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Please make the above documents available to the general public for thirty (30) days beginning on September 24 and ending on October 24, 2026.

Please acknowledge receipt of the document by email to Luchelle.Abney@srs.gov. If you have any questions, please call me at (803) 952-7401 or e-mail me at the above address.

Sincerely,

Luchelle Abney

Luchelle Abney
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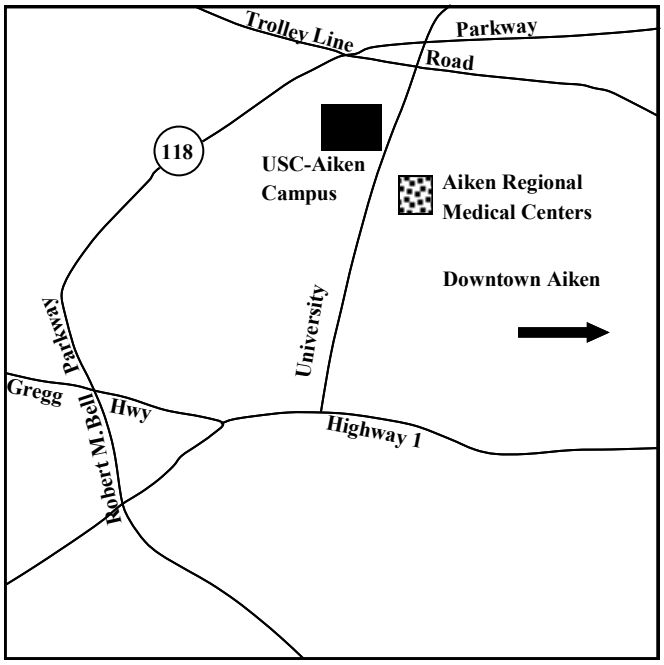
REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS FOR THE D-AREA GROUNDWATER OPERABLE UNIT PER- AND POLYFLUOROALKYL SUBSTANCES PLUME (U)

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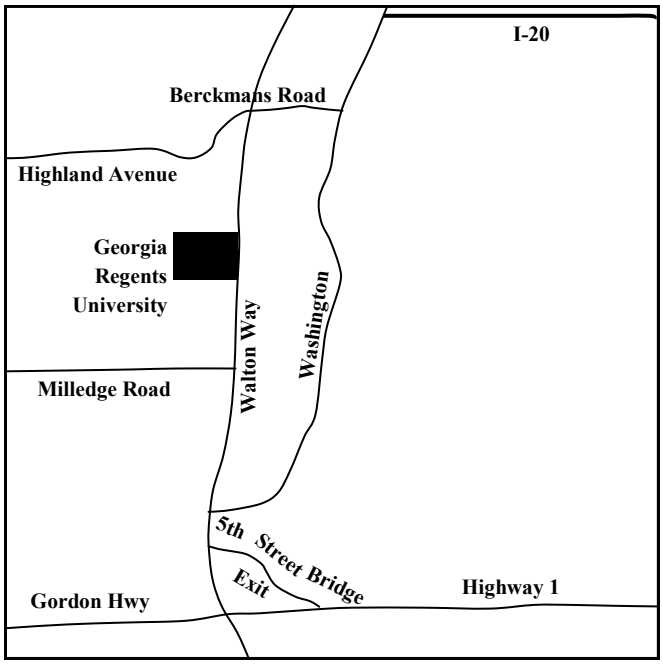
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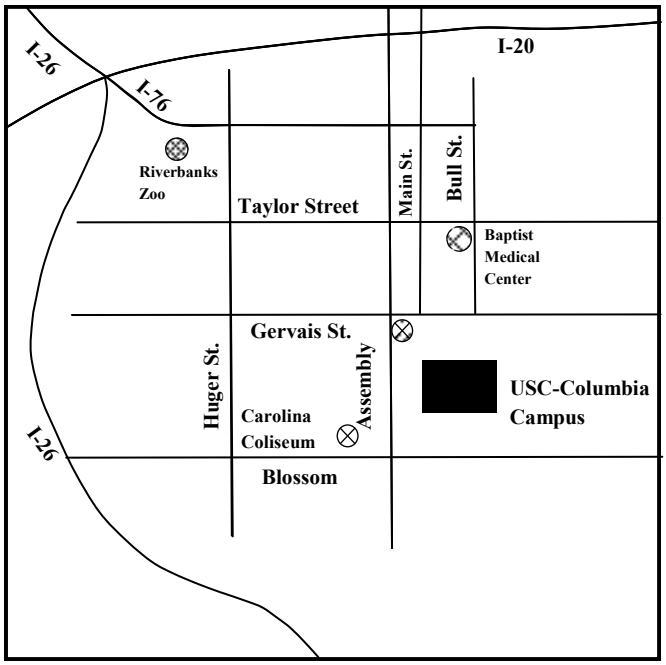
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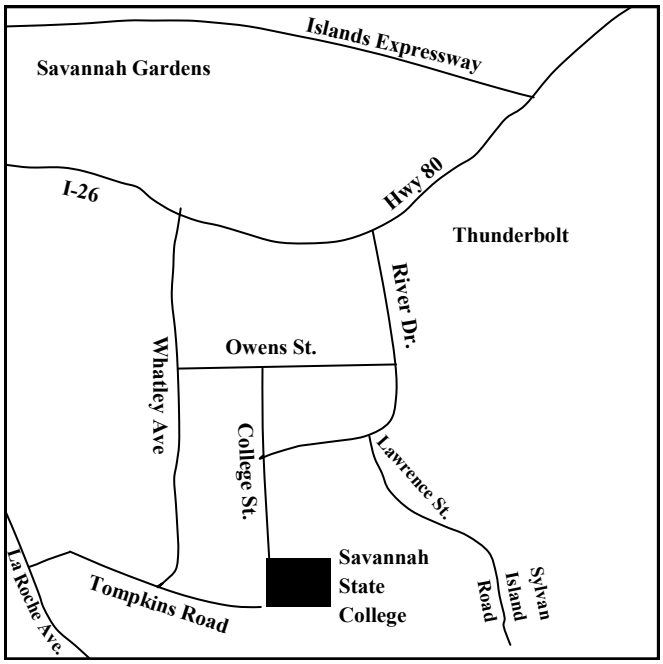
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SRS INDEX NUMBER 520

Catalog Number	Date	Document Number	Title	Author	Addressee
021908	01/01/2019	SRNS-TR-2018-00128 REV. 1 REDLINE	TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U)	SRNS	
024536	04/19/2024	SRNS-OS-2024-00113	SCDHEC APPROVAL OF THE EXTENSION REQUEST FOR THE TREATABILTY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) (U) - 2023 DATA AND INFORMATION (SRNS-TR-2024-00261, REVISION 0), SEMS NUMBER: 63	FULMER	HAMMETT
019092	07/31/2013	ACP-13-183	DOE SUBMITTAL OF THE 2012 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (SRNS-RP-2013-00346 REVISION 0 JULY 2013) CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE VAN KEISLER
021720	07/01/2018	SRNS-TR-2018-00128 REV 0	TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2018-00128, REVISION 0, JULY 2018) SEMS NUMBER: 63	SRNS	
018692	01/01/2002	WSRC-RP-2001-4288 FINAL VOLUME IV	FIELD CHARACTERIZATION REPORT FOR THE D-AREA EXPANDED OPERABLE UNIT WSRC-RP-2001-4288 FINAL VOLUME IV APPENDIX Q THROUGH APPENDIX Q.9	WSRC	
022700	05/18/2020	SRNS-OS-2020-00218	EPA APPROVAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-RP-2019-00454, REVISION 0, JULY 2019)	D. LLOYD	B. HENNESSEY
024005	12/16/2022	SRNS-OS-2022-00377	EPA APPROVAL OF THE REMOVAL ACTION REPORT FOR THE D-AREA COAL STORAGE AREA (484-17D) (SRNS-RP-2022-00071, REVISION 1, NOVEMBER 2022)	D. LLOYD	B. HENNESSEY
023753	06/01/2022	SRNS-RP-2022-00071	REMOVAL ACTION REPORT FOR THE 484-17D COAL STORAGE AREA (U) (SRNS-RP-2022-00071, REVISION 0, JUNE 2022) SEMS NUMBER: 63	SRNS	
014862	06/01/2007	WSRC-RP-2007-4025	EPA COMMENTS ON 2006 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), WSRC-RP-2007-4025, CERCLIS NUMBER: 63, DATED JUNE 2007, SAVANNAH RIVER SITE, NPL SITE, SOUTH CAROLINA	WSRC	
018682	01/01/2002	WSRC-RP-2001-4288 FINAL VOLUME III	FIELD CHARACTERIZATION REPORT FOR THE D-AREA EXPANDED OPERABLE UNIT FINAL VOLUME III APPENDIX O THROUGH APPENDIX P.2	WSRC	
021227	07/31/2017	IACD-17-149	DOE SUBMITTAL OF THE 2016 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2017-00383 REVISION 0 JULY 2017 CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
020550	01/27/2016	020550	EPA COMMENTS ON THE 2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2015-00390 REVISION 0 JULY 2015	DIEDRE LLOYD	CANDICE FREEMAN

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022145	04/15/2019	SRNS-OS-2019-00106	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO EPA'S COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2017 DATA, SEMS NUMBER: 63, IACD-18-170, DATED JULY 31, 2018	D. LLOYD	B. HENNESSEY
021802	09/25/2018	SRNS-OS-2018-00188	EPA E-MAIL APPROVAL OF THE EXTENSION REQUEST FOR THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 0) (IACD-18-183, DATED SEPTEMBER 25, 2018)	D. LLOYD	S. MCFALLS
023870	09/13/2022	IACD-22-178	DOE SUBMITTAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2021 DATA AND INFORMATION (U) (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
022150	04/29/2019	SRNS-OS-2019-00119	EPA EMAIL APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 1) (INCLUDING SAVANNAH RIVER SITE'S RESPONSES TO REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT) AND SUBSEQUENT MILESTONES FOR THE D-AREA COAL STORAGE AREA, SEMS NUMBER: 63	D. LLOYD	J. BURCH
023990	12/06/2022	IACD-23-108	DOE SUBMITTAL OF THE REMOVAL ACTION REPORT FOR THE 484-17D COAL STORAGE AREA (U) (SRNS-RP-2022-00071, REVISION 1, NOVEMBER 2022) (REDLINE AND CLEAN COPIES) AND SAVANNAH RIVER SITE'S REPONSES TO THE REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
018595	12/03/2012	ACP-13-113	DOE SUBMITTAL OF THE COMMENT RESPONSES FOR THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CY2011 DATA ACP-12-144 DATED MAY 7, 2012 CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE VAN KEISLER
017899	08/25/2011	017899	EPA APPROVAL OF EARLY ACTION LAND USE CONTROL IMPLEMENTATION PLAN (LUCIP) FOR THE D AREA OPERABLE UNIT (DAOU) (U), (SRNS-RP-2011-01166), REVISION 0, JULY 2011, CERCLIS NUMBER :63 SAVANNAH RIVER SITE (SRS) NPL SITE, SOUTH CAROLINA SC1 890 008 989	JIM BARKSDALE	B. T. HENNESSEY

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021907	01/22/2019	IACD-19-122	DOE SUBMITTAL OF THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2018-00128, REVISION 1 REDLINE, JANUARY 2019) AND SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
017256	11/19/2010	017256	SCDHEC COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT 2009 ANNUAL LETTER REPORT, CERCLIS NUMBER: 63, DATED JULY 20, 2010 AND RECEIVED JULY 22, 2010	VAN KEISLER	B. T. HENNESSEY
019255	12/10/2013	ARF-019255	EPA CONDITIONAL APPROVAL OF THE 2012 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2013-00346 JULY 2013	DIEDRE LLOYD	BRIAN T. HENNESSEY
017016	07/20/2010	ACP-10-241	DOE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT 2009 ANNUAL LETTER REPORT	BRIAN HENNESSEY	R.H. POPE/V. KEISLER
024143	03/01/2023	SRNS-RP-2023-00261	2023 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2023-00261, REVISION 0, MARCH 2023) SEMS NUMBER: 63	SRNS	
020479	11/26/2015	020479	EPA SUBMITTAL OF A THIRTY 30 DAY EXTENSION NOTIFICATION FOR THE 2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2015-00390 REVISION 0 JULY 2015 CERCLIS NUMBER 63	DIEDRE LLOYD	CANDICE FREEMAN
022240	07/01/2019	IACD-19-166	DOE SUBMITTAL FOR THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2018-00128, REVISION 1, JANUARY 2019) (CLEAN COPY) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
021968	03/07/2019	IACD-19-133	DOE SUBMITTAL LETTER OF SAVANNAH RIVER SITE'S RESPONSE TO THE REGULATORY COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2017 DATA, SEMS NUMBER: 63 (IACD-18-170, DATED JULY 31, 2018)	B. HENNESSEY	J RICHARDS
022282	08/01/2019	SRNS-J2000-2019-00585	READING ROOM LETTER FOR THE ACTION MEMORANDUM AND RESPONSIVENESS SUMMARY ISSUED FOR THE NON-TIME CRITICAL REMOVAL ACTION FOR THE D-AREA COAL STORAGE AREA (484-17D), SRNS-J2000-2019-00585	L. BARKLEY	READING ROOM
023723	05/26/2022	SRNS-OS-2022-00182	SCDHEC COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022) RECEIVED FEBRUARY 1, 2022	S. FULMER	B. HENNESSEY
015049	06/01/2007	WSRC-RP-2007-4025	2006 ANNUAL GROUNDWATER REPORT FOR THE D-AREA GROUNDWATER OU (U), WSRC-RP-2007-4025, CERCLIS NUMBER: 63, DATED JUNE 2007	WSRC	

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024258	08/01/2023	SRNS-OS-2023-00206	SCDHEC COMMENTS ON THE 2023 GROUNDWATER MONITORING REPORT FOR THE D?AREA GROUNDWATER OPERABLE UNIT (U) - 2021-2022 DATA, SEMS NUMBER: 63 (SRNS-RP- 2023-00261, REVISION 0, MARCH 2023) RECEIVED APRIL 4, 2023	S. FULMER	B. HENNESSEY
023053	01/26/2021	IACD-21-118	DOE SUBMITTAL OF THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS; S. FULMER
024039	01/11/2023	IACD-23-124	DOE SUBMITTAL OF EXTENSION REQUEST FOR THE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT (NBN) GROUNDWATER MONITORING REPORT FOR CALENDAR YEARS 2021 AND 2022, SEMS NUMBER:63	B. HENNESSEY	J. RICHARDS
023260	07/08/2021	IACD-21-148	DOE SUBMITTAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
024067	01/31/2023	SRNS-TR-2023-00009	TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2022 DATA AND INFORMATION (U) (SRNS-TR-2023-00009, REVISION 0, JANUARY 2023) SEMS NUMBER: 63	SRNS	
022335	09/05/2019	IACD-19-180	DOE SUBMITTAL OF THE SECOND EXTENSION REQUEST FOR THE SUBMITTAL OF THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
023237	06/01/2021	SRNS-RP-2019-00394	RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U)	SRNS	
020778	07/28/2016	IACD-16-156	DOE SUBMITTAL OF THE D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
022860	08/31/2020	SRNS-OS-2020-00347	EPA APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) AND SUBSEQUENT MILESTONES, SEMS NUMBER: 63	D. LLOYD	B. HENNESSEY

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024488	03/04/2024	SRNS-OS-2024-00070	SCDHEC APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE REVISION 0 RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION/REMEDIAL INVESTIGATION REPORT WITH BASELINE RISK ASSESSMENT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) AND SUBSEQUENT MILESTONES, SEMS NUMBER: 63	SUSAN FULMER	AVERY HAMMETT
022316	08/15/2019	SRNS-OS-2019-00254	EPA CLARIFICATION / CONCURRENCE LETTER FOR THE ACTION MEMORANDUM FOR THE NON-TIME CRITICAL REMOVAL ACTION FOR THE D-AREA COAL STORAGE AREA (484-17D), SEMS NUMBER: 63	D. LLOYD	B. HENNESSEY
022291	08/07/2019	ERD-EN-2019-0033	THE SAVANNAH RIVER SITE ENVIRONMENTAL BULLETIN FOR THE ACTION MEMORANDUM AND RESPONSIVENESS SUMMARY ISSUED FOR THE NON-TIME CRITICAL REMOVAL ACTION FOR THE D-AREA COAL STORAGE AREA (484-17D) (VOLUME 31, NUMBER 6, DATED AUGUST 7, 2019)	SRNS	
023565	01/01/2022	SRNS-TR-2022-00026	TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2021 DATA AND INFORMATION (U) (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022) SEMS NUMBER: 63	SRNS	
021446	03/29/2018	021446	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2016 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT U, CERCLIS NUMBER: 63 SRNS-RP-2017-00383, REVISION 0, JULY 2017 RECEIVED MARCH 2, 2018	SUSAN B. FULMER	BRIAN T. HENNESSEY
021806	09/25/2018	IACD-18-183	DOE SUBMITTAL OF EXTENSION REQUEST FOR THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 0)	B. HENNESSEY	J. RICHARDS
020900	11/21/2016	020900	SCDHEC COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA, CERCLIS NUMBER: 63, DATED JULY 28, 2016 AND RECEIVED JULY 29, 2016	SUSAN B. FULMER	BRIAN T. HENNESSEY
024576	06/03/2024	SRNS-OS-2024-00192	SCDHEC COMMENTS ON RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES), SEMS NUMBER: 63 (SRNS-RP-2024-00312, REVISION 0, APRIL 2024) RECEIVED APRIL 5, 2024	FULMER	HAMMETT
019362	03/11/2014	ACP-14-141	DOE SUBMITTAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE 2012 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT SRNS-RP-2013-00346 REVISION 0 JULY 2013 CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE VAN KEISLER

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024586	06/11/2024	SRNS-TR-2024-00261	TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) (U) 2023 DATA AND INFORMATION (SRNS-TR-2024-00261, REVISION 0, JUNE 2024) SEMS NUMBER: 63	SRNS	
021850	10/22/2018	SRNS-OS-2018-00210	EPA COMMENTS ON THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER OPERABLE UNIT, SRNS-TR-2018-00128, REVISION 0, JULY 2018	D. LLOYD	B. HENNESSEY
018681	12/01/2001	WSRC-RP-2001-4288 VOLUME II	FIELD CHARACTERIZATION REPORT FOR THE D-AREA EXPANDED OPERABLE UNIT VOLUME II REVISION 0 DRAFT DECEMBER 2001	WSRC	
022544	01/12/2020	SRNS-OS-2020-00059	EPA COMMENTS ON THE 2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT, SEMS NUMBER: 63, SRNS-RP-2019-00454, REVISION 0, JULY 2019	D. LLOYD	B. HENNESSEY
022194	06/06/2019	IACD-19-154	DOE SUBMITTAL FOR THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 1, JUNE 2019) (CLEAN COPY), SAVANNAH RIVER SITE'S RESPONSES TO REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, AND DRAFT ACTION MEMORANDUM, SEMS NUMBER: 63	B. HENNESSEY	S. FULMER
024585	06/11/2024	RDDD-24-137	DOE SUBMITTAL OF TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) (U) 2023 DATA AND INFORMATION (SRNS-TR-2024-00261, REVISION 0, JUNE 2024) SEMS NUMBER: 63	AVERY HAMMETT	SUSAN FULMER
024048	01/23/2023	SRNS-OS-2023-00020	EPA APPROVAL OF THE REQUEST FOR EXTENSION ON THE D-AREA GROUNDWATER OPERABLE UNIT GROUNDWATER MONITORING REPORT FOR CALENDAR YEARS 2021 AND 2022, SEMS NUMBER: 63	D. LLYOD	B. HENNESSEY
023126	03/23/2021	SRNS-OS-2021-00074	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2019 DATA, SEMS NUMBER: 63 (IACD-20-173, DATED JULY 29, 2020) RECEIVED FEBRUARY 24, 2021	S. FULMER	B. HENNESSEY
021166	05/24/2017	021166	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA, CERCLIS NUMBER: 63 IACD-16-156, DATED JULY 28, 2016 RECEIVED APRIL 25, 2017	SUSAN B. FULMER	BRIAN T. HENNESSEY

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023740	06/16/2022	SRNS-OS-2022-00199	EPA COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT, 2021 DATA AND INFORMATION, SEMS NUMBER: 63 (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022)	D. LLOYD	B. HENNESSEY
022356	10/01/2019	IACD-19-185	DOE SUBMITTAL OF RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) LETTER WORK PLAN IN SUPPORT OF THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
022244	06/21/2019	SRNS-OS-2019-00182	EPA APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL FOR THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER: 63	D. LLOYD	B. HENNESSEY
021016	04/24/2017	IACD-17-133	DOE SUBMITTAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA CERCLIS NUMBER 63 IACD-16-156 DATED JULY 28 2016=	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
024155	04/13/2023	SRNS-OS-2023-00107	EPA COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-TR-2023-00009, REVISION 0, JANUARY 2023)	D. LLOYD	B. HENNESSEY
022275	07/29/2019	IACD-19-173	DOE SUBMITTAL LETTER OF 2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2019-00454, REVISION 0, JULY 2019) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
023270	07/01/2021	SRNS-RP-2021-03748	2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2021-03748, REVISION 0, JULY 2021) SEMS NUMBER: 63	SRNS	
023875	09/20/2022	IACD-22-155	DOE SUBMITTAL OF THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2019-00394, REVISION 1, APRIL 2022) (CERTIFIED CLEAN COPY), SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
022454	12/12/2019	IACD-20-119	DOE SUBMITTAL LETTER FOR SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) LETTER WORK PLAN IN SUPPORT OF THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) SEMS NUMBER: 63, IACD-20-119	B. HENNESSEY	S. FULMER

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024610	07/03/2024	RDDD-24-144	DOE SUBMITTAL OF RCRA FACILITY INVESTIGATION/ REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2024-00312, REVISION 1 REDLINE, JULY 2024) AND SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	AVERY HAMMETT	SUSAN FULMER JON RICHARDS
016737	11/20/2009	016737	SCDHEC COMMENTS ON THE 2008 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SRNS-RP-2009-00596, CERCLIS NUMBER: 63, DATED JULY 2009	VAN KEISLER	B. T. HENNESSEY
023402	09/27/2021	SRNS-OS-2021-00275	EPA APPROVAL OF SAVANNAH RIVER SITE'S (SRS) RESPONSES TO THE EPA COMMENTS ON THE TREATABILITY STUDY DATA REPROT FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPEABLE UNIT, SEMS NUMBER: 63 (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021), COVER LETTER DATED JULY 8, 2021	D. LLOYD	B. HENNESSEY
023714	05/15/2022	SRNS-OS-2022-00174	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO EPA'S COMMENTS ON THE 2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-RP-2021-03748, REVISION 0, JULY 2021)	D. LLOYD	B. HENNESSEY
022226	06/14/2019	SRNS-OS-2019-00173	SCDHEC APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL FOR THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER: 63	S. FULMER	B. HENNESSEY
023197	05/12/2021	SRNS-OS-2021-00127	EPA COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021) SEMS NUMBER: 63	D. LLOYD	B. HENNESSEY
022338	09/10/2019	SRNS-OS-2019-00278	EPA APPROVAL LETTER FOR THE SECOND EXTENSION REQUEST FOR THE SUBMITTAL OF THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER: 63	D. LLOYD	B. HENNESSEY
016738	02/16/2010	ACP-10-163	DOE SUBMITTAL OF THE COMMENT RESPONSES ON THE 2008 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SRNS-RP-2009-00596, CERCLIS NUMBER: 63, DATED JULY 2009	BRIAN HENNESSEY	R.H. POPE/V. KEISLER

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024066	01/31/2023	IACD-23-128	DOE SUBMITTAL OF THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2022 DATA AND INFORMATION (U) (SRNS-TR-2023-00009, REVISION 0, JANUARY 2023) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
019890	11/24/2014	019890	SCDHEC COMMENTS ON THE D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CY2013 DATA CERCLIS NUMBER 63 DATED JULY 30 2014 AND RECEIVED JULY 31 2014	SUSAN B. FULMER	BRIAN T. HENNESSEY
023929	10/24/2022	SRNS-OS-2022-00327	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE EPA'S COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT, 2021 DATA AND INFORMATION, SEMS NUMBER: 63 (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022)	D. LLOYD	B. HENNESSEY
022066	04/03/2019	SRNS-OS-2019-00090	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2017 DATA, SEMS NUMBER: 63 (IACD-18-170, DATED JULY 31, 2018) RECEIVED MARCH 8, 2019	S. FULMER	B. HENNESSEY
023839	08/25/2022	SRNS-OS-2022-00261	SCDHEC COMMENTS ON THE REMOVAL ACTION REPORT (RAR) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U), SEMS NUMBER: 63 (SRNS-RP-2022-00071, REVISION 0, JUNE 2022) RECEIVED JUNE 29, 2022	S. FULMER	B. HENNESSEY
024311	09/19/2023	SRNS-OS-2023-00237	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2022 DATA AND INFORMATION (U), SEMS NUMBER: 63 (SRNS-TR-2023-00009, REVISION 0, JANUARY 2023) RECEIVED AUGUST 21, 2023	S. FULMER	B.HENNESSEY
021228	07/01/2017	SRNS-RP-2017-00383 REV 0	2016 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2017-00383 REVISION 0 JULY 2017	SRNS	
015460	06/12/2008	ACP-08-197	DOE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT ANNUAL LETTER REPORT, CERCLIS NUMBER: 63	BRIAN HENNESSEY	R.H. POPE/V.KEISLER
016722	07/28/2009	ACP-09-202	DOE SUBMITTAL OF THE 2008 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT, CERCLIS NUMBER: 63, (SRNS-RP-2009-00596, REVISION 0, DATED JULY 2009)	BRIAN HENNESSEY	R.H. POPE/V. KEISLER
019726	07/30/2014	ACP-14-183	DOE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CY2013 DATA, CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
024178	05/01/2023	SRNS-J2000-2023-00274	SRS SUBMITTAL OF THE FEDERAL FACILITY AGREEMENT FY 2023 MILESTONE FOR THE 488-4D ASH LANDFILL ANNUAL GROUNDWATER MONITORING REPORT SUBMITTAL, JULY 31, 2023	J. BURCH	D. LLOYD

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023708	05/12/2022	SRNS-OS-2022-00167	SCDHEC APPROVAL OF THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN FOR D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63 (SRNS-RP-2019-00394, REVISION 1 REDLINE, APRIL 2022) RECEIVED APRIL 14, 2022	S. FULMER	B. HENNESSEY
021615	05/03/2018	IACD-18-149	DEPARTMENT OF ENERGY SUBMITTAL FOR SAVANNAH RIVER SITE FEDERAL FACILITY AGREEMENT MINOR MODIFICATION FOR APPENDIX L, STATEMENTS OF DISPUTE RESOLUTION, FOR THE MILESTONE CHANGES FOR THE D-AREA GROUNDWATER OPERABLE UNIT REMOVAL ACTION TO A TREATABILITY STUDY	B. HENNESSEY	S. FULMER J. RICHARDS
024659	08/29/2024	RDDD-24-153	DOE SUBMITTAL OF RCRA FACILITY INVESTIGATION/ REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2024-00312, REVISION 1, JULY 2024) SEMS NUMBER: 63 (CERTIFIED, CLEAN COPY)	AVERY HAMMETT	SUSAN FULMER JON RICHARDS
023991	11/01/2022	SRNS-RP-2022-00071, REDLINE	REMOVAL ACTION REPORT FOR THE 484-17D COAL STORAGE AREA (U) (SRNS-RP-2022-00071, REVISION 1, NOVEMBER 2022) (REDLINE), SEMS NUMBER: 63	SRNS	
018680	01/01/2002	WSRC-RP-2001-4288 FINAL VOLUME I	FIELD CHARACTERIZATION REPORT FOR THE D-AREA EXPANDED OPERABLE UNIT WSRC-RP-2001-4288 FINAL VOLUME 1 TEXT THROUGH APPENDIX E	WSRC	
015050	07/12/2007	015050	SCDHEC APPROVAL OF THE 2006 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), CERCLIS NUMBER: 62, WSRC-RP-2007-4025, DATED MAY 31, 2007	DONALD SIRON	B. T. HENNESSEY
022213	06/13/2019	ERD-EN-2019-0023	THE SAVANNAH RIVER SITE ENVIRONMENTAL BULLETIN FOR THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U) AVAILABLE FOR PUBLIC COMMENT AND THE U.S. DEPARTMENT OF THE NAVY ANNOUNCES THE INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR DISPOSAL OF DECOMMISSIONED, DEFUELED EX-ENTERPRISE (VN-65) AND IT'S ASSOCIATED NAVAL REACTOR PLANTS AND TO ANNOUNCE PUBLIC SCOPING MEETINGS (VOLUME 31, NUMBER 2, DATED JUNE 13, 2019)	SRNS	
022580	02/04/2020	IACD-20-131	DOE SUBMITTAL FOR THE NOTIFICATION OF THE FIELD START FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
024349	11/02/2023	RDDD-24-105	DOE SUBMITTAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2023 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2023-00261, REVISION 0, MARCH 2023) SEMS NUMBER: 63	AVERY HAMMETT	SUSAN FULMER / JON RICHARDS

