Department of Energy
Savannah River Operations Office
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MAR 13 2025

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: Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit (U) (SRNS-RP-2023-01365, Revision 1, January 2025) (Redline Pages) and Savannah River Site's Responses to the Regulatory Comments on the Revision 0 Document, SEMS Numbers: 91

In accordance with the terms of the Federal Facility Agreement (FFA), the U. S. Department of Energy (DOE) is submitting the subject information for your review. The *Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit (U)* (SRNS-RP-2023-01365, Revision 0, July 2024) was submitted to the South Carolina Department of Environmental Services (SCDES) and U.S. Environmental Protection Agency (EPA) for review on July 31, 2024. The EPA's and SCDES' comments were received on October 21, 2024, and October 29, 2024, respectively. The draft responses to the regulatory comments were submitted for review via email on January 9, 2025. The EPA and SCDES approved the draft responses via email on January 15, 2025, and January 17, 2025, respectively. The final responses were incorporated into the Redline Revision 1 pages. Please review the enclosures and provide your response within thirty (30) days of receipt. The effort and time that the EPA and the SCDES have given on the subject operable unit are greatly appreciated.

MAR 1 3 2025

Comments or questions from you or your staff may be directed to me at (803) 952-6211, or Karen Morrow, Director, Remediation, Deactivation, and Decommissioning Division, at (803) 952-7556.

Sincerely,

MATTHEW BAKER
Digitally signed by MATTHEW BAKER
Date: 2025.03.13 11:20:29 -04'00'

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

RDDD-25-119

Enclosures:
1. SRS Responses to the South Carolina Department of Environmental Services' Comments on the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), And L-Area Rubble Pit (131-4L) Operable Unit (U) (SRNS-RP-2023-01365, Revision 0, July 2024) SEMS Numbers: 91
2. SRS Responses to the U.S. Environmental Protection Agency's Comments on the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), And L-Area Rubble Pit (131-4L) Operable Unit (U) (SRNS-RP-2023-01365, Revision 0, July 2024) SEMS Numbers: 91
3. Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), And L-Area Rubble Pit (131-4L) Operable Unit (U) (SRNS-RP-2023-01365, Revision 1, January 2025) (Redline Pages) SEMS Numbers: 91

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cc w/o encl:
M. Reece, SCDES-Columbia
H. J. Porter, SCDES-Columbia
J. Blalock, SCDES-Columbia
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B. Martin, USEPA-Atlanta
M. McRae, TechLaw, Inc.

SRS Responses to SCDES Comments on the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit (U), SEMS Number: 91, SRNS-RP-2023-01365, Revision 0, July 2024

Savannah River Site, Aiken, South Carolina

Comments Received October 29, 2024

SPECIFIC COMMENTS

1. Section 3.8.1.2, ECODS L-3 Subunit Characterization and Data Summary, page 3-14. The second sentence of the last paragraph on this page states that sampling at the ECODS L-3 subunit was completed with a total of 90 samples collected. Later in Section 3.10, a total of 81 samples is listed for ECODS L-3, and Table A.2-3 shows 61 samples collected at all soil depths. Please revise the report to correct these discrepancies.

   Response: Agree with Clarification

   At the ECODS L-3 subunit, data collected during a 2002 Site Evaluation characterization was used in the Baseline Risk Assessment (BRA) and for remedial decision making. There were a total of 23 locations sampled at the ECODS L-3 subunit. At the 23 locations, there were 81 regular (REG) samples collected for analysis. Additionally, there were nine field duplicate (FD) samples collected, for a total of 90 samples. Of the 23 locations sampled at the ECODS L-3 subunit, there were 18 locations within the subunit boundary and five locations considered background locations. At the locations within the subunit boundary, there were 61 REG samples collected that were used for the BRA and presented in the data summary tables (Table A.2-3 for the ECODS L-3 subunit). This was not made clear in the combined document sections and the text will be revised as follows for clarity.

   Section 3.8.1.2:

   "A SE characterization effort in 2002 performed a radiological control survey, a GPR survey, and soil sampling (WSRC 2003). The SE soil sampling effort collected ~~90~~81 REG samples from 5 depth intervals at 23 locations (Figure 3-1) and were analyzed for the complete list of TAL constituents (inorganics) and the TCL of organic compounds, pesticides, and PCBs. The Core Team agreed at the December 2021 scoping meeting that the definitive level data from the SER was considered usable for the purposes of performing a BRA to support remedial decision making; therefore, the ECODS L-3 subunit was not included in the RFI/RI Work Plan (SRNS 2022). Depth to groundwater at the subunit is 7.6 m (25 ft) bgs.

   The locations sampled for the ECODS L-3 subunit include 18 locations within the subunit boundary and five locations designated as background locations. Sampling was completed at all 23 locations with a total of 90 samples (81 REG, 9 FD) collected (Figure 3-1). Sampling intervals were dependent on the depth that waste was observed in sample core. Of the 18~~23~~ locations within the subunit boundary, thirteen sampling locations collected samples from three sample intervals: 0.0 to 0.3 m, 0.3 to 1.2 m, and 1.2 to 2.4 m (0 to 1 ft, 1 to 4 ft, and 4 to 8 ft) bgs. Three sampling locations collected samples from

four sample intervals: 0.0 to 0.3 m, 0.3 to 1.2 m, 1.2 to 2.4 m, and 2.4 to 3.7 m (0 to 1 ft, 1 to 4 ft, 4 to 8 ft, and 8 to 12 ft) bgs. Two~~Seven~~ sampling locations collected samples from five intervals: 0.0 to 0.3 m, 0.3 to 1.2 m, 1.2 to 2.4 m, 2.4 to 3.7 m, and 3.7 to 4.9 m (0 to 1 ft, 1 to 4 ft, 4 to 8 ft, 8 to 12 ft, and 12 to 16 ft) bgs. The five background sampling locations collected samples from four sample intervals: 0.0 to 0.3 m, 0.3 to 1.2 m, 2.4 to 3.7 m, and 3.7 to 4.9 m (0 to 1 ft, 1 to 4 ft, 8 to 12 ft, and 12 to 16 ft) bgs. During sampling activities, the presence of waste was noted to include glass, metal, and rubber."

Section 3.10, Second Paragraph:

"For lead in soil, the CERCLA value of 400 mg/kg was set by the USEPA Office of Solid Waste Emergency Response and adopted as a TBC for the screening process. At the ECODS L-3 subunit, one (1) of the 61 REG~~81 total~~ soil samples from all soil depth intervals within the subunit boundary was above this concentration. The maximum detected concentration of lead is 1,300 mg/kg from location EL3-06 (0 to 0.3 m [0 to 1 ft] interval. The ARAR TBC screening threshold corresponds to the residential RSL of 400 mg/kg. The 95% UCL in surface soil is 214 mg/kg and the residential HQ is 0.54 (RSL 400 mg/kg). The all-depths soils mean concentration is 49.5 mg/kg. The isolated lead hotspot is not deemed significant enough to warrant a remedial response, and lead is not identified as an ARAR RCOC."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

2. Section 3.8.3.2, LRP 131-4L Subunit Characterization and Data Summary, page 3-23. The first paragraph of this section states that sampling at the LRP 131-4L subunit consisted of 198 REG samples, of which seven were unable to be collected, leaving 191. Table A.4-3 lists a total of 192 samples. Please revised the report to correct this discrepancy.

Response: Agree

A total of 220 samples were collected at the LRP 131-4L subunit (192 REG, 11 FD, 11 split [SPL], and 6 rinsate blanks [RB]). There were 15 intervals where samples were unable to be collected due to waste material in the sample interval or no soil recovered for the interval. The combined document incorrectly stated the number of samples in Section 3.2.3 and Section 3.8.3.2. The text will be revised as follows.

Section 3.2.3, Second Paragraph:

"Soil sampling of the LRP 131-4L subunit consisted of 41 total sample locations for a total of ~~226~~220 samples (~~198~~192 REG, 11 FD, 11 SPL, and 6 RB) collected (Figure 3-3).

Fifteen ~~Seven~~ samples were unable to be collected due to waste material within the sampling depth or no deep soil recovered in sample barrel. There were fourteen interior sample locations (LAP4L-013 to LAP4L-016, LAP4L-018, LAP4L-020 to LAP4L-022, LAP4L-024 to LAP4L-026, and LAP4L-028 to LAP4L-030), completed in a random, unbiased sampling pattern spaced 6.1 m (20 ft) apart within the subunit. Along the original subunit boundary, delineated by the orange ball markers, eleven peripheral sample locations were identified (LAP4L-006 to LAP4L-011, LAP4L-017, LAP4L-023, and LAP4L-031 to LAP4L-033). Eight sample locations (LAP4L-001 to LAP4L-005, LAP4L-012, LAP4L-019, and LAP4L-027) were included to investigate the area northeast of the subunit, where debris was observed on surface. Four sample locations (LAP4L-034 to LAP4L-037) were included to bound an area of subsidence that was identified on the northern side of the subunit during site walkdowns. Four step-out sample locations (LAP4L-038 to LAP4L-041) were identified northwest of the subunit as contingent locations based on field observations.

All of the 41 locations were sampled with soil sampling depth intervals that included surface soil (0.0 to 0.3 m [0 to 1 ft] bgs), subsurface soil (0.3 to 1.2 m [1 to 4 ft] bgs), and deep soil (1.2 to 2.4 m and 2.4 to 3.6 m [4 to 8 ft and 8 to 12 ft] bgs), unless samples were unable to be collected due to waste in the sample core or no recovery of deep soil in the sample barrel. At three locations of the LRP 131-4L subunit (LAP4L-016, LAP4L-020, and LAP4L-026), the bottom of the pit was confirmed in previous intervals and the tentative interval from 3.6 to 4.9 m (12 to 16 ft) bgs was not sampled. At 33 locations (LAP4L-001 to LAP4L-015, LAP4L-017 to LAP4L-019, LAP4L-021 to LAP4L-025, LAP4L-027 to LAP4L-029, LAP4L-031, LAP4L-033 to LAP4L-034, and LAP4L 036 to LAP4L-039), sampling was completed at 3.6 to 4.9 m (12 to 16 ft) bgs because the bottom of the pit was not confirmed, or waste was determined in the previous sampling depth. At four locations (LAP4L-032, LAP4L-035, LAP4L-040, and LAP4L-041), sampling was completed to a depth of 4.9 to 7.3 m (16 to 20 ft) bgs because waste was confirmed in the 3.6 to 4.9 m (12 to 16 ft) bgs interval. Additionally, at one location (LAP4L-030), sampling was completed to a depth of 6.1 to 7.3 m (20 to 24 ft) bgs due to no soil recovery in the shallower depths. At sample location LAP4L-007 (Figure 3-3), a soil core was collected to a depth of 15 m (50 ft) bgs, and lithologic descriptions recorded. The deeper samples were collected to provide necessary information at depth to support the CM analysis and better define nature and extent below the unit. Soil cores were recorded in the field for lithologic descriptions at all sample locations (Appendix J). Most of the soil described contained significant amount of clay matrix, except within the waste, and the pit was underlain by a dense clay unit."

