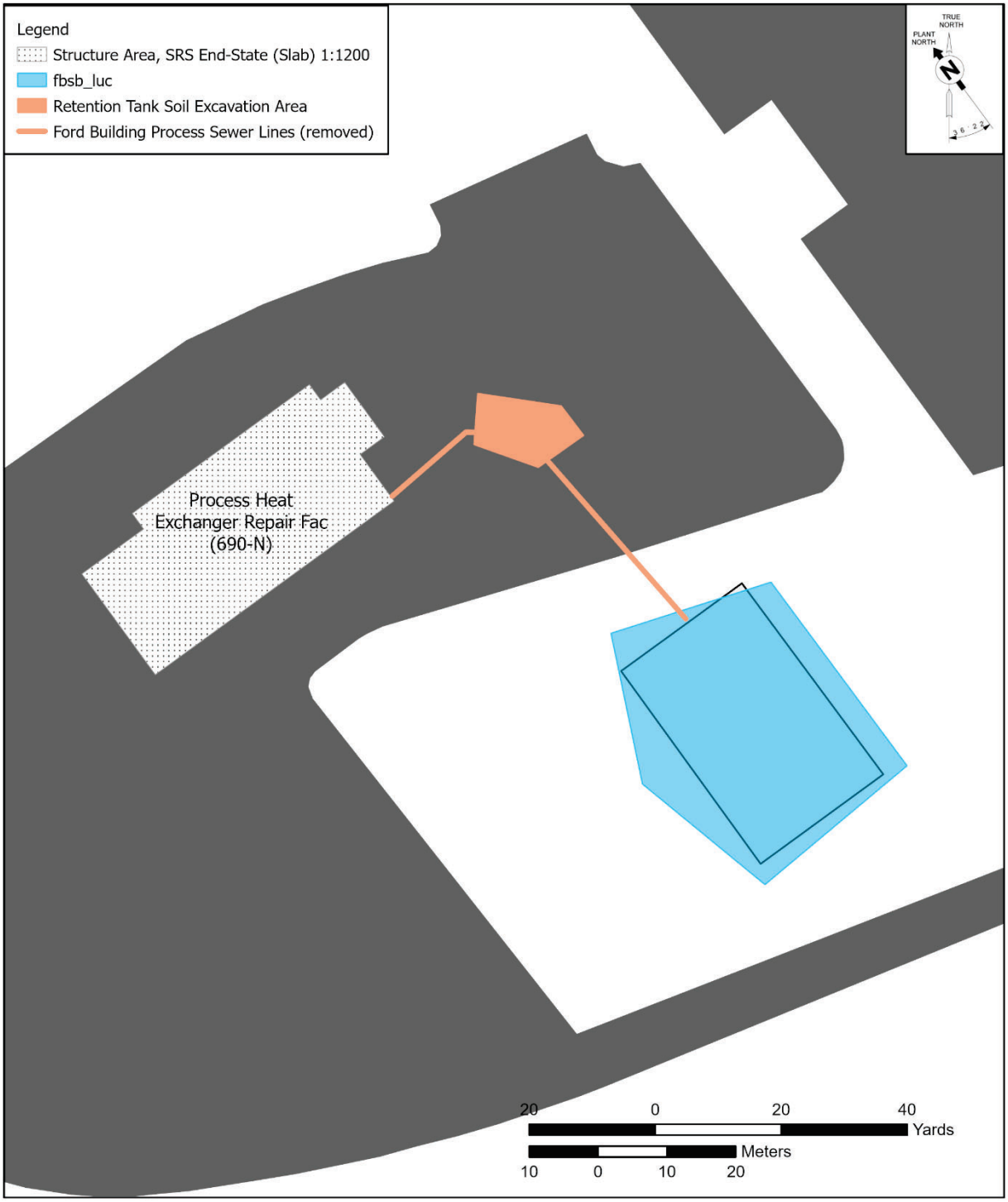


Figure F-6. FBSB OU LUC Boundary

GENERAL COMMENTS

1. The Operable Units (OUs) that were closed under the Resource Conservation and Recovery Act (RCRA) program (i.e., the Hazardous Waste Management Facilities at F-Area, H-Area, M-Area, the Metallurgical Laboratory, and the Mixed Waste Management Facility; Appendices E, G, I, J, and K, respectively) indicate that groundwater is not discussed because it is addressed under a different FYR; however, it is unclear how it can be verified that the remedial action objective (RAO) of mitigating further migration of contaminants to groundwater has been met without reviewing the groundwater data. The FYR should summarize the groundwater monitoring data for each OU and discuss whether there are any increasing trends in concentrations of the constituents of concern (COCs) at or downgradient from the OUs to support the conclusion that the remedy is functioning as intended. *Please revise the FYR to discuss the results of the groundwater monitoring performed at the OUs as a line of evidence to support the conclusion that the remedies are functioning as intended and COCs are not migrating to groundwater*.

Response: Clarification.

The cover systems for the operable units (OUs) listed above meet the remedial action objective to mitigate further migration of contaminants to the groundwater by minimizing a liquid medium pathway (rainwater percolation) for transport. CERCLA decision documents were issued for groundwater remedies associated with F-Area HWMF, H-Area HWMF, and A/M Area Groundwater (M-Area and Met Lab HWMFs). The groundwater remedies are discussed in the five-year remedy review reports for SRS OUs with operating equipment, the last being the Sixth Five-Year Remedy Review Report issued to the public on December 22, 2023. Sections III, IV, VI, VII and X, as applicable, state that the RAOs are being met and specify where the groundwater remedies are discussed.

No change to the document is proposed.

Responsible Party: Shelia McFalls, 803-952-6819, shelia.mcfalls@srs.gov

2. The OU-specific Appendices do not always describe the specific components of the remedies as indicated in Appendix E (Five-Year Review Report Template) of the Comprehensive Five-Year Review Guidance, dated June 2001 (FYR Guidance). For example, the Remedy Implementation subsection in Appendix D (D-Area Burning/Rubble Pits (431-D and 431-1D) Operable Unit) Section IV (Remedial Actions) identifies land use controls (LUCs) as the selected remedial action that includes existing access controls to maintain industrial use of the site. Additionally, Section VII (Technical Assessment) states that there are physical access controls to prevent unauthorized contact, removal or excavation of subsurface soils, but it is unclear what specific access controls are used. The Attachment D-1 (Five-Year Review Site Inspection Checklist) notes that

OU-specific perimeter fencing is not required for this OU. In addition, the selected remedies at some of the OUs closed under the RCRA program (i.e., the Hazardous Waste Management Facilities at F-Area, H-Area, M-Area, and the Metallurgical Laboratory; Appendices E, G, I, and J, respectively) are indicated to be the RCRA cover with several post-closure requirements, but LUCs are not specified as part of the remedy or post-closure requirements (i.e., in the Remedy Selection subsection), and the implementation of LUCs is not discussed (i.e., in the Remedy Implementation subsection). LUCs to preclude unauthorized access or intrusive activities are identified in the Systems Operations/Operation and Maintenance subsections, and Section VII (Technical Assessment) states that LUCs are part of the RCRA closure/post-closure/permit application process. LUCs are also identified for these OUs in Table 2 (SRS OUs with Engineered Cover Systems) and Table 3 (LUC Summary Table). Section IV in each Appendix should describe all components of the remedy, including how LUCs are incorporated into the remedies and what specific controls are used at the OUs (e.g., if there are fences, security gates, signs, etc.). *Please revise Section IV in each OU-specific Appendix to include the LUCs in the remedies and specify the components of the LUCs utilized at each OU.*

Response: Clarification.

The LUCs included in Section IV, Remedial Actions, Remedy Implementation will be expanded for the following Appendices:

Appendix F (FBSB) – "Established LUCs for 0.11 hectares (0.28 acres) of the FBSB OU (Figure F-6), which include site inspections of the seepage basin cover and the installation of warning signs around the seepage basin. Site inspections of the tank/process sewer area cover are not required because all soils exceeding 1.0E-06 risk (industrial) were removed. Existing SRS access controls will be used to maintain the use of this site for industrial use only. Institutional controls (i.e., administrative measures) and use restrictions for on-site workers via the Site Use/Site Clearance Program. Other administrative controls to ensure worker safety include work controls, worker training, and worker briefings of health and safety requirements."

Appendix H (KBRP/RP) – "Implemented LUCs for 0.47 hectares (1.15 acres) (Figure H-6) and posted warning signs at the perimeter of KBRP/KRP OU (WSRC 2002). Existing SRS access controls will be used to maintain the use of this site for industrial use only. Institutional controls (i.e., administrative measures) and use restrictions for on-site workers via the Site Use/Site Clearance Program. Other administrative controls to ensure worker safety include work controls, worker training, and worker briefings of health and safety requirements."