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022430	11/25/2019	SRNS-OS-2019-00377	SCDHEC COMMENTS ON THE 2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-RP-2019-00454, REVISION 0, JULY 2019) RECEIVED JULY 30, 2019	S. FULMER	B. HENNESSEY
018693	01/01/2002	WSRC-RP-2001-4288 FINAL VOLUME V	FIELD CHARACTERIZATION REPORT FOR THE D-AREA EXPANDED OPERABLE UNIT WSRC-RP-2001-4288 FINAL VOLUME V APPENDIX R THROUGH APPENDIX S	WSRC	
021874	11/27/2018	SRNS-OS-2018-00249	SCDHEC COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2017 DATA, SEMS NUMBER: 63 DATED JULY 31, 2018 AND RECEIVED AUGUST 1, 2018	S. FULMER	B. HENNESSEY
021724	07/31/2018	IACD-18-170	DOE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2017 DATA SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
023913	10/12/2022	SRNS-OS-2022-00320	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT (OU) 2021 DATA AND INFORMATION (U), SEMS NUMBER: 63 (SRNS-TR-2022-00026, REVISION 0, JANUARY 2022) RECEIVED SEPTEMBER 13, 2022	S. FULMER	B. HENNESSEY
023716	05/16/2022	SRNS-OS-2022-00176	EPA APPROVAL OF THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN FOR D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63 (SRNS-RP-2019-00394, REVISION 1 REDLINE, APRIL 2022) AND SAVANNAH RIVER SITE'S RESPONSES TO EPA'S COMMENTS ON THE REVISION 0 DOCUMENT	D. LLOYD	B. HENNESSEY
021325	12/02/2017	021325	EPA COMMENTS ON THE 2016 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER: 63 SRNS-RP-2017-00383, REVISION 0 JULY 2017	DIEDRE LLOYD	BRIAN T. HENNESSEY
023752	06/28/2022	IACD-22-152	DOE SUBMITTAL OF THE REMOVAL ACTION REPORT FOR THE 484-17D COAL STORAGE AREA (U) (SRNS-RP-2022-00071, REVISION 0, JUNE 2022) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
021172	05/30/2017	021172	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS FOR THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA, CERCLIS NUMBER: 63 IACD-16-156, DATED JULY 28, 2016	DIEDRE LLOYD	BRIAN HENNESSEY
024516	04/04/2024	RDDD-24-130	DOE SUBMITTAL OF RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2024-00312, REVISION 0, APRIL 2024) SEMS NUMBER: 63	AVERY HAMMETT	SUSAN FULMER JON RICHARDS
022270	07/24/2019	IACD-19-174	DOE SUBMITTAL OF THE ACTION MEMORANDUM AND RESPONSIVENESS SUMMARY FOR THE NON-TIME CRITICAL REMOVAL ACTION FOR THE D-AREA COAL STORAGE AREA (484-17D), SEMS NUMBER: 63 (IACD-19-174 , DATED JULY 24, 2019)	B. HENNESSEY	J. RICHARDS

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024643	08/01/2024	SRNS-OS-2024-00370	SCDES APPROVAL OF THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63 (SRNS-RP-2024-00312, REVISION 1 REDLINE, JULY 2024) RECEIVED JULY 9, 2024	SUSAN B. FULMER/HEATHE	AVERY G . HAMMETT
021667	03/07/2018	021667	SAVANNAH RIVER SITE (SRS) RESPONSES TO THE ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON DEPARTMENT OF ENERGY-SRS WHITE PAPER REMEDIATION OF THE ACIDIC GROUNDWATER IMPACTING THE DISCHARGE CANAL IN D AREA (ERD-EN-2018-0021, DATED APRIL 11, 2018)	SRNS	
020351	07/30/2015	SRNS-RP-2015-00390 REV 0	2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2015-00390 REVISION 0 PUBLICATION DATE JULY 2015	SRNS	
022339	09/06/2019	SRNS-OS-2019-00276	SCDHEC APPROVAL LETTER FOR THE SECOND EXTENSION REQUEST FOR THE SUBMITTAL OF THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER 63	S. FULMER	B. HENNESSEY
021923	01/24/2019	SRNS-OS-2019-00018	SCDHEC COMMENTS ON THE REMOVAL SITE EVALUATION REPORT / ENGINEERING EVALUATION / COST ANALYSIS (RSER/EE/CA) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U), SEMS NUMBER: 63 (SRNS-RP-2018-00813, REVISION 0, NOVEMBER 2018) RECEIVED NOVEMBER 29, 2018	S. FULMER	B. HENNESSEY
022224	05/28/2019	SRNS-OS-2019-00181	EPA EMAILED COMMENTS ON THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2018-00128, REVISION 1 REDLINE)	D. LLOYD	B. HENNESSEY
015051	07/23/2007	015051	EPA COMMENTS ON THE 2006 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), CERCLIS NUMBER: 62, WSRC-RP-2007-4025, DATED JUNE, 2007, SAVANNAH RIVER SITE, NPL SITE, SOUTH CAROLINA	JIM BARKSDALE	B. T. HENNESSEY
020350	07/30/2015	IACD-15-167	DOE SUBMITTAL OF THE 2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2015-00390 REVISION 0 JULY 2015 CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
023609	03/02/2022	IACD-22-133	DOE SUBMITTAL OF THE THIRTY (30)-DAY EXTENSION NOTIFICATION FOR THE RCRA FACILITY / REMEDIAL INVESTIGATION WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2019-00394, REVISION 1) AND SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS

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024486	03/04/2024	RDDD-24-124	DOE SUBMITTAL OF EXTENSION REQUEST FOR THE SUBMITTAL OF THE REVISION 0 RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION/REMEDIAL INVESTIGATION REPORT WITH BASELINE RISK ASSESSMENT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) AND SUBSEQUENT MILESTONES, SEMS NUMBER: 63	AVERY HAMMETT	SUSAN FULMER JON RICHARDS
024347	10/26/2023	SRNS-J2000-2023-00713	SRNS SUBMITTAL OF THE NOTIFICATION OF THE CHANGE IN THE SUBMITTAL DATE OF THE D-AREA GROUNDWATER OPERABLE UNIT TREATABILITY STUDY DATA REPORT	SRNS	
011379	08/01/2004	WSRC-RP-2004-4096, REV.0	TREATABILITY STUDY FINAL REPORT FOR THE MONITORED NATURAL ATTENUATION OF INORGANIC CONTAMINANTS - CERCLIS NO. 63 - (WSRC-RP-2004-4096, REV.0) DATED AUGUST 2004	WSRC	
024611	07/03/2024	SRNS-RP-2024-00312	RCRA FACILITY INVESTIGATION/ REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2024-00312, REVISION 1 REDLINE, JULY 2024)	SRNS	
022820	07/29/2020	IACD-20-173	DOE SUBMITTAL OF THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2019 DATA, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
017848	07/28/2011	ACP-11-222	DOE SUBMITTAL OF THE 2010 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (SRNS-RP-2011-01154, JULY 2011), CERCLIS NUMBER: 63	B.T .HENNESSEY	R. H. POPE/V. KEISLER
023890	09/28/2022	SRNS-OS-2022-00303	EPA COMMENTS ON THE REMOVAL ACTION REPORT FOR THE D-AREA COAL STORAGE AREA {484-17D} (U}, SEMS NUMBER: 63 (SRNS-RP-2022-00071, REVISION 0, JUNE 2022)	D. LLOYD	B. HENNESSEY
023284	08/05/2021	SRNS-OS-2021-00211	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021) RECEIVED JULY 9, 2021	S. FULMER	B. HENNESSEY
021962	03/04/2019	SRNS-OS-2019-00055	EPA SUBMITTAL OF COMMENTS ON THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17-D) (SRNS-RP-2018-00813, REVISION 0, NOVEMBER 2018)	D. LLOYD	B. HENNESSEY
022225	06/03/2019	SRNS-J2000-2019-00456	SRS RESPONSE TO EPA EMAILED COMMENTS ON THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2018-00128, REVISION 1 REDLINE)	J. BURCH	D. LLOYD

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022556	01/07/2020	SRNS-OS-2020-00044	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) LETTER TO WORK PLAN IN SUPPORT OF THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCE), SEMS NUMBER: 63 (IACD-19-185 AND IACD-20-119) RECEIVED DECEMBER 12, 2019	S. FULMER	B. HENNESSEY
023523	01/05/2022	SRNS-OS-2022-00011	EPA COMMENTS ON THE 2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT, SEMS NUMBER: 63 (SRNS-RP-2021-03748, REVISION 0, JULY 2021)	D. LLOYD	B. HENNESSEY
023131	03/25/2021	SRNS-OS-2021-00078	SCDHEC APPROVAL OF THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEAUTRALIZATION AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2021-00005, REVISION 0, JANUARY 2021) RECEIVED JANUARY 27, 2021	S. FULMER	B. HENNESSSEY
023509	12/16/2021	SRNS-OS-2021-00354	EPA COMMENTS ON THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63, SRNS-RP-2019-00394, REVISION 0, DATED JUNE 2021 SAVANNAH RIVER SITE AIKEN, SC	J. RICHARDS	B. HENNESSEY
022643	04/08/2020	IACD-20-143	DOE SUBMITTAL LETTER FOR THE EXTENSION REQUEST FOR THE REMOVAL ACTION START OF THE D-AREA COAL STORAGE AREA (484-17D) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS; S. FULMER
023238	04/01/2021	ERD-EN-2019-0022	SRNS SCOPING SUMMARY FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (RFI/RI WORK PLAN CHARACTERIZATION)	SRNS	
021995	03/28/2019	IACD-19-136	DOE SUBMITTAL LETTER FOR THE THIRTY-DAY EXTENSION NOTIFICATION FOR THE REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 1), SAVANNAH RIVER SITE'S RESPONSES TO REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
024575	05/31/2024	SRNS-OS-2024-00190	EPA COMMENTS ON RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63, (SRNS-RP-2024-00312) REVISION 0, DATED APRIL 2024 (RFI/RI WP)	MARTIN	HAMMETT
021807	09/19/2018	SRNS-OS-2018-00183	SCDHEC COMMENTS ON THE TREATABILITY STUDY WORK PLAN FOR THE GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2018-00128, REVISION 0, JULY 2018) RECEIVED JULY 26, 2018	S. FULMER	B. HENNESSEY
024031	01/05/2023	SRNS-OS-2023-00006	SCDHEC APPROVAL OF THE REMOVAL ACTION REPORT FOR THE 484-17D COAL STORAGE AREA (U), SEMS NUMBER: 63 (SRNS-RP-2022-00071, REVISION 1, NOVEMBER 2022) RECEIVED DECEMBER 8, 2022	S. FULMER	B. HENNESSEY

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023682	05/04/2022	SRNS-OS-2022-00161	SCDHEC CONDITIONAL APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO COMMENTS ON THE 2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-RP-2021-03748, REVISION 0, JULY 2021) RECEIVED APRIL 6, 2022	S. FULMER	B. HENNESSEY
020737	06/16/2016	020737	EPA CONDITIONAL APPROVAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE 2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2015-00390 REVISION 0 JULY 2015 CERCLIS NUMBER 63	DIEDRE LLOYD	BRIAN T. HENNESSEY
020959	01/22/2017	020959	EPA COMMENTS ON THE D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA CERCLIS NUMBER 63 IACD-16-156 DATED JULY 28 2016	DIEDRE LLOYD	BRIAN T. HENNESSEY
023170	04/26/2021	SRNS-OS-2021-00103	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO COMMENTS ON THE D-AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2019 DATA, SEMS NUMBER: 63 (IACD-20-173, DATED JULY 29, 2020)	D. LLOYD	B. HENNESSEY
024181	05/09/2023	SRNS-OS-2023-00130	EPA CONCURRENCE OF THE FEDERAL FACILITY AGREEMENT FY 2023 MILESTONE FOR THE 488-4D ASH LANDFILL ANNUAL GROUNDWATER MONITORING REPORT SUBMITTAL JULY 31, 2023	D. LLOYD	H. CATHCART
021868	11/28/2018	IACD-18-177	DOE SUBMITTAL OF REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 0, NOVEMBER 2018)	B. HENNESSEY	J. RICHARDS
022705	05/07/2020	SRNS-OS-2020-00208	SCDHEC APPROVAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER: 63 (SRNS-RP-2019-00454, REVISION 0, JULY 2019) RECEIVED APRIL 8, 2020	S. FULMER	B. HENNESSEY
021719	07/24/2018	IACD-18-167	DOE SUBMITTAL OF THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2018-00128, REVISION 0, JULY 2018) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
021668	06/05/2018	021668	EPA APPROVAL OF THE DEPARTMENT OF ENERGY SAVANNAH RIVER SITE WHITE PAPER ON REMEDIATION OF THE ACIDIC GROUNDWATER IMPACTING THE DISCHARGE CANAL IN D-AREA	D. Lloyd	B. Hennessey
014861	10/10/2007	ACP-08-102	DOE SUBMITTAL OF THE COMMENT RESPONSES ON THE 2006 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT, (WSRC-RP-2007-4025), CERCLIS NUMBER: 63, DATED JUNE 2007	BRIAN HENNESSEY	R.H. POPE/D.L. SIRON

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020909	11/28/2016	020909	EPA SUBMITTAL OF A THIRTY 30 DAY EXTENSION NOTIFICATION FOR THE 2015 D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CALENDAR YEAR 2015 DATA CERCLIS NUMBER 63	DIEDRE LLOYD	BRIAN T. HENNESSEY
022276	07/01/2019	SRNS-RP-2019-00454	2018 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2019-00454, REVISION 0, JULY 2019) SEMS NUMBER: 63	SRNS	
024278	08/21/2023	RDDD-23-024	DOE SUBMITTAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER OPERABLE UNIT(OU) 2022 DATA AND INFORMATION (U) (SRNS-TR-2023-00009, REVESION 0, JANUARY 2023) SEMS NUMBER:63	B. HENNESSEY	S.FULMER
017248	11/15/2010	017248	EPA COMMENT ON THE D-AREA GROUNDWATER OPERABLE UNIT 2009 ANNUAL LETTER REPORT, CERCLIS NUMBER 63, SAVANNAH RIVER SITE, NPL SITE, SOUTH CAROLINA, SC1 890 008 989	JIM BARKSDALE	B. T. HENNESSEY
023519	01/03/2022	SRNS-OS-2022-00006	EPA REVISED COMMENTS ON THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U), SEMS NUMBER: 63, SRNS-RP-2019-00394, REVISION 0, DATED JUNE 2021	D. LLOYD	B. HENNESSEY
023662	04/13/2022	IACD-22-138	DOE SUBMITTAL FOR THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2019-00394, REVISION 1 REDLINE, APRIL 2022) AND SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE REVISION 0 DOCUMENT, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS. S. FULMER
023054	01/01/2021	SRNS-TR-2021-00005	TREATABILITY STUDY DATA REPORT FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT THE D-AREA GROUNDWATER (OU) (U) SRNS-TR-2021-00005	SRNS	
023653	04/04/2022	IACD-22-136	DOE SUBMITTAL OF SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2021-03748, REVISION 0, JULY 2021) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
022438	11/06/2019	SRNS-OS-2019-00353	EPA APPROVAL OF THE RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI) LETTER WORK PLAN IN SUPPORT OF THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES), SEMS #: 63 (IACD-19-185, DATED OCTOBER 01, 2019	D. LLOYD	B. HENNESSEY
018080	01/27/2012	ACP-12-126	DOE SUBMITTAL OF THE COMMENT RESPONSES ON THE 2010 ANNUAL GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT, CERCLIS NUMBER: 63	B. T. HENNESSEY	R. POPE/V. KEISLER

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023065	02/03/2021	IACD-21-122	DOE SUBMITTAL OF THE NOTIFICATION OF THE COMPLETION OF CONSTRUCTION ACTIVITIES FOR THE NON-TIME CRITICAL REMOVAL ACTION FOR THE D-AREA COAL STORAGE AREA (484-17D) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
021413	08/01/2018	ERD-EN-2018-0041	SCOPING SUMMARY FOR THE D-AREA COAL STORAGE AREA (484-17D) (ERD-EN-2018-0041, AUGUST 2018) SEMS NUMBER: 63	SRNS	DISTRIBUTION
021433	03/01/2018	IACD-18-137	DOE SUBMITTAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE 2016 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2017-00383 REVISION 0 JULY 2017 CERCLIS NUMBER: 63	BRIAN T. HENNESSEY	JON RICHARDS SUSAN B. FULMER
020690	04/26/2016	IACD-16-134	DOE SUBMITTAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE 2014 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U SRNS-RP-2015-00390 REVISION 0 JULY 2015 CERCLIS NUMBER 63	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
023269	08/02/2021	IACD-21-150	DOE SUBMITTAL OF THE 2020 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) (SRNS-RP-2021-03748, REVISION 0, JULY 2021) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
022195	06/01/2019	SRNS-RP-2018-00813	REMOVAL SITE EVALUATION REPORT / ENGINEERING EVALUATION / COST ANALYSIS (RSER/EE/CA) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U)	SRNS	
022403	10/30/2019	SRNS-OS-2019-00337	SCDHEC COMMENTS ON THE RCRA FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) LETTER WORK PLAN IN SUPPORT OF THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES), SEMS NUMBER: 63 (IACD-19-185, DATED OCTOBER 1, 2019) RECEIVED OCTOBER 3, 2019	S. FULMER	B. HENNESSEY
021651	05/23/2018	021651	EPA APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2016 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), CERCLIS NUMBER: 63, SRNS-RP-2017-00383, REVISION 0, JULY 2017	D. Lloyd	B. Hennessey
021869	11/01/2018	SRNS-RP-2018-00813	REMOVAL SITE EVALUATION REPORT / ENGINEERING EVALUATION / COST ANALYSIS (RSER/EE/CA) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U) (SRNS-RP-2018-00813, REVISION 0, NOVEMBER 2018) SEMS NUMBER: 63	SRNS	
023840	08/25/2022	SRNS-OS-2022-00262	EPA SUBMITTAL OF THIRTY (30} DAY EXTENSION NOTIFICATION FOR SUBMITTAL OF COMMENTS ON THE REMOVAL ACTION REPORT (RAR) FOR THE D-AREA COAL STORAGE AREA (484-17D) (U), SEMS NUMBER: 63 (SRNS-RP-2022-00071, REVISION 0, JUNE 2022) RECEIVED JUNE 29, 2022	D. LLOYD	B. HENNESSEY

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024387	12/04/2023	SRNS-OS-2023-00352	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITE'S RESPONSES TO THE REGULATORY COMMENTS ON THE 2023 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U), SEMS NUMBER:63 (SRNS-RP-2023-00261, REVISION 0, MARCH 2023) RECEIVED NOVEMBER 3, 2023	SUSAN FULMER	AVERY HAMMETT
021474	03/01/2018	SRNS-J2000-2018-00131 REV. 0	DOE E-MAIL TO SCDHEC AND EPA REGARDING D AREA GROUNDWATER, INCLUDING WHITE PAPER ON THE REMEDIATION OF THE ACIDIC GROUNDWATER IMPACTING THE DISCHARGE CANAL IN D AREA SRNS-J2000-2018-00131	BRIAN T. HENNESSEY	SUSAN B. FULMER DIEDRE LLOYD
020428	11/23/2015	020428	SCDHEC COMMENTS ON THE 2014 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2015-00390 REVISION 0 JULY 2015 RECEIVED JULY 30 2015	SUSAN B. FULMER	CANDICE O. FREEMAN
020060	03/02/2015	IACD-15-133	DOE SUBMITTAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE D AREA GROUNDWATER OPERABLE UNIT LETTER REPORT FOR CY2013 DATA CERCLIS NUMBER 63 ACP-14-183 DATED JULY 30 2014	BRIAN T. HENNESSEY	ROBERT H. POPE SUSAN B. FULMER
022647	04/08/2020	SRNS-OS-2020-00173	SCDHEC APPROVAL OF THE EXTENSION REQUEST FOR THE REMOVAL ACTION START OF THE D-AREA COAL STORAGE AREA (484-17D), SEMS NUMBER: 63	S. FULMER	B. HENNESSEY
022212	06/12/2019	IACD-19-160	DOE SUBMITTAL LETTER FOR THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (SRNS-RP-2019-00394, REVISION 0) SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS
019093	07/01/2013	SRNS-RP-2013-00346 REV 0	2012 GROUNDWATER MONITORING REPORT FOR THE D-AREA GROUNDWATER OPERABLE UNIT (U) CERCLIS NUMBER 63 SRNS-RP-2013-00346 REVISION 0 JULY 2013	SRNS	
023008	12/04/2020	SRNS-OS-2020-00457	EPA CONDITIONAL APPROVAL OF THE D-AREA GROUNDWATER REPORT FOR CALENDAR YEAR 2019 DATA, SEMS NUMBER: 63 (IACD-20-173, DATED JULY 29, 2020)	D. LLOYD	B. HENNESSEY
022190	06/03/2019	SRNS-OS-2019-00166	EPA CONDITIONAL APPROVAL OF THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2018-00128, REVISION 1 REDLINE, JANUARY 2019)	D. LLOYD	B. HENNESSEY
019404	04/10/2014	019404	SCDHEC APPROVAL OF THE SAVANNAH RIVER SITES RESPONSES TO THE REGULATORY COMMENTS ON THE 2012 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT SRNS-RP-2013-00346 REVISION 0 JULY 2013 DATED MARCH 11 2014 AND RECEIVED MARCH 12 2014	SUSAN B. FULMER	BRIAN T. HENNESSEY

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022596	02/18/2020	SRNS-J2600-2020-00064	SRS EMAIL RESPONSE: 484-17D COAL YARD STABILIZATION COVER MODIFICATION (SRNS-J2600-2020-00064)	J. BURCH	L. DIEDRE
024179	05/01/2023	SRNS-OS-2023-00121	SCDHEC CONCURRENCE OF THE FEDERAL FACILITY AGREEMENT FY 2023 MILESTONE FOR THE 488-4D ASH LANDFILL ANNUAL GROUNDWATER MONITORING REPORT SUBMITTAL, JULY 31, 2023	H. CATHCART	J. BURCH
024517	04/04/2024	SRNS-RP-2024-00312	RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION WORK PLAN ADDENDUM FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) (U) (SRNS-RP-2024-00312, REVISION 0, APRIL 2024) SEMS NUMBER: 63	SRNS	
019240	11/25/2013	019240	SCDHEC COMMENTS ON THE 2012 GROUNDWATER MONITORING REPORT FOR THE D AREA GROUNDWATER OPERABLE UNIT U CERCLIS NUMBER 63 SRNS-RP-2013-00346 JULY 2013 RECEIVED AUGUST 1 2013	VAN KEISLER	BRIAN T. HENNESEEY
022846	08/27/2020	IACD-20-178	DOE SUBMITTAL LETTER FOR THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNIT (D-AREA UPGRADIENT SOURCES) AND SUBSEQUENT MILESTONES, SEMS NUMBER: 63	B. HENNESSEY	J. RICHARDS; S. FULMER
022241	01/01/2019	SRNS-TR-2018-00128, REV. 1	TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U) (SRNS-TR-2018-00128, REVISION 1, JANUARY 2019) (CLEAN COPY) SEMS NUMBER: 63	SRNS	
022876	08/31/2020	SRNS-OS-2020-00346	SCDHEC APPROVAL OF THE EXTENSION REQUEST FOR THE SUBMITTAL OF THE RESOURCE CONVSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION / REMEDIAL INVESTIGATION / (RFI/RI) WORK PLAN FOR THE D-AREA GROUNDWATER OPERABLE UNITE (D-AREA UPGRADIENT SOURCES) AND SUBSEQUENT MILESTONES, SEMS NUMBER: 63	S. FULMER	B. HENNESSEY
022236	06/06/2019	SRNS-J2000-2019-00404	READING ROOM - REMOVAL SITE EVALUATION REPORT / ENGINEERING EVALUATION / COST ANALYSIS (RSER/EE/CA) FOR D-AREA COAL STORAGE AREA (484-17D) (U)	L. BARKLEY	READING ROOM
021951	02/20/2019	SRNS-OS-2019-00038	SCDHEC CONDITIONAL APPROVAL OF THE TREATABILITY STUDY WORK PLAN FOR GROUNDWATER INJECTION AND DISCHARGE CANAL TREATMENT AT THE D-AREA GROUNDWATER (OU) (U), SEMS NUMBER: 63 (SRNS-TR-2018-00128, REVISION 1 REDLINE, JANUARY 2019) RECEIVED JANUARY 23, 2019	S. FULMER	B. HENNESSEY

Savannah River NUCLEAR SOLUTIONS℠

Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis for the D-Area Groundwater Operable Unit Per- and Polyfluoroalkyl Substances Plume (U)

SEMS Number: 63

SRNS-RP-2025-01764

Revision 1

June 2026

SAVANNAH RIVER SITE • AIKEN, SOUTH CAROLINA

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Savannah River Nuclear Solutions, LLC
Aiken, South Carolina

EXECUTIVE SUMMARY

The United States Department of Energy is proposing to perform a non-time critical removal action for the per- and polyfluoroalkyl substances plume in the Upper Three Runs Aquifer of the D-Area Groundwater Operable Unit. This Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis presents and evaluates non-time critical removal action alternatives developed to address high concentrations of per- and polyfluoroalkyl substances in the D-Area Groundwater Operable Unit and has been developed to combine the reporting requirements of 40 Code of Federal Regulations § 300.410 "Removal Site Evaluation" and 40 Code of Federal Regulations § 300.415 "Removal Action".

Groundwater in the D-Area Groundwater Operable Unit is contaminated with several per- and polyfluoroalkyl substances compounds which exceed United States Environmental Protection Agency promulgated maximum contaminant levels. The per- and polyfluoroalkyl substances plumes are comingled with trichloroethylene, tritium, metals, and low-pH plumes. Per- and polyfluoroalkyl substance plumes originate in the northeast portion of D Area, where known use of aqueous film forming foam containing per- and polyfluoroalkyl substances took place. The per- and polyfluoroalkyl substance plumes are migrating southwest through the Upper Three Runs Aquifer toward the Savannah River wetlands. A non-time critical removal action is warranted in the groundwater to reduce the concentrations of per- and polyfluoroalkyl substances migrating toward the Savannah River wetlands. The elevated levels of per- and polyfluoroalkyl substances in the groundwater meet the criteria in 40 Code of Federal Regulations § 300.415(b) (2) (i): "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."

The removal action objective for the non-time critical removal action is to reduce regulated per- and polyfluoroalkyl substances (those with maximum contaminant levels) concentrations in monitoring wells within or immediately downgradient of the treatment zone by 90% compared to upgradient monitoring wells. Four alternatives were considered in this Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis to reduce the concentrations of per- and polyfluoroalkyl substances in the Upper Three Runs Aquifer. The alternatives evaluated include the following:

- Alternative 1 – No Action
- Alternative 2a – In-situ Permeable Adsorptive Barrier (Colloidal Activated Carbon Injections)
- Alternative 2b - In-situ Permeable Adsorptive Barrier (Granular Activated Carbon Trench)
- Alternative 3 – Pump and Treat

Guidance on conducting non-time critical removal actions under the Comprehensive Environmental Response, Compensation, and Liability Act recommends each alternative be reviewed against three broad categories: effectiveness, implementability, and cost. Acceptancy of the alternatives is qualitatively scored, based on community acceptance, regulator acceptance, and the ability of the alternative to reduce risk to downgradient receptors.

The table below summarizes the results from the alternative evaluation.