Section 3.8.3.2:

"The LRP 131-4L subunit was included in the 2022 RFI/RI characterization. The RFI/RI characterization effort started with a GPR survey to delineate the lateral and vertical extent of the subunit. Soil sampling of the LRP 131-4L subunit was completed in accordance with the RFI/RI Work Plan (SRNS 2022). Sampling consisted of 41 total sample locations for a total of 220~~226~~ samples (~~198~~192 REG, 11 FD, 11 SPL, and 6 RB) collected (Figure 3-3). Fifteen ~~Seven~~ samples were unable to be collected due to waste material within the sampling depth or no deep soil recovered in sample barrel. There were fourteen interior sample locations within the original boundary of the subunit, completed in a random, unbiased sampling pattern spaced 6.1 m (20 ft) apart within the subunit. Along the original subunit boundary, delineated by the orange ball markers, eleven peripheral sample locations were identified. Eight sample locations were included to investigate the area northeast of the subunit, where debris was observed on surface. Four sample locations were included to bound an area of subsidence that was identified on the northern side of the subunit during site walkdowns. Four step-out sample locations were identified northwest of the subunit as contingent locations based on field observations.

All of the 41 locations were sampled with soil sampling depth intervals that included surface soil (0.0 to 0.3 m [0 to 1 ft] bgs), subsurface soil (0.3 to 1.2 m [1 to 4 ft] bgs), and deep soil (1.2 to 2.4 m and 2.4 to 3.6 m [4 to 8 ft and 8 to 12 ft] bgs), unless samples were unable to be collected due to waste in the sample core or no recovery of deep soil in the sample barrel. At three locations of the LRP 131-4L subunit, the bottom of the pit was confirmed in previous intervals and the tentative interval from 3.6 to 4.9 m (12 to 16 ft) bgs was not sampled. At 33~~32~~ locations, sampling was completed at 3.6 to 4.9 m (12 to 16 ft) bgs because the bottom of the pit was not confirmed, or waste was determined in the previous sampling depth. At four locations, sampling was completed to a depth of 4.9 to 7.3 m (16 to 20 ft) bgs because waste was confirmed in the 3.6 to 4.9 m (12 to 16 ft) bgs interval. Additionally, at one location, sampling was completed to a depth of 6.1 to 7.3 m (20 to 24 ft) bgs due to no soil recovery in the shallower depths. At sample location LAP4L-007 (Figure 3-3), a soil core was collected to a depth of 15 m (50 ft) bgs for lithologic descriptions. The deeper samples were collected to provide necessary information at depth to be used as part of the CM analysis and better define nature and extent below the subunit. Soil cores were recorded in the field for lithologic descriptions at all sample locations (Appendix J). Most of the soil described contained a significant amount of clay matrix except within the waste, and the pit was underlain by a dense clay unit. All samples were analyzed for constituents on the TAL and TCL lists, and all requested analyses were completed without deviation. In addition to TAL and TCL

analyses, gross alpha and nonvolatile beta screening was performed on all samples. In the December 2023 scoping meeting, the Core Team agreed that the radiological screening did not indicate any subunit related radiological material was present and all detections were from NORM only."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

3. Section 3.9.3, LRP 131-4L Subunit, page 3-29. The second sentence of this section states: "ACM is presumed to be present in unit soils, based on waste history at other ECODS…" This appears to be copied language from the discussion for ECODS L-3. As stated earlier in Section 3.8.3.3, presumed ACM was identified by an SRS asbestos inspector at LRP 131-4L. Please correct.

Response: Agree

SRS agrees that the incorrect text was included in Section 3.9.3 for the LRP 131-4L subunit. The text will be revised as follows.

Section 3.9.3:

"Figure 3-11 presents the refined CSM for the LRP 131-4L subunit. Soil media and its potential for migration to groundwater were evaluated. An asbestos survey has not been completed at the subunit; however, presumed ACM was identified by an SRS asbestos inspector. Therefore, ACM is considered a problem warranting response action and will be addressed by the selected remedy. ~~ACM is presumed to be present in unit soils, based on the waste history at other ECODS, that may pose a risk to human receptors if exposed and will require further evaluation in the CMS/FS.~~"

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

SRS Responses to SCDES Comments on the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study/Feasibility Study for the Early Construction and Operational Disposal Site L-3 (East of L Area) (NBN), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit (U), SEMS Number: 91, SRNS-RP-2023-01365, Revision 0, July 2024
Savannah River Site, Aiken, South Carolina

Comments Received October 29, 2024

4. Section 4.1.1, ECODS L-3 Subunit, page 4-2. The second RAO listed for this subunit states: "Prevent exposure of a hypothetical resident to Aroclor 1254 and Aroclor 1260 in surface soils at levels exceeding 1.0E-06 risk and HQ of 1." The reference to "hypothetical" resident in this remedial action objective seems awkward. "Hypothetical" belongs more in the problems warranting action discussion as that discussion describes a scenario and not an objective. This RAO should omit the word "hypothetical" and be revised to state "Prevent exposure of a future resident…". This objective would also be consistent with the last RAO listed for LRP 131-4L subunit.

   Response: Agree.

   The RAO in Section 4.1.1 will be revised as follows:

   "Prevent exposure of a ~~hypothetical~~ future resident to Aroclor 1254 and Aroclor 1260 in surface soils at levels exceeding 1.0E-06 risk and HQ of 1."

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

5. Table C-4, Human Health COPC Screening for LRP 131-1L Subunit Soil Media (0-0.3 m [0-1 ft]), page C-47. The maximum detection for manganese, 1.80E+2, is equal to the human health screening value and a value of "no" is given in the "Exceeds Human Health Screening Value?" column. The same maximum detection for manganese is listed for LRP 131-4L on page c-53, but a value of "yes" is given under the same column. The value on page C-47 should be changed to "yes" for the sake of consistency, and any applicable section should be revised accordingly.

   Response: Agree.

   Table C-4 will be updated to include manganese as a COPC and carried forward in the remaining human health screening process and added to Table C-5 and Table C-6. All other applicable sections of the document will be updated accordingly.

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

GENERAL COMMENTS

1. There is a discrepancy related to the evaluation of sediment and surface water in the Report. For example, Section 3.1 (ECODS L-3, LRP 131-1L, and LRP 131-4L Operable Unit Investigation Overview), Page 3-1, indicates that no surface water samples were collected. However, Section 3.6 (Ecological Risk Assessment Modeling), Page 3-12, states, "The ERA [ecological risk assessment] is conducted by comparing constituent concentrations in environmental media within each subunit, including soil, sediment, and surface water…" This may not be the only instance where surface water and/or sediment was mentioned; please revise the Report to reconcile this discrepancy wherever it occurs.

   Response: Agree

   The text in Section 3.6, Ecological Risk Assessment Methodology, 3rd paragraph, 1st sentence will be revised as follows:

   "The ERA is conducted by comparing constituent concentrations in environmental media within each subunit~~, including soil, sediment, and surface water~~, with regulatory or technically defensible…"

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

2. The Report does not provide a clear description of the extent of soil contamination at each of the three subunits. For example, Section 3.2.1 (ECODS L-3 Subunit) discusses exceedances of the industrial preliminary remediation goals (PRGs) for several constituents, but the locations and depths of the exceedances are not provided. In addition, the site-specific PRGs are later defined in Section 4.3 (Most Restrictive and Most Likely Preliminary Remediation Goals), so it is unclear what levels were used as industrial PRGs for this comparison. Further, as noted in Section 4.2 (Preliminary Remediation Goal Development) and 4.3 (Most Restrictive and Most Likely Preliminary Remediation Goals) of Format F-5 in the Environmental Compliance and Area Completion Projects Regulatory Document Handbook, dated June 2023 (the EC&ACP Regulatory Document Handbook), the Report should include figures illustrating the locations where the PRGs are exceeded at each subunit. Please revise the Report to provide discussion and figures illustrating the delineation of the extent of soil contamination, including the locations and depths of the PRG exceedances at each subunit.

   Response: Agree with Clarification

   Section 3.2 discusses the characterization data and data usability for the three subunits. For the ECODS L-3 subunit, characterization data from a 2002 site evaluation (SE) effort was used for the Baseline Risk Assessment (BRA) and for remedial decision making.

Section 3.2.1 discusses the sampling strategy, analyses performed, and summarizes the preliminary screening of the results done in 2002 as part of the SE effort. The SE identified seven polycyclic aromatic hydrocarbons (PAHs), two polychlorinated biphenyls (PCBs), and five metals as potential indicators of contamination at the subunit based on exceedances of residential and/or industrial PRGs at the time of the SE. For clarification, the text in Section 3.2.1 will be revised to the following.

Section 3.2.1, Fifth Paragraph:

"All samples were analyzed for the Target Analyte List (TAL) of inorganic constituents and the Target Compound List (TCL) of organic compounds, pesticides, herbicides, and PCBs. As documented in the *Site Evaluation Report for Early Construction and Operational Disposal Site (ECODS) L-3 (NBN) (U)* (WSRC 2003), seven polycyclic aromatic hydrocarbons (PAHs) (benzo(a)anthracene; benzo(a)pyrene; benzo(b) fluoranthene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene), two PCBs (Aroclor 1254 and Aroclor 1260), and five metals (antimony; copper; lead; arsenic; and iron) were present in concentrations that exceeded residential and/or industrial PRGs."

The SE data was further evaluated in the document appendices to determine the refined constituents of concern (RCOCs) for each subunit. There were no contaminant migration (Appendix B), ecological (Appendix D), or principal threat source material (Appendix E) RCOCs identified for the ECODS L-3, LRP 131-1L, or LRP 131-4L subunits. The human health risk assessment identified Aroclor 1254 and Aroclor 1260 as RCOCs for the ECODS L-3 subunit surface soil (0.0 to 0.3 m [0 to 1 ft]) and benzo(a)pyrene as an RCOC for the LRP 131-4L subunit surface soil (0.0 to 0.3 m [0 to 1 ft]). Risk-based PRGs are identified in Appendix F and presented in Table F-1 for the ECODS L-3 subunit and the LRP 131-4L subunit. Appendix C presents the locations for the RCOCs exceeding PRGs in Figure C-4 through Figure C-6. SRS agrees that Chapter 4 does not include figures described per the EC&ACP Regulatory Document Handbook and the document will be revised as follows along with inclusion of Figure CR-1 through Figure CR-3.