No changes to Appendices C, D, and L are proposed.

Additionally, the F-Area HWMF, H-Area HWMF, M-Area HWMF, Met Lab HWMF, and MWMF were closed under RCRA and are subject to post-closure under

South Carolina Hazardous Waste Management Regulations and not a Land Use Control Implementation Plan. The post-closure care requirements are discussed as part of the closure/post-closure permit application process governed by the RCRA Hazardous and Mixed Waste Permit Renewal for SRS. The closed facilities are controlled by an OU-specific fencing with locked gates to prevent unauthorized entry, Warning signs are posted on the fence.

Appendices E, G, I, J, and K, Section VII, Technical Assessment, will be revised as shown below.

"…The LUCs (i.e., RCRA closure/post-closure care requirements) that are in place include physical access controls to prevent unauthorized contact (i.e., OU-specific fencing with locked gates and warning signs posted on the fences), removal or excavation of subsurface soils, and restrictions to prevent…"

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

3. The FYR does not discuss all of the activities conducted during the inspections performed at each OU. As indicated in Appendix E (Five-Year Review Report Template) of the FYR Guidance, the summary of the site inspection should include information for the procedures and scope of what was inspected. For example, Appendix C (Central Shops Burning/Rubble Pits (631-1G AND 631-3G) Operable Unit) states that an inspection was performed by Savannah River Nuclear Solutions, LLC (SRNS) Environmental Compliance and Area Completion Projects (EC&ACP) on August 19, 2025, and again on October 29, 2025 with the United States Department of Energy (USDOE), but it is unclear what was included in each of these inspections. *Please revise the FYR to include what activities (i.e., scope and procedures) were performed for each of the site inspections.*

Response: Agree.

Additional details on the inspection scope will be provided in the Summary of Inspections and Interview section. The last paragraph in Section IV, Five-Year Review Process, Summary of Inspections and Interviews, will become the first paragraph in this section. As an example, the following text shows the changes that will occur to this section of Appendix C, CSBRP OU. Similar changes will be made to other OU appendices, as appropriate:

"Scheduled annual site inspections were conducted from FY2021 through FY2025 (Various). Tasks included on the field inspection checklists (WSRC 2005) include:

- **Verifying roads are accessible;**
- **Verifying that the waste unit signs are in acceptable condition;**
- **Checking the survey benchmarks for damage and visibility;**

- **Verifying that there are no unauthorized excavations, digging, or construction activities on the soil cover;**
- **Checking the integrity of vegetative covers and drainage ditches for the presence of excessive erosion, sediment buildup, and any debris restricting water flow;**
- **Verifying that no woody vegetation is growing on the soil cover;**
- **Visually checking vegetative cover for grass density with no bare spots more than 0.9 m x 0.9 m (3 ft by 3 ft) in area and that the height of the vegetative cover is not impairing the visual inspection of the soil cover;**
- **Checking the soil cover for signs of erosion or depressions;**
- **Checking for evidence of burrowing animals; and**
- **Noting any other issues that need to be addressed.**

The field inspections identified the following issues: active ant mounds on the soil cover. These findings were documented on the field inspection checklists and resolved soon after discovery.

The CSBRP OU was inspected by Savannah River Nuclear Solutions, LLC (SRNS) Environmental Compliance and Area Completion Projects (EC&ACP on August 19, 2025 and included taking current photographs of the CSBRP OU and reviewing the field inspection checklists."

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

4. Section V (Technical Assessment) in the FYR states that an evaluation of per- and polyfluoroalkyl substances (PFAS) for the OUs with engineered covers indicated no impact to remedy protectiveness, and the Appendices state that PFAS were not identified as applicable based on the OU history of contamination; however, a reference to this evaluation is not provided and it remains unclear whether the disposal units (e.g., seepage basin, settling basins, burning/rubble pits) associated with the OUs received waste contaminated with PFAS. According to EPA guidance (EPA Federal Facilities Superfund Program – RPM Bulletin 2024-01 *Considerations When Reviewing PFAS in Five-Year Reviews* April 3, 2024), the FYR should contain sufficient details to support protectiveness determinations, including a concise summary of the scope of the investigation and results to date. In addition, USDOE guidance and memorandums (*Addressing Per- and Polyfluoroalkyl Substances at the Department of Energy, Memorandum for Heads of Departmental Elements,* September 2021; *PFAS Strategic Roadmap: DOE Commitments to Action 2022-2025,* August 2022; and *Initial Assessment of Per- and Polyfluoroalkyl Substances at Department of Energy Sites,* October 2022) indicate that PFAS have been detected in SRS groundwater, and other uses and incidents of disposal of PFAS associated with research and operational maintenance of equipment

is under investigation. Non- aqueous film forming foam (AFFF) sources or processes (e.g., metal plating, Manhattan project liquid discharges, Cold War era liquid waste discharges, wastewater treatment discharges, or landfills) may also be sources of PFAS. Therefore, the undetected presence of PFAS could cause protectiveness statements to be invalid. *Please revise the FYR to include or reference the evaluation to determine whether PFAS sources have caused contamination of environmental media at all OUs and how it is known whether the remedies remain protective*.

Response: Agree.

Savannah River Site (SRS) conducted a screening for historical per- and polyfluoroalkyl substances (PFAS) use at each operable unit included in this five-year remedy review report using the *Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites* (USDOE 2023) (refer to screening results included with this response). Appendix C of the guidance provides a standardized list of common uses at USDOE sites that have the potential for a PFAS release. The list includes the following categories:

1. **Fire Training Facility, Fire Department, AFFF**
2. **Wastewater Treatment Plants and Landfills**
3. **Uranium Enrichment, Plutonium Production, and Landfills**
4. **Metal Plating Processing**
5. **Explosives and Munitions**
6. **Electronics Manufacturing**
7. **Equipment Fuel/Maintenance**
8. **Well Drilling**
9. **Pesticides**
10. **Laboratory,**
11. **Other**

USDOE 2023. *Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites,* https://www.energy.gov/pfas/articles/guide-investigating-historical-and-current-uses-and-polyfluoroalkyl-substances.

The potential for PFAS release based on the history of use at these units include: FHWMF, HHWMF, MHWMF, Met Lab HWMF, MWMF, and SRLSB. The analyses for each unit are included below. Although PFAS may be present at these units, the engineered cover system serves as an effective and protective remedy, mitigating potential exposures and releases associated with PFAS.

Section V. Technical Assessment, Question B includes the following text:

"…as the cover systems and LUCs prevent exposure. Although new MCLs and RSLs were established for per- and polyfluoroalkyl substances (PFAS) compounds, an evaluation of PFAS for the OUs with engineered covers as the final remedies indicated no impact to remedy protectiveness. There were no changes in action-specific…"

No changes to the text are proposed to Section V, Technical Assessment, Question B of the Front Matter.

Section VII, Technical Assessment, Are the Exposure Assumptions, Toxicity Data, Cleanup Levels and Remediation Action Objectives Still Valid, last sentence will be modified for FHWMF, HHWMF, and Met Lab HWMF appendices, as follows:

"None of these emerging contaminants, except for PFOS and other PFAS, were identified as applicable to this OU based on the OU history of contamination.

Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this waste unit. However, the engineered cover system in place serves as an effective and protective remedy, mitigating potential exposures and releases associated with PFAS."

For MHWMF and MWMF, Section VII, Technical Assessment, Are the Exposure Assumptions , Toxicity Data, Cleanup Levels and Remediation Action Objectives Still Valid, the following text will be added as the next to last paragraph as follows:

"Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this waste unit. However, the engineered cover system in place serves as an effective and protective remedy, mitigating potential exposures and releases associated with PFAS."

For SRLSB, Section VII, Technical Assessment, Are the Exposure Assumptions, Toxicity Data, Cleanup Levels and Remediation Action Objectives Still Valid, the last paragraph will be modified as follows:

"…and tungsten. None of these emerging contaminants, except for PFOS and other PFAS, were identified as applicable to this OU based on the OU history of contamination.

Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this waste unit. However, the engineered cover system in place serves as an effective and protective remedy, mitigating potential exposures and releases associated with PFAS."

The following screening results will be added to the corresponding tables for consistency with the terminology in the remedy review report.