	Effectiveness	Implementability	Cost*	Acceptance
Alternative 1 No Action	Low	High	$0	Low
Alternative 2a In-situ PAB (CAC Injections)	Medium	High	$15.59M	High
Alternative 2b In-situ PAB (GAC Trench)	Medium	Medium	$40.17M	High
Alternative 3 Pump and Treat	High	Medium	$24.27M	High

Note: Range is Low to High, where Low = worst and High = best.
PAB – permeable adsorptive barrier; CAC – colloidal activated carbon; GAC – granular activated carbon
*Million (M)

The preferred action is Alternative 2a, Permeable Adsorptive Barrier (Colloidal Activated Carbon Injections). This alternative proposes injections of colloidal activated carbon into the aquifer which will coat the aquifer matrix in the adsorptive substance forming a subsurface barrier wall. The subsurface barrier wall will passively sequester per- and polyfluoroalkyl substances molecules to

the colloidal activated carbon particles placed in the path of contaminant flow. This will reduce downgradient migration of the highest concentration portion of the per- and polyfluoroalkyl substances plume by capturing it on the adsorptive particles. Eventually the treated water, coming out of the permeable adsorptive barrier, will move downgradient and flush out the downstream aquifer leading to a decrease in groundwater per- and polyfluoroalkyl substances concentrations, achieving applicable or relevant and appropriate requirements.

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LIST OF ACRONYMS AND ABBREVIATIONS

~	approximate, approximately
1Q	first quarter
4Q	fourth quarter
AFFF	aqueous film forming foam
ARAR	applicable or relevant and appropriate requirements
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylene
CAC	colloidal activated carbon
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPRB	Coal Pile Runoff Basin
CPT	cone penetrometer testing
CRMP	Cultural Resource Management Plan
DAG	D-Area Groundwater
DAOU	D-Area Operable Unit
DCSA	D-Area Coal Storage Area
DEXOU	D-Area Expanded Operable Unit
DHWF	D-Area Heavy Water Facility
DHWRF	D-Area Heavy Water Rework Facility
FFTA	Fire Fighting Training Area
ft	feet
GA	Gordon Aquifer
GAC	granulated activated carbon
GCU	Gordon Confining Unit
HFPO-DA	hexafluoropropylene oxide dimer acid
km	kilometer
km^2	square kilometer
m	meter
MCL	maximum contaminant level
mi	mile
mi^2	square mile
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ng/g	nanogram per gram

LIST OF ACRONYMS AND ABBREVIATIONS *(continued/end)*

ng/L	nanogram per liter
NTC	non-time critical
OU	Operable Unit
PAB	permeable adsorptive barrier
PFAS	per- and polyfluoroalkyl substances
PFBS	perfluorobutanesulfonic acid
PFHxS	perfluorohexanesulfonic acid
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PFOSA	perfluorooctane sulfonamide
RSER/EE/CA	Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis
PRB	permeable reactive barrier
RAO	removal action objective
ROD	Record of Decision
RSL	regional screening level
SCDES	South Carolina Department of Environmental Services
SRFS IOU	Savannah River and Floodplain Swamp Integrator Operable Unit
SRNS	Savannah River Nuclear Solutions, LLC
SRS	Savannah River Site
TBC	to be considered
TCE	trichloroethylene
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UTRA	Upper Three Runs Aquifer
VOC	volatile organic compound
WSRC	Westinghouse Savannah River Company

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1.0 INTRODUCTION

The Savannah River Site (SRS) encompasses 803 square kilometers (km^2) (310 square miles [mi^2]) of land adjacent to the Savannah River, principally in Aiken and Barnwell counties of South Carolina. SRS is located approximately 40 km (25 mi) southeast of Augusta, Georgia, and 32 km (20 mi) south of Aiken, South Carolina (Figure 1). Constructed in the early 1950s, SRS has hosted a variety of missions, including primarily weapons-grade plutonium manufacturing and processing, radioisotope production for space missions, radioactive materials management and disposal, and supplying tritium to the nation. Industrial areas make up roughly 10 percent of the total area of SRS. D Area is where steam and electricity were produced at the nation's former largest coal-fired power plant and heavy water was produced for use in production reactors. Since closure of the 484-D Powerhouse in 2012, D Area has been the focus of several remedial efforts concerned with tritium, acidity, metals, and chlorinated hydrocarbons from the activities that previously took place there. Groundwater and surface water characterization efforts during the 2020-2024 timeframe have characterized the extent of the per- and polyfluoroalkyl substances (PFAS) groundwater plume in the D-Area Groundwater (DAG) Operable Unit (OU).

Currently, SRS is owned by the United Stated Department of Energy (USDOE) while Savannah River Nuclear Solutions, LLC (SRNS) provides management and operating services. In pursuance of the criteria set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the USDOE has prepared this Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis (RSER/EE/CA) to promptly manage PFAS contamination in the DAG OU, specifically the highest concentration portion of the PFAS groundwater plume. This RSER/EE/CA identifies the objectives of the treatment for the PFAS plume in the DAG OU, describes treatment alternatives that address the potential threats of the PFAS plume in the environment, and provides a vehicle for public comment in accordance with the NCP, 40 Code of Federal Regulations (CFR) § 300.415.

The public is encouraged to comment on the removal action alternatives presented in this RSER/EE/CA. Following the public comment period, an Action Memorandum will be prepared

by USDOE and added to the SRS Administrative Record, which is accessible by the public. All responses to the public comments will be included in an Action Memorandum.

Copies of this RSER/EE/CA and the Administrative Record for the SRS are 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
(803) 641–3465

Thomas Cooper Library
Government Information and Maps Department
University of South Carolina
1322 Greene Street
Columbia, South Carolina 29208
(803) 777–4841

The Administrative Record File is available electronically at the following address:

http://www.srs.gov/general/programs/soil/arf/arfirf.html

Hard copies of this RSER/EE/CA are available at the following locations:

Reese Library
Government Information Department
Augusta University
2500 Walton Way
Augusta, Georgia 30904
(706) 737–1744

Asa H. Gordon Library
Savannah State University
2200 Tompkins Road
Savannah, Georgia 31404
(912) 358–4324

To submit comments or request a public meeting during the public comment period, contact:

Barbara Smoak
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2.0 SITE CHARACTERIZATION

2.1 Site Description and Background

D Area is located on an alluvial terrace in the southwest quadrant of SRS approximately 3,000 feet (ft) (915 meters [m]) east of the Savannah River (Figure 2). Elevation is roughly 125 ft (37.5 m) above mean sea level (amsl), and local topography is relatively flat with a general slope from the northeast to the southwest.

Operable Unit Description

The DAG OU encompasses all the groundwater below D Area, west and southwest toward the Savannah River, and east and south toward Beaver Dam Creek and the D-Area Discharge Canal (Figure 2). The DAG OU consists of groundwater impacted by multiple waste units and facilities associated with the former operation of the 484-D Powerhouse and the production and rework of heavy water moderator for reactor operations. See Figure 3 for the location of the following waste units and facilities in D Area.

- 488-D Ash Basin (488-DAB), D-Area Coal Storage Area (484-17D) (DCSA), D-Area Coal Pile Runoff Basin (489-D) (CPRB), and D-Area Rubble Pit (431-2D) (DRP) (metals plume);
- D-Area Heavy Water Facility (411-D, 411-1D, 412-D, 412-1D, 413-D, and 413-1D) (DHWF) and including the 411-D and 411-3D Fire Fighting Training Area (FFTA) (volatile organic compounds [VOCs] and PFAS plume);
- Area adjacent to the Storage Shed for Steel and Pipe (711-D) (VOC plume);
- D-Area Heavy Water Rework Facility (DHWRF), also known as the 420-D Concentrator Building (tritium plume);
- Moderator Recovery Facility, also known as the 420-2D Rework Handling Facility (tritium plume);
- Moderator Handling and Storage Building (421-2D) (tritium plume);
- Control Laboratory/Supervisor's Office (772-D) (tritium plume); and

- Gasoline Station (715-D) (PFAS plume).

Operable Unit History

The 488-DAB, 489-D CPRB, and the 431-D DRP surface units received waste from operation of the coal-fired 484-D Powerhouse during its operational history. The 488-DAB and the 431-2D DRP are no longer operational, while the 489-D CPRB now only receives stormwater runoff. The 484-D Powerhouse began operation in 1952 and ceased operation in April 2012. Coal for the 484-D Powerhouse was stored in the 484-17D DCSA, which has undergone a removal to raise the pH in vadose zone soils. Exposure of the coal to rainwater resulted in the leaching of metals from both the coal and natural minerals in the underlying soils, leading to a low pH groundwater plume and a metals groundwater plume.

The DHWF and DHWRF were used in the production of heavy water for use in the SRS reactors. The DHWF consisted of six rows of bubble towers, which were used in series to progressively enrich water to 20% to 30% deuterium oxide. Operations of the bubble towers ceased in January 1982. The DHWRF was used to purify contaminated heavy water, and the 420-2D Rework Handling Facility was used to empty and fill contaminated heavy water drums. The 421-2D Moderator Handling and Storage Building stored drums of degraded moderator water until 1988. The 772-D Control Laboratory and Supervisors Office provided sample analysis for heavy water production control and performed moderator chemistry control analyses in support of the reactors at SRS and the D Area moderator purification operations. Incidental releases of solvents and tritium-contaminated water from the operations at the DHWF and DHWRP resulted in a VOC and tritium groundwater plume.

After closure and dismantling of the DHWF, the FFTA (411-D and 411-3D) was established as SRS's main training facility in the late 1980s and was available for periodic use throughout the 1990s and mid-2000s. This area included shallow rimmed concrete fire pits where fuel fires were extinguished with aqueous film forming foam (AFFF) for training purposes. AFFF is a source of PFAS contaminants. The use of the AFFF has subsequently contaminated the vadose zone soil and groundwater with PFAS constituents within and downgradient of the 411-D/411-3D FFTA.

The 715-D Gasoline Station Area, including an underground storage tank (UST) (5,000-gallon capacity), was a former refueling station located just east of the 484-D Powerhouse. The fueling station was closed around 1983. Testimony from former D Area workers indicate that a car fire occurred near the 715-D Gasoline Station Area which may have been extinguished using AFFF.

2.2 Previous Actions

Previous remedial actions have been implemented to address the low pH metals plume (SRNS 2022b), the tritium vadose zone source area (SRNS 2012), and the VOC vadose zone source area (SRNS 2011a). There have been no previous remedial actions to address the DAG OU PFAS groundwater plume.

Remedial actions for the 488-DAB and the 431-2D DRP surface units were completed under the D-Area Expanded Operable Unit (DEXOU) project. The Record of Decision (ROD) Remedial Alternative Selection for the D-Area Expanded Operable Unit (WSRC 2004) documents the selection of a low permeability geosynthetic cover system installed over the 488-DAB, and land use controls and groundwater monitoring for the 488-DAB and the 431-2D DRP.

After the shutdown of the 484-D Powerhouse, the coal pile at the 484-17D DCSA was removed, and the area regraded and partially vegetated. Exposure of coal to rainwater led to the creation of sulfuric acid. As a result, the soils underneath the 484-17D DCSA, the associated storm water runoff to the 489-D CPRB, and groundwater underlying the area have been acidified. In response, a non-time critical (NTC) removal action was completed in 2020 that mixed neutralizing lime/calcium carbonate into the 484-17D DCSA vadose zone soils to a depth of 4 ft (1.2 m) below ground surface (bgs) to reduce acidic soil conditions (SRNS 2022b). The 489-D CPRB is no longer an active facility, and a NTC removal action was completed for the northern 25% section of the basin in 2011. The remaining 75% section was addressed under a NTC removal action in 2018 to remove coal fines and contaminated sediments from the basin. The southern 75% section remains open as a storm water retention structure. To address the low pH conditions in the groundwater beneath the 484-17 DCSA and 489-D CPRB and the discharge to surface water in the D-Area Discharge Canal, a treatability study was initiated which consisted of two elements: 1) Injection of potable water into the aquifer upgradient of the low-pH plume to flush the aquifer; and 2)

Construction of calcium carbonate reactive structures to adjust the pH in the D-Area Discharge Canal. Since March 2022, approximately 469,391 m^3 (124 million gallons) have been injected into the Upper Three Runs Aquifer (UTRA) as a part of the treatability study.

The DHWF, the DHWRF, 420-2D Rework Handling Facility, the 421-D Moderator Handling and Storage Building, and the 772-D Control Laboratory and Supervisors Office were previously sources of either VOC or tritium contamination to groundwater. These units have been decommissioned and/or decontaminated and are no longer a source of VOC or tritium contamination to groundwater.

Previous characterization for the DAOU First Early Action ROD (SRNS 2011b) investigated fuel/benzene, toluene, ethylbenzene, xylene (BTEX) products throughout the Bubble Tower Subunit soils, and groundwater samples have previously been monitored downgradient from the FFTA. These evaluations did not identify any soil contaminant migration threat that would impact groundwater and BTEX constituents were not detected in groundwater at the FFTA.

The UST at the 715-D Gas Station was removed in 1983 along with about 94.6 L (25 gallons) of pooled product beneath the tank. This UST was a source of fuel contamination to groundwater. The UST release was previously managed under the South Carolina Department of Environmental Service (SCDES) UST program (Permit #18936) and was closed in November 2012. With the removal of the UST and the pooled product beneath the tank, the 715-D Gas Station Area is no longer considered a source of fuel contamination to groundwater. Adjacent to the 715-D Gasoline Station Area was the Storage Shed for Steel and Pipe (711-D). Soil vapor extraction wells were employed at the area adjacent to the Storage Shed for Steel and Pipe (711-D) to address vadose zone VOC contamination.

2.3 Land Use

The area encompassed by the DAG OU includes zones currently designated for industrial use. Although the DAG OU and PFAS plume extends beyond the industrial use footprint of D Area, the NTC removal action proposed in this RSER/EE/CA would be implemented within the industrial use footprint. The UTRA, the target of this investigation, is not currently used regionally as a drinking water source. Land use of the entire DAG OU area will be controlled as part of a

future remedial decision in accordance with the *Early Action Land Use Control Implementation Plan for the D-Area Operable Unit* (SRNS 2011c) and the *SRS Land Use Control Assurance Plan* (WSRC 1999) to prevent the use of groundwater that exceeds maximum contaminant levels (MCLs).

2.4 Environmental Setting

The groundwater in the DAG OU discharges to a wetland area west of D Area or to surface water. The wetland area is part of the Savannah River and Floodplain Swamp Integrator Operable Unit (SRFS IOU). The SRFS IOU is primarily a mixed bottomland hardwood forest floodplain and contains cypress/tupelo swamp habitat. For more information about the environmental setting of DAG OU, see the *RCRA Facility Investigation/Remedial Investigation Work Plan for the D-Area Groundwater Operable Unit (D-Area Upgradient Sources) (U)* (SRNS 2022a).

2.5 Geology and Hydrogeology

A generalized lithostratigraphic - hydrostratigraphic column for the central SRS is shown in Figure 4. The column illustrates the current stratigraphic nomenclature used at SRS and the geological ages of the lithostratigraphic formations. The stratigraphy beneath the DAOU is typical of the central third of the SRS. The pertinent stratigraphy beneath D Area, in ascending order, is the Snapp, Fourmile Branch, Congaree, Warley Hill, and Tinker/Santee Formations. Over most of SRS, these units are overlain by the sands, clayey sands, and lesser clay lenses of the Dry Branch Formation, Tobacco Road San, and Altamaha Formation ("Upland" Unit). However, in D Area, west of the ash basins, these three shallowest lithostratigraphic units have been eroded by the ancestral Savannah River and locally replaced with a veneer of Quaternary stream terrace deposits.

D Area lies on sediments of the Santee Formation, which is lithologically heterogenous, where clay beds, sandy clay to clayey sand beds, and sand beds interfinger and are truncated over short distances. The Santee Formation primarily comprises the UTRA in D Area. The underlying Warley Hill Formation generally consists of very clayey sands and sandy clays to clays. The unit becomes increasingly clayey towards the base of the formation. The laterally continuous clayey sands to

clays in the Warley Hill and in the uppermost part of the underlying Congaree Formation constitute the Gordon Confining Unit (GCU) (Figure 4).

The Congaree often consists of clayey sands and clays, and the upper portion of the formation is often included in the GCU. The underlying Fourmile Branch Formation generally consists of moderately-sorted sands that constitute the main portion of the Gordon Aquifer (GA). The Snapp Formation constitutes the top of the Crouch Branch Confining Unit in the area.

The two aquifers of primary concern in D Area are the deeper GA and the shallow UTRA. The semi-confined GA is a 50 ft (15.2 m) thick sequence of fine to medium-grained sand that is overlain by the GCU; the GCU can be up to a 10 ft (3.0 m) thick clay layer or consist of silty/sandy clays to silty sands. The GCU is overlain by the UTRA, which is an unconfined series of interbedded and laterally discontinuous sand, silt, and clay beds ranging in thickness from 40 ft (12.2 m) to 60 ft (18 m) beneath D Area. West of 488-DAB, the UTRA and GCU are incised by 45 ft (13.7 m) thick sequence of Quaternary deposits consisting of fluvial clay, silt, and sand. The water table is encountered at a depth of approximately 15 ft (4.6 m) below ground surface, and shallower in many parts of D Area. Groundwater in the UTRA generally flows to the west-southwest near D Area and discharges to the floodplain and wetlands as well as the Savannah River (Figure 5). Groundwater flowrate in the UTRA has been calculated to be about 75 – 85 ft/yr based on data from the last few groundwater monitoring reports.

2.6 Nature and Extent of Contamination

This section will focus on the nature and extent of PFAS contamination within the DAG OU, specifically perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and perfluorobutanesulfonic acid (PFBS), as each have United States Environmental Protection Agency (USEPA) promulgated MCLs and are present in the DAG OU. Hexafluoropropylene oxide dimer acid (HFPO-DA), also known as GenX, is not detected in the DAG OU PFAS plume and is not discussed as part of the NTC removal action. Current PFAS MCLs are shown in Table 1, although it should be noted that USEPA announced in May 2025 its intention to rescind the MCLs for all PFAS excepting PFOS and PFOA. PFAS contamination in DAG OU has been extensively

characterized in pursuance of annual reporting requirements under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and during efforts to further characterize PFAS contamination. The findings of the fourth quarter (4Q)2024 sampling event to support the DAG OU annual report and the first quarter (1Q)2025 investigative sampling event are described below, with maximum PFAS groundwater concentrations (1/1/2024 – 6/30/2025) contained in Table 1.

Toxicity and Mobility Characteristics

PFAS, commonly known as "forever chemicals," do not degrade readily under normal environmental conditions due to their thermal and chemical stability. Their stability and tendency to bioaccumulate in living organisms can pose a risk even at very low concentrations, as reflected in their low MCLs and USEPA Regional Screening Levels (RSLs) (Table 1).

The mobility of PFAS in the environment varies based on their specific chemical structures and the characteristics of the soil or aquifer matrix, along with co-constituents. One subset of PFAS, perfluoroalkyl acids (PFAAs), have hydrophobic fluorinated carbon chain tails and hydrophilic functional group heads, commonly carboxylic acids or sulfonic acids. The protonation state of the functional group head influences contaminant transport, as it affects the molecule's charge and therefore interactions with the surrounding soil or aquifer matrix. At environmentally relevant pHs most PFAAs are deprotonated due to their low acid dissociation constants, resulting in a negative charge (ITRC 2023). This negative charge can lead to repulsion by negatively charged soil particles, enhancing mobility in groundwater. Additionally, the length of the fluorinated carbon chain impacts PFAS transport. Studies have shown that shorter fluorinated carbon chains lead to higher mobility of PFAS compounds in the environment (Anderson et al. 2016). Soil density and fraction of organic carbon significantly affect contaminant sorption coefficients, as demonstrated in a study on the partitioning of PFOA, PFOS, and perfluorooctane sulfonamide (PFOSA). Despite having the same carbon chain length, these compounds exhibited differing partitioning and mobility characteristics (Ahrens et al. 2011), indicating that the type of functional group head also plays a crucial role in the complex migration behavior of PFAS.

The PFAS targeted by this RSER/EE/CA are all defined as PFAAs and have either a carboxylic acid or sulfonic acid functional group head. They also vary in chain length from 4 carbons to 9 carbons (Table 2). Transport of these compounds in vadose and saturated zones is not yet fully understood; however, previous characterization efforts have proven adequate to understand the extent of PFAS groundwater contamination in the DAG OU and that they are quite mobile in DAG.

Characterization Efforts

Groundwater characterization efforts during the 2020-2024 timeframe have characterized the DAG OU PFAS groundwater plume. The 4Q2024 sampling event was completed in support of annual reporting requirements under CERCLA. The event consisted of 96 sample locations (75 groundwater wells and 21 surface water monitoring points) (Figure 6 and Figure 11). Widespread PFAS contamination above MCLs in the UTRA was seen during this sampling event. PFAS contamination above MCLs in the GA was observed in a small subset of wells. PFAS concentrations exceeded MCLs in 49 groundwater monitoring wells – 46 screened in the UTRA and three screened in the GA (DCB-026-D, DCB-033-D, and DRW-001-D). The 2024 individual PFAS constituents' groundwater plume sizes are as follows: PFOA ~ 234 hectares (577 acres); PFOS ~ 210 hectares (518 acres); PFNA ~ 197 hectares (487 acres); PFHxS ~ 51 hectares (125 acres); and PFBS - 0 hectares (results below RSL). In 2024, the maximum concentrations for PFOA (150 ng/L), PFOS (310 ng/L), PFNA (2,600 ng/L), PFHxS (120 ng/L), and PFBS (600 ng/L) were observed for these groundwater plumes. Plume maps showing the distribution and concentrations in the UTRA are depicted in Figure 7 through Figure 10. Exceedances in the GA were limited to PFNA and PFOA. The PFNA plume map of the GA is shown in Figure 12. It is apparent that these PFAS species are very mobile in groundwater, as the first use of AFFF was in the 1980s, and the PFAS plumes have traveled over 7,380 ft (2,249.4 m) downgradient and now encompass over 247 hectares (610 acres) (Figure 13). The general distribution of the PFAS plumes tends to be from just northeast of the FFTA to the floodplains close to the Savannah River. The PFAS plumes overlap several other DAG OU plumes such as the trichloroethylene (TCE), tritium, and pH and metals plumes (Figure 14 through Figure 16), which will need to be considered in the selection and design of a treatment.

Twenty surface water sampling points exceeded at least one MCL for PFAS in 4Q2024 (Figure 7 through Figure 11). Surface water samples collected in the wetland during 4Q2024 (DSWM-Wet-01, DSWM-Wet-02, and DSWM-Wet-03) show that contaminated groundwater is potentially discharging into the wetland. Concentrations exceeded MCLs for both PFOA and PFOS at each of these three locations. Savannah River surface water samples indicate that there is currently no significant contribution to PFAS concentrations in the river from D Area as samples upgradient and downgradient of D Area were similar (Figure 11). For more detail on contamination in the DAG OU, refer to the annual data summary report for 2023 data (SRNS 2024).

In 1Q2025, groundwater sampling and geologic characterization was conducted using ISOFlow and cone penetrometer testing (CPT) southwest of the FFTA and on the border of the hotspot area (PFNA => 1,000 ng/L) of the PFAS plume (Figure 17). Seven CPT borings were installed (numbered DCPT-01 through DCPT-07) generally from northwest to southeast. CPTs were used to provide a detailed geologic description of the subsurface before conducting the ISOFlow groundwater sampling. At each of the DISO ISOFlow locations, five sampling intervals were estimated using the CPT logs, and the final selected sample intervals were determined by the lithology seen during drilling. The data collected from the 1Q2025 investigative sampling event show that concentrations are highest at DISO-1 and tend to decrease moving toward DISO-7. Maximum concentrations for PFOA (80.2 ng/L), PFOS (440 ng/L), PFNA (1,670 ng/L), PFHxS (150 ng/L), and PFBS (15.9 ng/L) were observed at DISO-1. The highest PFAS concentration varied in depth from roughly 20-50 ft (6.1-15.2 m) bgs at northwestern locations, to 40-65 ft (12.2-19.8 m) bgs at locations further southwest. The concentrations of PFOA, PFOS, PFNA, PFHxS, and PFBS at each sampling location are shown in Table 3. Lithographic cross sections and PFAS plume maps generated from the ISOFlow samples are shown in Figure 18 through Figure 22. The groundwater data is also presented in Appendix C.

A total of thirty 0-1 ft soil samples were collected at four newly identified potential source areas in August 2025. These four potential source areas were: 1) A concrete structure (402-D Tank Farm remnants) upgradient of the 715-D Former Gas Station used for AFFF training; 2) the site of a previous VOC phytoremediation study that used water sourced from an unknowingly PFAS-contaminated D-Area groundwater well; 3) an area where a grass fire may have been extinguished

using AFFF; and 4) a stormwater/process sewer discharge to the D-Area Effluent Discharge Canal tributary (Figure 23). The highest PFAS concentrations were observed at the 402-D Tank Farm remnants and the stormwater/process sewer discharge. The results from these 0-1 ft soil samples will be used to focus a secondary characterization effort scheduled for the second quarter of 2026. As a part of the 2026 characterization, 23 soil borings, 3 sediment borings, and 6 concrete locations will be sampled for PFAS constituents, and seven additional groundwater wells will be installed to further characterize PFAS groundwater contamination (Figure 24) (SRNS 2026).

Characterization efforts within the DAG OU show that widespread PFAS concentrations, consistently exceeding USEPA MCLs, are present in the DAG OU. Contamination has migrated from the source area, through the UTRA, and directly southwest toward the Savannah River Floodplain and Swamp where groundwater discharges. This is generally shown in the conceptual site model illustrated in Figure 25. Along the high concentration portion of the plume where the investigative sampling was conducted, the highest PFAS concentrations were detected at the northwesternmost locations. The PFAS plume deepens and lowers in concentrations toward the southwest.

3.0 REMOVAL ACTION SCOPE AND OBJECTIVES

The NTC removal action proposed at the DAG OU is associated with PFAS contamination in the UTRA 10 to 100 times greater than MCLs. PFAS contamination in the UTRA is generally between 10-60 ft (3.0-18.3 m) bgs. Although the entire plume width is between ~ 3500-4000 ft (1066.8-1219.2 m), the higher concentration portion of the plume (~ 1000 ft [304.8 m]) is the focus of this action. The full vertical extent of PFAS contamination and an optimal transect of the plume, roughly perpendicular to groundwater flow, will be targeted. Treatment along this transect of the PFAS plume, approximated by the location of the 1Q2025 investigative sampling event, to significantly reduce downgradient PFAS migration will be evaluated in this NTC removal action. Final action for the DAG OU PFAS Plume will be managed as part of the final DAG OU remedial decision.

An effectiveness monitoring plan, specific to this removal action, will be developed to evaluate the short- and long-term impacts of this NTC removal action on the groundwater. This plan will be included within the Removal Action Design Plan document.

3.1 Justification for a Removal Action

USDOE, the lead agency, is mandated to take action to reduce the adverse effects of man-made contamination on human health and the environment. The NCP states that if the lead agency determines a release or potential release poses a threat to public health or welfare or the environment, the lead agency may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release. This determination should be based on the factors identified in 40 CFR § 300.415(b) (2).

Several PFAS constituents exceed their respective MCLs in the DAG OU. PFAS contamination is migrating from the high concentration area of the PFAS plume though the UTRA towards the wetlands and the Savannah River. Downgradient concentrations will likely continue to increase until action is taken. Due to the proximity of the PFAS plume to the Savannah River, the DAG OU PFAS contamination meets the criteria in 40 CFR § 300.415(b) (2) (i): “Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.”

3.2 Removal Action Objectives

The removal action objective (RAO) for the PFAS contamination present in the DAG OU to protect human health and the environment includes the following:

- Reduce regulated PFAS (those with MCLs) concentrations in monitoring wells within or immediately downgradient of the treatment zone by 90% compared to upgradient monitoring wells.

The RAO, specifically the 90% reduction in PFAS concentrations, is based on SRS experience with remedial technologies (i.e., pump and treat, in-situ remediation, etc.) and industry studies for treatment of PFAS-contaminated groundwater using similar technologies (Singh et al. 2023; Pourabadehei, et al. 2025).

4.0 IDENTIFICATION OF REMOVAL ACTION ALTERNATIVES

In accordance with CERCLA, four alternatives for the DAG OU NTC Removal Action targeting PFAS contamination were examined. Although Alternative 2a and Alternative 2b are functionally very similar, these two alternatives are evaluated separately to provide more detail on two emplacement methods for the same type of treatment technology.

4.1 Alternative 1, No Action

The No Action alternative is required to be evaluated by the NCP to serve as a baseline for comparison to other alternatives. Under the No Action alternative, no efforts would be made to control access, limit exposure, or reduce contaminant toxicity, mobility, or volume. This alternative would leave the PFAS contamination within the DAG OU in its current condition with no additional controls.