Section 4.2.2, First Paragraph:

"The HHRA is presented in Appendix C of this document. Aroclor 1254 and Aroclor 1260 were identified as HH RCOCs in surface soil media at the ECODS L-3 subunit for the resident scenario (Figure 4-1 and Figure 4-2). Aroclor 1254 and Aroclor 1260 were detected above residential PRGs at three locations, EL3-03, EL3-04, and EL3-16. Benzo(a)pyrene was identified as a HH RCOC in surface soil at the LRP 131-4L subunit for the resident scenario (Figure 4-3). Benzo(a)pyrene was detected above residential

PRGs at four locations, LAP-4L-025, LAP-4L-032, LAP-4L-034, and LAP-4L-039. The range of HH PRGs (risk = 1E-04 to 1E-06, HQ = 0.1 to 3) for the RCOCs at the ECODS L-3 and LRP 131-4L subunits are provided in Appendix F."

Section 4.3, First Paragraph, First Sentence:

"The most restrictive of the range of HH PRGs is presented in Appendix F and is shown in Table 4-1 and Figure 4-1 through Figure 4-3 for the resident scenario only (i.e., no RCOCs were identified for the industrial worker scenario)."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

3. The Report does not indicate that the soil samples collected at the Early Construction and Operational Disposal Site (no building number) (ECODS) L-3 subunit were analyzed for dioxins and furans (D/Fs). Section 1.3.1 (ECODS L-3 Subunit) notes that sections of the trenches may have been used as a burn pit for disposal of combustible waste. The burning of organic materials such as oils has the potential to produce D/Fs, which are highly recalcitrant and toxic compounds. As such, a screening evaluation of burn areas should include sampling and analysis of D/Fs. Revise the Report to discuss the potential for D/Fs to be present at the ECODS L-3 Subunit and include additional sampling for D/F as necessary to address the apparent data gap in site characterization and nature of contamination.

   Response: Clarification

   Based on site investigations at SRS, dibenzofuran detections are typically 1,000 times higher than the results for the other dioxin and furan congeners. The Site Evaluation for ECODS L-3 (2003) investigation included dibenzofuran analyses on all samples. Only one result was detected at a depth of 0.3 to 1.2 m (1 to 4 ft) with a reported concentration of 5.1 mg/kg. The occurrence of the dibenzofuran result also coincides with detections of Aroclor 1254 and Aroclor 1260 at the same sample location and sample interval. Additionally, at the same sampling location, Aroclor 1254 and 1260 were also detected in the 0 to 0.3 m (0 to 1 ft) interval, but no dibenzofuran was detected. Dioxins and furans are commonly associated with polychlorinated biphenyls (PCBs) and are of a similar class of chlorinated aromatic organic compounds.

   Two other ECODS, L-1 and L-2, located nearby ECODS L-3 were also used for disposal of construction debris such as trash, metal, glass, and concrete as well as other waste material. In addition, the trenches at the L-Area ECODS may have been used as a burn pit for combustible waste. As an outcome of the Site Evaluation Assessments performed at ECODS L-1 and L-2, dibenzofuran was not detected at ECODS L-1 and only 3

detections were observed at ECODS L-2 with a maximum concentration of 0.102 mg/kg and J-qualified.

Based on the following lines of evidence, no additional dioxin/furan analyses will be needed:

- **Low frequency of detection (1 out of 61 samples) for dibenzofuran;**
- **Common occurrence of Aroclor 1245, Aroclor 1260, and the one detection of dibenzofuran at the same sample location and depth;**
- **Dibenzofuran is commonly found with PCBs;**
- **Two other ECODS with similar waste characteristics and usage near ECODS L-3 were also sampled for dibenzofuran. Dibenzofuran was detected at ECODS L-2 but all three detections were J-qualified. No detections of dibenzofuran were observed at ECODS L-1;**
- **The trend of other dioxin and furan congeners to be observed three orders of magnitude lower; and**
- **The occurrence of one detection for dibenzofuran does not alter the general response actions and will be addressed as part of the selected remedy.**

No change to the document is proposed because the selection of analytes for inclusion in site characterization and data needs for the risk assessment and remedy selection is conducted through and documented in the approved RFI/RI Work Plan.

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

4. It is unknown whether per- and polyfluoroalkyl substances (PFAS) may be potential constituents of concern in environmental media at ECODS L-3, LRP 131-1L, and LRP 131-4L. Please revise the Report to include a statement regarding the potential presence or absence of PFAS; in the event that PFAS could be present based on site history, etc., a recommendation for addressing this data gap should be included in Section 6.0 (Summary Conclusion).

Response: Agree with Clarification

Savannah River Nuclear Solutions, LLC (SRNS) conducted a screening for historical per- and polyfluoroalkyl substances (PFAS) use at these waste units using the *Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at*

Department of Energy Sites **(Department of Energy [DOE] 2023). Appendix C of the guidance provides a standardized list of common uses at DOE sites that have the potential for a PFAS release. Based on historical records and the known uses of the ECODS L-3, LRP 131-1L, and LRP 131-4L subunits, PFAS are not expected to be present at any of these subunits. Supporting information is included in the attached tables (Tables CR-1, CR-2, and CR-3).**

Source: DOE 2023. *Guide for Investigating Historical and Current Uses of Per- and Polyfluoroalkyl Substances at Department of Energy Sites.* February 16. https://www.energy.gov/pfas/articles/guide-investigating-historical-and-current-uses-and-polyfluoroalkyl-substances

This conclusion will be added to the text in Section 2.3.1, Primary Sources of Contamination, at the end of each subunit discussion.

"*2.3.1 Primary Sources of Contamination*

The ECODS L-3 subunit is one of twenty-five ECODS at SRS which were identified during a review of early 1950s aerial photographs. These sites were used during the construction and early operation of SRS for disposal of construction debris and other non-radioactive waste materials, such as rubble and concrete. The ECODS L-3 subunit is estimated to have been used from November 1953 to June 1954 and there are no records of hazardous or radioactive waste disposal at the subunit. Prior to use as a disposal site, the area was used as farmland. Sections of the disposal trenches may have been used as a burn pit for disposal of combustible waste. Based on historical records and the known uses of the ECODS L-3 subunit, per- and polyfluoroalkyl substances (PFAS) are not expected to be present.

The LRP 131-1L subunit is a former waste disposal area reportedly used for various construction debris and operated from 1973 to 1982 (DuPont 1983a). Plant records indicate that metal, lumber, poles, concrete, brick, tile, asphalt, tires, rubber, scrap metal, fence posts, hard plastics, wallboard, asbestos, glass, batteries paint cans, drums and transite were disposed of at the LRP 131-1L subunit (DuPont 1983a and DuPont 1983b). Based on available records and the results of the RFI/RI characterization, there was no pit constructed at the LRP 131-1L subunit and waste was placed on subunit surface between 1973 and 1982. Recently discovered photos of the subunit show land disposal of material on the surface of the subunit (Figure 1-4 and Figure 1-5). It is unknown when the waste was removed. There is no record of hazardous or radioactive material disposed of at the pit. Based on historical records and the known uses of the LRP 131-1L subunit, PFAS are not expected to be present.

The LRP 131-4L subunit is an unlined pit, reported to have operated from 1973 to 1983, before it was filled and seeded in 1983. The LRP 131-4L subunit received inert rubble from the L-Area Powerhouse Stack and Silo demolition. The rubble consisted primarily of concrete and asphalt material with some metal. Operating procedures indicate it was to receive inert, non-hazardous materials and there are no records indicating any disposal of hazardous or radioactive materials. Based on historical records and the known uses of the LRP 131-4L subunit, PFAS are not expected to be present."

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

5. The most recent EPA Regional Screening Levels (RSLs) were not used. Please revise the Report to include the May 2024 RSLs, and ensure that there have been no updates to pertinent screening levels.

   Response: Clarification

   The RSL values that were used in this evaluation were the most up to date values at the time of document preparation. The RSL values are based on the November 2023 update that were accessed in December 2023. However, the May 2024 updates were reviewed and no substantive changes to the RSL values were identified that would impact the conclusion of the HHRA.

   No change to the document is proposed.

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

6. A construction worker was not included as a potential receptor of interest. Given that construction workers, although short-term, may encounter greater exposure levels than other receptors they should be included in the baseline human health risk assessment (HHRA). Please revise the Report to add a construction worker to the conceptual site model (CSM) and the baseline HHRA.

   Response: Clarification

   As described in the HH-2 protocol, "Human Health Receptors and Scenarios", of the *EC&ACP Regulatory Document Handbook* (SRNS-RP-2022-00330), the standard human health receptors evaluated in SRS risk assessments include the future resident and the future industrial worker. Evaluation of other site-specific human health receptors may be assessed on a case-by-case basis and approved by the Core Team during project scoping. No site-specific receptors were identified for the three subunits during project scoping of the human health risk assessment.

No change to the document is proposed.

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

7. The screening process for the HHRA does not address data sensitivity (i.e., an evaluation of detection limits, reporting limits or, preferably, sample quantitation limits for constituents in soil in comparison to applicable health-based screening criteria); according to Section C-2.1 (Soil Media) only detected constituent concentrations were screened. Elevated sample quantitation limits may result in some constituents not being identified as constituents of potential concern (COPCs). To ensure that constituents are not overlooked in the risk assessment, please revise Appendix C to include a discussion of sample quantitation limits in comparison to the relevant screening levels; COPCs predicated on non-detect results should be added to the COPC list and evaluated in the Uncertainty Analysis.

Response: Clarification

As described in the DP-1 protocol, "Unit-Source Data Processing", of the approved *EC&ACP Regulatory Document Handbook* (SRNS-RP-2022-00330), only detected constituents are used to determine the unit-source maximum values that are used to determine the COPCs.