CSBRP (Appendix C)

Operable Unit Name:	**CSBRP**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and known uses, including a review of historical PFAS applications and categories, PFAS are not expected to be present at this operable unit.**	

DBRP (Appendix D)

Operable Unit Name:	**DBRP**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and known uses, including a review of historical PFAS applications and categories, PFAS are not expected to be present at this operable unit.**	

FHWMF (Appendix E)

Operable Unit Name:	**FHWMF**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	**Yes**	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Waste Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

FBSB (Appendix F)

Operable Unit Name:	**FBSB**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and known uses, including a review of historical PFAS applications and categories, PFAS are not expected to be present at this operable unit.**	

HHWMF (Appendix G)

Operable Unit Name:	**HHWMF**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	**Yes**	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

KBRP/KRP (Appendix H)

Operable Unit Name:	**KBRP/KRP**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and known uses, including a review of historical PFAS applications and categories, PFAS are not expected to be present at this operable unit.**	

MHWMF (Appendix I)

Operable Unit Name:	**MHWMF**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	**Yes**	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

Met Lab (Appendix J)

Operable Unit Name:	**Met Lab**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	**Yes**	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	**Yes**	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

MWMF (Appendix K)

Operable Unit Name:	**MWMF**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	**Yes**	
Uranium Enrichment/Plutonium Production/Nuclear Operations	**Yes**	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	No	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

SRL SB (Appendix L)

Operable Unit Name:	**SRL SB**	
Use/Category	Known Use at Facility (Yes/No)	Notes/Comments
Fire Training Facility/Fire Department Location	No	
Wastewater Treatment Plant/ Centralized Waste Treatment Landfill	No	
Uranium Enrichment/Plutonium Production/Nuclear Operations	No	
Metal Plating Processing	No	
Explosives/Munitions/Weapons	No	
Electronics Manufacturing	No	
Equipment Fuel/Maintenance (large fuel storage areas; industrial waste lines or maintenance)	No	
Well Drilling	No	Data from site groundwater wells indicate that there have been no installation or operational impacts from PFAS.
Pesticides	No	
Laboratory	**Yes**	
Consumer Product Manufacturing	No	
Operable Unit Conclusion:	**Based on the operational history and documented usage patterns, including a review of historical PFAS applications and categories, PFAS may be expected to be present at this operable unit.**	

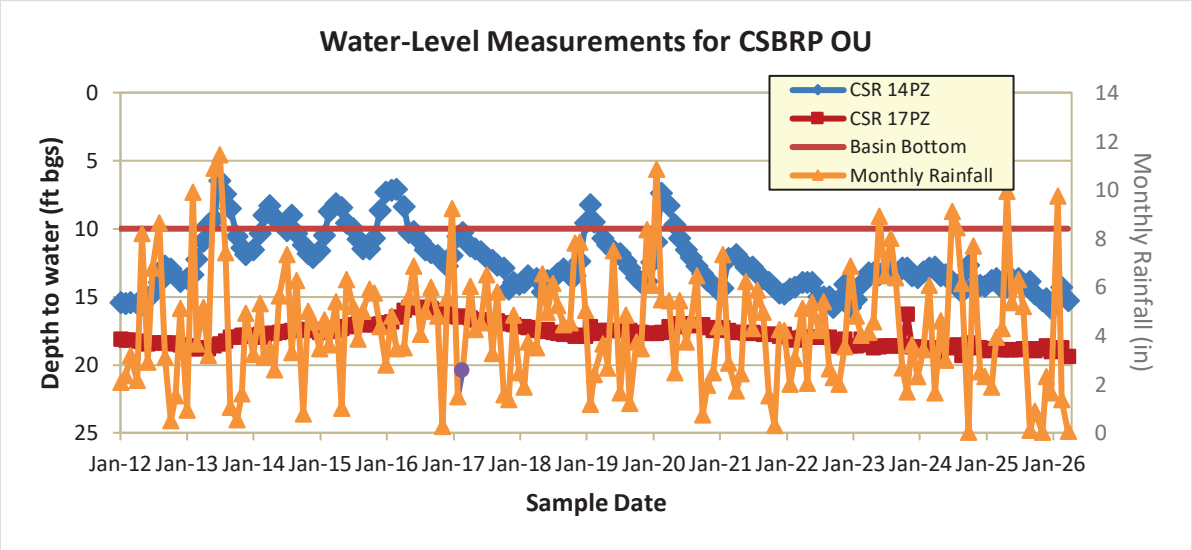
Responsible Party: Bette Ross, (803)952-7755, bette.ross@srs.gov

SPECIFIC COMMENTS

1. **Appendix C, Section VI, Five-Year Review Process, Pages C-6 to C-7 of C-32:** The Data Review states that water levels in the piezometers have been decreasing despite the fluctuations in rainfall amounts from year to year, but the water levels shown for CSR 14PZ on Figure C-7 (Water Level Measurements from CSR 14PZ and CSR 17PZ [2021-2025]) appear to be steady between 12 to 16 feet below ground surface (ft bgs) over the last five years. In addition, the text states that the water level criterion of three consecutive years of decreasing water levels in Pit 3G below the basin bottom have been met (2021-present), but water levels in CSR 14PZ in 2022 were lower than the water levels measured in 2023-2024 as shown on Figure C-7. Therefore, the criterion of decreasing water levels for three consecutive years has not been met at CSR 14PZ, and the recommendation to discontinue monitoring at this piezometer is not supported. *Please revise Appendix C to discuss the water level elevations for CRS 14PZ as shown on Figure C-7 and remove the recommendation for discontinuing water level monitoring at CRS 14PZ.*

Response: Clarification.

Per Section 7.1 in the Post-Construction Report (PCR)/Corrective Measures Implementation Report (CMIR)/Final Remediation Report (FRR) for the Central Shops Burning/Rubble Pits 631-1G and 631-3G/3GA) Operable Unit (U) (WSRC-RP-2004-4014, Revision 1, February 2005), a primary concern for the five-year remedy review and inspection are three consecutive years of decreasing water level in Pit 3G below the basin bottom. The intent of measuring water levels is to gain a high degree of certainty that the stormwater management improvements have accomplished the remedial goal of ensuring that the water table levels are no longer a threat of rising above the waste trench bottom. Based on historical water level measurements, that criteria have been met. Data for each year between 2012-2019 indicate groundwater table levels at CSR 14PZ occasionally were within buried waste (CSR 17PZ Level have never been within the waste). Since 2020, a general decline in groundwater table levels at CSR 14PZ has been occurring with no groundwater table levels within the buried waste despite a general increase of rainfall. As the below figure shows, three consecutive years of declining levels are 2020 to 2022. Despite well above normal rainfall totals in 2023 to 2024, overall water level only increased 0.3 m (1 ft) and remained 1.1 m (3.6 ft) below bottom of the waste. The table below shows the annual averages of depth to water table in feet and annual rainfall in inches.



Year	2020	2021	2022	2023	2024	2025	-4/2026
Depth (ft bgs)	11.5 ↓	13.4↓	14.6↓	13.7↑	13.6↑	14.3↓	15.2↓
Rainfall (in)	55.7	46.1	41.8	62.0	54.9	42.4	n/a

Note: Waste trench bottom is 3 m (10 ft) below ground surface.

No change to the current report is proposed.

Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

2. **Appendix C, Figure C-6, Current Photograph of CSBRP OU (2025), Page C-18 of C-32:** The LUC boundary is presented on this figure, so the title does not appear to accurately reflect what is depicted on this figure. It is also unclear what is represented by the gray shape that is not defined in the legend. *Please verify the title of Figure C-6 and identify in the legend the gray shape shown on this figure*.

   Response: Agree.

   The title for Figure C-6 will be changed to "CSBRP OU LUC Boundary". Additionally, the grey area, which is depicting unpaved areas, will be removed from Figure C-6. The updated figure is included at the end of this document.

   Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs.gov

3. **Appendices E and G, Section III, Background, Page E-3 of E-30 and Page G-3 of G-30:** The Basis for Taking Action section lists the COCs for each OU, but the soil investigations to characterize the three unlined basins at the F-Area and the four unlined basins in the H-Area are not referenced. It is unclear when soil samples were collected and to what depth the contamination has been found within the basins. In addition, the

text should indicate what resources or targets could be impacted by the contamination, as indicated in Appendix E (Section 3, Background) of the FYR Guidance. *Please revise Section III to discuss the characterization of the basins at the F-Area and H-Area that was used to determine the COCs for soil, including what resources or targets could be impacted by the contamination in the basins.*

Response: Agree.

The Basis for Taking Action sections for each OU will be revised to include a reference to the 2013 RCRA Permit Renewal Application which includes discussion of the characterization of the basins and the resources or targets that could be impacted by contamination in the basins. The proposed changes to the text in Appendix E, Section III, Background, Basis for Taking Action section are provided below:

"The FHWMF OU was subject to closure under South Carolina Hazardous Waste Management Regulations (SCHWMR) R.61-79-265 *Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities* (SRNS 2022). Per the approved *2025 RCRA Hazardous and Mixed Waste Permit Renewal* (SCDES 2025), post-closure care is regulated under SCHWMR R.61-79-264. In addition, an ongoing corrective action and monitoring program at the FHWMF is administered through the 2025 RCRA Hazardous and Mixed Waste Permit Renewal (SCDES 2025). The monitoring program consists of monitoring for impacts to groundwater, seepline surface water, and surface water of Fourmile Branch.