4.2 Alternative 2a, In-situ Permeable Adsorptive Barrier (Colloidal Activated Carbon Injections)

An in-situ permeable adsorptive barrier (PAB) wall of colloidal activated carbon (CAC) (an adsorptive carbon material that can be suspended in an aqueous solution) will be constructed using appropriate injection technology. The specific injection strategy and amount of adsorbent media will be determined in the design phase, after a vendor has been selected, to optimize immobilization of PFAS constituents and minimize CAC migration. Injection wells and/or direct push technologies may be used; furthermore, it may prove beneficial to utilize the funnel and gate approach to reduce the treatment zone length (i.e., impermeable barrier walls [funnel] to direct groundwater flow to the permeable zone or zones containing adsorbent material [gate]). Orientation of the PAB wall may vary depending on the design of the barrier and field interferences but will be roughly perpendicular to groundwater flow and generally align with the 1Q2025 investigative sampling event location. The PAB wall is estimated to be 1000 ft (304.8 m) in length and extend to a depth between 60-80 ft (18.3-24.4 m) bgs. The elevation of the treatment media should at least extend to the maximum observed groundwater elevation to prevent bypass of the barrier. Once injected, the CAC will coat the saturated soil and remain in place forming an adsorptive zone in the path of contaminant flow without significantly altering groundwater flow.

The PAB wall will behave as a passive subsurface filter for groundwater. PFAS molecules will readily adsorb to the CAC and will be immobilized within the aquifer preventing the higher concentration portion of the PFAS plume from migrating downgradient and potentially impacting wetlands or surface water. Treated water flowing out of the PAB wall will move downgradient and flush out the contaminated aquifer leading to a reduction in PFAS concentrations. A monitoring network will be established which will include installation of additional wells. Over time, as the CAC adsorption sites become saturated, it may be necessary to add or replace adsorptive material likely via a second round of injections adjacent to the existing injections. A generic graphical representation of Alternative 2a is shown in Figure 24.

4.3 Alternative 2b, In-situ Permeable Adsorptive Barrier (Granular Activated Carbon Trench)

An in-situ PAB wall of granular activated carbon (GAC) (a granular adsorptive carbon material commonly used for drinking water treatment) will be constructed. The adsorptive GAC will be supplemented with a substrate such as sand and/or gravel to create the barrier material. Orientation of the PAB wall may vary depending on the design of the barrier and field interferences but will be roughly perpendicular to groundwater flow and generally align with the 1Q2025 investigative sampling event location. The PAB wall is estimated to be 1000 ft (304.8 m) in length and extend to a depth between 60-80 ft (18.3-24.4 m) bgs. The elevation of the treatment media should at least extend to the maximum observed groundwater elevation to prevent bypass of the barrier. The specific placement strategy and amount of adsorbent media will be determined in the design phase, after a vendor has been selected, to optimize immobilization of PFAS constituents. Long-arm excavators could be used to construct the trench but other technologies will be considered; furthermore, it may prove beneficial to utilize the funnel and gate approach to reduce the treatment zone length. PFAS contaminated soil removed during trench construction will need to be properly disposed of during barrier construction. A relatively homogeneous permeable barrier resulting from trenching and backfilling the trench will alter groundwater flow potentially creating preferential pathways through the GAC barrier. The PAB wall will behave as a passive subsurface filter for groundwater. PFAS molecules will readily adsorb to the adsorptive GAC and will be immobilized within the aquifer preventing the higher concentration portion of the PFAS plume

from migrating downgradient and potentially impacting wetlands or surface water. Treated water flowing out of the PAB wall will move downgradient and flush out the contaminated aquifer leading to a reduction in PFAS concentrations. A monitoring network will be established which will include installation of additional wells. Over time, as the GAC adsorption sites become saturated, it may be necessary to add or replace adsorptive material. This will likely consist of injecting adsorptive material (e.g., CAC) into specific portions of the trenched barrier instead of constructing a second trench. The trench will likely be conducive to injections as it will be relatively homogeneous and potentially more permeable than surrounding sediment. Additionally, injecting within the footprint of the trench will reduce interferences. A generic graphical representation of Alternative 2b is shown in Figure 26.

4.4 Alternative 3, Pump and Treat

Extraction wells will be placed at the appropriate intervals along the PFAS plume to capture contaminated water migrating through the aquifer. An estimated five extraction wells will be used spaced roughly 200 ft (61.0 m) apart. The screen zone of each extraction well should extend from the upper saturated zone to the maximum depth of observed PFAS contamination in the UTRA. The layout of extraction wells may vary depending on the design but will be roughly perpendicular to groundwater flow and generally align with the 1Q2025 investigative sampling event location. Capture zone modeling may be required to optimize the design of the pump and treat system. Extracted water will be pumped to a facility to be treated. An onsite treatment facility would need to be constructed near the extraction wells to serve that purpose. Electrical and phone lines would be constructed for this facility. If needed, the water will be pretreated by technologies appropriate for the properties of the treatment water (e.g., organic matter, particulates, pH, etc.) to enhance and prolong treatment via GAC filters. Waste from the pretreatment process will be managed appropriately. The GAC filter vessels could be arranged in several different ways (e.g., in series or in parallel) and would partially determine how often the filter media will be removed/rearranged. Once the filter media is considered spent, it will be sent to a permitted reactivation facility where the GAC will be thermally reactivated at temperatures up to 982 degrees Celsius (roughly 1800 degrees Fahrenheit) (DiStefano et al., 2022). The reactivation process will revert the GAC to a renewed state while simultaneously destroying PFAS molecules. The

reactivated GAC can then be recycled back into the treatment system, if desired. Treated water will be discharged to the D-006 ditch. A monitoring network will be established which will include installation of additional monitoring wells. A generic graphical representation of Alternative 3 is shown in Figure 27.

5.0 ANALYSIS AND COMPARISON OF REMOVAL ACTION ALTERNATIVES

Four removal action alternatives are evaluated in this RSER/EE/CA. According to the NCP, the No Action Alternative, Alternative 1, must be evaluated as a baseline. Alternative 2a and Alternative 2b both involve construction of a PAB wall in the subsurface to produce an in-situ filter that intercepts and immobilizes PFAS contaminants; however, Alternative 2a and 2b differ by the adsorptive material used and implementation methods. Alternative 3 utilizes pump and treat technology to extract PFAS contaminated groundwater from the subsurface and remove PFAS contaminants via GAC filter vessels. With Alternative 3, spent GAC filter media will be thermally reactivated to simultaneously renew the adsorptive properties of the GAC and destroy adsorbed PFAS contaminants. Alternatives 2a, 2b, and 3 will assume the same treatment length and depth: 1000 ft (304.8 m) and 55 ft (16.8 m) respectively.

Guidance on conducting NTC removal actions under CERCLA recommends each alternative be reviewed against three broad categories: effectiveness, implementability, and cost.

5.1 Effectiveness

Alternative 1, No Action, does not meet the effectiveness criteria. Leaving the PFAS plumes associated with the DAG OU in place does not reduce the migration of PFAS contaminated groundwater. This alternative does not contribute to a reduction in toxicity, mobility, or volume, and thus is not effective in meeting the RAO.

Alternative 2a, In-situ PAB (CAC Injections), meets the effectiveness criteria by reducing PFAS mobility in the subsurface. Addition of an adsorptive barrier in the path of contaminant flow will sequester PFAS and bind them in place where they will remain indefinitely. Treated water flowing from the PAB will dilute and flush out the contaminated aquifer leading to a reduction in PFAS concentrations in groundwater downgradient. Capture and accumulation of PFAS molecules on

adsorptive media will decrease the volume of contaminated media by removing PFAS from groundwater and concentrating it. Activated carbon adsorption is proven to be effective at capturing PFAS molecules due to the high surface area of activated carbon paired with hydrophobic interactions with contaminants. In-situ application of CAC has been extensively studied and deployed in the field. In many cases, PFAS concentrations downgradient of CAC injections have been observed to decrease to below detection limits (Carey et al., 2022), indicating how effective carbon adsorption can be at reducing contaminant mobility. The amount of adsorbent media will be determined in the design phase after a vendor has been selected, optimizing immobilization of PFAS constituents specific to the DAG OU.

Alternative 2a will be effective in the short- and long-term. In the case of a well-implemented CAC barrier (without partial groundwater bypass), PFAS concentrations have been observed to decrease to non-detect levels within months of application and are proven to be generally successful between 0.3-6 years. Long-term modeling estimates that the injections of CAC will be effective for much longer depending on the design of the barrier and aquifer conditions (Carey et al. 2022; McGregor 2018). The potential reapplication of adsorptive material ensures long-term effectiveness by extending the barrier lifetime if needed; likewise, source elimination will extend the barrier lifetime. Limited remobilization of PFAS molecules has been observed after adsorption to CAC in natural environments which contributes to the long-term effectiveness of Alternative 2a. This alternative is estimated to take about 6 months to install. This alternative will provide overall protection of human health and the environment by sequestering PFAS contamination in-situ.

Alternative 2b, In-situ PAB (GAC Trench), meets the effectiveness criteria by reducing PFAS mobility in the subsurface. Addition of an adsorptive barrier in the path of contaminant flow will sequester PFAS molecules and bind them in place where they will remain indefinitely. Treated water flowing from the PAB will dilute and flush out the contaminated aquifer leading to a reduction in PFAS concentrations in groundwater downgradient. Capture and accumulation of PFAS molecules on adsorptive media will decrease the volume of contaminated media by removing PFAS from groundwater and concentrating it. Activated carbon adsorption is proven to be effective at capturing PFAS molecules due to the high surface area of activated carbon paired

with hydrophobic interactions with contaminants. GAC is commonly used for drinking water treatment, including treatment of PFAS contaminated water. GAC applications for in-situ PFAS treatment have been limited. However, GAC has been successfully utilized in several in-situ barrier walls aimed at treating other contaminants in groundwater (e.g., polycyclic aromatic hydrocarbons and VOCs) (Singh et al. 2023) and in combination with another adsorbent to treat PFAS-contaminated groundwater in a pilot-scale in-situ treatment train (Pourabadehei, et al. 2025). PFAS plumes can partially bypass PABs in the presence of high conductivity zones; however, since the subsurface is homogenized during trench construction, this will likely limit contaminant bypass of the barrier if the barrier substrate is more permeable than surrounding sediment. The amount of adsorbent media will be determined in the design phase after a vendor has been selected, optimizing immobilization of PFAS constituents specific to the DAG OU.

Alternative 2b will be effective in the short- and long-term. The potential reapplication of adsorptive material ensures long-term effectiveness by extending the barrier lifetime, if needed; likewise, source elimination will extend the barrier lifetime. Limited remobilization of PFAS molecules has been observed after adsorption to GAC in drinking water treatment applications which contributes to the long-term effectiveness of Alternative 2b. Short-term effectiveness has been shown in previous studies of similar technologies: During the pilot-scale in-situ treatment train mentioned previously, "… lead and lag cells reached 100% PFAS removal approximately 6 months …" after the in-situ treatment train began operation (Pourabadehei, et al. 2025). It is expected that this alternative would take about 6 months to install. This alternative will provide overall protection of human health and the environment by sequestering PFAS contamination in-situ.

Alternative 3, Pump and Treat, meets the effectiveness criteria by reducing migration of PFAS contaminated groundwater. Recovering contaminated groundwater from the aquifer limits downgradient migration and removes PFAS contamination from the subsurface. Alternative 3 reduces the contaminant volume/mass through treatment of the contaminated groundwater and spent GAC. PFAS are removed from the aqueous phase and concentrated on adsorptive GAC media. GAC utilized to treat PFAS in groundwater has been capable of achieving non-detect levels in treated water at a treatment system at Brookhaven National Laboratory (BNL 2023). Removal

efficiency of the GAC media is proportional to the frequency GAC is changed out, meaning PFAS removal efficiency can remain very high throughout the lifetime of Alternative 3, but it may necessitate frequent GAC change outs. Spent GAC media will be thermally reactivated simultaneously reopening adsorption sites on the GAC and destroying PFAS molecules. Reactivation of spent GAC has been shown to need lower temperatures than generally required for PFAS destruction and can achieve high destruction efficiencies (>99.99% for PFOA, PFOS, GenX, and PFBS) (DiStefano et al., 2022). Alternative 3 will achieve long-term effectiveness by constant replenishment of GAC media which removes PFAS from the extracted groundwater and then by destroying the PFAS contaminants during the reactivation process. This alternative is expected to be effective in the short term, although it is estimated that it will take 1 to 2 years to complete the permitting and infrastructure and treatment plant construction. This alternative will provide overall protection of human health and the environment by limiting downgradient expansion of the PFAS plume and ultimately destroying the captured PFAS.

Identification of Applicable or Relevant and Appropriate Standards

In accordance with 40 CFR § 300.415(j) of the NCP, on-site removal actions conducted under CERCLA of 1980, as amended, are required to attain applicable or relevant and appropriate requirements (ARARs) to the extent practicable, considering the exigencies of the situation. In determining whether compliance with ARARs is practicable, the lead agency may consider appropriate factors, including 1) the urgency of the situation; and 2) the scope of the removal action. ARARs include only federal and state environmental or facility siting laws/regulations; they do not include occupational safety or worker protection requirements. Compliance with OSHA standards is required by 40 CFR § 300.150. For purposes of ease of identification, the USEPA has created three categories of ARARs: Chemical-, Location- and Action-Specific. Additionally, per 40 CFR § 300.405(g)(3), other advisories, criteria, or guidance may be considered in determining remedies (to-be-considered [TBC]) category]. USDOE, the lead agency at the SRS, is expected to comply with ARARs and TBC guidance as set forth in the RSER/EE/CA when conducting this NTC removal action.

Applicable requirements, as defined in 40 CFR § 300.5, means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstance at a CERCLA site. Relevant and appropriate requirements, as defined in 40 CFR § 300.5, means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility citing laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at a CERCLA site that their use is well suited to the particular site. Only those state standards that are identified by the state in a timely manner and that are more stringent than federal requirements may be relevant and appropriate.

Under Section 121 of CERCLA, any material remaining on site must reach a level or standard of control equal to that of any other applicable or relevant and appropriate standard or requirement promulgated under any federal or more stringent state environmental statute. The term "promulgated" means that the requirement generally is applicable and legally enforceable. The ARAR concept is pertinent only to onsite actions; offsite actions must comply with all applicable federal and state requirements. A requirement under other environmental laws may be either "applicable" or "relevant and appropriate," but not both. The first step in identifying ARARs is to determine if a requirement is applicable.

ARARs are identified for the DAG OU NTC removal action in Appendix A for Alternatives 2a, 2b, and 3. This RSER/EE/CA does not propose to waive any ARARs. The final condition of the site after the NTC removal action will leave some contaminants in the groundwater that are not being addressed by this NTC removal action. The final disposition of all DAG OU groundwater plumes will be addressed under a separate remedial action(s) as defined in the ROD for the DAG OU, which will likely include land use controls until MCLs in groundwater are met. Existing administrative controls will remain in place until the final disposition of the DAG OU. Completion activities are identified in the FFA, a legally binding and enforceable tri-party agreement between USDOE and the two regulatory agencies, USEPA and SCDES.

5.2 Implementability

Implementability of each alternative was assessed against the criteria below:

- Technical feasibility with regard to available techniques and demonstrated methods for accomplishing the proposed alternative
- Administrative feasibility with regard to operations personnel and other resources to complete the alternative's implementation; also, the availability of specific equipment and technical specialists
- Regulatory acceptance of the preferred alternative
- Community acceptance of the preferred alternative. USDOE–Savannah River will provide for a public comment period, and comments concerning the proposed action will be incorporated into the comment responses and included with the Action Memorandum.

Operation or maintenance activities (e.g., addition or reapplication of adsorptive material for Alternative 2a and 2b, replacement and disposal of GAC for Alternative 3, etc.) are not considered in implementability scores as they only occur once the Alternatives are operational (i.e., have already been implemented).

Alternative 1, No Action, is the current condition and would not require any additional resources to implement. PFAS concentrations in the DAG OU will remain above MCLs and be free to travel within the UTRA. Although Alternative 1 requires no technical or administrative effort, it is unlikely to be implemented based on regulatory requirements set for PFAS compounds and the potential risk to human health and ecological receptors.

Alternative 2a, In-situ PAB (CAC Injections), could be implemented without major technical or administrative concern. Permeable reactive barriers (PRBs), functionally similar to PABs, have been implemented at SRS, and site personnel are knowledgeable about the technology. Implementation of the PAB will likely be subcontracted to readily available vendors experienced with CAC injections. The required materials and equipment for construction of an adsorptive barrier are also readily available; Furthermore, a DPT drill rig and/or injection wells will likely be used and are technologies SRS personnel are very familiar with. Alternative 2a could be

implemented with one-time material placement. Technical challenges could arise because of the subsurface interferences likely to be encountered due to the large number of injection points, and complexity of the aquifer present (e.g., preferential pathways and low permeability zones) around the potential implementation location. The aquifer characteristics in the proposed zone of injection are well understood based on previous characterization. In addition, although an injection permit will be required to inject CAC, SRS has successfully obtained SCDES injection permits for numerous groundwater remedies.

Alternative 2b, In-situ PAB (GAC Trench), could be implemented without major technical or administrative concern. PRBs, functionally similar to PABs, have been implemented at SRS, and site personnel are knowledgeable about the technology. Implementation of the PAB will likely be subcontracted to experienced vendors, which are readily available. The required materials and equipment for construction of an adsorptive barrier are also readily available. Furthermore, trenching is also a technology familiar with SRS personnel. Contaminated soil will need to be disposed of if removed from the subsurface to be replaced with barrier material. Disposal of PFAS containing waste can be both difficult and expensive, likely requiring further treatment and/or disposal in a Subtitle C landfill. Alternative 2b could be implemented with one-time material placement. Technical challenges could arise because of the subsurface interferences (e.g. utilities) likely to be encountered due to the continuous trench. In addition, although an injection permit will be required to place GAC in the subsurface, SRS has worked with SCDES to obtain injection permits for numerous groundwater remedies.

Alternative 3, Pump and Treat, could be implemented without major technical or administrative concern as demonstrated at several pump and treat remediations implemented and operated at SRS over the years. Site personnel have the knowledge and experience to ensure successful implementation and operation of a pump and treat system. The optimal location and number of extraction wells would be determined by groundwater modeling using fairly well understood aquifer properties in the vicinity of the targeted plume. Design and construction of the ex-situ GAC filter vessels will likely be subcontracted to experienced vendors, which are readily available. SRS currently operates GAC filter vessels at the effluent treatment facility for industrial water treatment applications, and other types of treatment vessels have been utilized for F Area groundwater

treatment; therefore, this technology is not new to SRS. However, the geochemistry of the water will have to be assessed to determine if pre-treatment will be required to prevent biofouling or solids precipitation that would reduce the efficiency/longevity of the GAC. Disposal of pre-treatment media may be required. Alternative 3 will require significantly more permitting than Alternative 2a or 2b because contamination is continuously removed from the subsurface and being treated. Several initial permitting/reporting requirements will need to be met to implement Alternative 3. Reactivation of spent GAC will be managed through offsite vendors as SRS does not have the capability to reactivate GAC nor is SRS likely to construct a reactivation facility for this purpose. Reactivation facilities are readily available in the United States. Transportation of the spent GAC to the carbon reactivation facility will likely pose the highest difficulty as this waste will likely need to be shipped long distances. Shipping permits and qualified drivers will be needed to transport the spent GAC to the reactivation facility.

5.3 Cost

The cost categories considered for the removal action alternatives were capital and operation and maintenance (O&M). Direct capital costs were summarized as infrastructure, site preparation, storm water management, treatment implementation, site restoration, and monitoring network. Alternative 1 has no associated costs, so all fields are blank. Alternative 2a, 2b, and Alternative 3 have costs associated with each of these categories apart from site restoration for Alternative 3 as it is included as a percentage of the total. Indirect capital costs were calculated using a percentage of the direct capital costs (excluding monitoring well network implementation as this cost had more certainty associated with it). Note that pretreatment and capture zone modeling for Alternative 3 was not accounted for in the cost estimate but should be included in the final design. O&M activities associated with Alternative 2a, 2b, and Alternate 3 were estimated for one-year, three-year, and 15-year activities. Present values were calculated assuming 30-year O&M for both alternatives. Indirect O&M costs were calculated using a percentage of the direct O&M costs.

The cost estimates were developed based on the current understanding of the DAG OU PFAS plume, described in Section 2.6, and the basic descriptions of each alternative presented in Section 4.0. Where possible, elements of cost estimates previously prepared for similar alternatives were

used and were scaled to be representative of 2025 dollars. The cost estimates provided in this document were developed for comparative evaluation only with an expected level of accuracy of -30% to +50%. Once the removal alternative is selected, a more detailed cost analysis will be performed based on preliminary design information.

The estimated cost, including direct and indirect capital costs, as well as the present worth of direct and indirect O&M costs for 30 years are summarized below for each alternative:

- Alternative 1. No Action ~$0
- Alternative 2a. In-situ PAB (CAC Injection) ~$15.59M
- Alternative 2b. In-situ PAB (GAC Trench) ~$40.17M
- Alternative 3. Pump and Treat ~$24.27M

*Million (M)

Detailed costs for each alternative are presented in Appendix B.

5.4 Comparison of Removal Action Alternatives

A comparative analysis of the removal action alternatives is summarized in the table below. The criteria of effectiveness, implementability, and cost were ranked as low, medium, or high for each alternative. A ranking of “low” indicates the least favorable score in comparison with the other alternatives, and a ranking of “high” indicates the most favorable score. Effective PFAS plume capture is assumed for both alternatives.

Alternative 1 was given an effectiveness score of low, with no action not addressing elevated PFAS contaminant levels. Both Alternative 2a and Alternative 2b were qualitatively given an effectiveness score of medium because, while the PAB wall technology has been proven effective in the field as discussed in the previous sections, in general in-situ technologies have greater uncertainty in getting contact between the contaminants and the treatment media. Additionally, the effectiveness of the barrier decreases over time which may necessitate addition or replacement of adsorbent material, and compared to Alternative 3, maintenance activities for in-situ treatments can be more difficult, although more infrequent, meaning there is less control over the barrier

effectiveness. Alternative 3 was qualitatively given an effectiveness ranking of high. GAC treatment is well documented to be effective in ex-situ applications for PFAS contaminated water treatment, and plume capture and treatment will be achieved through continuous pumping and frequent changeouts of adsorbent material at the treatment facility. It is important to note that Alternative 3 can create exposure pathways along the lengthy treatment process associated with treatment of the contaminated groundwater (Hall et al., 2024), while Alternatives 2a and 2b sequester PFAS contamination in the aquifer preventing ex-situ treatment-related exposure of human or ecological receptors to PFAS; although, Alternative 3 does destroy PFAS constituents, which eliminates the potential for future exposure of those destroyed constituents.

Alternative 1 was given an implementability score of high because no resources or actions are required to implement. Alternative 2a and Alternative 2b can be implemented with one-time material placement. SRS has experience with potential emplacement techniques for both Alternative 2a and 2b; additionally, neither of these alternatives require a disposition pathway being established for routine disposal of waste, as PFAS contaminants are sequestered in the aquifer. For these reasons, the implementability of Alternative 2a was qualitatively scored as high. Alternative 2b however will require more construction work (associated with digging the trench), generate PFAS contaminated soils that will need disposal, and is the lesser used technique for treating PFAS contaminated groundwater in-situ when compared to Alternative 2a. For these reasons Alterative 2b was qualitatively scored as medium for implementability. Implementability of Alternative 3 was qualitatively scored as medium due to the required construction and establishment of a PFAS deposition pathway. This would include construction of several extraction wells and an onsite GAC treatment facility (likely including pretreatment with its own waste management), spent GAC shipping to a reactivation facility, and permitting. There is also the possibility that water captured by the extraction wells may contain unacceptable levels of tritium. Alternative 3 will be more difficult to implement than Alternative 2a because of the multi-step treatment approach and the regulatory requirements centered around facility operation and waste management.

Acceptance of Alternative 1 was qualitatively scored as low because this alternative does not result in any reduction in contaminant mobility, toxicity, or volume and does not decrease the risk to

downgradient receptors. Alternative 2a and Alternative 2b were qualitatively scored as high because PRBs, which are similar functionally to a PAB, have been implemented at SRS. In addition, regarding Alternative 2a, CAC barriers have been implemented at several locations in the United States which have been successful at decreasing downgradient concentrations (Regenesis 2022; Regenesis 2023; Regenesis 2025). Alternative 2a will also not remove PFAS constituents from the subsurface (which could introduce other exposure pathways). Alternative 3 is highly likely to be accepted due to the history of pump and treat systems at SRS and previous success through use of these systems; in addition, this alternative destroys PFAS.

	Effectiveness	Implementability	Cost*	Acceptance
Alternative 1 No Action	Low	High	$0	Low
Alternative 2a In-situ PAB (CAC Injections)	Medium	High	$15.59M	High
Alternative 2b In-situ PAB (GAC Trench)	Medium	Medium	$40.17M	High
Alternative 3 Pump and Treat	High	Medium	$24.27M	High

Note: Range is Low to High, where Low = worst and High = best.
PAB – permeable adsorptive barrier; CAC – colloidal activated carbon; GAC – granular activated carbon
*Million (M)

6.0 RECOMMENDED REMOVAL ACTION ALTERNATIVE

Based on the evaluation of removal action alternatives in this RSER/EE/CA, the lead agency recommends Alternative 2a, In-situ PAB (CAC Injections), is the best solution based on ability to meet RAOs and the tradeoffs among evaluation criteria. Alternative 2a meets the RAO by sequestering PFAS contaminants on CAC material injected within the subsurface. This alternative will provide overall protection of human health and the environment by preventing ex-situ treatment-related exposure of human and ecological receptors to PFAS. In-situ adsorptive barriers of CAC can achieve high percent reductions in PFAS concentrations in groundwater, and are effective in the short- and long-term, as discussed in Section 5.1. Alternative 2a will also require

much less management over the lifetime of the barrier system, likely limited to monitoring and reporting for O&M, because it is a passive system which does not create any waste, unlike Alternative 3. Compared to Alternative 2b, Alterative 2a will generate minimal waste during construction and CAC injections are much more widely utilized. Alternative 2a will be easier to implement than both Alterative 2b and Alternative 3 because of easier construction and very limited waste disposal. The minimally invasive one-time application, absence of a waste disposal pathway, and minimal O&M costs all contribute to Alternative 2a having the lowest cost, other than the No Action alternative.

Use of a NTC removal action is an effective strategy for cost-effectively reducing obvious risks and supporting area closure by initiating early actions while meeting necessary ARARs. This alternative will not preclude any additional remediation of the DAG OU and is consistent with the current and future land use.

7.0 NATIONAL ENVIRONMENTAL POLICY CONSIDERATIONS

This RSER/EE/CA conforms to USDOE policy (i.e., DOE Order 451.1B, "National Environmental Policy Act Compliance Program") to incorporate National Environmental Policy Act (NEPA) values in USDOE CERCLA documents. NEPA values include consideration of socioeconomic, demographic, environmental justice, archaeological, historical, cultural, natural resources, protected species, floodplains, wetlands, and cumulative impacts of the proposed action.

The area impacted by the recommended NTC removal action represents no cultural or historical significance. It has not been identified that this area hosts structures which qualify as historically significant as documented in the SRS's Cold War Built Environmental Cultural Resource Management Plan (CRMP) (USDOE 2005). The site of the proposed NTC removal action is located within an established industrial landscape. Any previously existing archaeological, cultural, or historical resource(s) in the project area would have been destroyed by extensive land alterations and modern construction-related activities associated with development of the DAOU. Implementation of the proposed removal action would have a negligible impact on SRS archaeological, cultural, or historical resources.