The Data Usability Reports (DURs) for the 2022 Workplan Characterization Samples (SRNS 2022) are presented in Appendix I. The reports provide an assessment of the precision, accuracy, representativeness, comparability, and completeness data quality indicators and measurement performance criteria. Specifically, Sections I.1.2.6 and I.2.2.6 discuss how sensitivity of the data is assessed, and Sections I.1.3.12 and I.2.3.12 provide a summary of the data sensitivity evaluation for the LRP 131-1L and LRP 131-4L subunits. The evaluation applies to constituents that have a high percentage of non-detects (i.e., greater than 95% non-detect) to identify if the MDL exceeds the threshold screening criteria. The review of MDLs by matrix, method, and analyte relative to human health risk-based thresholds was conducted for the 0 to 0.3 m (0 to 1 ft) soil interval and presented in Tables I.1-16 and I.2-16 (Comparison of MDLs for Non-Detect to Risk-Based Screening Criteria). After reviewing Table I.1-16, an error in the calculation of MDLs greater than the RSLs was recognized. Table CR-1 will be updated as shown below. The DURs concluded that that the data quality objectives were met, and the data is considered usable for the purposes of decision-making in the RI/BRA.

In addition, the *Site Evaluation Report for the Early Construction and Operational Disposal Site (ECODS) L-3 (NBN)* presents a Laboratory Quality Discussion (Section IV, Appendix G) and a Site Evaluation Validation Report (Section V, Appendix G) for the

samples that were collected in 2002 (WSRC-RP-2003-4048).

No change to the document is proposed.

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

8. It is general EPA policy to combine surface and subsurface soils into one exposure medium for hypothetical receptors; however, neither the CSMs nor the HHRA include subsurface soil exposure for this receptor. Subsurface soil represents a part of the soil horizon that could be accessed by both industrial workers and residents if the whole soil column is excavated, and the site is redeveloped. However, all three CSMs show incomplete exposure pathways (shown as a dash) for subsurface soil pathways. Therefore, please revise the Report to include markers on the CSM indicating that residents could be exposed to subsurface soils, combine all soil data into one statistical model (i.e., 95% upper confidence limits on the arithmetic mean (95UCLs)), and recalculate soil exposure risks accordingly.

Response: Clarification

Standard exposure scenarios for SRS human receptors were agreed to by the Core Team as documented in the *EC&ACP Regulatory Document Handbook,* Protocol HH-2, "Human Health Receptors and Scenarios." The human health receptors (future resident and industrial worker) evaluated in SRS risk assessments are assessed for exposure to contaminated surface soils (0 to 0.3 m [0 to 1 ft]) soils or sediments. Exposure to the all depth soil interval, which includes subsurface soils, is evaluated for the industrial worker in the PTSM evaluation according to Protocol HH-7, "Evaluation of Principal Threat Source Material (PTSM) at SRS Waste Units." The PTSM evaluation determines if there is an unacceptable human health risk to contaminated soils at all depths should exposure occur. For this reason, the CSMs accurately depict a complete pathway for the all depths soil interval for the industrial worker. Core Team agreement on the receptors and exposure scenarios to be evaluated in the risk assessment is documented in the project specific summary prior to development of the document.

No change to the document is proposed.

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

9. Neither Appendix C, Human Health Risk Assessment, nor Appendix D, Ecological Risk Assessment, contain the output from the ProUCL software; please revise the document to include the ProUCL output.

   Response: Agree with Clarification

   The data generated by the ProUCL software (v 5.2) for each detected analyte is presented in Appendix A - Investigation Data/Data Summary Tables. Outputs from the software are used to summarize the data from each of the three (3) subunits to develop the data summary tables per Protocol DP-1 – *Unit-Source Data Processing* in the EC&ACP Regulatory Document Handbook. Distribution codes, Upper Confidence Limit (UCL) method, and 95% UCL are reported for each soil exposure group (0 to 0.3 m, 0.3 to 1.2 m, and all depths [0 to 1 ft, 1 to 4 ft, all depths]) as determined from the outputs. The output from the ProUCL data processing is not included due to the robust nature of the output files that are run for each individual analyte per depth interval. These results were verified by peer checking and can be reverified, if needed, by processing the soil data provided in electronic format through the ProUCL software that is available online (https://www.epa.gov/land-research/proucl-version-5100-documentation-downloads).

   The above discussion will be added to Appendix A, Section A.1.

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

10. It is uncertain why aquatic ecological receptors are included on the CSMs. As discussed previously, according to various sections of the Report, surface water and sediment were not media of concern in this investigation and are not included as media of interest on the CSM. Additionally, the dash shown to represent "Incomplete exposure pathway" for aquatic receptors exposed to soil is incorrect. It is recommended that aquatic ecological receptors be removed from the CSMs, or a different symbol should be developed to show that aquatic pathways are not evaluated in this investigation; the addition to the CSMs of surface water and sediment exposure pathways should also be considered. Please revise the Report accordingly.

    Response: Agree

    The CSMs will be revised to shade the boxes for the aquatic receptor as gray. A footnote will be added to define the gray shaded boxes as indicating that the receptor and media scenarios were considered but are not applicable to the unit.

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

11. The lead screening value has not been updated. The Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (Office of Land and Emergency Management (OLEM), released on January 17, 2024, recommends that EPA regions use a residential soil lead RSL of 200 parts per million (ppm), which corresponds to a target blood lead (PbB) of 5 micrograms per deciliter (µg/dL). This is half of the previous target PbB of 10 µg/dL. Therefore, soil lead concentrations should be screened using 200 milligrams per kilogram (mg/kg) and those areas in exceedance should be modeled using EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children; please revise the HHRA to screen lead in soil using the updated RSL and model the results as appropriate.

    Response: Clarification

    The screening values that were used in this evaluation were the most up to date values at the time of document preparation. The screening values are based on the November 2023 update that were accessed in December 2023. However, the updated screening value of 200 ppm for lead was checked, and there are no substantive changes that would impact the conclusion of the HHRA.

    No change to the document is proposed.

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

12. The results of a threatened and endangered species (T&E) search for the site is not included in Appendix D; please revise the Report to include the T&E search.

    Response: Agree

    Section D-1.3 will be revised to state the following:

    "The ECODS L-3, LRP 131-1L and LRP 131-4L OU includes soil media. The ecological setting, including wildlife, and habitats~~, and threatened and endangered species (TES),~~ are discussed in Section 2.1. A review of threatened, endangered, and sensitive (TES) species survey information and Geographic Information System (GIS) data were reviewed for the ECODS L-3, LRP 131-1L, and LRP 131-4L OU. Field surveys were conducted within the vicinity of these units in 1993 and 1994 and found little in the way of specialized habitats that may support TES species. The TES species survey for the L-Area Oil and Chemicals and Acid/Caustic Basins (United States Forest Service [USFS] 1993) was conducted in May 1993, showing no occurrence of any TES plant or animal populations/individuals. The survey did note that bald eagle and ospreys feed on adjacent L Lake, which is ~750 m (2,460 ft) from the ECODS L-3 subunit, the closest subunit, but no observations of these species were noted in the survey. The TES species survey of the

L-Area Bingham Pump Outage Pit, conducted in 1994, also indicated that the vicinity of the Bingham Pump Outage Pit does not meet the needs of most SRS listed TES plants or animal species with the exception of the Loggerhead Shrike, although no observations were made for this species. No unique or sensitive ecosystems were found within the ECODS L-3, LRP 131-1L, and LRP 131-4L OU area or TES flora within the vicinity. Most SRS TES species are associated with Carolina bays or mesic valley conditions associated with floodplains or wetlands located within/near wet areas. The area within and around the ECODS L-3, LRP 131-1L, and LRP 131-4L OU is a modified habitat and TES species are unlikely to be present because of the modified upland habitat, disturbance, and historic use. Additionally, review of current GIS data did not reveal any TES species observations or protected areas within the vicinity of the ECODS L-3, LRP 131-1L, and LRP 131-4L OU. The habitats within the ECODS L-3, LRP 131-1L and LRP 131-4L OU support terrestrial receptors."

The following references will be included in Section D-4.

USFS, 1993. *Threatened, Endangered, and Sensitive Species Listing, L-Area Oil & Chemical and Acid/Caustic Basins, Savannah River Site*, United States Forest Service, Savannah River Forest Station, Aiken, SC.

USFS, 1994. *Threatened, Endangered, and Sensitive Species Listing, 1994 Savannah River Forest Station Site 5, L-Area Bingham Pump Outage Pit (Waste Site #41)*, United States Forest Service, Savannah River Forest Station, Aiken, SC.

Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

13. The removal of constituents from further consideration on the basis of lack of a screening value is inappropriate. Both the HHRA and the ecological risk assessment (ERA) (Appendix D) state in their refinement steps that a constituent is not recommended for further evaluation because, among other things, there is no screening threshold; however, this is an uncertainty that should be investigated for the potential to impact the risk estimates and is not a criterion for removal. Please revise Appendix C and Appendix D to remove this bulleted statement from the Uncertainty Discussions, wherever it occurs.

Response: Agree with Clarification

It is the intent of the HHRA and ERA to compile and assess risk based on regulatory accepted established thresholds. As such, there are constituents that do not have a HH or ERA threshold from which to compare and this is an inherent uncertainty within the

established risk assessment process. To address this comment for the ERA, the following text will be added after the first set of bullets in Section D-2.3:

"There is uncertainty associated with the ESVs and TRVs used in this ERA because the toxicity data are not unit specific. There are also limitations in toxicity values from the established sources used that may not include variations in physiological or biochemical factors that may influence the risk among species, behavioral and ecological parameters that may make a species' sensitivity to a contaminant different from that of the test organism, limited information on long-term effects on natural populations, or the exposure of the receptors based on contaminant distribution within the landscape in relation to the receptors' movement/exposure within the landscape. In addition, the ERA estimates the risk to populations of ecological receptors from individual contaminants and although cumulative risk is possible with exposure to multiple contaminants simultaneously, these effects are not addressed and can be antagonistic or synergistic resulting in differing threats from exposure. Finally, the lack of toxicity thresholds adds to the uncertainty of assessing risk. If ESVs/TRVs are not available, there is uncertainty in assessing the risk to receptors because of the lack of thresholds from which to compare and is documented in the lines of evidence presented in the uncertainty discussion. These uncertainties may under- or over-represent the risk to receptors, but the ERA presented herein follows the currently accepted approach and methodologies to assessing risk to support informed management decisions for the ECODS L-3, LRP 131-1L, and LRP 131-4L OU."