Characterization efforts prior to the ROD (WSRC 1993) indicated contamination was present in basin surface water, basin soil, basin sludge and the Floridian Aquifer System soils/sediments (SRNS 2022). The constituents of concern (COCs) ~~at the FHWMF are~~ identified were barium, cadmium, chromium, lead, mercury, copper, cyanide, nickel, zinc, gross alpha, gross beta, nitrate, radium-226, radium-228, tritium, americium-241, cesium-137, curium-243/244, curium-246, cobalt-60, strontium-90, technetium-99, uranium-233/234, uranium-238 tetrachloroethylene, and trichlorofluoromethane. No remedial goals were established in the ROD for soils (WSRC 1993)."

The proposed changes to the text in Appendix G, Section III, Background, Basis for Taking Action section are provided below:

"The HHWMF OU was subject to closure under South Carolina Hazardous Waste Management Regulations (SCHWMR) R.61-79-265 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (SRNS 2022). Per the approved 2025 RCRA Hazardous and Mixed Waste Permit Renewal (SCDES 2025), post-closure care is regulated under SCHWMR R.61-79-264. In addition, an ongoing corrective action and monitoring program at the HHWMF is administered through the 2025 RCRA Hazardous and Mixed Waste Permit Renewal (SCDES 2025). The monitoring program consists of monitoring for

impacts to groundwater, seepline surface water, and surface water of Fourmile Branch.

Characterization efforts prior to the ROD (WSRC 1993) indicated contamination was present in basin surface water, basin soil, basin sludge and the Floridian Aquifer System soils/sediments (SRNS 2022). The constituents of concern (COCs) ~~at the HHWMF are~~ identified were arsenic, barium, cadmium, copper, lead, mercury, nickel, vanadium, zinc, tetrachloroethylene, gross alpha, gross beta, tritium, nitrate, carbon-14, cobalt-60, iodine-129, radium-226, radium-228, strontium-90, technetium-99, and uranium-233/234. No remedial goals were established in the ROD for soils (WSRC 1993)."

Responsible Party: Kevin Boerstler, 803-952-6766, kevin.boerstler@srs.gov

4. **Appendix F, Figure F-6, FBSB OU LUC Boundary, Page F-16 of F-28:** It is unclear where the LUCs boundary shown on this figure is located within the Ford Building Seepage Basin (904-91G) OU as there are no other site features present on the figure. For example, it is unclear where the LUCs boundary is relative to the Ford Building depicted on Figure F-2 (Layout of the FBSB OU) and the road shown on Figure F-5 (Aerial Photograph of the Ford Building Seepage Basin [904-91G][2025]). *Please revise Figure F-6 to include site features to provide a frame of reference for the LUC boundary.*

   Response: Agree.

   Figure F-6 will be updated to include site features to provide a frame of reference for the LUC Boundary. The updated figure is included at the end of this document.

   Responsible Party: Sadika O'Quinn, (21554803) 952-6697, sadika.oquinn@srs.gov

5. **Appendix F, Attachment F-1, Five-Year Review Site Inspection Checklist – Ford Building Seepage Basin (904-91G) OU, Page F-21 of F-28:** The checklist notes that groundwater monitoring records were readily available and up to date, but Appendix F does not discuss any groundwater monitoring data and the text indicates that groundwater was not impacted. *Please revise the checklist to note what groundwater monitoring records were available during the site inspection and include any relevant groundwater data in Appendix F, as necessary.*

   Response: Clarification.

   In Attachment F-1, Section III, 7. Groundwater Monitoring Records, "Readily Available" was inadvertently checked. This box will be unchecked, and the "N/A" box will be checked.

   Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

6. **Appendix H, Section III, Background, and Figure H-2, Site Layout of KBRP/KRP and Well Locations, Pages H-1 to H-2 and H-18 of H-36:** The groundwater flow direction is not discussed in the text or shown on Figure H-2. It is unclear whether water levels are currently monitored or if groundwater flow has been shown to be consistent. Information about the groundwater flow should be discussed since concentrations of COCs at well KRP 9 have fluctuated around the respective Maximum Contaminant Levels (MCLs). *Please revise Figure H-2 to indicate the direction of groundwater flow in the vicinity of the KBRP/KRP, and revise Section III to discuss the groundwater flow direction, including the most recent water level data*.

   Response: Agree.

   For clarity, discussion of the groundwater flow will be added as a separate paragraph at the end of the Physical Characteristics section of Section III, Background, as shown below:

   "<u>The aquifer of concern at the KBRP/KRP OU is the Upper Three Runs Aquifer Unit (UTRAU). The UTRAU is locally divided into informal, yet distinct, "lower" and "upper" aquifer zones separated by the "tan clay" semi-confining zone. Depth to groundwater at the unit is approximately 30 ft below ground surface. In the Upper Aquifer Zone (UAZ) of the UTRAU, groundwater flow is towards the southwest, as indicated on Figure H-2. The four wells screened in the lower aquifer zone (LAZ) of the UTRAU are currently suspended, and no water elevations were collected. Table H-2 provides the most recent water table elevations.</u>"

   Additionally, the most recent groundwater data will be added as a Table H-2 and is shown at the end of this document. Subsequent tables will be renumbered as needed.

   Responsible Party: Justin Steadman, 803-952-7346, justin.steadman@srs.gov

7. **Appendix K, Section III, Background, Page K-3 of K-30:** The Basis for Taking Action section lists nineteen COCs for the Mixed Waste Management Facility (MWMF) OU, but the soil investigation that characterized the 118 slit trenches, engineered low-level trench, and naval core barrel mound is not referenced. In addition, it is unclear why the History of Contamination section lists four primary COCs and how these relate to the 19 COCs. Also, this section should indicate what resources or targets could be impacted by the contamination, as indicated in Appendix E (Section 3, Background) of the FYR Guidance. *Please revise Section III to discuss the characterization of the trenches and mound at the MWMF OU that determined the COCs and the primary COCs for soil, including what resources or targets could be impacted by this contamination.*

   Response: Agree.

   Appendix K, Section III, Background, the Basis for Taking Action section will be revised to include a reference to the 2023 RCRA Permit Renewal Application which

includes discussion of the characterization of the 118 slit trenches, engineered low-level trench, and naval core barrel mound, as well as the resources or targets that could be impacted by contamination in the basins.

The proposed changes to the text in Appendix K, Section III, Background, Basis for Taking Action section are provided below:

"In 1984, SRS made an administrative decision to determine the extent of mixed waste deposited in the Low-Level Radioactive Waste Disposal Facility (LLRWDF). Through researching records and analysis of mixed wastes against RCRA regulations, SRS determined that the area within LLRWDF referred to as the MWMF contained mixed wastes.

A RCRA Closure Plan was submitted to SCDES in 1985 with approval in 1987. The RCRA closure of the MWMF began in 1988 and was completed in December 1990. The RCRA preventive activities at the MWMF became subject to CERCLA when the entire SRS facility was placed on the National Priorities List in December 1989. ~~A Part B Permit Application for Post-Closure Care was submitted in November 1992.~~

Per the approved 2025 RCRA Hazardous and Mixed Waste Permit Renewal (SCDES 2025), post-closure care is regulated under SCHWMR R.61-79-264. In addition, an ongoing corrective action and monitoring program at the MWMF is administered through the 2025 RCRA Hazardous and Mixed Waste Permit Renewal (SCDES 2025). The monitoring program consists of monitoring for impacts to groundwater, seepline surface water, and surface water of Fourmile Branch and Upper Three Runs.

Statistical analyses on data collected since 1991 were performed to determine COCs. The COCs identified at the MWMF OU are barium, chloroform, cadmium, 1,1-dichloroethane, vinyl chloride, trans-1,2-dichloroethylene, phenol, aluminum, iron, manganese, carbon-14, lead, tritium, nickel, tetrachloroethylene, TCE, zinc, uranium-234/235, and uranium-238 (WSRC 1994). No remedial goals (RGs) were identified in the Record of Decision (ROD) for these constituents."

Additionally, History of Contamination section will be revised to remove the last sentence that includes mention of the primary COCs.