8.0 PROJECT SCHEDULE

This RSER/EE/CA will be submitted to USEPA and SCDES for review and comment. The RSER/EE/CA will be available for public comment following this review. The removal action schedule is presented below:

Submit Rev 0 RSER/EE/CA for Regulatory Comment	January 2026
Submit Rev 1 RSER/EE/CA for Regulatory Comment	May 2026
Issue RSER/EE/CA for Public Comment	July 2026
Publish Action Memorandum	September 2026
Procure contractor	FY27
Submit Removal Action Design Plan	FY27
Removal Action Start	FY28
Anticipated Completion of Removal Action	FY28
Removal Action Post Construction Report	FY29

9.0 REFERENCES

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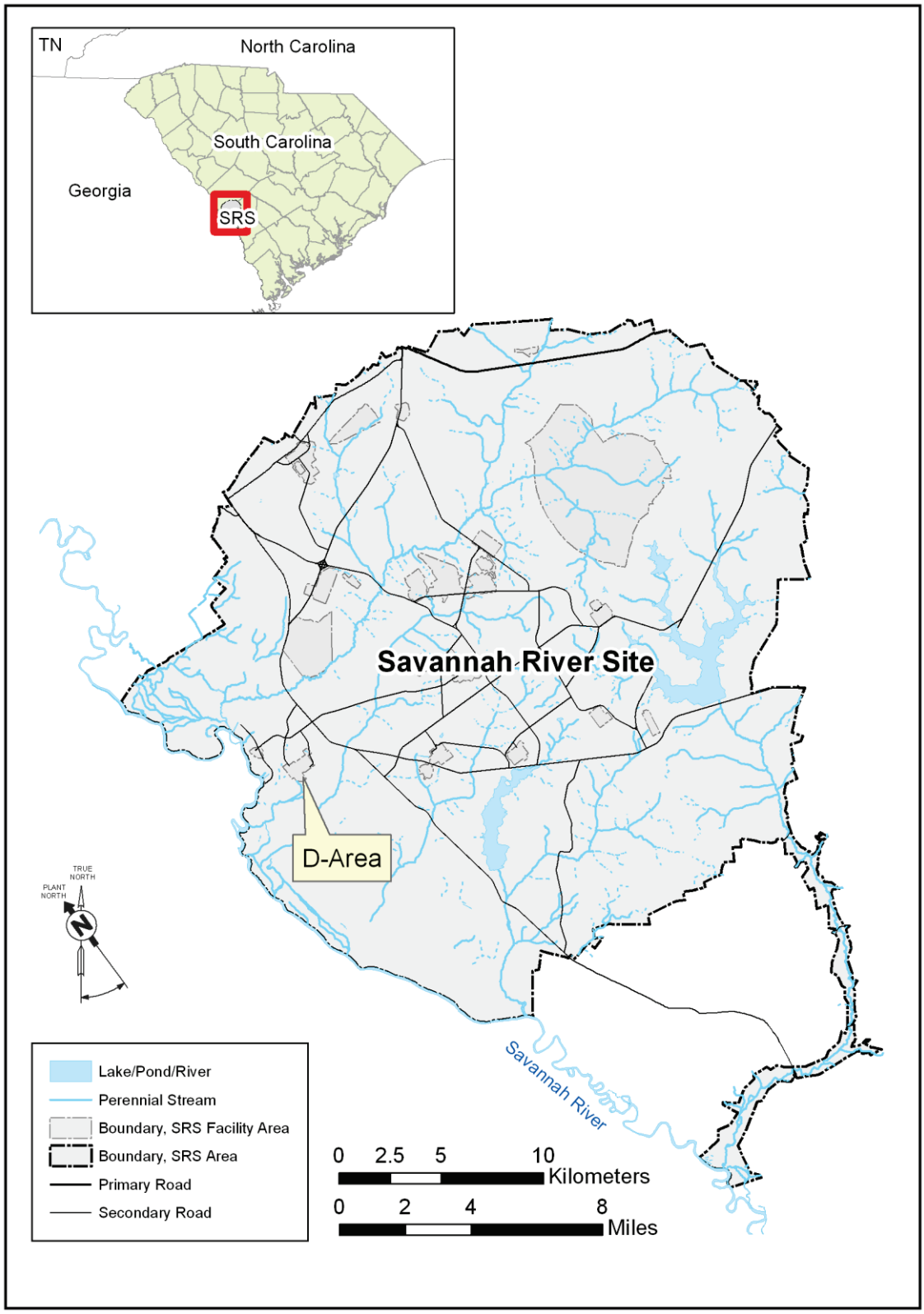


Figure 1. Geologic Proximity of Savannah River Site

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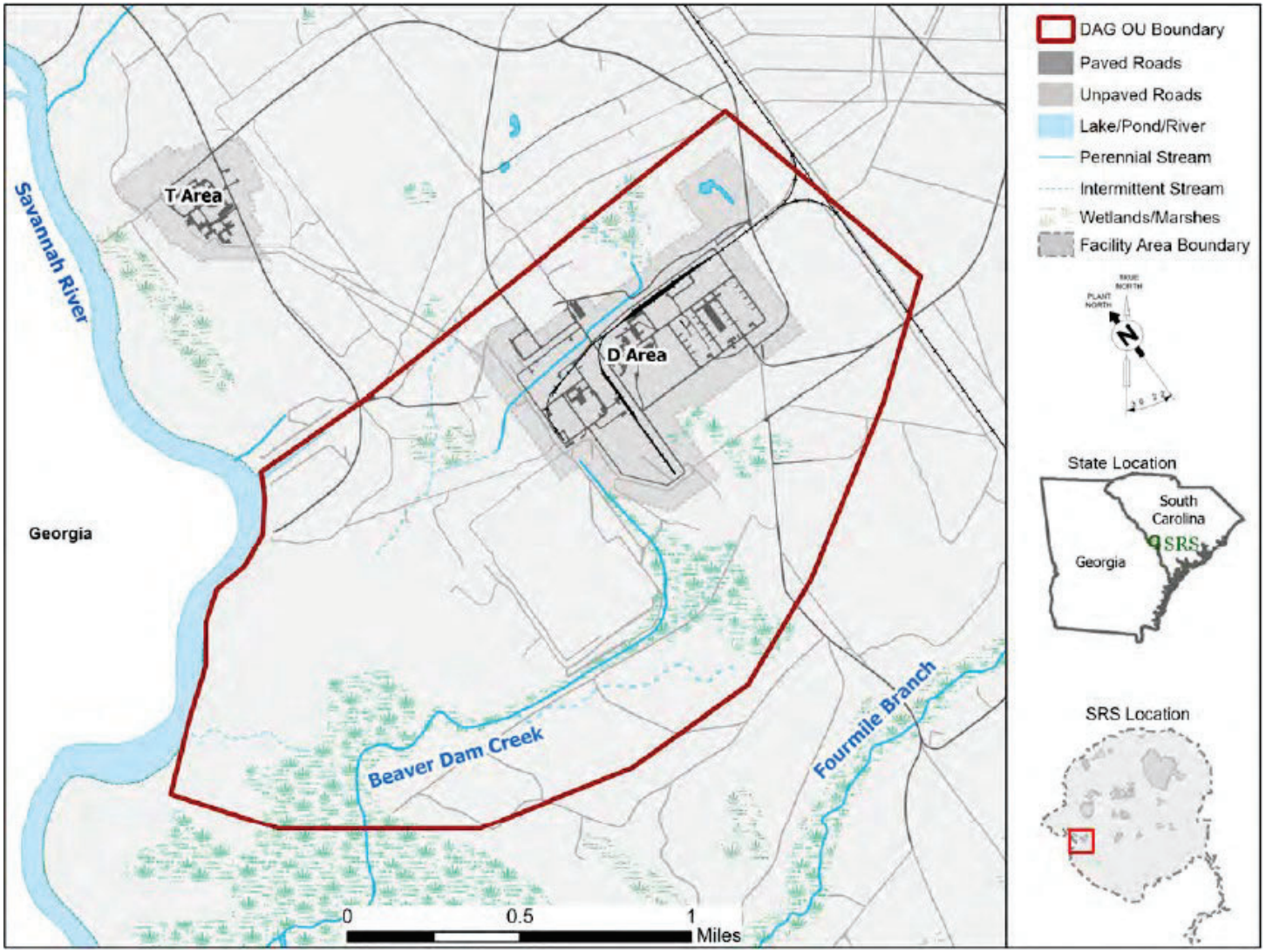


Figure 2. Location of DAG OU at the Savannah River Site



Figure 3. D Area Waste Units and Facilities

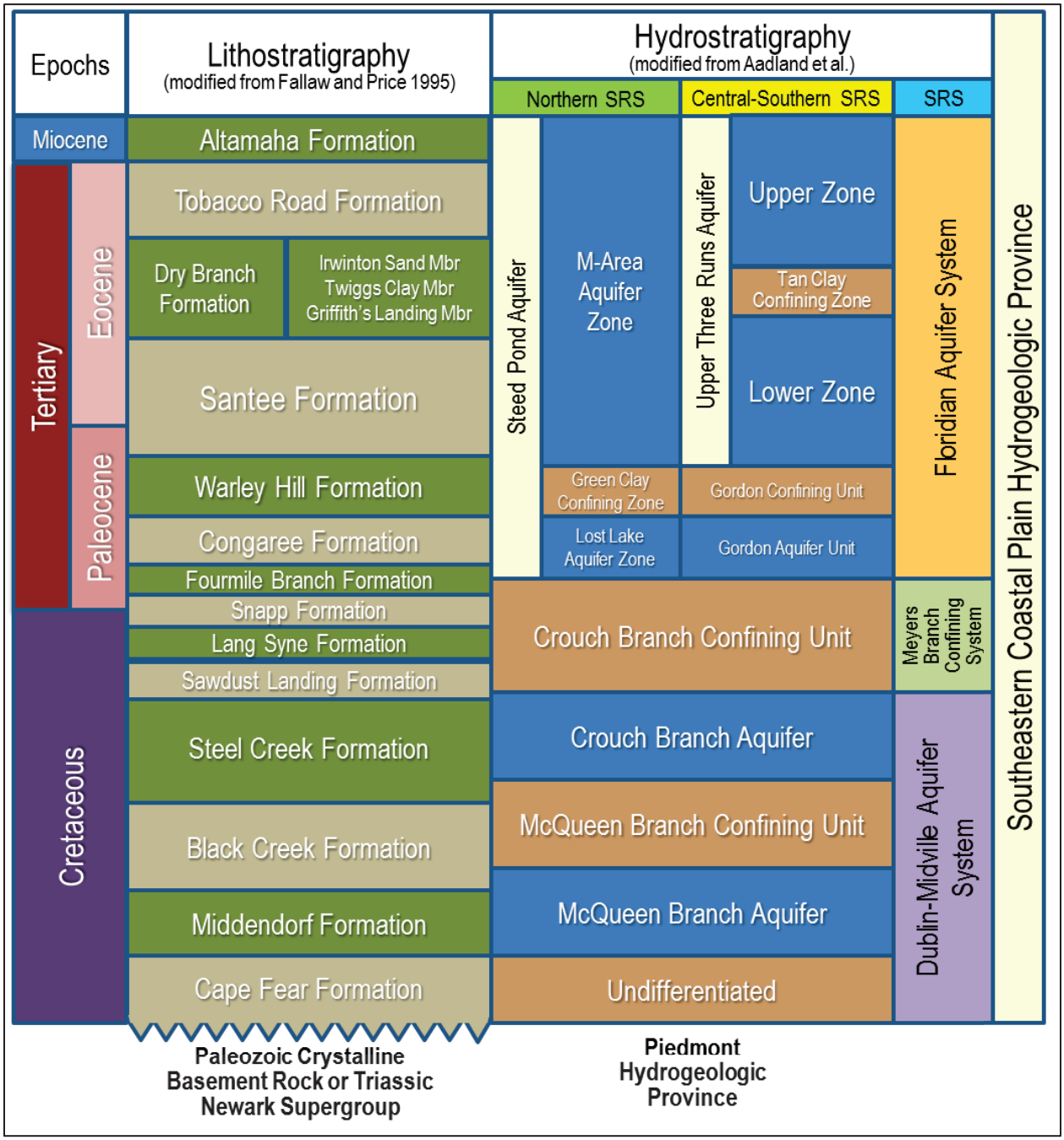


Figure 4. Lithostratigraphic and Hydrostratigraphic Units at SRS

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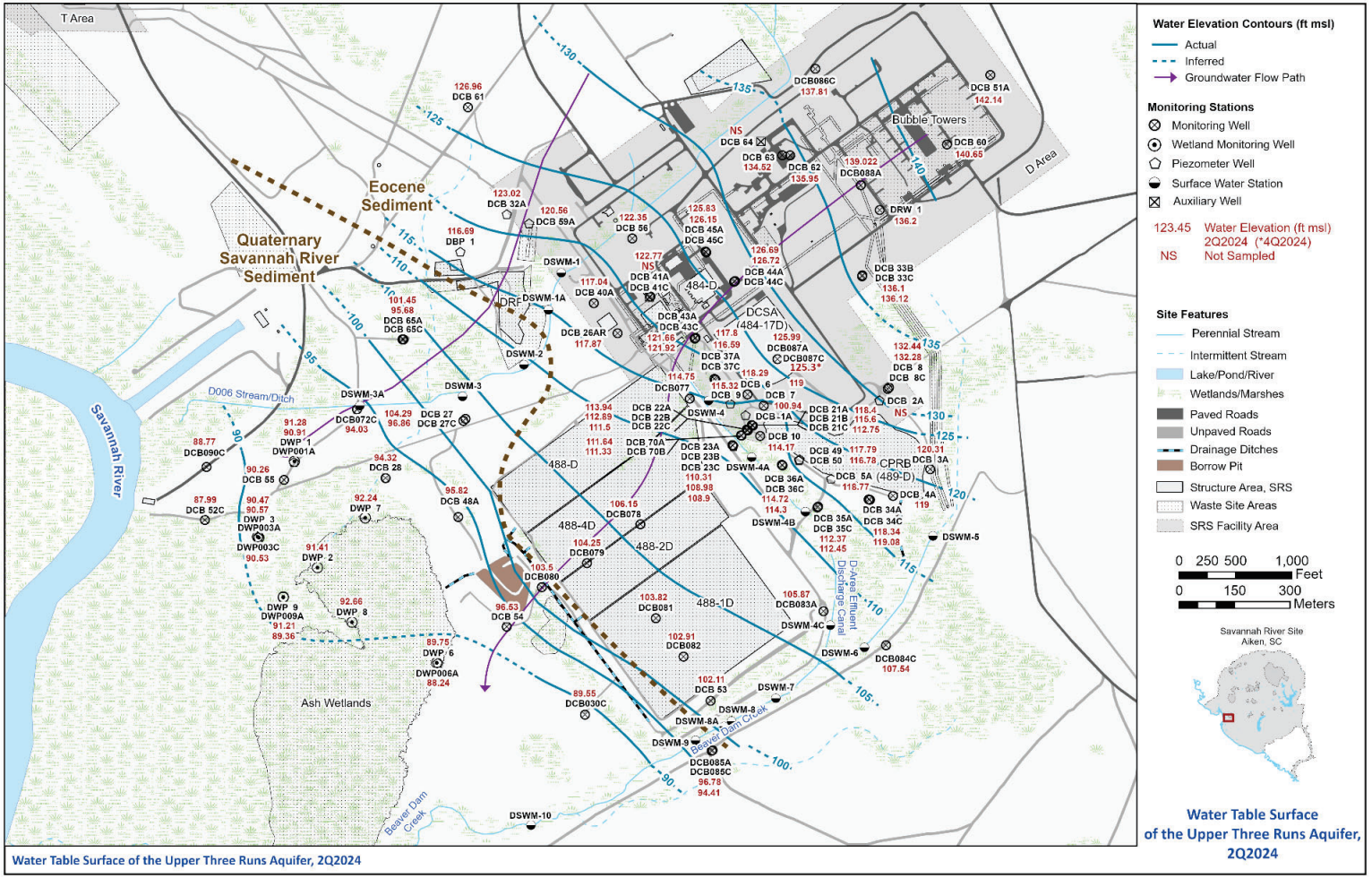