To address the HHRA (Appendix C), the following text will be added after the last paragraph of Section C-2.2:

"There is uncertainty in assessing human health risk if RSLs or PRGs are not available due to the lack of a screening threshold. This uncertainty is inherent in the HHRA process and is documented in the uncertainty discussion for individual analytes that lack screening thresholds as indicated in Table C-1. The lack of human health thresholds presents an uncertainty that may under- or over-represent the risk to human receptors. The HHRA presented herein follows the currently accepted approach and methodologies to assessing risk to support informed management decisions for the ECODS L-3, LRP 131-1L, and LRP 131-4L OU."

Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

SPECIFIC COMMENTS

1. **Section 1.3.2, LRP 131-1L Subunit, Page 1-6 of 1-16:** Two recently discovered photographs of subunit LRP 131-1L are noted to show land disposal of material on the surface of the subunit and are provided as Figure 1-4 (Photo of Rubble on Surface of LRP 131-1L Subunit [Photo 17471-28]) and Figure 1-5 (Photo of Rubble on Surface of LRP 131-1L Subunit [Photo 17471-29]); however, it is unclear if it is known when these photographs were taken. *Please include a brief statement to clarify the date or timeframe that the photographs were taken.*

   Response: Agree

   Photographs of the LRP 131-1L subunit were discovered after review of a 1983 document, *Waste Sites on the Savannah River Plant* (DuPont 1983b), which references photographs of the subunit. Dates for the photographs were not available. The subunit was in operation from 1973 to 1982 and the report was dated January 1983. Therefore, the timeframe of the photograph is between 1973 and 1982. Text will be added to the document as follows.

   Section 1.3.2, First Paragraph:

   "…was placed below ground surface (bgs). Recently discovered photographs of the subunit show land disposal of material on the surface of the subunit during operation between 1973 and 1982 (Figures 1-4 and 1-5). There is no…"

   Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

2. **Section 2.1.2, Surface Features, Page 2-3 of 2-34:** The second paragraph identifies a depression approximately 3-feet deep that was observed within the northern end of subunit LRP 131-1L; however, the areal extent of this depression is not discussed, and the depressed area is not shown on Figure 1-3 (L-Area Rubble Pit 131-1L Subunit Boundary). In addition, Figure 2-7 (Depressed Area within LRP 131-1L Subunit) appears to show that the area has standing water, but this is not discussed in the text. *Please revise Section 2.1.2 to discuss the areal extent of the depression and the nature of the surface water and include this feature on Figure 1-3.*

   Response: Agree with Clarification

   There is a depression that exists within the LRP 131-1L subunit, shown by the photograph in Figure 2-7. The small amount of standing water in the photograph was from heavy rainfall that occurred shortly before the photograph was taken. This depressed area drains quickly and does not regularly hold water. The aerial extent of the

depressed area is approximately 92 square meters (110 square yards). The feature will be included on the figure as shown in Figure CR-4 and the document text will be revised as follows.

Section 2.1.2, Second Paragraph:

"The LRP 131-1L subunit is a relatively flat area that slopes gently to the southwest towards an open drainage ditch with surface elevation ranging from 74 to 75 m (244 to 246 ft) amsl (Figure 1 3). The drainage system discharges to L Lake, ~830 m (2,700 ft) away. A depression, ~1 m (3 ft) in depth and 92 square meters (m^2) (110 square yards [yd^2]) in aerial extent, was observed within the northern end of the subunit (Figure 2-7). The depression receives rainwater runoff, however the soil drains well and does not regularly hold water. The subunit is marked by four orange balls marking the corners of the subunit and established signage (Figure 2-3)."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

3. **Figure 2-12, Preliminary Conceptual Site Model for the ECODS L-3 Subunit, Page 2-25 of 2-34; Figure 2-13, Preliminary Conceptual Site Model for the L-Area Rubble Pit 131-1L Subunit, Page 2-26 of 2-34; and Figure 2-14. Preliminary Conceptual Site Model for the L-Area Rubble Pit 131-4L Subunit, Page 2-27 of 2-34:** The nomenclature, "Deep Soils (all depths)", which is shown to be a complete pathway for industrial workers, is counterintuitive; if subsurface soil is an incomplete pathway for all human receptors (including industrial workers), then "Deep Soil (all depths)" should also be incomplete. *Please revise the CSMs to either remove Deep Soil as an exposure medium or clarify the intended soil depth to differentiate deep soil from subsurface soil.*

   Response: Clarification

   Please see the response to General Comment #8. In accordance with HH-2 protocol, "Human Health Receptors and Scenarios", of the *EC&ACP Regulatory Document Handbook*, the human health receptors (future resident and industrial worker) evaluated in SRS risk assessments are assessed for exposure to contaminated surface soil (0 to 0.3 m [0 to 1 ft]). The PTSM evaluation considers surface, subsurface and deep soil (all depths) for the industrial worker scenario. Although the subsurface soil (0.3 to 1.2 m [1 to 4 ft]) interval is not evaluated as a standalone interval in the human health risk assessment, it is considered in the PTSM evaluation (all depths). The CSM simplistically represents the pathways/receptors that are evaluated in the baseline risk assessment as agreed to by the Core Team. Specific details are provided in Appendix C, Human Health Risk Assessment.

No change to the document is proposed.

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

4. **Section 3.2.1, ECODS L-3 Subunit, Page 3-2 of 3-50:** The locations of the two confirmation soil samples that were collected for analyses of gross alpha and nonvolatile beta are not provided. For example, it is unclear if these two samples are shown on Figure 3-1 (Sampling Locations at ECODS L-3 Subunit). *Please revise the text to clarify the locations of the confirmation soil samples for gross alpha and nonvolatile beta analyses and include these locations on a figure.*

   Response: Agree

   The two confirmation soil samples for the radiological control survey were co-located with soil sample locations EL3-09 and EL3-10. The two samples locations are in Figure 3-1. The document text will be revised as follows.

   Section 3.2.1, First Paragraph:

   "…designated the area as a "Clean Area." Two confirmation soil samples were collected from location EL3-09 and EL3-10 (Figure 3-1) and were sent for laboratory analyses of gross alpha and nonvolatile beta. Sample results confirmed both…"

   Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

5. **Section 3.2.2, LRP 131-1L Subunit, Page 3-4 of 3-50:** This section states, "In comparison, seven split samples were collected and had no trigger level exceedances;" however, it is unclear where these split samples were collected and if the parent samples exceeded the trigger levels. The text should discuss how these split samples were collected and analyzed (e.g., if different laboratories or methods were used) to clarify how these samples compare to the samples with trigger level exceedances. *Please revise this section to discuss the split sampling that was performed for seven samples collected at the LRP 131-1L subunit.*

   Response: Agree

   The locations and analytical methods for split (SPL) samples are not described in the document. All SPL samples were analyzed from a separate laboratory as the REG samples following the same collection, preparation, and analytical methods to ensure direct comparison. This is true for both the LRP 131-1L subunit and the LRP 131-4L subunit which were sampled as part of the RFI/RI characterization in 2022. The document text will be revised as follows.

Section 3.2.2, New Paragraph after Second Paragraph:

"For the LRP 131-1L subunit, the seven SPL samples were collected at locations LAP-1L-003 (0.0-0.3 m [0-1 ft]), LAP-1L-006 (0.3-1.2 m [1-4 ft]), LAP-1L-009 (1.2-2.4 m [4-8 ft]), LAP-1L-012 (2.4-3.6 m [8-12 ft]), LAP-1L-015 (3.6-4.9 m [12-16 ft]), LAP-1L-018 (0.0-0.3 m [0-1 ft]), and LAP-1L-021 (0.3-1.2 m [1-4 ft]) (Figure 3-2). SPL samples were collected and prepared using the same methods as REG samples, and were sent to separate laboratories from the REG samples for analyses using the same analytical methods to ensure direct comparison."

Section 3.2.2, Fourth Paragraph:

"…maximum of 46.3 pCi/g. In comparison, seven SPL samples were collected and analyzed by a separate laboratory using the same collection, preparation, and analytical methods with ~~had~~ no trigger level exceedances. The maximum gross alpha result..."

Section 3.2.3, New Paragraph after Second Paragraph:

"For the LRP 131-4L subunit, the eleven SPL samples were collected at locations LAP-4L-002 (0.0-0.3 m [0-1 ft]), LAP-4L-004 (0.3-1.2 m [1-4 ft]), LAP-4L-006 (1.2-2.4 m [4-8 ft]), LAP-4L-008 (2.4-3.6 m [8-12 ft]), LAP-4L-010 (0.0-0.3 m [0-1 ft]), LAP-4L-012 (0.0-0.3 m [0-1 ft]), LAP-4L-014 (0.3-1.2 m [1-4 ft]), LAP-4L-016 (1.2-2.4 m [4-8 ft]), LAP-4L-020 (1.2-2.4 m [4-8 ft]), LAP-4L-022 (0.0-0.3 m [0-1 ft]), and LAP-4L-025 (3.6-4.9 m [12-16]) (Figure 3-3). SPL samples were collected and prepared using the same methods as REG samples, but were sent to separate laboratories from the REG samples for analyses using the same analytical methods to ensure direct comparison."

Section 3.2.3, Sixth Paragraph:

"…maximum of 44.8 pCi/g. Eleven SPL samples were collected from the LRP 131-4L subunit and analyzed by a separate laboratory using the same collection, preparation, and analytical methods with ~~had~~ no trigger level exceedances, with a maximum of 12.7 pCi/g. The SPL samples were analyzed..."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

6. **Section 3.2.3, LRP 131-4L Subunit, Page 3-5 of 3-50:** The seven samples that were unable to be collected due to waste material within the sampling depth or poor soil recovery should be identified and any potential data gaps that exist with site characterization should be discussed. For example, it is unclear if any of these samples were located in the peripheral or

step-out sample locations, such that the extent of contamination was not determined. *Please revise this section to identify the seven samples that were unable to be collected and discuss if there is a data gap that exists in the delineation of the soil contamination.*

Response: Agree with Clarification

The number of samples that were not collected at the LRP 131-4L subunit was incorrect in the document. There were 15 samples that were not collected from soil intervals where there was waste present (LAP-4L-014 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-015 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-018 [2.4-3.6 m {8-12 ft}], LAP-4L-021 [1.2-2.4 m {4-8 ft}], LAP-4L-032 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-035 [2.4-3.6 m {8-12 ft}], LAP-4L-040 [2.4-3.6 m {8-12 ft}], and LAP-4L-041 [1.2-2.4 m, 2.4-3.6 m, 3.6-4.9 m {4-8 ft, 8-12 ft, 12-16 ft}]) or from intervals with no soil recovery (LAP-4L-30 [2.4-3.6 m, 3.6-4.9 m {8-12 ft, 12-16 ft}]). At all locations where a sample wasn't able to be collected, a sample was collected from an interval below the last observed waste to ensure vertical extent was delineated. All samples that weren't collected were within the subunit interior and therefore extent is laterally delineated, with the lone exception of location LAP-4L-040 to the northwest. This is illustrated in Figure 3-5 through Figure 3-7. The Core Team agreed the nature of contamination is consistent throughout the subunit waste and therefore no data gap exists that requires additional sampling and analysis. However, the extent of contamination was not bounded on the northwestern side of the subunit, and the Core Team agreed in scoping that the extent of contamination will be addressed in the final remedy design for the LRP 131-4L subunit. This is discussed in Section 3.8.3.3 of the document.