The proposed changes to the History of Contamination section are included below:

"The MWMF operated from 1969 until March 11, 1986. During that time, this facility received low-level radioactive waste materials produced at SRS. Some of these materials are classified under RCRA as mixed waste containing both hazardous and radioactive components. Waste from SRS was disposed of in the form of job control waste and sent to the MWMF (e.g., rags, gloves and coveralls, soil, construction debris, failed equipment, spent air filters, spent lithium-aluminum targets, irradiated scrap metal, naval reactor hardware, lead shielding, waste oil, scintillation fluids,

cadmium, and silver-coated beryl saddles). ~~The primary constituents of concern (COCs) are tritium, lead, trichloroethylene (TCE), and uranium.~~"

Responsible Party: Kevin Boerstler, 803-952-6766, kevin.boerstler@srs.gov

8. **Appendix K, Section VI, Five-Year Review Process, Page K-7 of K-30:** The Data Review section discusses 1,4-dioxane and tritium in the Southwest Plume, but it is unclear if only 1,4-dioxane is attributed to the MWMF as the text discusses the reduction of tritium by the Old Radiological Waste Burial Ground (ORWBG) low permeability cap. The text states that it appears the 1,4-dioxane plume is not expanding, but data to support this statement are not provided. Figure K-5 (MWMF Southwest Plume 1,4-Dioxane Concentrations in the Upper Aquifer Zone) shows only a small portion of the MWMF adjacent to the ORWBG, and the full extent of the 1,4-dioxane plume at the MWMF is not depicted. The plume appears to extend to the north, but the 1,4-dioxane result for the well to the northwest of well BGO16 is not provided. Therefore, it is unclear how it is determined whether the MWMF cap is functioning to mitigate further migration of contaminants to groundwater, as groundwater results at the MWMF are not discussed. Please revise the data review in Section VI to clarify the constituents in groundwater (i.e., tritium and/or 1,4-dioxane) that are attributed to the contamination in MWMF soil, and provide the complete results for the MWMF groundwater monitoring (i.e., on a figure and in a table). *Please also discuss any trends in the groundwater results that show whether the plume is expanding to support the conclusion that the MWMF cap is functioning as intended.*

Response: Clarification.

Appendix K, Section VI, Five-Year Review Process, Data Review section, First paragraph, 3rd sentence will be revised to clarify that both the 1,4-dioxane and tritium plumes at the Southwest Plume are sourced from the ORWBG. The revised sentence will read as follows:

"As shown in Figure K-5, 1,4-dioxane has been detected in the Southwest Plume (SWP), comingled with the tritium plume, both are sourced from the ORWBG."

To support the claim that the 1,4-dioxane plume is not expanding, a reference to the Annual Corrective Action Report for the F-Area Hazardous Waste Management Facility, the H-Area Hazardous Waste Management Facility, and the Mixed Waste Management Facility was included in the section. The report includes complete groundwater monitoring data from the MWMF RCRA monitoring program during 2024. The report also includes discussion on trends in groundwater results and performance of the corrective action program (including the MWMF cap).

Responsible Party: Kevin Boerstler, 803-952-6766, kevin.boerstler@srs.gov

9. **Appendix L, Section III, Background, Page L-4 of L-30, and Table L-2, COCs for SRLSB OU, Page L-19 of L-30:** The Basis for Taking Action subsection states that the final list of human health COCs has 18 radionuclides, but only 17 radionuclides are listed in Table L-2. *Please revise the text and Table L-2 to present consistent information for the radionuclide COCs.*

   Response: Agree.

   The following sentence from Section III, Background: "The final list of human health COCs for the future industrial worker scenario includes eighteen radionuclides and two metals.", is correct per the ROD (WSRC-RP-97-848, Revision 1.1). Table L-2 will be revised to include Uranium-238.

   Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

EPA HQ COMMENTS

1. *Consider putting the Summary Table up front in the FYR*. Also, as part of the Summary Table, there is typically a table that describes the protectiveness statement for each OU with detail. Consider adding this level of detail to the next FYR. For example:

FYR Summary Form

Protectiveness Statement(s)		
OU # / Site #: OU 1 / Site 1	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement: The selected LUCs remedy at OU 1 (Site 1) as modified by the 2016 ESD is protective of human health and the environment. Exposure pathways that could result in unacceptable risk related to soil at this site have been controlled through the implementation of LUCs. This FYR found that issues noted in the Second and Third FYRs related to updating COCs and site risk assessments have not been addressed. These should be updated as recommended by the 2014 Site 1 Soil Risk Re-Evaluation Report following a review of the report to ensure no updates to regulatory standards or risk assessment methods impact the findings.		
OU # / Site #: OU 9 / Site 10	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement:		

   Response: Agree.

   The Five-Year Review Summary Form is included as Table 1 in the up front section of this document.

   The Protectiveness Statement(s) Table is Table 8 in the document, and it will be revised to include more detail about the protectiveness statement. See CSBRP below as an example.

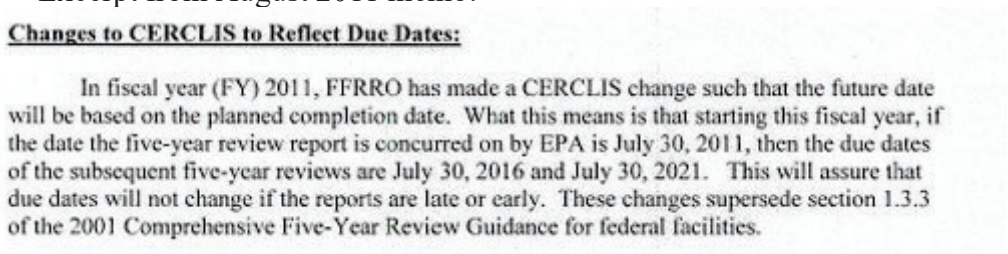
PROTECTIVENESS STATEMENT(S)		
Operable Unit: Central Shops Burning/Rubble Pits (631-1G and 631-3G) (CSBRP) OU SEMS # 50	***Protectiveness Determination:*** Protective	***Addendum Due Date (if applicable):*** N/A
Protectiveness Statement: The selected remedy for the CSBRP OU was institutional controls (i.e., LUCs) with enhanced stormwater as stated in the 2003 ROD. The remedy at the CSBRP OU is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled by LUCs to prevent exposure to or ingestion of contaminated soil media.		

Responsible Party: Sadika O'Quinn, (803)952-6697, sadika.oquinn@srs.gov

2. Page 16, last sentence states that the trigger date is the last date of signature, however the trigger date does not change:

   Trigger date:
   It is Federal Facility Superfund policy (see memos) that the statutory due date does not change.
   Program Priorities for Federal Facility Five-Year Review - August 2011.
   This policy memorandum describes management controls that will be implemented to ensure that the recommendations in the Five-Year Review reports are tracked, monitored and implemented; provides guidance to remedial project managers to ensure that the reviews are completed on time; outlines how EPA makes an independent decision on protectiveness; and confirms that Five-Year Reviews are generally enforceable under federal facility agreements.

   - Correction to the Memorandum "Program Priorities for Federal Facility Five-Year Reviews" - February 2012.
     This memorandum corrects the August 1, 2011 policy memorandum (see above) by clarifying the CERCLIS language on page 4.
     Excerpt from August 2011 memo:



Changes to CERCLIS to Reflect Due Dates:

In fiscal year (FY) 2011, FFRRO has made a CERCLIS change such that the future date will be based on the planned completion date. What this means is that starting this fiscal year, if the date the five-year review report is concurred on by EPA is July 30, 2011, then the due dates of the subsequent five-year reviews are July 30, 2016 and July 30, 2021. This will assure that due dates will not change if the reports are late or early. These changes supersede section 1.3.3 of the 2001 Comprehensive Five-Year Review Guidance for federal facilities.

Response: Agree.

The First Five-Year Remedy Review Report did not contain a signature page. USEPA signed the Second Five-Year Remedy Review Report, Third Five-Year Remedy

Review Report, Fourth Five-Year Remedy Review Report, Fifth Five-Year Remedy Review Report (Phase 5), and Sixth Five-Year Remedy Review Report (Phase 5) on February 12, 2004, January 21, 2009, and January 16, 2014, November 5, 2018, and December 6, 2023, respectively. USEPA signed the Fifth Five-Year Remedy Review Report early on November 5, 2018. SRS has consistently used December 31 as the trigger date to ensure that the remedies in the five phases are reviewed, and the subsequent reports signed by USDOE, SCDES, and USEPA and returned to SRS for issuance to the public. The five phases of the rolling five-year remedy review reports may be signed prior to December 31, but all phases need to be completed by this date. Consistently using this date allows for the development of a Revision 1.1 remedy review report at any phase, if needed, without impacts to the date.

Per USEPA's transmittal letter dated April 13, 2026, USEPA's signature will be removed from this and future five-year remedy review reports for consistency with other Federal Facility sites and national consistency. EPA will instead send a letter from the Division Director with concurrence (or independent determinations, etc.). Based on this information, Section VIII, Next Review, will be revised as follows:

"…Barring a change in the governing laws, another review for the remedies in this report should be completed within five years from the ~~signature~~ date <u>of USEPA's concurrence letter</u> of this document. The final ~~signature date~~ <u>USEPA's concurrence letter</u> for the last grouping of the Seventh Five-Year Remedy Review Report is due no later than December 31, 2028."