Figure 5. Water Level and Flow Direction of the UTRA

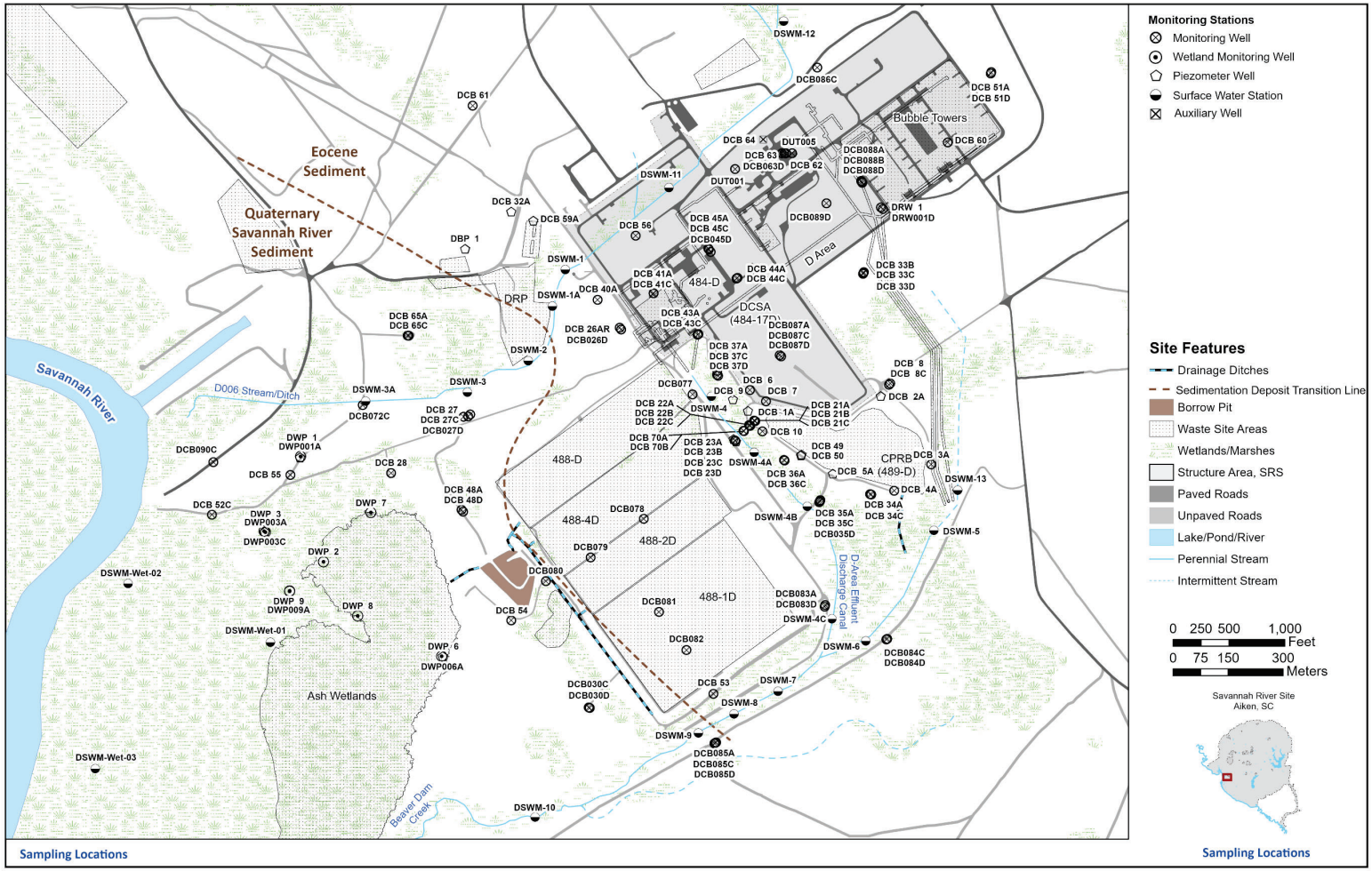


Figure 6. Sampling Locations

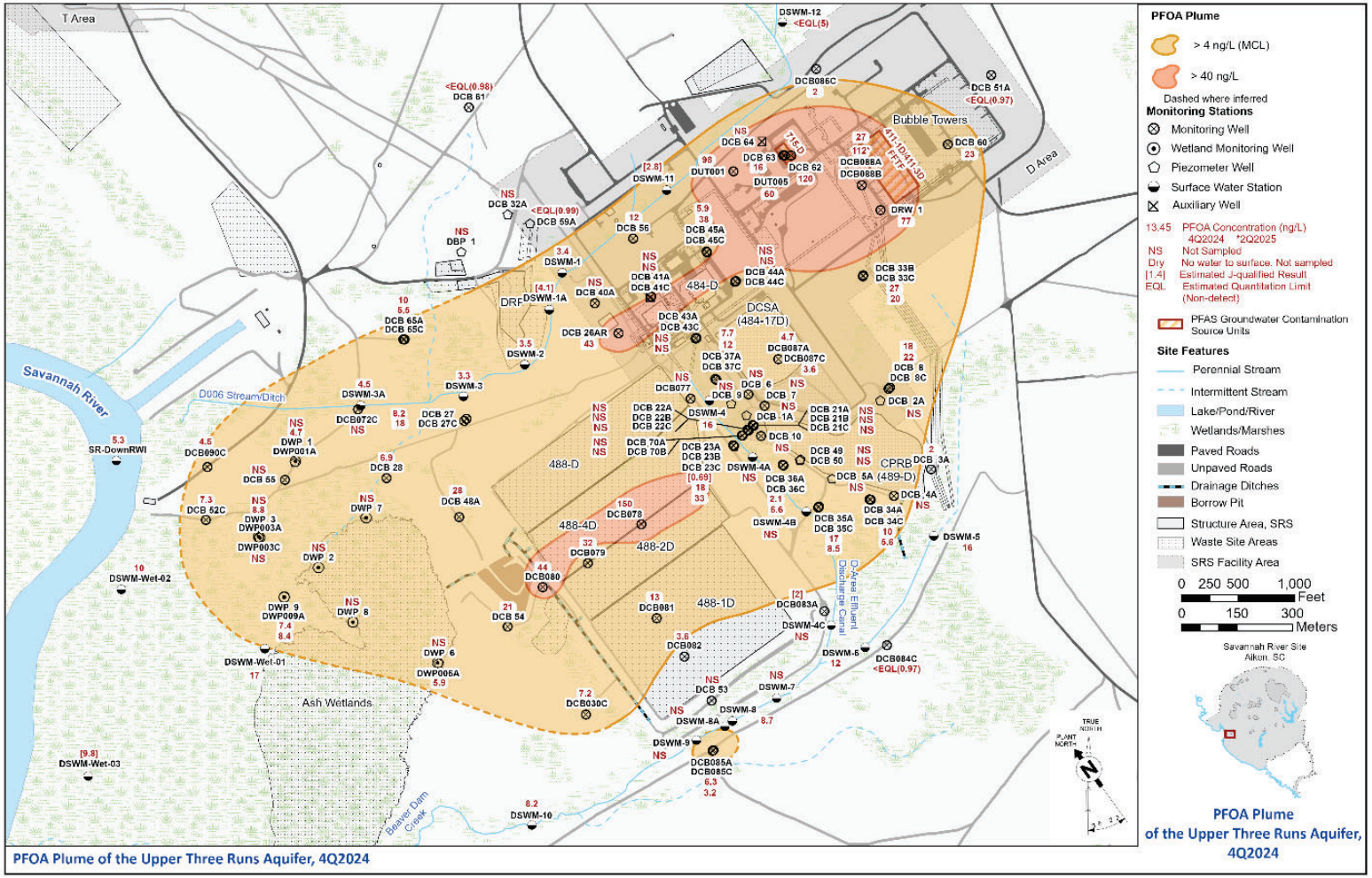


Figure 7. 4Q2024 DAG OU PFOA Plume Map of the UTRA

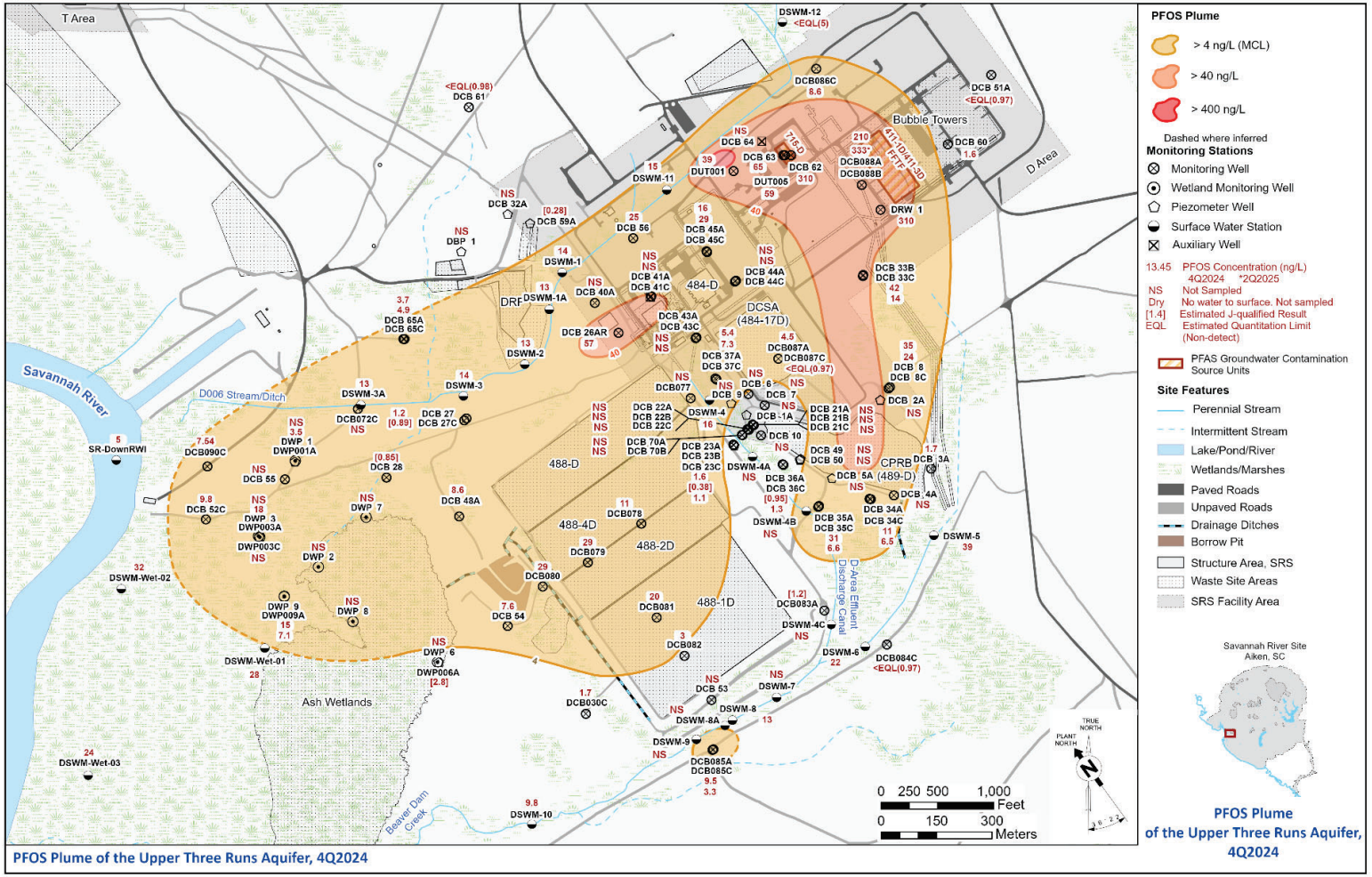


Figure 8. 4Q2024 DAG OU PFOS Plume Map of the UTRA

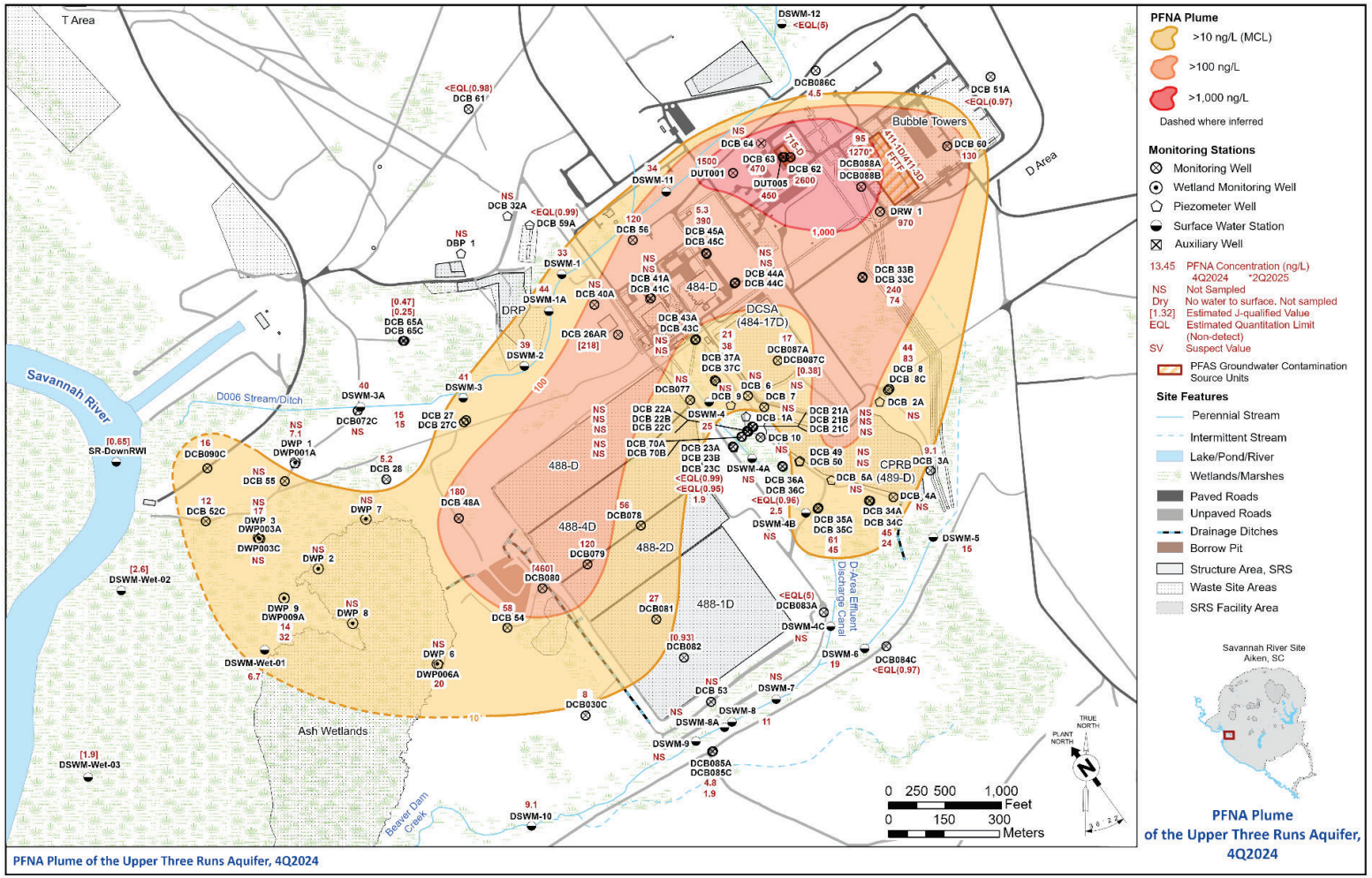


Figure 9. 4Q2024 DAG OU PFNA Plume Map of the UTRA

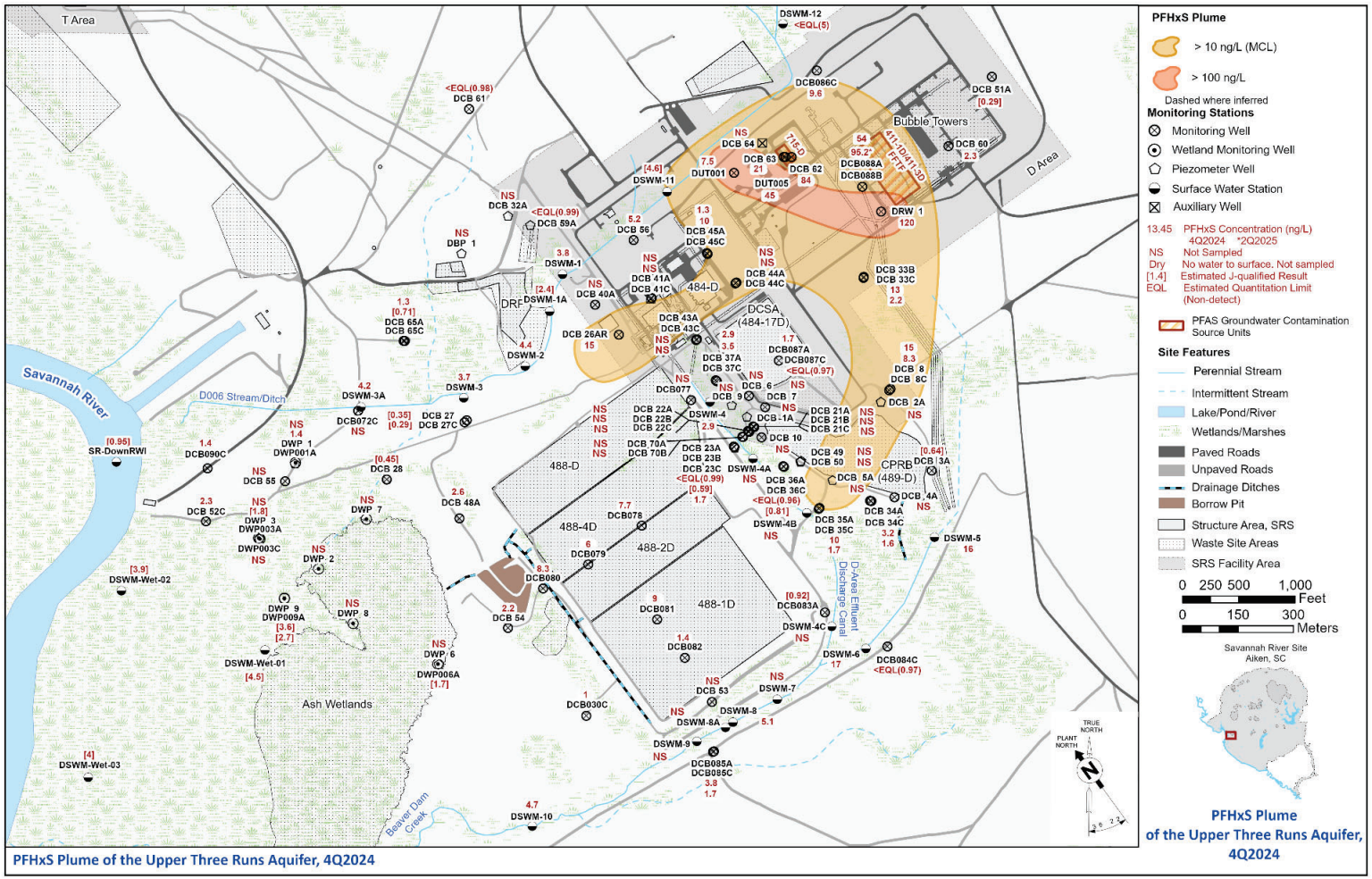


Figure 10. 4Q2024 DAG OU PFHxS Plume Map of the UTRA

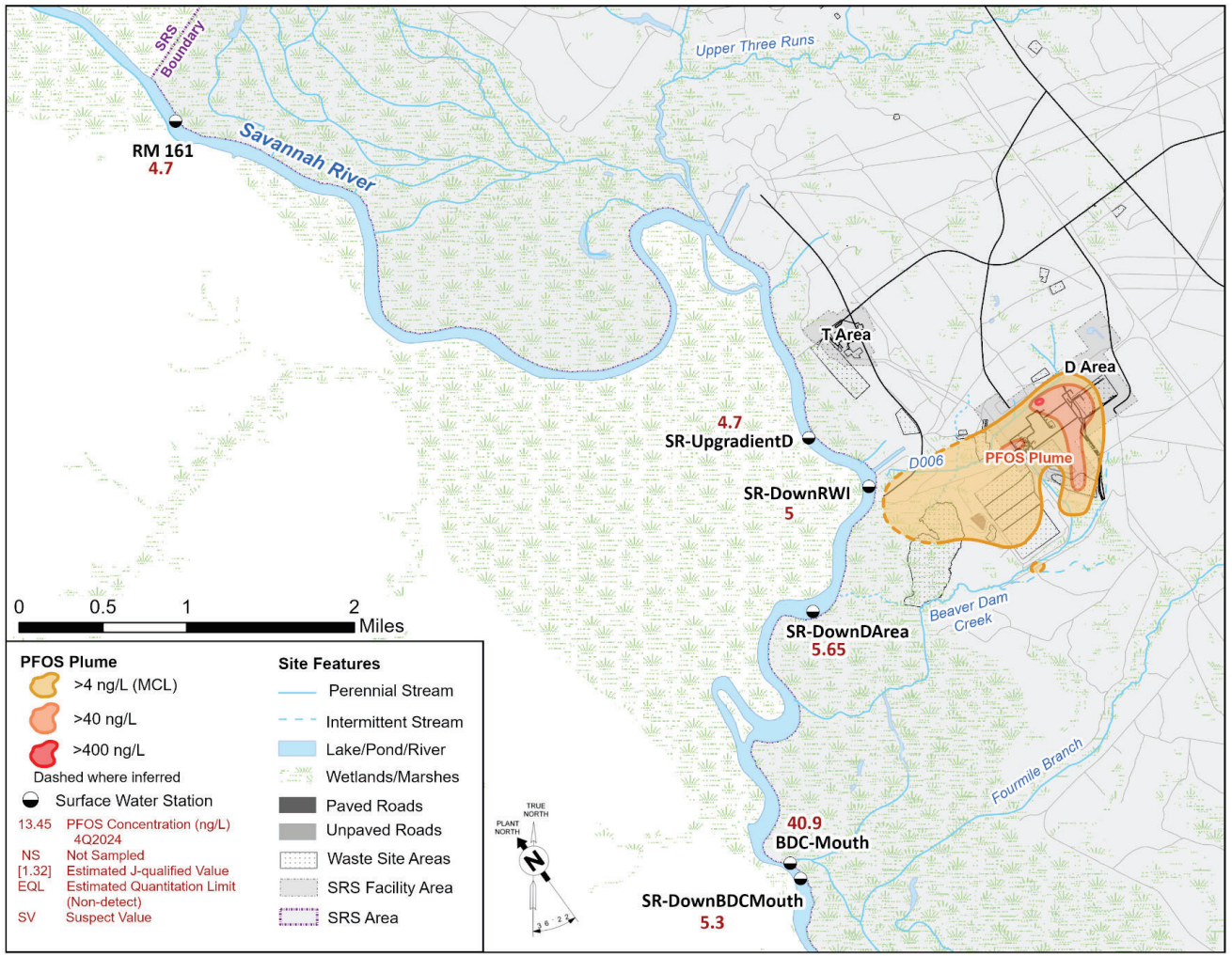


Figure 11. Savannah River Sample Locations and PFOS Concentrations



Figure 12. 4Q2024 DAG OU PFNA Plume Map of the Gordon Aquifer

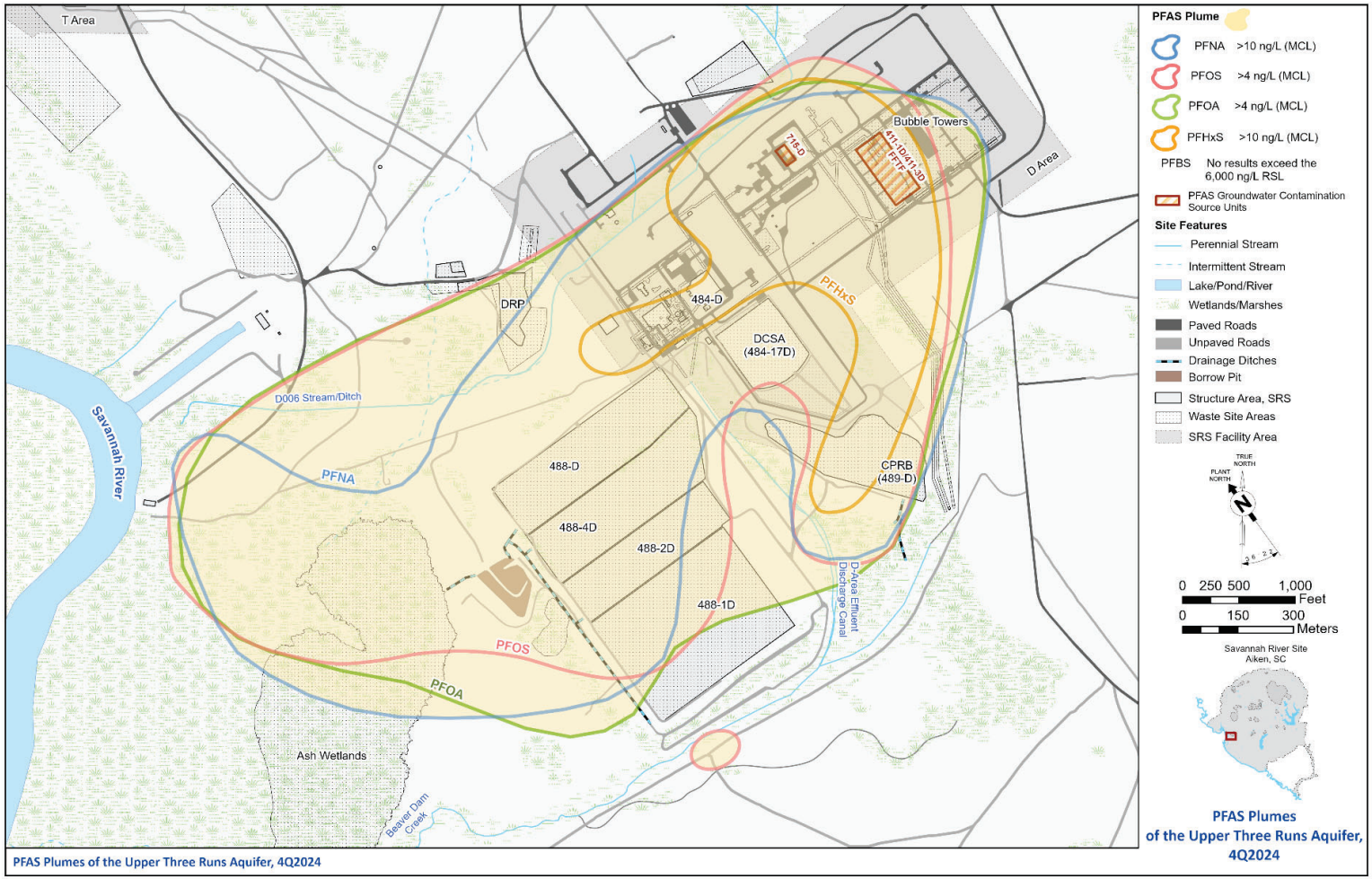


Figure 13. 4Q2024 Combined DAG OU PFAS Plume of the UTRA

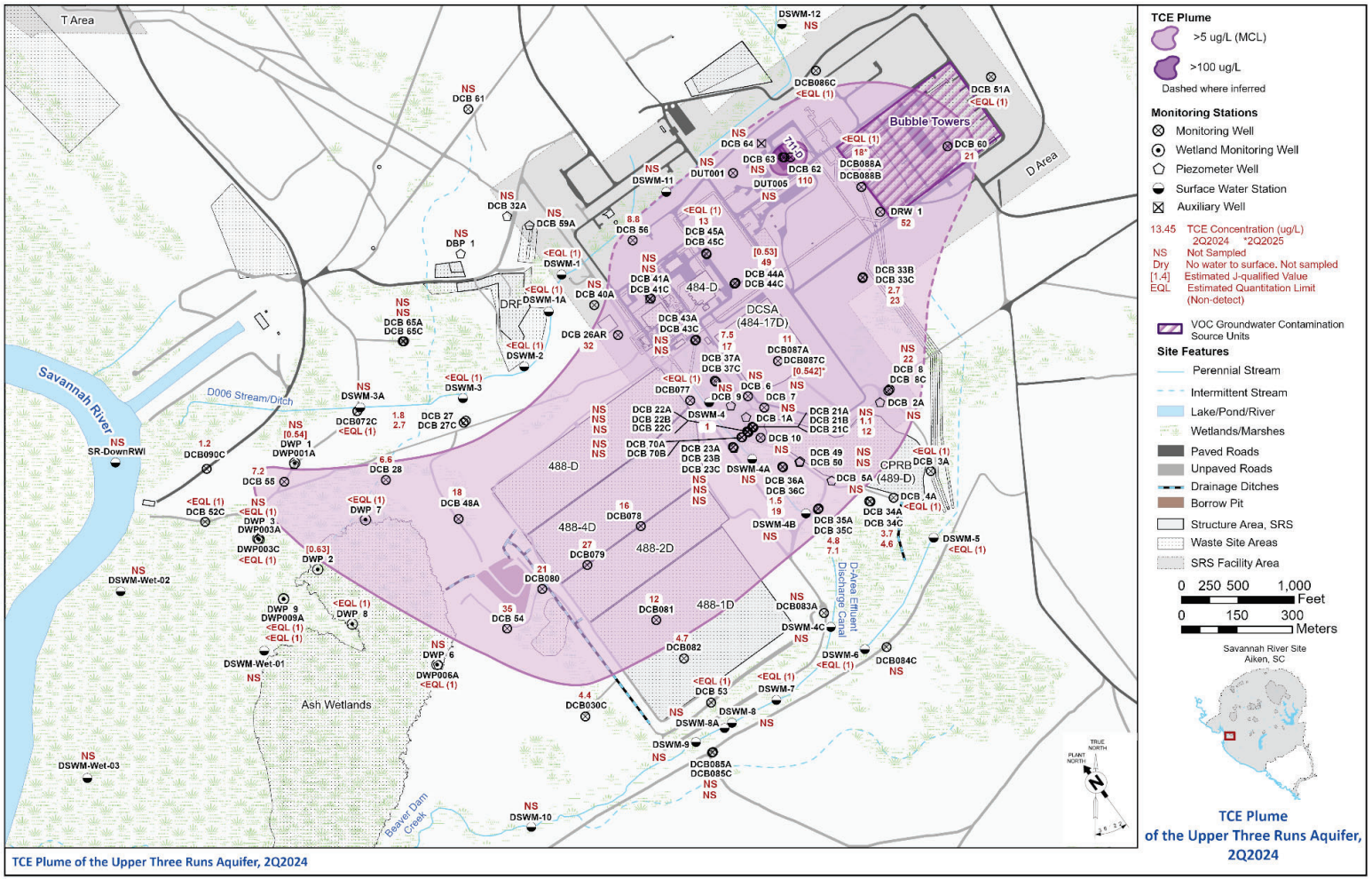


Figure 14. 4Q2024 DAG OU TCE Plume Map of the UTRA

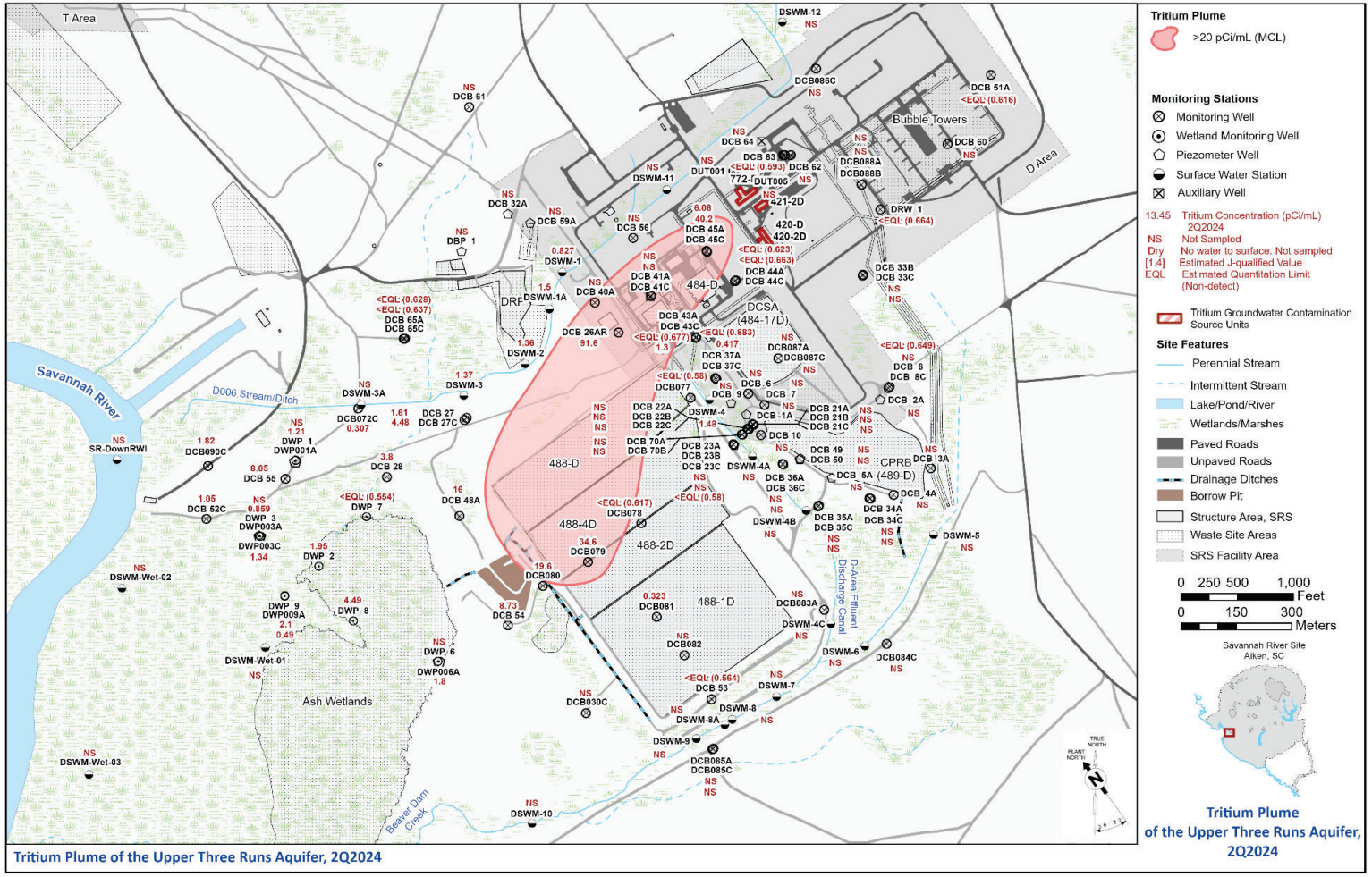


Figure 15. 4Q2024 DAG OU Tritium Plume Map of the UTRA

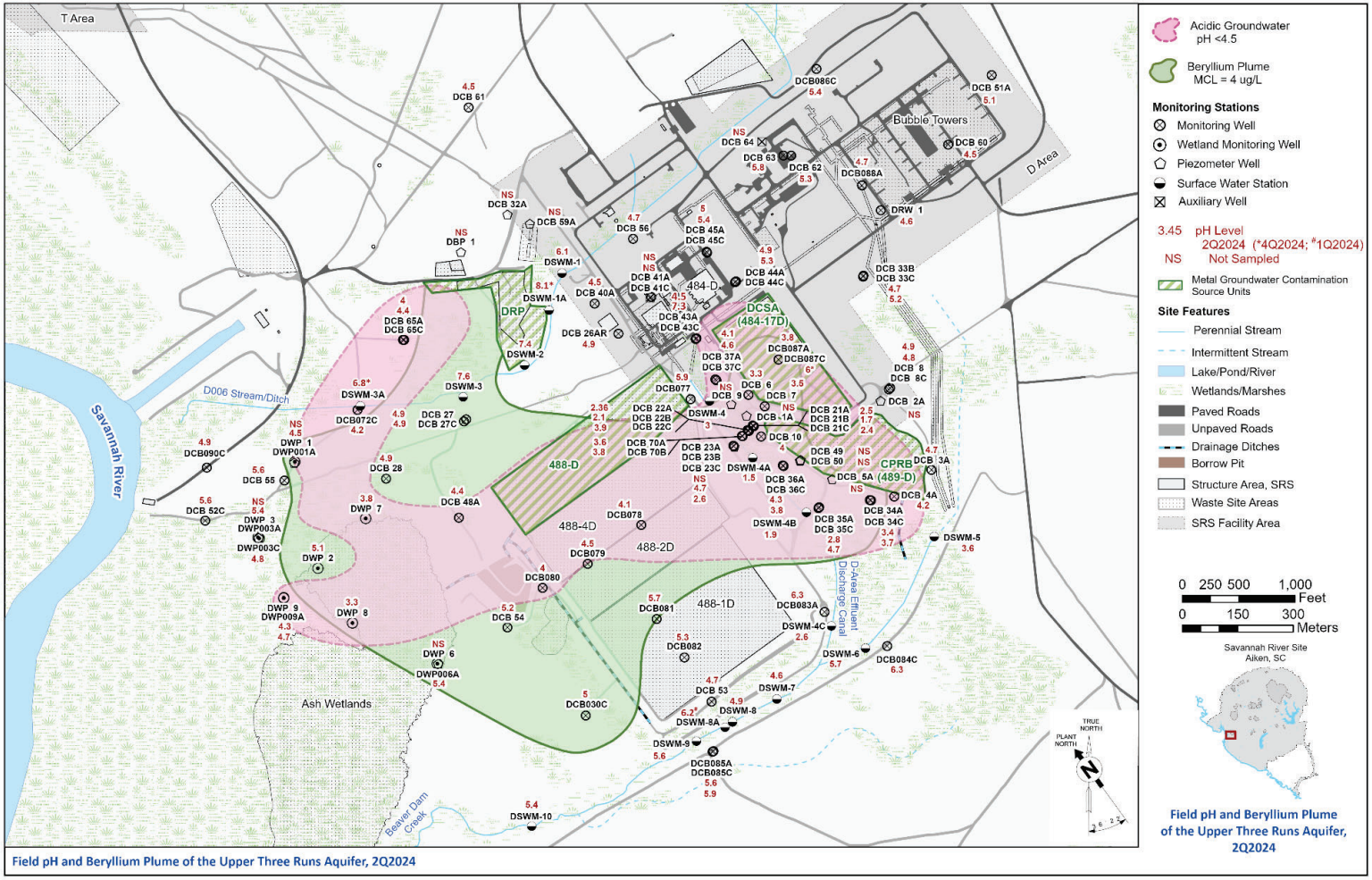


Figure 16. 4Q2024 DAG OU pH and Beryllium Plume Map of the UTRA

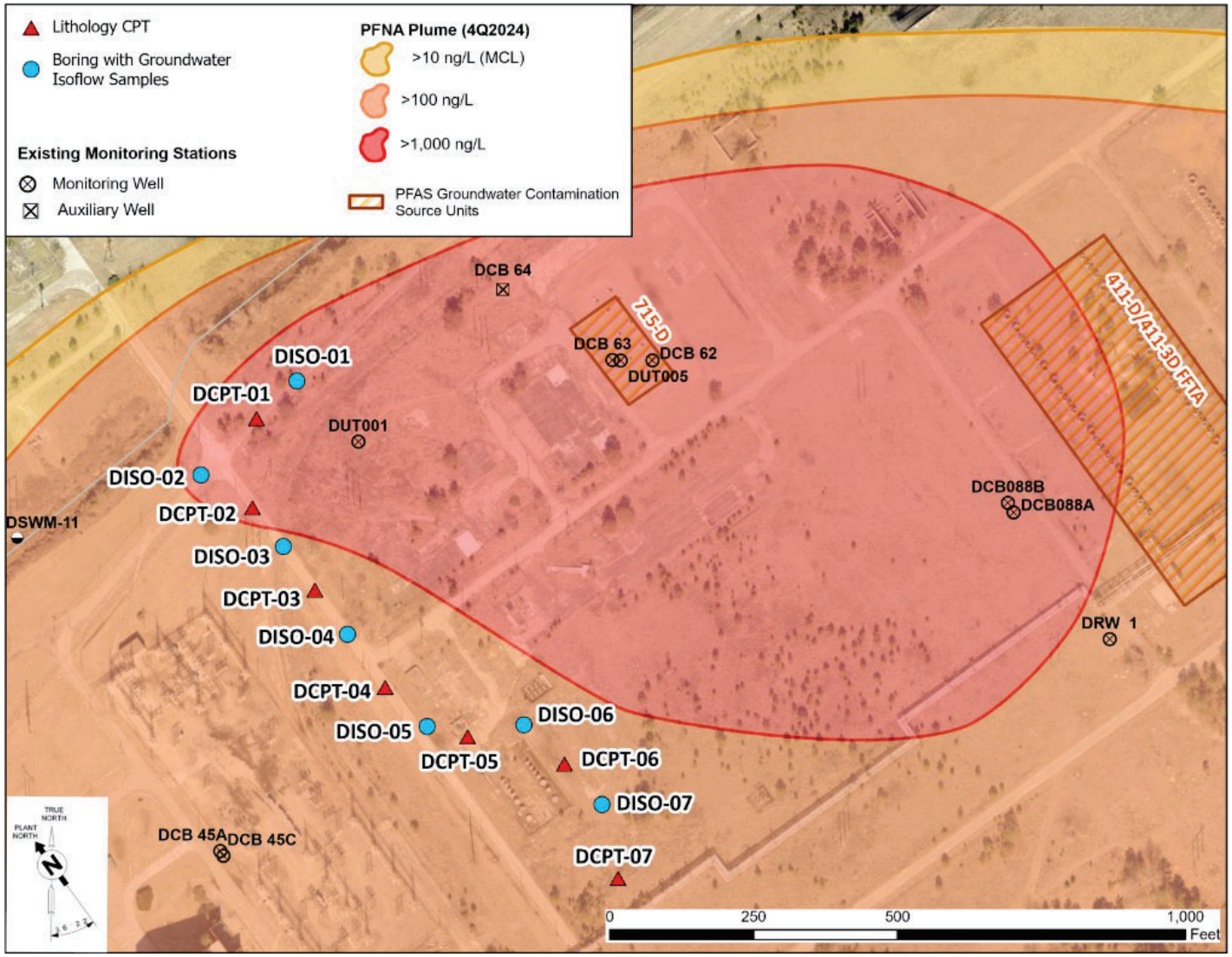


Figure 17. Investigative Sampling Locations

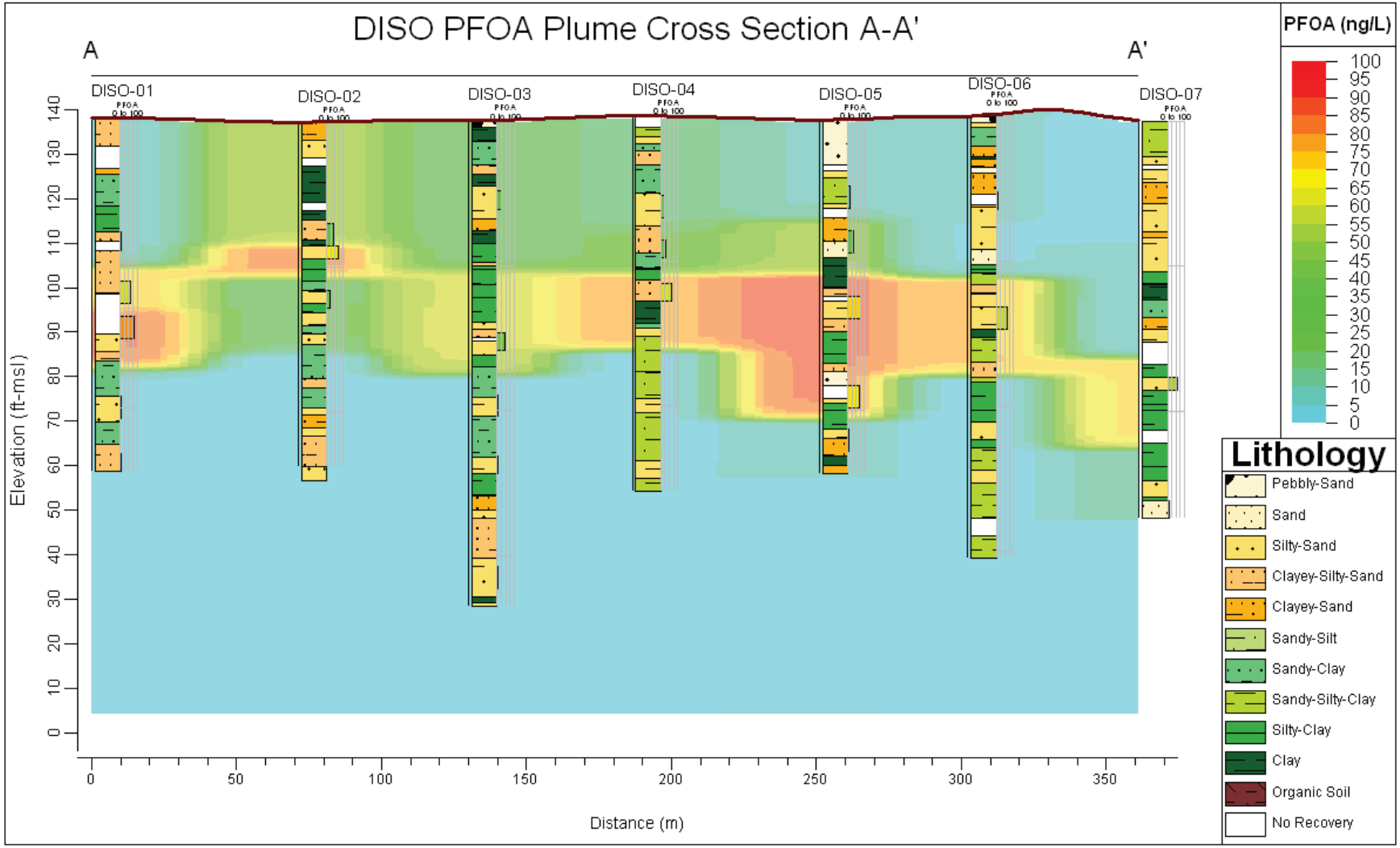


Figure 18. Investigative Sampling PFOA Plume and Lithology Cross Section

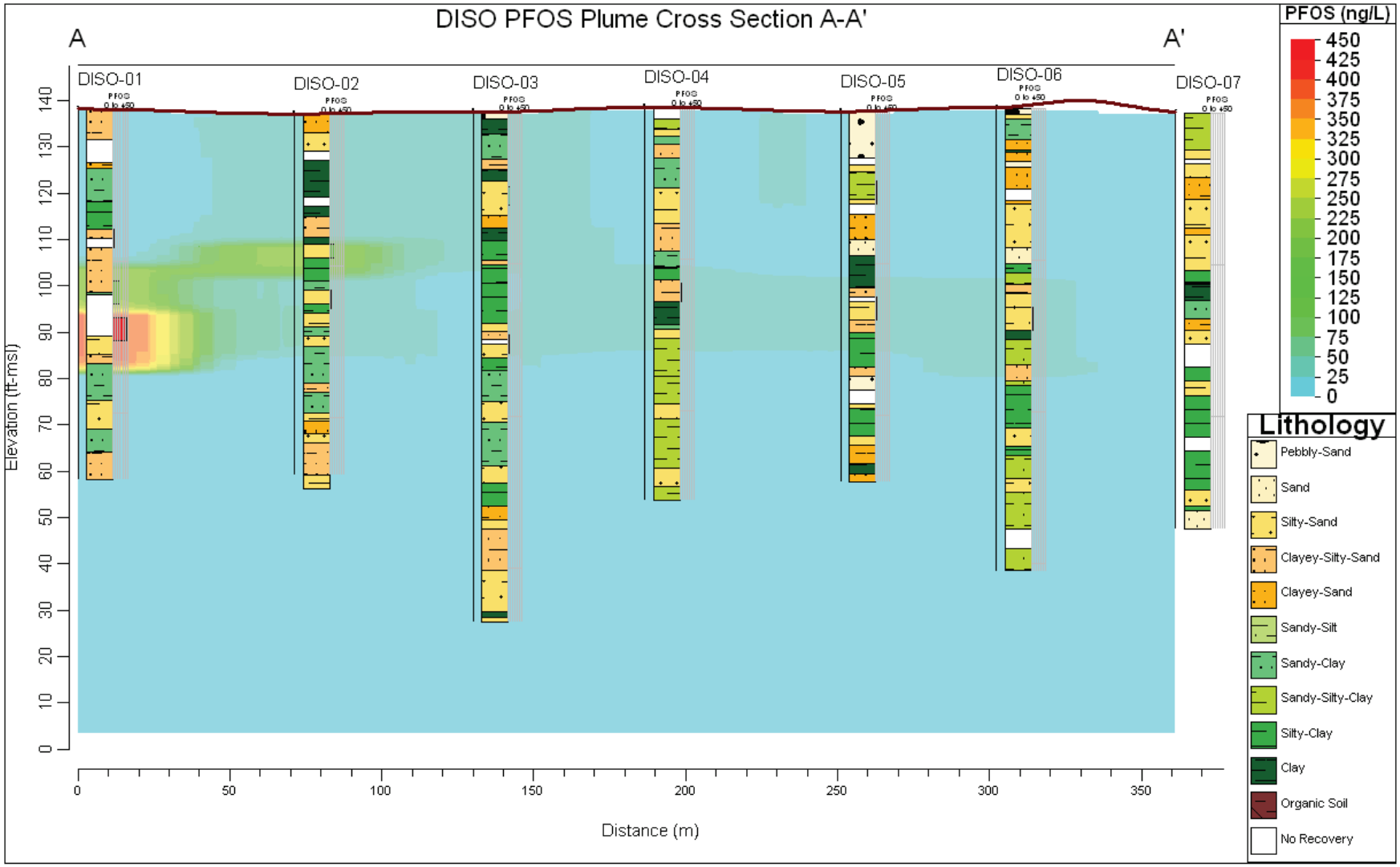


Figure 19. Investigative Sampling PFOS Plume and Lithology Cross Section

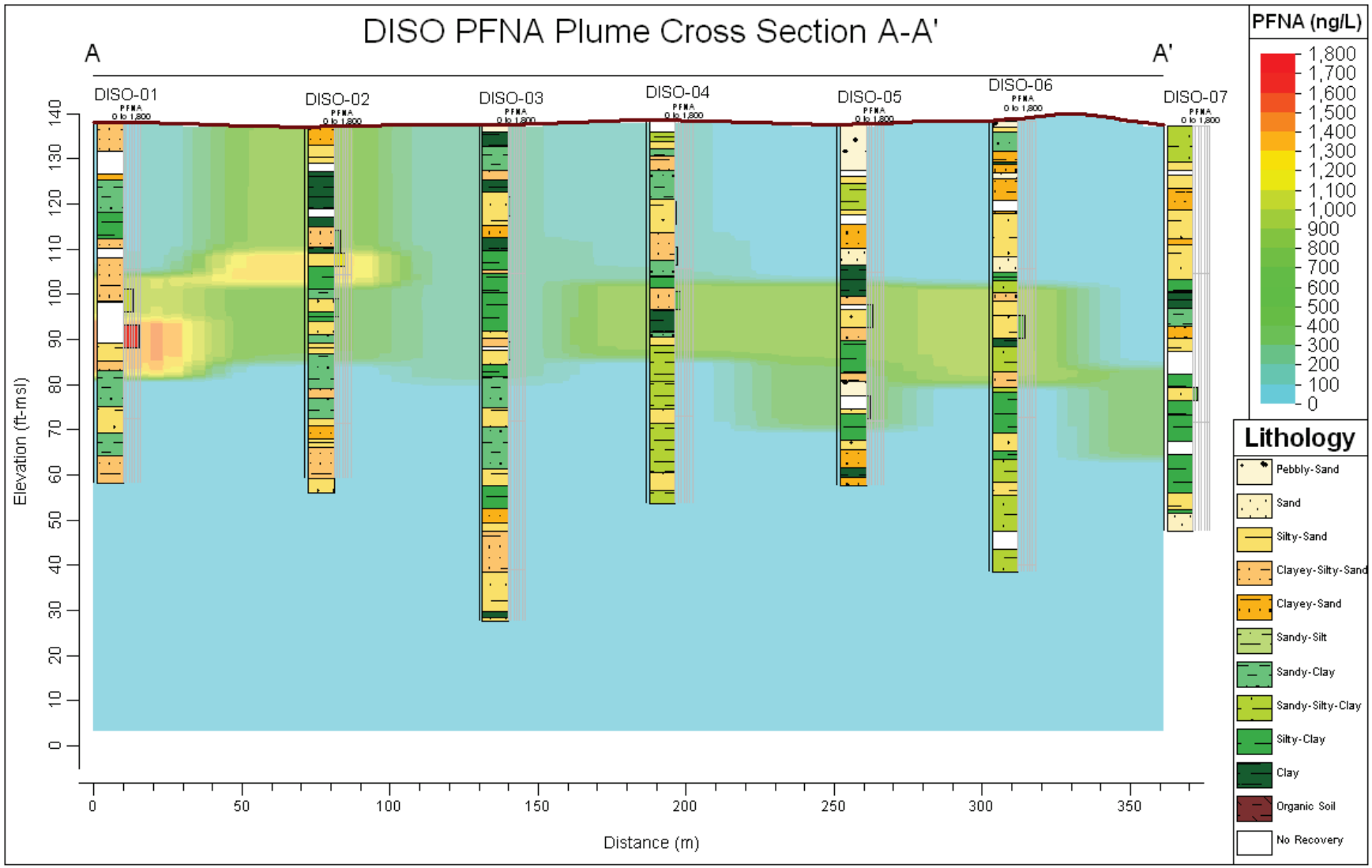


Figure 20. Investigative Sampling PFNA Plume and Lithology Cross Section

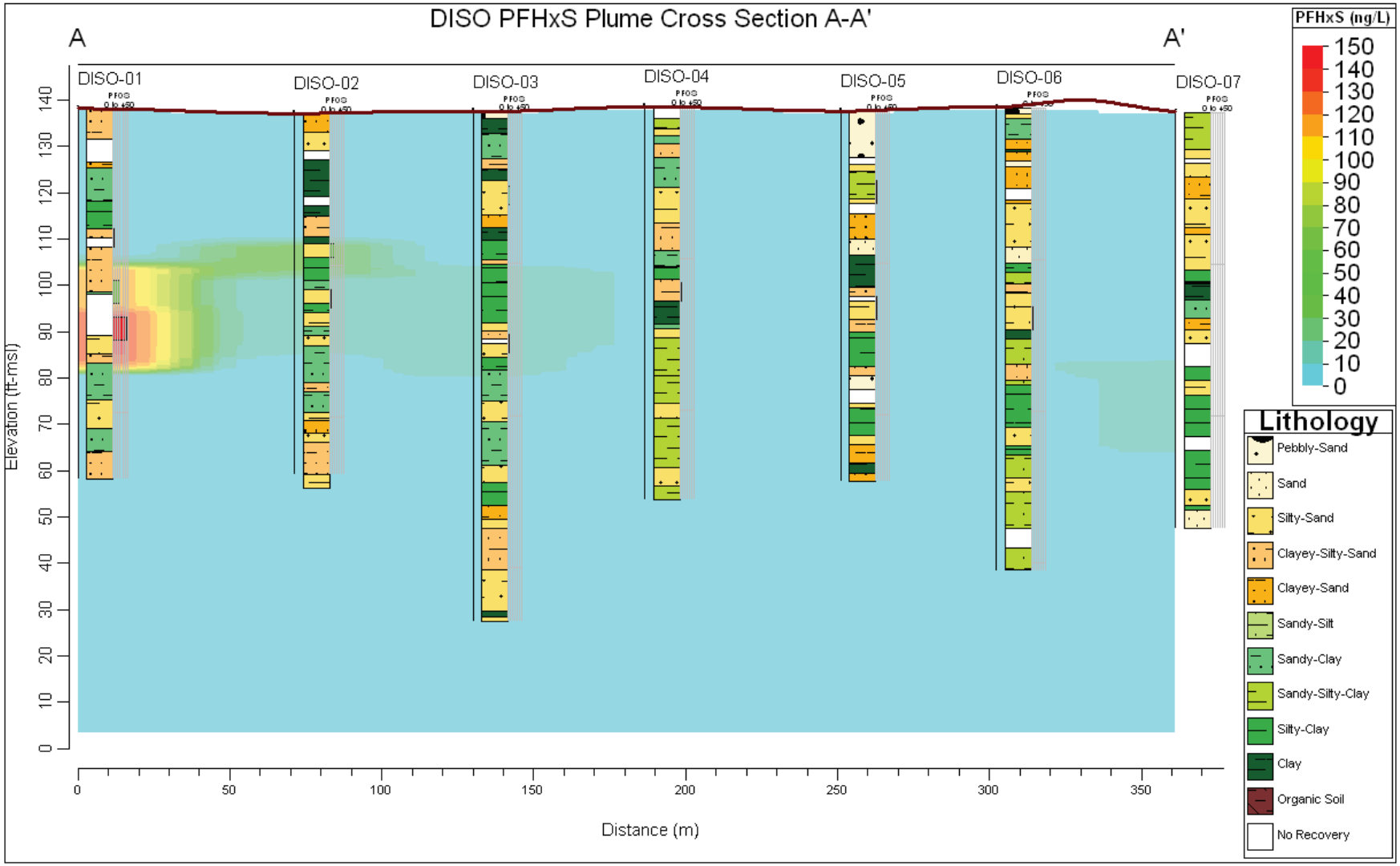


Figure 21. Investigative Sampling PFHxS Plume and Lithology Cross Section

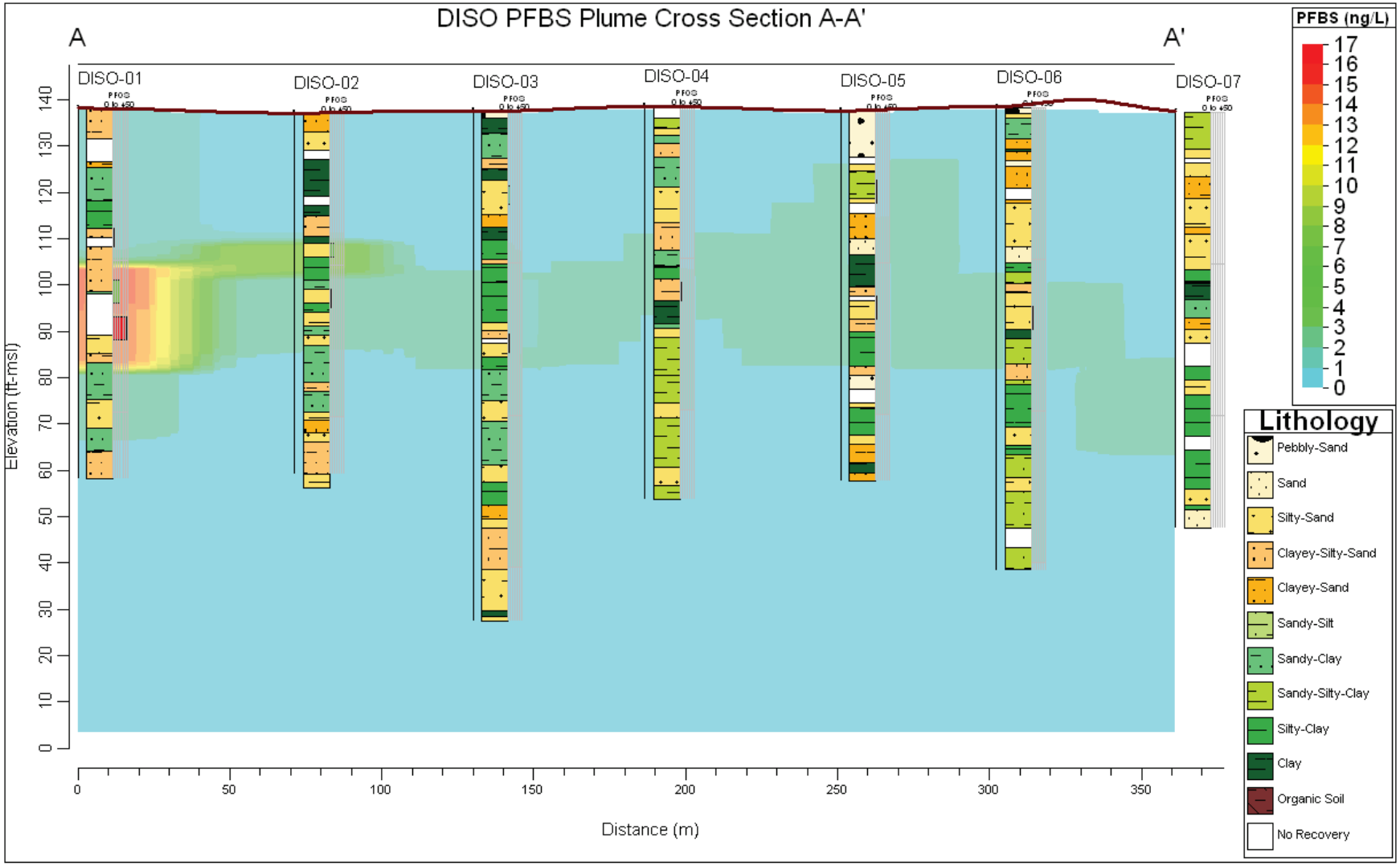


Figure 22. Investigative Sampling PFBS Plume and Lithology Cross Section

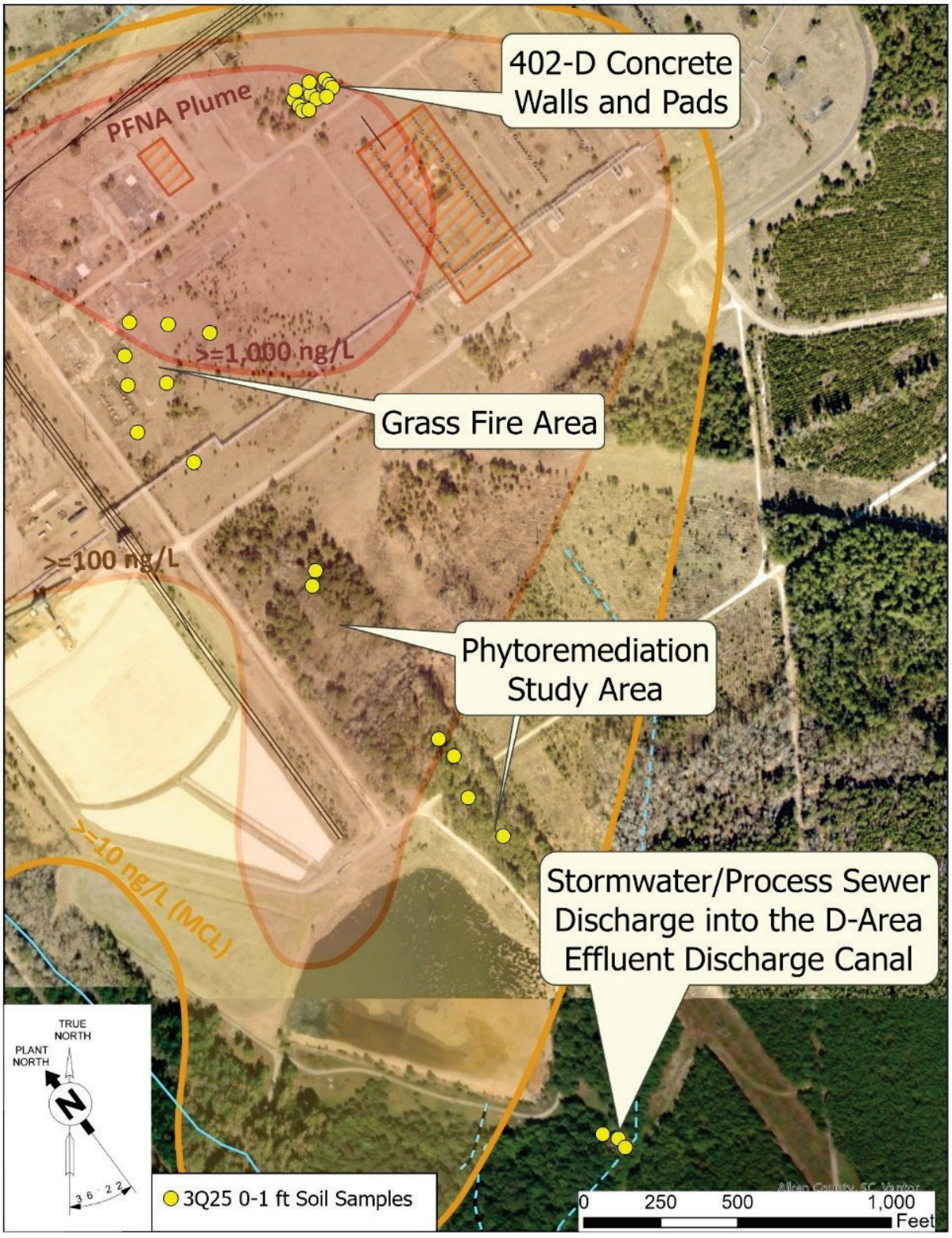


Figure 23. 2025 0-1 ft Soil Sample Locations at Four Potential PFAS Source Area

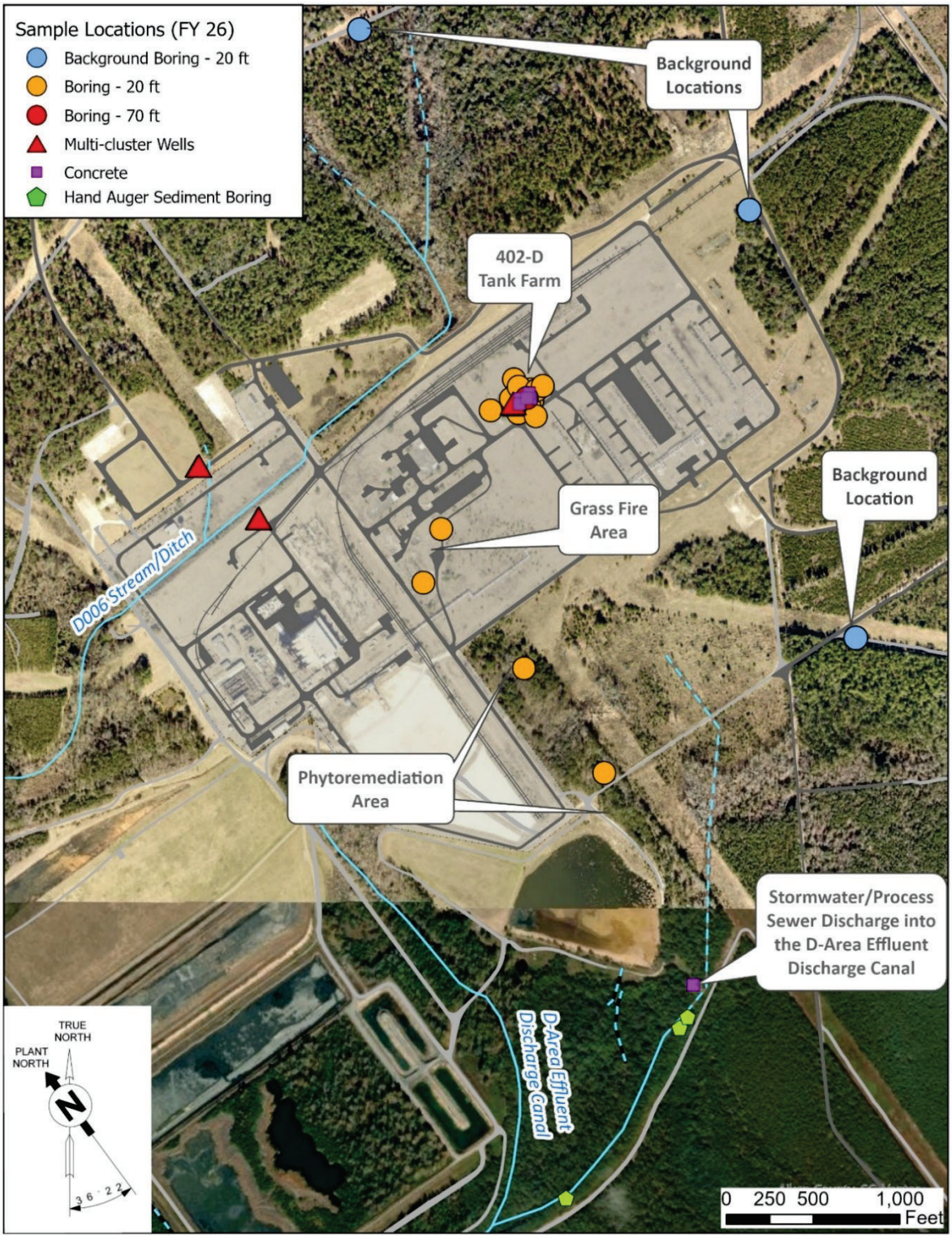


Figure 24. 2026 Additional D Area PFAS Characterization Locations

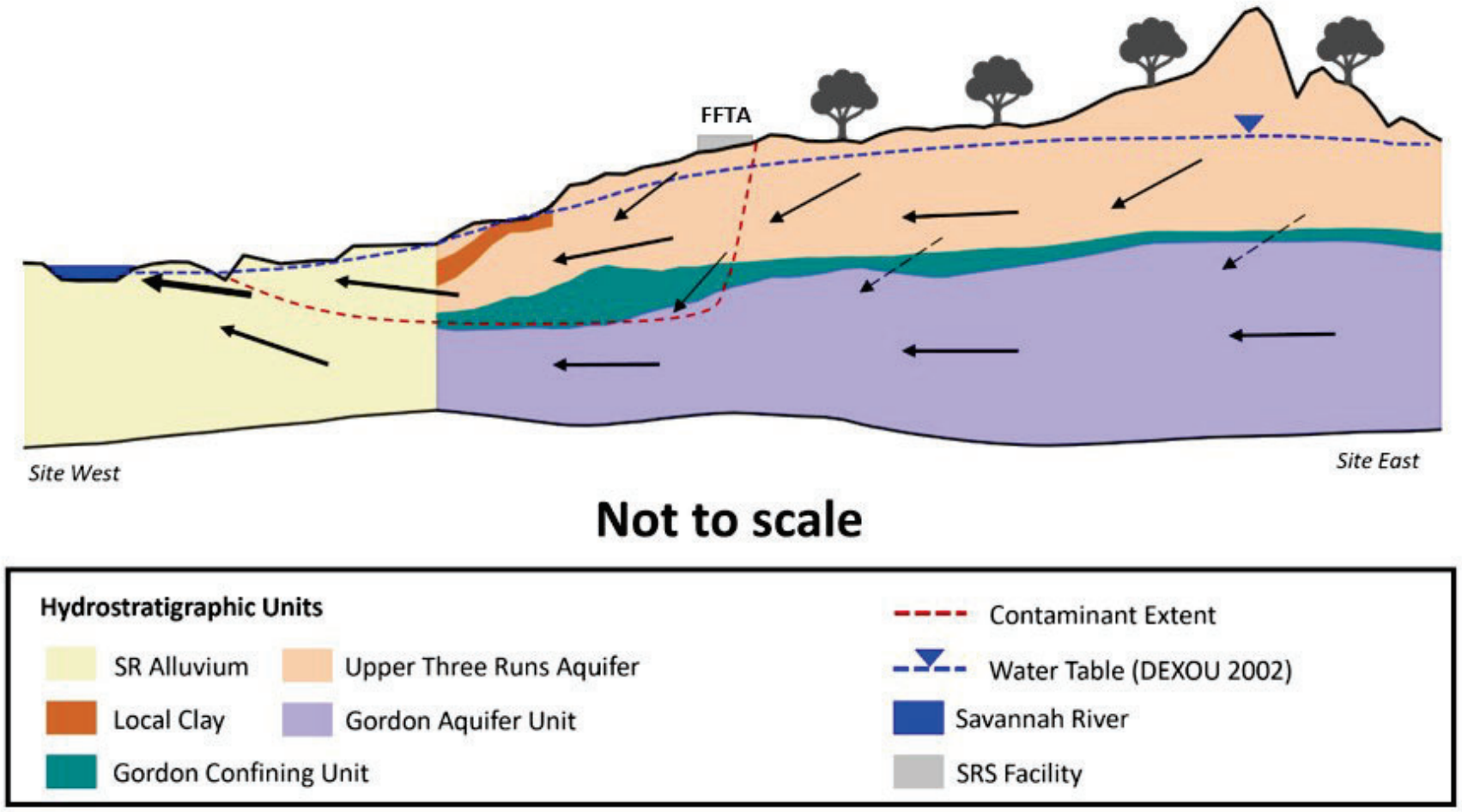


Figure 25. Conceptual Site Model for the DAG OU

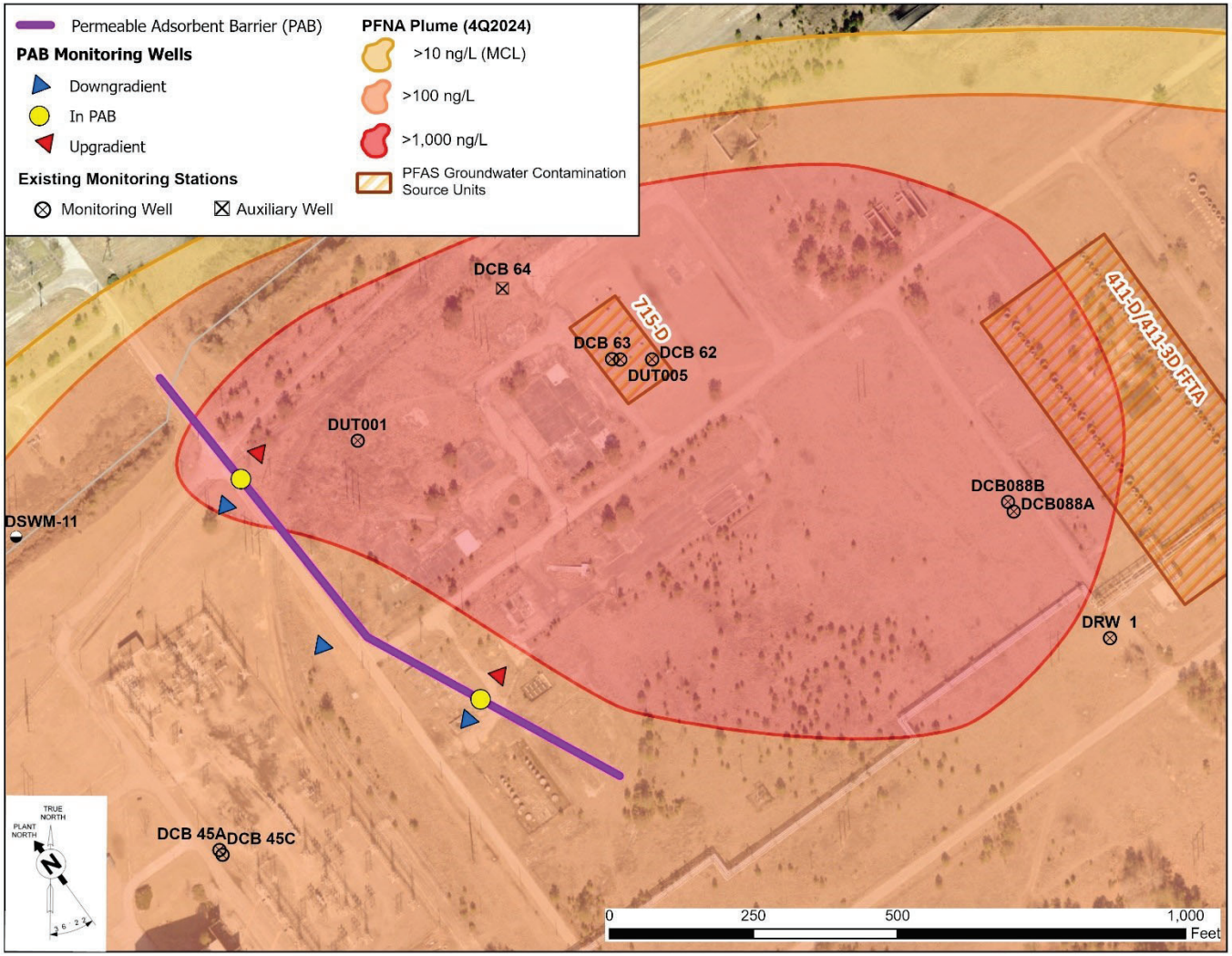


Figure 26. Potential PAB Arrangement Alternatives 2a & 2b

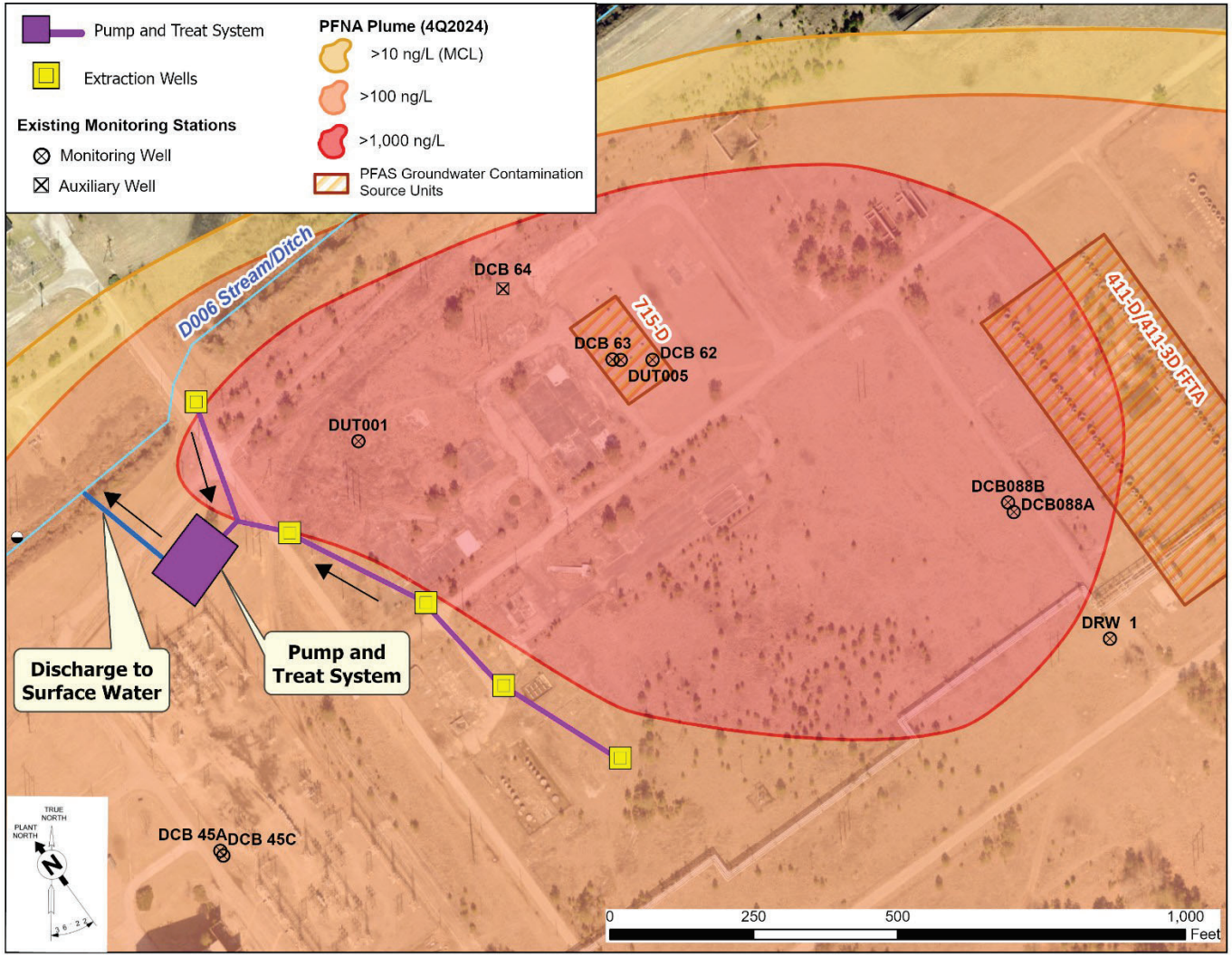


Figure 27. Potential Pump and Treat System Arrangement

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Table 1. USEPA Standards for Six PFAS and Maximum DAG OU Concentrations

CAS. No.	Contaminant (1/1/24-6/30/25 Max)	MCL (ng/L) (unless otherwise noted)	Tap Water RSL (ng/L)	MCL-based SSL (ng/g)
45285-51-6	PFOA (max = 150 ng/L)	4	0.0027	0.061
45298-90-6	PFOS (max = 440 ng/L)	4	2	0.03
122499-17-6	HFPO-DA (All Below DLs)	10	15	0.001
108427-53-8	PFHxS (max = 150 ng/L)	10	390	0.0042
72007-68-2	PFNA (max = 2,600 ng/L)	10	59	0.042
45187-15-3	PFBS (max = 600 ng/L)	No individual MCL	6000	--
N/A	Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, and PFNA) (max = 268)	1 (unitless)	N/A	N/A

MCL - maximum contaminant level
RSL - regional screening level
SSL - soil screening level
ng/L - nanogram per liter
DL – detection limit
PFOA - perfluorooctanoic acid
PFOS - perfluorooctanesulfonic acid
HFPO-DA - hexafluoropropylene oxide dimer acid
PFHxS - perfluorohexanesulfonic acid
PFNA - perfluorononanoic acid
PFBS - perfluorobutanesulfonic acid

Table 2. Chemical Descriptions of the Regulated PFAS in the DAG OU

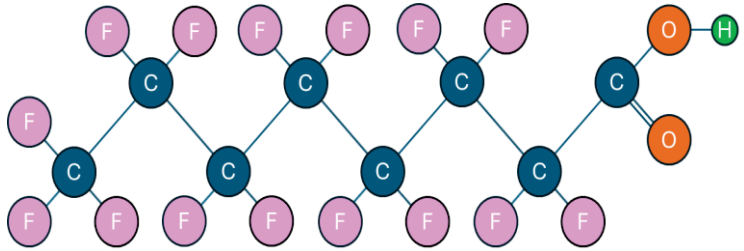
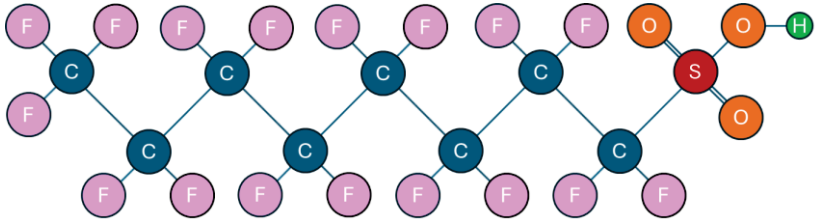
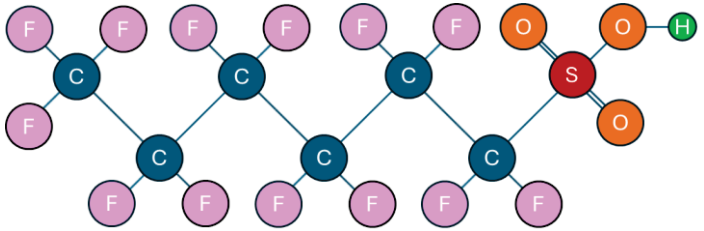
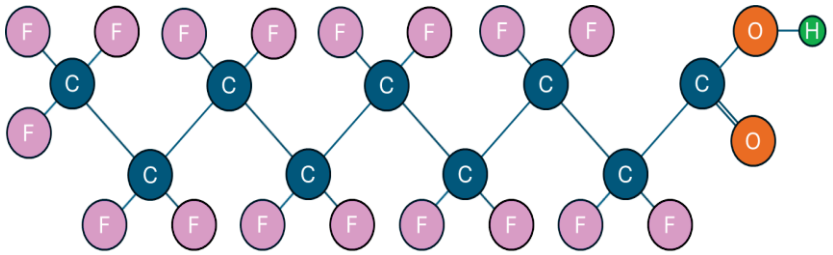
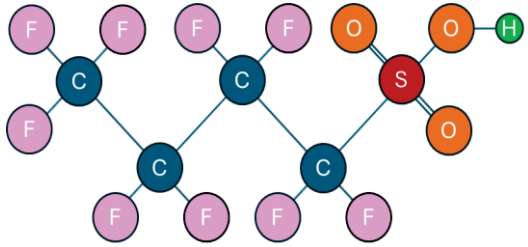
Contaminant ID		Characteristics		
CAS. No.	Short Name	Functional Group Head	Number of Carbons	Structures
45285-51-6	PFOA	Carboxylic Acid	8	
45298-90-6	PFOS	Sulfonic Acid	8	
108427-53-8	PFHxS	Sulfonic Acid	6	

Table 2. Chemical Descriptions of the Regulated PFAS in the DAG OU *(continued/end)*

Contaminant ID		Characteristics		
CAS. No.	Short Name	Functional Group Head	Number of Carbons	Structures
72007-68-2	PFNA	Carboxylic Acid	9	
45187-15-3	PFBS	Sulfonic Acid	4	

PFOA - Perfluorooctanoic acid

PFOS - Perfluorooctanesulfonic acid

PFHxS - Perfluorohexanesulfonic acid

PFNA - Perfluorononanoic acid

PFBS - Perfluorobutanesulfonic acid

Elements in structures: C = carbon; F = fluorine; O = oxygen; H = hydrogen; S = sulfur

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Table 3. Sample Depths and Concentrations from 1Q2025 Investigative Sampling

Location	Start Depth (ft bgs)	End Depth (ft bgs)	PFOA	PFOS	PFNA	PFHxS	PFBS
DISO-01	26	30	1.98	7.02	27.1	3.27	0
DISO-01	37	42	62.5	205	1090	122	16.5
DISO-01	45	50	80.2	440	1670	150	15.9
DISO-01	63	68	5.25	1.15	4.47	4.02	2.74
DISO-01	76	80	0	0	0	0	0
DISO-02	23	28	39.6	28	632	3.86	0.687
DISO-02	28	31	67.7	180	1200	43.1	6.76
DISO-02	38	42	20.7	46.4	524	13.1	2.15
DISO-03	16	20	23.4	48.4	226	6.6	0.993
DISO-03	48	52	45.7	16.6	224	14.9	1.65
DISO-03	62	67	1.03	0	1.28	0	0
DISO-03	76	80	2.18	0	0	0	1.11
DISO-03	101	106	0	0	0	0	0
DISO-04	18	23	19.4	18.1	111	4.39	0.768
DISO-04	28	32	25.4	22.7	195	5.24	0.692
DISO-04	38	42	63.7	35.2	632	8.4	1.1
DISO-04	64	68	3.04	0	4.91	0	0
DISO-05	15	20	9.7	27.7	2.44	1.53	0.704
DISO-05	25	30	35.5	8.51	15.5	9.16	1.07
DISO-05	40	45	72.7	26.7	622	9	1.39
DISO-05	60	65	70.9	6.94	474	8.18	1.23
DISO-05	70	75	8.69	0	18.3	0.751	0
DISO-06	17	21	7.82	3.4	3.86	4.65	1.39
DISO-06	25	30	4.4	1.39	5.22	2.42	0
DISO-06	43	48	60.9	36.2	734	9.5	1.48
DISO-06	69	73	0	0	4.06	0	0
DISO-06	90	95	2.03	0	2.9	0	0
DISO-07	19	24	0.747	0	1.07	0	0
DISO-07	29	34	6.59	4.45	46.8	1.69	0
DISO-07	45	50	5.14	8.43	44.4	2.4	0
DISO-07	58	61	56.4	18.2	478	14.2	2.61
DISO-07	86	90	13.2	0	3.2	0.765	0

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Appendix A

Potential ARARs and TBC Criteria

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Location-Specific ARARs						
Location Characteristics	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
Floodplains and Wetlands						
Presence of wetlands as defined in 10 CFR 1022.4	Avoid, to the extent possible, the long- and short-term adverse effects associated with destruction, occupancy, and modification of wetlands and floodplains.	DOE actions that involve potential impacts to, or take place within, wetlands – **applicable.**	10 CFR §1022.3(a)	✓	✓	✓