The document will be revised to identify the 15 samples that were not collected as follows.

Section 3.2.3, Second Paragraph:

"Soil sampling of the LRP 131-4L subunit consisted of 41 total sample locations for a total of ~~226~~220 samples (~~198~~192 REG, 11 FD, 11 SPL, and 6 RB) collected (Figure 3-3). Fifteen~~Seven~~ samples were unable to be collected due to waste material within the sampling depth (LAP-4L-014 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-015 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-018 [2.4-3.6 m {8-12 ft}], LAP-4L-021 [1.2-2.4 m {4-8 ft}], LAP-4L-032 [1.2-2.4 m, 2.4-3.6 m {4-8 ft, 8-12 ft}], LAP-4L-035 [2.4-3.6 m {8-12 ft}], LAP-4L-040 [2.4-3.6 m {8-12 ft}], and LAP-4L-041 [1.2-2.4 m, 2.4-3.6 m, 3.6-4.9 m {4-8 ft, 8-12 ft, 12-16 ft}]) or no deep soil recovered in sample barrel (LAP-4L-30 [2.4-3.6 m, 3.6-4.9 m {8-12 ft, 12-16 ft}]). There were fourteen interior..."

Responsible Party: Adam Willey, (803) 646-4944, adam.willey@srs.gov

7. **Section 3.3, Unit-Specific Constituent Screening, Pages 3-7 to 3-8 of 3-50, and Appendix A, Investigation Data/Data Summary Tables:** This section does not discuss the analytes included in the screening process to identify unit-specific constituents (USCs). Based on the tables in Appendix A, different analytes are screened at each subunit. For example, Table A.3-4 (Unit Specific Constituent Screening Table LRP 131-1L Subunit Soil [All Depths]) does not include polychlorinated biphenyls (PCBs), xylenes, or certain pesticides (e.g., dichlorodiphenyltrichloroethane [DDT]) that are included in the tables for the other subunits. *Please revise the text to define the analytes that are included in the USC screening tables for each subunit (e.g., if these are detections only).*

   Response: Clarification

   Appendix A presents data summary tables that include analytes with detected values to support the contaminant migrations analysis, human health and ecological risk assessments and the principal threat source material evaluation following the current data screening protocol (USC-1, *Environmental Compliance and Area Completion Projects Regulatory Document Handbook*, SRNS-RP-2022-00330, June 2023,). The investigation data for each subunit, for all analytes analyzed (including non-detects), is provided under separate cover on the electronic version of this document.

   No change to the document is proposed.

   Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

8. **Section 3.8.1.3, ECODS L-3 Subunit Nature and Extent of Contamination, Page 3-15 of 3-50:** The list of USCs includes selenium for the ECODS L-3 subunit, but Appendix A Table A.2-4 (Unit Specific Constituent Screening Table ECODS L-3 Subunit Soil [All Depths]) does not indicate selenium should be a USC (i.e., the maximum detection was less than two times the mean background concentration). *Please revise the list of USCs to remove selenium to be consistent with Appendix A.*

   Response: Agree

   Since this constituent was less than the SRS 2x Mean Background level as indicated on Table A.2-4, the text in the third paragraph of Section 3.8.1.3 will be revised as shown below:

   "…potassium; pyrene; ~~selenium;~~ sodium; styrene; toluene; vanadium; xylenes; and zinc. Soil sampling..."

   Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

9. **Section 5.1.1, General Response Action, Page 5-2 of 5-60:** This section should include a description of the estimated area or volume where treatment, containment, or exposure technologies may be applied as indicated in Section 5.1.1 of Format F-5 in the EC&ACP Regulatory Document Handbook. *Please revise this section to discuss the estimated area or volume of soil at each subunit to which general response actions may be applied.*

   Response: Clarification

   General technologies that pass the initial screening process for effectiveness, implementability, and cost are carried forward for consideration in the development of OU-specific remedial alternatives in Section 5.2. Detailed description regarding estimated area or volume to be addressed at subunits ECODS L-3 and L-Area Rubble Pit 131-4L are more appropriately provided in the OU-specific remedial alternative discussion in sections 5.2.1.1 and 5.2.1.2, respectively and presented in Appendix H.

   Because there is no risk to human health or the environment and no contaminant migration impact to groundwater was identified, no response actions were proposed for evaluation at L-Area Rubble Pit 131-1L.

   No changes to the document are proposed.

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

10. **Section 5.2.1.1.4, Alternative A-4: Excavation and Disposal, Page 5-8 of 5-60, and Section 5.3.1.4, Alternative A-4: Excavation and Disposal, Page 5-26 of 5-60:** Section 5.2.1.1.4 identifies approximately 6,728 cubic meters (m^3) (8,800 cubic yards [yd^3]) of contaminated media to be excavated at ECODS L-3 under Alternative A-4, while Section 5.3.1.4 identifies approximately 8,047 m^3 (8,800 yd^3) for removal. *Please revise the text to ensure the correct volumes of contaminated media to be removed are presented in each section.*

    Response: Agree

    The second paragraph of Section 5.3.1.4 will be revised as follows:

    "…Excavation would include removing ~~8,047~~6,728 m^3 (8,800 yd^3) of contaminated media to a depth of 3.7 m (12 ft) bgs. The excavated material would be directly loaded into rolloff containers and staged at the site…Once confirmed, the area would be backfilled using ~~8,047~~6,728 m^3 (8,800 yd^3) of clean fill and 223 m^3 (244 yd^3) of topsoil to fill the excavated areas to grade…"

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

11. **Section 5.3.2.2, Alternative B-2: Land Use Controls, Page 5-31 of 5-60:** The evaluation of short-term effectiveness states that there is no risk to workers or the community under alternative B-2 but does not take into account the confirmatory drilling that must be performed to delineate the extent of buried waste to which the land use controls (LUCs) are applied. *Please revise this section to consider the confirmatory drilling that will be performed to delineate the buried waste.*

    Response: Agree with Clarification

    Confirmatory drilling at the LRP 131-4L subunit will be necessary to delineate the extent of buried waste for all alternatives except the no action alternative. Exposure to remedial workers will be minimal during these activities and controlled through the use of project specific health and safety plans. Section 5.3.2.2, Short-Term Effectiveness will be updated as follows:

    "~~This alternative poses no risk to workers or the community during implementation because no construction work would be performed which disturbs the contaminated media within the LRP 131-4L subunit.~~ This alternative can be completed in a short timeframe while posing no significant risk to remedial workers. Remedial workers would have the greatest risk of exposure during the confirmatory drilling activities. Worker exposure to hazardous material would be managed by strict adherence to the project specific health and safety plan. All of the contaminated media…"

    Other sections of the document will be updated as applicable.

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

12. **Sections 5.4.1.3 and 5.4.2.3, Long-term Effectiveness, Pages 5-39 and 5-41 of 5-60, Table ES-1, Comparative Alternative Analysis for Early Construction and Operational Disposal Site L-3 (no building number), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit, Page ES-6 of ES-6, Table 5-7, Comparative Alternative Analysis for ECODS L-3 Subunit, and Table 5-8, Comparative Alternative Analysis for LRP 131-4L Subunit, Pages 5-59 and 5-60 of 5-60:** The text states that Alternatives A-2 and A-3 and Alternatives B-2 and B-3 should be ranked equally for the long-term effectiveness because they remain effective as long as LUCs are in place; however, Tables ES-1, 5-7, and 5-8 do not rank these alternatives equally. Alternatives A-3 and B-3 are ranked higher (4) than Alternatives A-2 and B-2 (3*). Please revise the text and tables to be consistent in the description and numerical ranking of the alternatives.*

    Response: Agree

Tables ES-1, 5-7, and 5-8 will be revised to rank Alternative A-2 and A-3, and Alternatives B-2 and B-3 equally for long-term effectiveness.

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

13. **Appendix C, Human Health Risk Assessment, Section C-2.2.1, ECODS L-3 Subunit, Page C-17 of C-74:** An obsolete RSL should not be used to determine whether a COPC should be carried forward as a constituent of concern (COC). The text uses the 2009 RSL for total chromium to make the case that evaluating risks based on hexavalent chromium is an overestimate. Beginning in the Fall 2009, EPA began encouraging the collection of valent-specific data when chromium is likely to be a COC at the site, and is no longer supporting the calculation of default screening levels for total chromium. Therefore, *please remove the statement regarding use of an obsolete chromium RSL wherever it appears.*

    Response: Agree

    The text in section C-2.2.2.1 and any other relevant sections will be revised to remove reference to the 2009 total chromium RSL.

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

14. **Appendix D, Section D-2.3.1.1, Screening Results for ECODS L-3 Subunit for Soil Media (0 to 0.3 m [0 to 1 ft]), Page D-27 of D-156:** Although bis(2-ethylhexyl) phthalate is a common laboratory contaminant, its presence in SRS media samples has not been established; therefore, the potential for bis(2-ethylhexyl)phthalate to be an artifact should not be used as a criterion for removal as a COPC. Therefore, *please remove this statement from this section.*

    Response: Agree with Clarification

    Bis(2-ethylhexyl)phthalate was detected in QA/QC field duplicate samples in both background and unit-specific samples, within all depth intervals, with background levels higher than unit concentrations for the ECODS L-3 Subunit.

    To address this comment, Section D-2.3.1.3, Uncertainty Discussion for ECODS L-3 Subunit for Soil Media (0 to 0.3 m [0 to 1 ft]), *Bis(2-ethylhexyl)phthalate* will be revised as shown below:

    "… PAUF adjusted calculations are shown in Attachment D-7, Table D.7-1. In addition, bis(2-ethylhexyl)phthalate is a common laboratory artifact, which was detected in unit-specific and field QA/QC field duplicate samples, with the highest levels detected in background samples. Therefore, bis(2-ethylhexyl)phthalate ~~and it~~ is not likely unit

related."