Responsible Party: Shelia McFalls, (803) 952-6819, shelia.mcfalls@srs.gov

3. EXPECTATIONS FOR PFAS AND EMERGING CONTAMINANTS IN FIVE-YEAR REVIEWS:

Consider revising for this one and future 5Yrs:
After reviewing numerous five-year reviews, the Federal Facility Superfund Program has observed the following best practices in addressing PFAS and other emerging contaminants of potential concern in Five-Year reviews:
QUESTIONS FOR FYRS: There are four issues considered in the PFAS and Emerging Contaminants Review, which guide our recommendations:

1. Scope and Documentation: **Where was sampling and evaluation for PFAS and/or other emerging contaminants summarized?** Is the scope appropriate and were current guidance referenced and followed? **I didn't see PFAS sampling and evaluation summarized in Question B or referenced Appendix B.**
2. Technical Assessment: Were emerging contaminants included in Question B?
3. Issues and Recommendations: Were issues pertaining to the emerging contaminants identified? How were they addressed via recommendations?
4. Protectiveness: Does the presence of emerging contaminants affect protectiveness? Note that in either (a) or (b), the description of PFAS should include a concise

summary of the scope of the investigation to date, and the results should be screened as set forth in the latest EPA and DOD guidance (e.g. DOD 2019, EPA 2019, DOD 2020, etc.)

Response: Clarification.

See response to EPA General Comment #4 in regard to PFAS.

Regarding 1,4-dioxane, this emerging contaminant has already been evaluated for all SRS OUs per the recommendation from the Fourth Five-Year Remedy Review for Savannah River Site (SRNS 2013).

SRNS, 2013. *Fourth Five-Year Remedy Review Report for the Savannah River Site*, SRNS-RP-2012-00011, Revision 0, Savannah River Nuclear Solutions, LLC, Aiken, SC.

Responsible Party: Sadika O'Quinn, (803)952-6697, sadika.oquinn@srs.gov

ATTORNEY COMMENTS

General Comments:

General Comment #1: ORC recommends that institutional controls (ICs) that are part of the remedies at several OUs examined in the Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) be reviewed to ensure the ICs are functioning as intended per EPA's guidance, Recommended Evaluation of Institutional Controls: Supplement to the Comprehensive Five-Year Review Guidance, OSWER 9355.7-18, dated September 13, 2011, at page 2 (https://semspub.epa.gov/work/HQ/175441.pdf last accessed April 9, 2026), which describes EPA's duties in reviewing ICs as part of a five-year review process as follows.

> When an IC is a component of a remedial action, the current and long-term effectiveness of that IC should be evaluated and relevant information about that IC should be included as part of the protectiveness determination. In addition to the protectiveness determination, FYRs may identify IC issues and recommend the need for additional evaluation and/or follow-up actions included as highlighted issues and recommendations.

That guidance further states that

> All IC instruments should be reviewed to ensure that clear language is used to state the required use restrictions and that legal descriptions reflect current conditions at the site (e.g., ground water ordinance covers the entire current plume area).

Id. at 5. It further provides that dated copies of ICs should be obtained to confirm that each has been implemented as envisioned in the decision documents. *See id*. Thus, ORC recommends that EPA obtain copies of or information about at least the following ICs which are components of several remedies at sites at SRS:

- Site Use/Site Clearance Program (and the administrative controls and land use restrictions for onsite workers therein)
- work controls/work packages that include worker training that are relevant to LUCs;
- health and safety requirements that are relevant to LUCs; and
- any relevant LUCIPs.

When were these last reviewed by SC or EPA? And, How accessible are these, i.e. are they public accessible, and/or protected?

Response: Clarification.

The OU-specific LUCIPs are reviewed and approved by USEPA and SCDES. These documents are accessible to the public on the SRS external webpage in the Administrative Record File (https://public.srs.gov/missions-and-programs/environmental-stewardship/arf-irf-index/) and the Land Use Control Assurance Plan web page (https://public.srs.gov/missions-and-programs/environmental-stewardship/lucap/) . These links will be provided in Section VII of Appendices C, D, F, H, and L. The Field Inspection Checklists that are included in the regulatory approved OU-specific LUCIPs are also available for review in the Administrative Record File.

The RCRA-permitted units (Appendices E, G, I, J, and K) do not require an OU-specific LUCIP as they are discussed and approved as part of the closure/post-closure/permit application process and are governed by the RCRA Permit Renewal for SRS. Refer to the response to USEPA General Comment #2. The Field Inspection Checklists that are approved as part of the closure/post-closure/permit application process and are governed by the RCRA Permit Renewal for SRS are placed in the Administrative Record File (https://public.srs.gov/missions-and-programs/environmental-stewardship/arf-irf-index/). This information will be placed in Appendices E, G, H, I, J, and K.

The SRS Site Use process governs how land, facilities, or specific locations within a controlled site are accessed and utilized. The Site Clearance process ensures that proposed structures and utilities do not encroach on existing and planned facilities

and ensures that Site Development Maps are up to date. These processes ensure that proposed uses are compatible with safety, security, environmental, and operational requirements. USDOE and SRNS Area Completion Projects, specifically, are notified of any proposed use within 200 feet of an operable unit or LUC boundary. A review of the proposed activity is compared to the LUC restrictions to determine if the proposed activities are acceptable. For any activities involving soil disturbance within a LUC boundary, an Operations and Maintenance Plan would be required specifying conditions for work, including waste management. Work packages developed to execute the field activities would include worker protection and training requirements based on the potential hazards that may be encountered at a specific operable unit. USEPA and SCDES would be notified of any intrusive work conducted within LUC boundaries and could request specific work documentation that is generally not publicly available. In addition, in accordance with the Federal Facility Agreement, Section XXX, Access/Data/Document Availability, USEPA and SCDES are permitted to enter the SRS at times previously arranged and coordinated for the purposes of inspecting records, logs, and other documents, including work controls/work packages, health and safety requirements relevant to implementation of the FFA and regulatory approved actions.

Responsible Party: Shelia McFalls, (803) 952-6819, shelia.mcfalls@srs.gov

Specific Comments:

Comment 1, Executive Summary, Page ES-1, first paragraph, first sentence: Please add "(SRS)" after "Savannah River Site" in the first sentence to introduce this abbreviation because the abbreviation is not introduced elsewhere before it is used in the second paragraph.

Response: Agree.

The "SRS" acronyms were inadvertently included in the Executive Summary. Generally speaking, the use of acronyms in the Executive Summary is used sparingly, if at all. The "SRS" will be replaced with "Savannah River Site". Additionally, "OUs" will be replaced with "operable units"

Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs.gov

Comment 2, Executive Summary, Page ES-1, second paragraph, last sentence: Please revise this sentence to state that the engineered covers are part of a final remedy, because the remedies also include other components, like land use controls, in addition to

the engineered cover. The revised sentence would be as follows. "This is the third phase of the Seventh Five-Year Remedy Review Report, with this report evaluating SRS OUs that have engineered covers as part of a final remedy." Please make this change throughout the document and refer to engineered covers as "part of" a final remedy, unless the engineered cover was the only component of the selected remedy.

Response: Agree.

The sentence will be rewritten as follows:

"This is the third phase of the Seventh Five-Year Remedy Review Report, with this report evaluating Savannah River Site operable units that have engineered covers as part of the ~~a~~ final remedy."

Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs.gov

Comment 3, Executive Summary, Page ES-1, third paragraph, last sentence: The document states that "the requirements of three consecutive years of decreasing water level in Pit 631-3G" have been met. Please provide a citation or reference to the source of this three consecutive years of decreasing water level requirement.

A reference to the Post-Construction Report / Corrective Measures Implementation Report/ Final Remediation Report will be included in the last sentence of the 3rd paragraph of the Executive Summary:

"A recommendation to discontinue water-level measurements at the Central Shops Burning/Rubble Pits (631-1G and 631-3G) has been proposed since the water-level measurements have remained well below the bottom of the basin for more than five years and meets the requirements of three consecutive years of decreasing water level in Pit 631-3G as stated in the *Post-Construction Report (PCR)/Corrective Measures Implementation Report (CMIR)/Final Remediation Report (FRR) for the Central Shops Burning/Rubble Pits (631-1G and 631-3G/3GA) Operable Unit (U)* (WSRC-RP-2004-4014, Revision 1, February 2005)."

Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

Comment 4#, Savannah River Site Summary, Introduction, Page1, first paragraph, second sentence: In the second sentence, which discusses the NCP, please include a citation to 40 C.F.R. § 300.430(f)(4)(ii). *See* Five-Year Review Recommended Template, OLEM -9200.0-89, dated January 20, 2016, at template page 3 or PDF page 9 (stating

that the lead agency is "preparing this five-year review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.").

Response: Agree.

The 2nd sentence of Section I, Introduction, 1st paragraph will be modified as follows:

"The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300.430(f)(4)(ii)) further provides…"

Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs,gov

Comment 5, Savannah River Site Summary, Introduction, Page1, first paragraph: The document states, "[t]he evaluation of the remedy and the determination of protectiveness should be based on and sufficiently supported by data and visual inspections." Please revise to include other sources of information considered during the review process including data and document review, site interviews, site inspections, etc. *See, e.g.,* Comprehensive Five-Year Review Guidance, EPA 540-R-01-007, OSWER No. 9355.7-03B-P, June 2001 at 3-1 (explaining that "Data and other site-specific information that form the foundation for the technical assessment of the remedy at the time of the five-year review are discussed in this chapter, including data and document review, site interview, site inspection, and components of a Five-Year Review report.").

Response: Agree.

The 4th sentence of Section I, Introduction, 1st paragraph will be modified as follows:

"The evaluation of the remedy and the determination of protectiveness should be based on and sufficiently supported by data and document reviews, site interviews, ~~and~~ visual inspections, etc. "

Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs,gov

Comment 6, Savannah River Site Summary, Site Chronology, Page4, first complete sentence: The document states, "[t]he Savannah River Laboratory Seepage Basins (904-53G, 904-54G, and 904-55G) and New TNX Basin (904-120G) were also included in the Consent Decree for closure in a RCRA-like manner." "RCRA-like manner" is an undefined term. Please revise to state the following or something similar. "The Savannah

River Laboratory Seepage Basins . . . were also included in the Consent Decree for closure consistent with RCRA requirements."

Response: Agree.

The 3rd sentence of Section I, Site Chronology, 1st paragraph will be modified as follows:

"The Savannah River Laboratory Seepage Basins (904-53G, 904-54G, and 904-55G) and New TNX Basin (904-120G) were also included in the Consent Decree for closure consistent with RCRA requirements ~~in a RCRA-like manner~~."

Responsible Party: Sadika O'Quinn, (803) 952-6697, sadika.oquinn@srs,gov

Comment 7, Savannah River Site Summary, Initial Response, Page 7, end of first complete paragraph: Consider including a link to the online depository of the Administrative Record File in this paragraph, as well as the physical location(s) where the Administrative Record File can be viewed.

Response: Agree.

The text will be revised as shown below.

"…are available to the public in the SRS Administrative Record File (ARF) (https://public.srs.gov/missions-and-programs/environmental-stewardship/arf-irf-index/). The ARF is available at the following locations:

U.S. Department of Energy
Public Reading Room
Gregg-Graniteville Library
University of South Carolina – Aiken
471 University Parkway
Aiken, South Carolina 29801

Thomas Cooper Library
Government Information and Maps Department
University of South Carolina
1322 Greene Street
Columbia, South Carolina 29208

Responsible Party: Sadika O'Quinn, 803-952-6697, sadika.oquinn@srs.gov

Comment 8, Issues and Recommendations Section, Page 15, bullet point: The document states, "[d]ue to water-level measurements at Central Shops Burning/Rubble Pits (631-1G/631-3G) OU . . . meet the requirement of three consecutive years of decreasing water-level in Pit 3G." Please provide a citation or reference to the source of the three consecutive years of decreasing water requirement mentioned in this sentence.

Response: Agree.

A reference to the Post-Construction Report / Corrective Measures Implementation Report/ Final Remediation Report will be included in the bullet in Section VI, Issues/ Recommendations:

- **Due to water-level measurements at Central Shops Burning/Rubble Pits (631-1G/631-3G) OU continuously being below the bottom of the basin for more than five years, SRS proposes to discontinue taking water-level measurements since these results meet the requirement of three consecutive years of decreasing water-level in Pit 3G (WSRC 2005).**

The following reference is already included in Section X, References:

WSRC, 2005. ***Post-Construction Report (PCR)/Corrective Measures Implementation Report (CMIR)/Final Remediation Report (FRR) for the Central Shops Burning/Rubble Pits (631-1G and 631-3G/3GA Operable Unit (U)*****, WSRC-RP-2004-4014, Revision 1, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC**

Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

Comment 9, Next Review Section, Page 16, second sentence: The document states, "[b]arring a change in the governing laws, another review for the remedies in this report should be completed within five years from the signature date of this document." This statement is incorrect for the reasons Jyl Lapachin explained in her comments on this FYR and should be revised accordingly.

Response: Agree.

Please see the response to EPA HQ Comment #1.