	Take action, to extent practicable, to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.		10 CFR §1022.3(a)(7) and (8)	✓	✓	✓
	Undertake a careful evaluation of the potential effects of any new construction in wetlands. Identify, evaluate, and as appropriate, implement alternative actions that may avoid or mitigate adverse impacts on wetlands.		10 CFR §1022.3(b) and (d)	✓	✓	✓
	If no practicable alternative to locating or conducting the action in the wetland is available, then before taking action, design or modify the action in order to minimize potential harm to or within the wetland, consistent with the policies set forth in E.O. 11990.		10 CFR §1022.14(a)	✓	✓	✓
Location encompassing *aquatic ecosystem* as defined in 40 CFR 230.3 (c)	No discharge of dredged or fill material into an aquatic ecosystem is permitted if there is a practicable alternative that would have less adverse impact. No discharge of dredged or fill material shall be permitted unless appropriate and practicable steps in accordance with 40 CFR 230.70 *et seq.* have been taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.	Action that involves the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands – **applicable.**	40 CFR §230.10(a) 40 CFR §230.10(d)	✓	✓	✓
Location encompassing *aquatic ecosystem* as defined in 40 CFR 230.3 (c)	No discharge of dredged or fill material into an aquatic ecosystem is permitted if there is a practicable alternative that would have less adverse impact. No discharge of dredged or fill material shall be permitted unless appropriate and practicable steps in accordance with 40 CFR 230.70 *et seq.* have been taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.	Action that involves the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands – **applicable**	40 CFR §230.10(a) 40 CFR §230.10(d)	✓	✓	✓
	Must comply with the substantive requirements of the NWP 38, General Conditions, as appropriate, any regional or case-specific conditions recommended by the Corps District Engineer, after consultation. Note: Despite that consultation may be considered an administrative requirement, it should be performed to ensure activities are in compliance with substantive provisions of the permit.	On-site CERCLA action conducted by Federal agency that involves discharge of dredged or fill material into *waters of the United States*, including jurisdictional wetlands – **relevant and appropriate**	Nationwide Permit (38) – Cleanup of Hazardous and Toxic Waste 33 *CFR* 323.3(b)	✓	✓	✓
Presence of wetlands	Requires Federal agencies to evaluate action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance beneficial values of wetlands.	Actions that involve potential impacts to, or take place within, wetlands – **applicable**	Executive Order 11990 – *Protection of Wetlands* - Section 1.(a)	✓	✓	✓
Presence of migratory birds and their habitats	No person may take, possess, import, export, transport, sell, purchaser, barter or offer for sale, purchase or barter, any migratory bird, or the parts, nests, or eggs of such bird except as may be permitted under the terms of a valid permit.	If action is likely to impact migratory birds – **applicable**	16 USC 703-704 – Migratory Bird Treaty Act	✓	✓	✓

Chemical-Specific ARARs						
Location Characteristics	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
Organic contaminants in the groundwater	MCLs established the highest level of a contaminant that is allowed in drinking water. • Tetrachloroethylene (PCE) = 0.005 mg/L (5 µg/L) • Trichloroethylene (TCE) = 0.005 mg/L (5 µg/L) • Cis-1,2-dichlroethylene = 70 µg/L • Perfluorononanoic acid (PFNA) = 0.00001 mg/L (10 ng/L) • Perfluorooctanesulfonic acid (PFOS) = 0.0000040 mg/L(4 ng/L) • Perfluorooctanoic acid (PFOA) = 0.0000040 mg/L(4 ng/L) • Perfluorohexanesulfonic acid (PFHxS) = 0.00001 mg/L (10 ng/L)	The state of South Carolina classifies all groundwater as potential sources of drinking water and mandates that groundwater meet MCLs established by the SDWA.– **relevant and appropriate**	40 CFR §141.61 MCLs for organic contaminants SC R.61.58, Section 5 (N) MCLs for Volatile Synthetic Organics	✓	✓	✓
	Per- and Polyfluoroalkyl Substances (PFAS) mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA (GenX Chemicals), and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. • Perfluorobutanesulfonic acid (PFBS) = 2000 ng/L • PFNA = 10 ng/L • PFHxS = 10 ng/L • GenX Chemicals = 10 ng/L	The PFAS Mixture Hazard Index (HI) is the sum of component hazard quotients (HQs), which are calculated by dividing the measured component PFAS concentration in water by the relevant health-based water concentration when expressed in the same units. – **relevant and appropriate**	40 CFR §141.61 (c)(2) MCLs and HBWCs for PFAS. s	✓	✓	✓
Radionuclide contaminants in the groundwater	National Primary Drinking Water Regulations: Maximum Contaminant Levels and Maximum Residual Disinfectant Levels Radioactive Contaminants (SC R. 61-58.5) • Beta emitters = 4 mrem/yr • Tritium = 20,000 pCi/L	Certain elements are radioactive and may emit a form of radiation known as beta radiation. Some people who drink water containing beta emitters in excess of the MCL over many years may have an increased risk of getting cancer. – **relevant and appropriate**	40 CFR §141.66 (Subpart O)(8) SC R. 61-58.5 Radioactive Contaminants 61-68	✓	✓	✓
Groundwater seep into Waters of the State	Establishes South Carolina official classified water uses for all waters of the State, general rules and specific numeric and narrative criteria for protecting classified and existing water uses • Tetrachloroethylene (PCE) = 0.005 mg/L (5 µg/L) • Trichloroethylene (TCE) = 0.005 mg/L (5 µg/L) • Cis-1,2-dichlroethylene = 70 µg/L	This regulation classifies all surface water and groundwater in the state for protecting classified water uses. – **applicable**	SC R. 61-68 Water Classification and Standards SC R. 61-68 Section G.10.c Appendix	✓	✓	✓