Additionally, Section D-2.3.1.6, Uncertainty Discussion for ECODS L-3 Subunit for Soil Media (0.3 to 1.2 m [1 to 4 ft]) for the bis(2-ethylhexyl)phthalate discussion will be revised as shown below:

"…(Attachment D-7, Table D.7.2). In addition, bis(2-ethylhexyl)phthalate is a common laboratory artifact, which was detected in unit-specific and field QA/QC field duplicate samples, with the highest levels detected in background samples. Therefore, bis(2-ethylhexyl)phthalate ~~and it~~ is not likely unit related."

Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

15. **Appendix D, Section D-2.3.1.6, Uncertainty Discussion for ECODS L-3 Subunit for Soil Media (0.3 to 1.2 m [1 to 4 ft]), Page D-29 of D-156:** The statement, "….screening thresholds [for copper] may be overprotective," is not supported. *Please revise this section to include further information on copper screening values and discuss why they may be overly conservative with respect to the species of interest.*

Response: Agree

The last sentence of the last paragraph of the "*Copper*" subsection of Section D-2.3.1.6 will be revised as follows:

"Copper is naturally occurring ~~and screening thresholds may be overprotective for this constituent~~."

Responsible Party: Susan Blas, (803) 952-6904, susan.blas@srs.gov

16. **Appendix D, Attachment 4, Table D.4-1, Uncertainty Evaluation for ECODS L3 Subunit (Soil 0-0.3 m (0-1 ft)); Tables D.4-2; D.4-3; D.4-4; D.4-5; D.4-6, Pages D-123-134 of D-156:** The green shading on these tables is not explained; *please add a definition of the green shading to the table notes.*

Response: Agree

To address this comment, a footnote will be added to Tables D.4-1 through D.4-6 that states, "Highlighted cells indicate analytes with a HQ greater than 1."

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

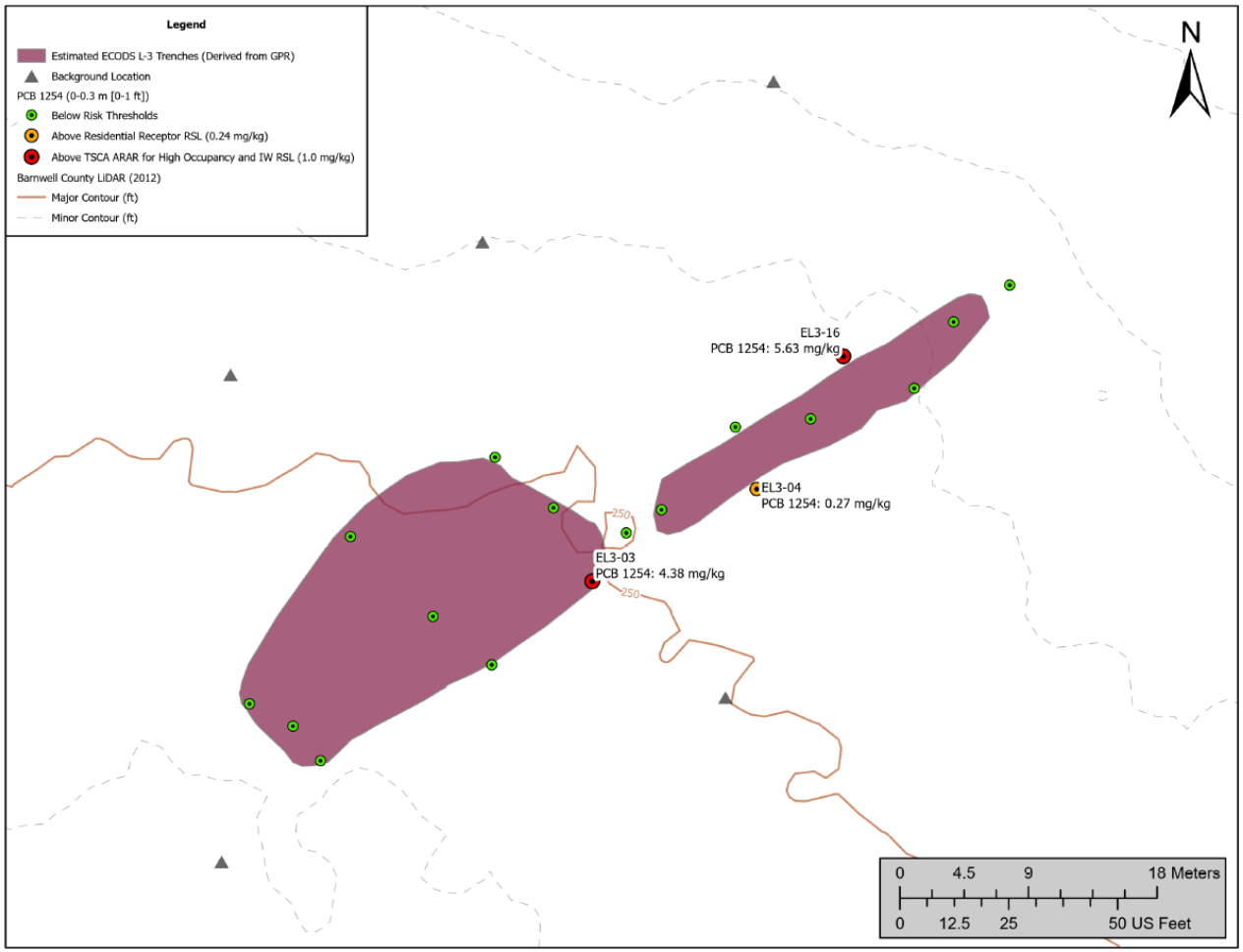

Figure CR-1. Aroclor 1254 Data for Surface Soil Media (0 to 0.3 m [0 to 1 ft]) at the ECODS L-3 Subunit

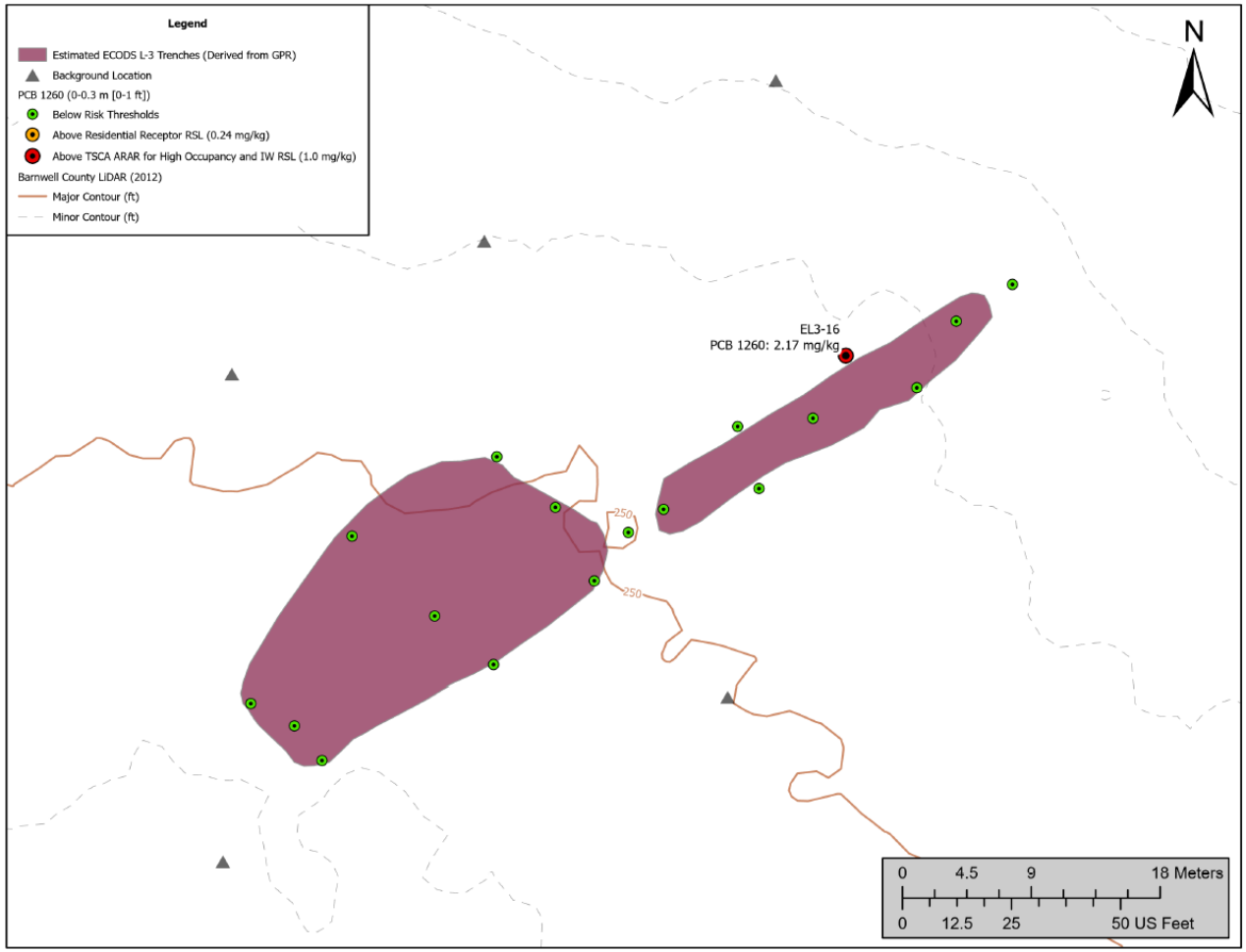

Figure CR-2. Aroclor 1260 Data for Surface Soil Media (0 to 0.3 m [0 to 1 ft]) at the ECODS L-3 Subunit