Responsible Party: Shelia McFalls, (803) 952-6819, shelia.mcfalls@srs.gov

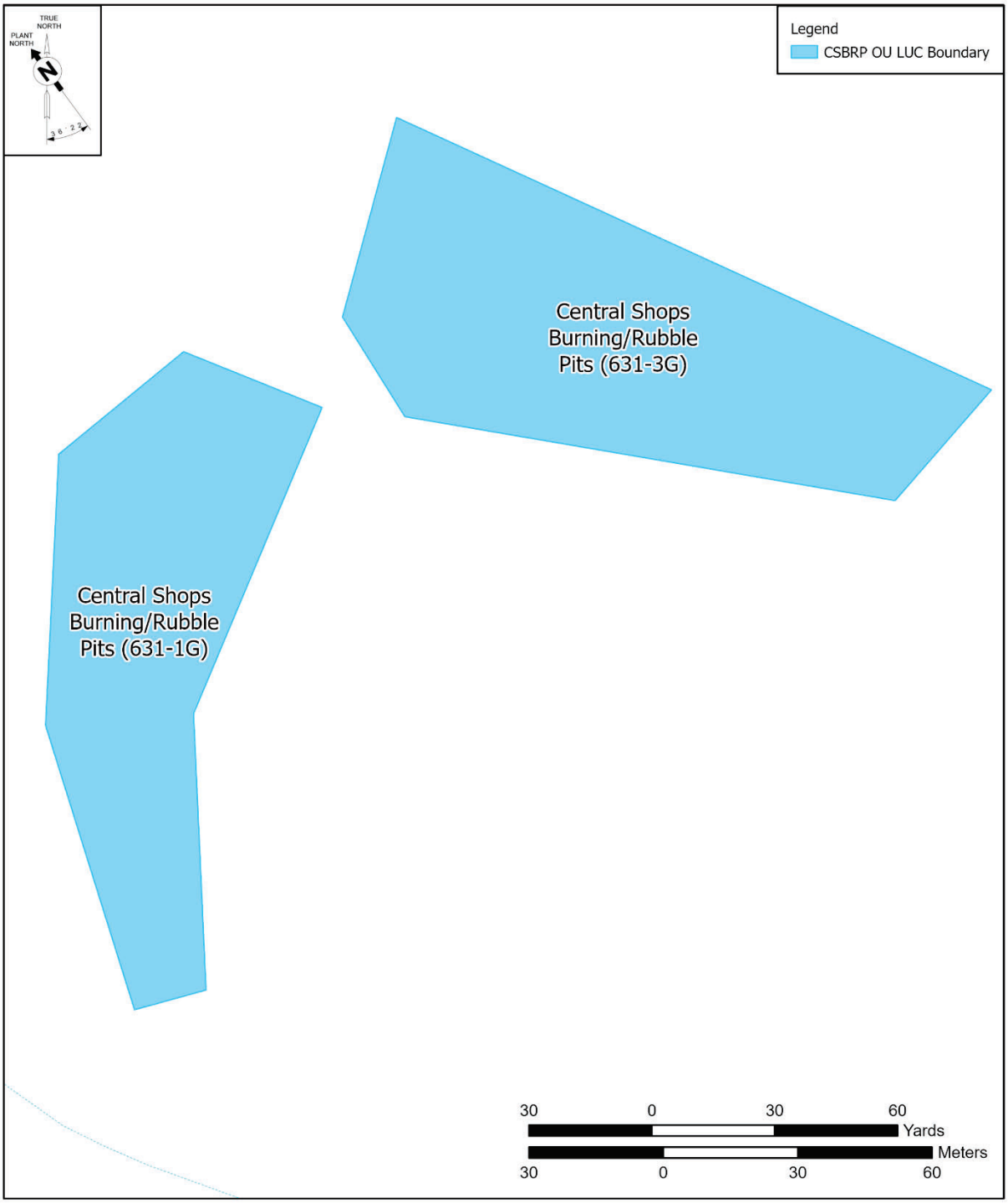


Figure C-6. CSBRP OU LUC Boundary

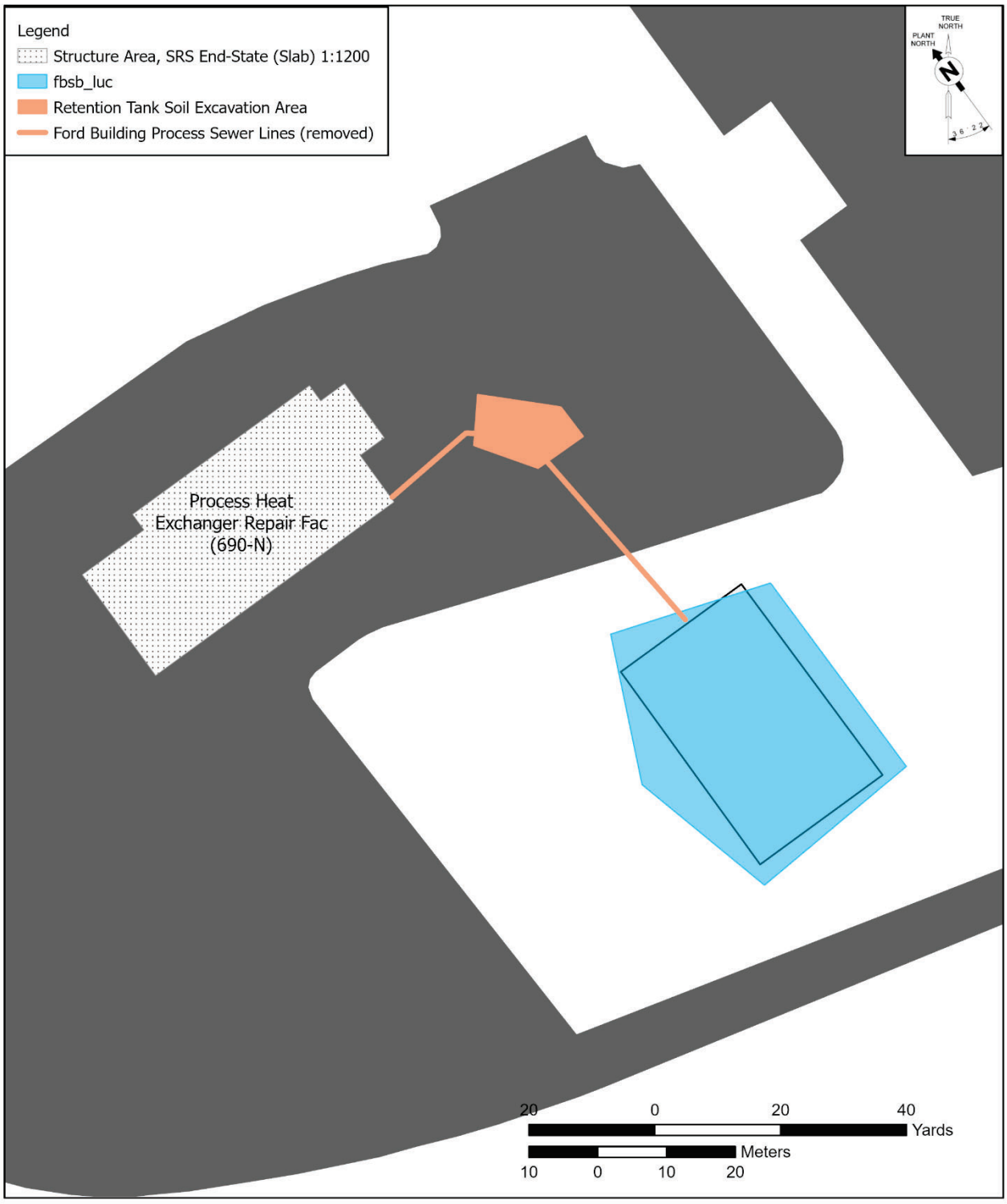


Figure F-6. FBSB OU LUC Boundary

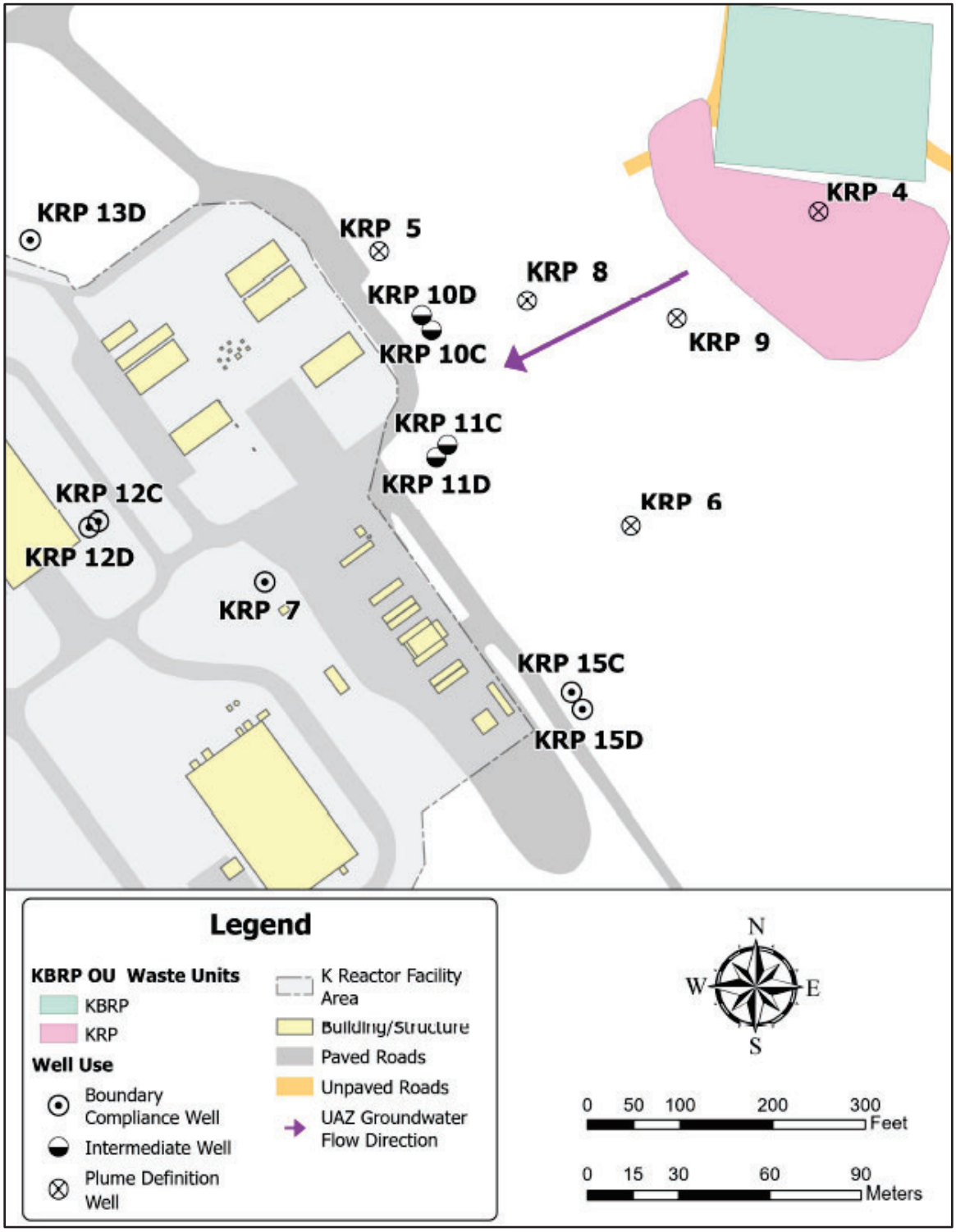


Figure H-2. Site Layout of KBRP/KRP and Well Locations

Table H-2. 2025 Groundwater Elevation Data for the KBRP/KRP

Station ID	Aquifer Zone	Groundwater Elevation (ft AMSL)
KRP 4	UAZ	214.53
KRP 5	UAZ	210.17
KRP 6	UAZ	214.03
KRP 7	UAZ	213.32
KRP 8	UAZ	214.91
KRP 9	UAZ	210.79
KRP 10C	LAZ	SS
KRP 10D	UAZ	211.19
KRP 11C	LAZ	SS
KRP 11D	UAZ	211.19
KRP 12C	LAZ	SS
KRP 12D	UAZ	210.46
KRP 13D	UAZ	210.92
KRP 15C	LAZ	SS
KRP 15D	UAZ	210.81

ft AMSL feet above mean sea level
LAZ Lower Aquifer Zone
SS Suspended Sampling
UAZ Upper Aquifer Zone