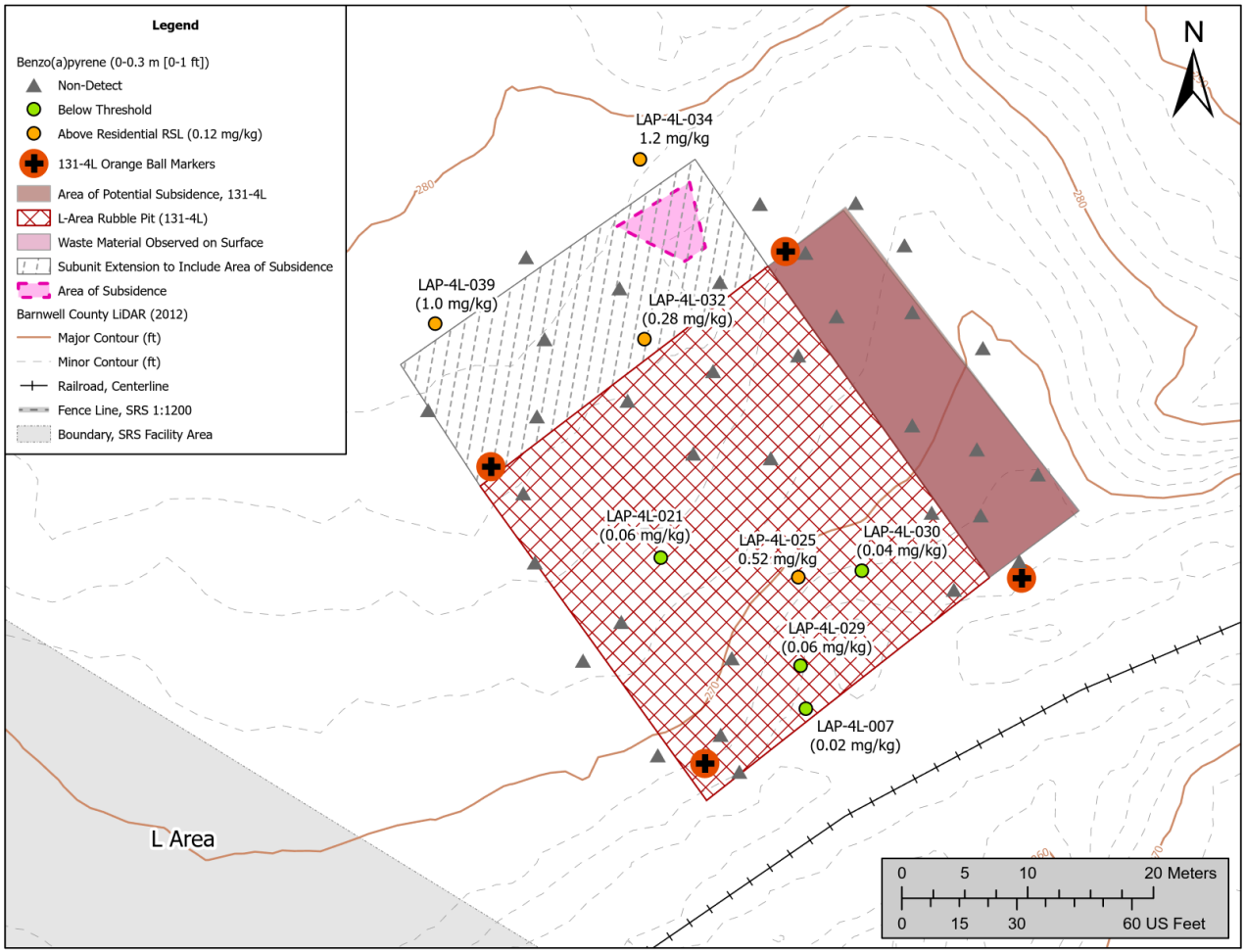

Figure CR-3. Benzo(a)pyrene Data for Surface Soil Media (0 to 0.3 m [0 to 1 ft]) at the LRP 131-4L Subunit

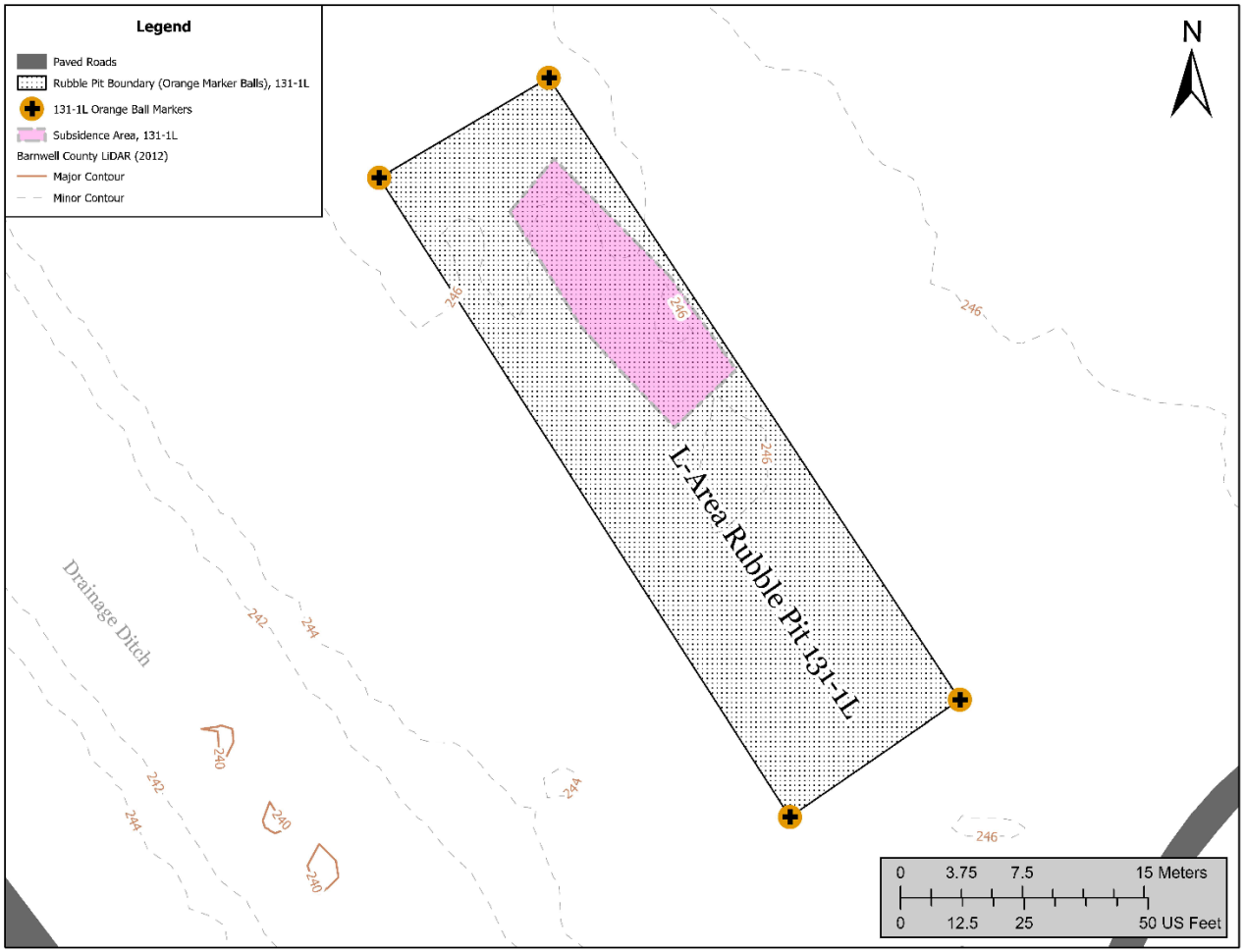

Figure CR-4. Revised Figure of L-Area Rubble Pit 131-1L Subunit Boundary

Table CR-1. Comparison of MDLs for Non-Detects to Risk-Based Screening Criteria for the LRP-131-1L Subunit

Table of MDL > RSL or PRG at L-Area Rubble Pit (131-1L)

INTERPRETED QUALIFIERS: U or UJ Qualifiers
MATRIX CODE: Soil only
LAB GROUP COMBO: ALL
SAMPLE TYPE CODE: REG Samples ONLY
START DEPTH: 0 ft
END DEPTH: 1 ft

RECORD GROUPS	ANALYTE GROUP	CHEMICAL NAME	ANALYTICAL METHOD	RSL or PRG	UNITS	MDL Min	MDL Max	# of Non-Detects	# of Results	# of MDL> RSL or PRG
Chemical	SVOCs	2,6-DINITROTOLUENE	EPA8270E	3.60E-01	mg/kg	2.70E-02	5.50E-01	21	21	6
Chemical	SVOCs	3,3-DICHLOROBENZIDINE	EPA8270E	1.20E+00	mg/kg	8.70E-02	1.80E+00	21	21	6
Chemical	SVOCs	BENZO[A]PYRENE	EPA8270E	1.10E-01	mg/kg	1.90E-02	3.90E-01	21	21	17
Chemical	SVOCs	BIS(2-CHLOROETHYL)ETHER	EPA8270E	2.30E-01	mg/kg	1.60E-02	3.30E-01	21	21	6
Chemical	SVOCs	DIBENZ[AH]ANTHRACENE	EPA8270E	1.10E-01	mg/kg	1.80E-02	3.70E-01	21	21	17
Chemical	SVOCs	DINITRO-O-CRESOL	EPA8270E	5.10E+00	mg/kg	3.20E-01	6.50E+00	21	21	6
Chemical	SVOCs	HEXACHLOROBENZENE	EPA8270E	2.10E-01	mg/kg	2.80E-02	5.70E-01	21	21	17
Chemical	SVOCs	HEXACHLOROCYCLOPENTADIENE	EPA8270E	1.80E+00	mg/kg	1.10E-01	2.20E+00	21	21	6
Chemical	SVOCs	N-NITROSODIPROPYLAMINE	EPA8270E	7.80E-02	mg/kg	6.50E-02	1.30E+00	21	21	20
Chemical	SVOCs	PENTACHLOROPHENOL	EPA8270E	1.00E+00	mg/kg	3.20E-01	6.50E+00	21	21	20
Chemical	VOCs	1,2-DIBROMO-3-CHLOROPROPANE	EPA8260D	5.30E-03	mg/kg	4.99E-04	6.24E-02	21	21	2
Chemical	VOCs	1,2-DIBROMOETHANE	EPA8260D	3.60E-02	mg/kg	3.32E-04	4.16E-02	21	21	2
Radiochemical	ALPHA SPEC	URANIUM-235	A01R	4.58E-02	pCi/g	4.55E-02	8.70E-02	4	5	3
Radiochemical	BETA SPEC	TRITIUM	EPA906.0	2.37E-01	pCi/g	4.32E-01	4.32E-01	1	1	1
Radiochemical	GAMMA SPEC	COBALT-60	GA-01-RMOD	3.30E-02	pCi/g	9.76E-02	9.76E-02	1	1	1
Radiochemical	GAMMA SPEC	EUROPIUM-154	GA-01-RMOD	4.73E-02	pCi/g	1.75E-01	1.75E-01	1	1	1

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