Action Specific ARARs						
Action	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
General Construction Standards — All Land-disturbing Activities (i.e., excavation, clearing, grading, etc.)						
Managing Storm Water Run-Off from Land-Disturbing Activities	Must comply with the substantive requirements for stormwater management and sediment control of *NPDES General Permit No. SCR100000.*	Large and small construction activities (as defined in R.61-9) of more than 1 acre of land – **applicable**	SC R.61-9.122.26(c) NPDES General Permit No. SCR100000	✓	✓	✓
	The requirements of R.72-305 and R.72-307 will apply.	For land disturbing activities disturbing more than five (5) acres – **applicable**	SC R.72-305.B.(3)	✓	✓	✓
	The stormwater management and sediment control plan shall contain at a minimum the information provided in the following subsections:	Activities involving more than two (2) acres and less than five (5) acres of actual land disturbance which are not part of a larger common plan of development or sale – **applicable**	SC R.72-307 I. – *South Carolina Storm Water Management and Sediment Reduction Regulations*	✓	✓	✓
	A plan for temporary and permanent vegetative and structural erosion and sediment control measures which specify the erosion and sediment control measures to be used during all phases of the land disturbing activity and a description of their proposed operation.		SC R.72-307 I.(3)(d)	✓	✓	✓
	Provisions for stormwater runoff control during the land disturbing activity and during the life of the facility meeting the following requirements: 1. Post-development peak discharge rates shall not exceed pre-development discharge rates for the 2- and 10-year frequency 24-hour duration storm event. Implementing agencies may utilize a less frequent storm event (e.g. 25-year, 24-hour) to address existing or future stormwater quantity or quality problems. Discharge velocities shall be reduced to provide a non-erosive velocity flow from a structure, channel, or other control measure or the velocity of the 10-year, 24- hour storm runoff in the receiving waterway prior to the land disturbing activity, whichever is greater.		SC R.72-307 I.(3)(e)	✓	✓	✓
Managing Fugitive Dust Emissions from Land-Disturbing Activities	Regulates concentration of particulate matter in ambient air not to exceed 150 µg/m3 (24-hour average concentration) for $PM_{10.}$ Regulates concentration of particulate matter in ambient air not to exceed 15.0 µg/m^3 (annual arithmetic mean concentration) and 65 µg/m^3 (24-hour average concentration) for $PM_{2.5.}$		40 CFR §50.6 & 50.7 National Primary and Secondary Ambient Air Quality Standards	✓	✓	✓
	Emissions of fugitive particulate matter shall be controlled in such a manner and to the degree that it does not create an undesirable level of air pollution. Volatile organic compounds shall not be used for dust control purposes. Oil treatment is also prohibited.	Activities that will generate fugitive particulate matter (Statewide) – **applicable**	SC R.61-62.6 Section III(a)- Control of Fugitive Particulate Matter Statewide SC R.61-62.6 Section III(d)	✓	✓	✓

Action Specific ARARs *(cont'd)*						
Action	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
Waste Characterization and Storage — (e.g., wastewaters, excavated ash, coal fines, contaminated soils/sediments, vegetation, debris)						
Characterization of *solid* waste	Must determine if solid waste is a hazardous waste using the following method: Should first determine if waste is excluded from regulation under 40 CFR 261.4; and	Generation of solid waste as defined in 40 CFR 261.2 – **applicable**	40 CFR §262.11(a) SC R.61-79 262.11*(a)*	✓	✓	✓
	Must determine if waste is listed as hazardous waste under 40 CFR Part 261.	Generation of solid waste which is not excluded under 40 CFR 261.4(a) – **applicable**	40 CFR §262.11(b) SC R.61-79 262.11*(b)*	✓	✓	✓
	Must determine whether the waste is (characteristic waste) identified in subpart C of 40 CFR Part 261 by either: 1. Testing the waste according to the methods set forth in subpart C of 40 CFR part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or 2. Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.	Generation of solid waste which is not excluded under 40 CFR 261.4(a) – **applicable**	40 CFR §262.11(c) SC R.61-79 262.11*(c)*	✓	✓	✓
	Must refer to Parts 261, 262, 264, 265, 266, 268, and 273 of Chapter 40 for possible exclusions or restrictions pertaining to management of the specific waste.	Generation of solid waste which is determined to be *hazardous* waste – **applicable**	40 CFR§ 262.11(d) SC R.61-79 262.11*(d)*	✓	✓	✓
Determinations For Management of *Hazardous* Waste [1]	Must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under 40 CFR 268 *et seq.* *Note:* This determination may be made concurrently with the hazardous waste determination required in Sec. 262.11 of this chapter.	Generation of hazardous waste for storage, treatment or disposal – **applicable**	40 CFR §268.9(a) SC R.61-79 268.9*(a)*	✓	✓	✓
	Must determine the underlying hazardous constituents [as defined in 40 CFR 268.2(i)] in the characteristic waste.	Generation of RCRA characteristic hazardous waste (and is not D001 non-wastewaters treated by CMBST, RORGS, or POLYM of Section 268.42 Table 1) for storage, treatment, or disposal – **applicable**	40 CFR §268.9(a) SC R.61-79 268.9*(a)*	✓	✓	✓
	Must determine if the hazardous waste meets the treatment standards in 40 CFR 268.40, 268.45, or 268.49 by testing in accordance with prescribed methods or use of generator knowledge of waste. *Note:* This determination can be made concurrently with the hazardous waste determination required in 40 CFR 262.11.	Generation of hazardous waste for storage, treatment or disposal – **applicable**	40 CFR §268.7(a) SC R.61-79 268.7 (a) (1)	✓	✓	✓
Temporary Storage of Solid Waste	Shall be conducted in a manner to: a. Inhibit the harborage of flies, rodents, and other vectors; b. Prevent conditions for transmission of diseases to man or animals; c. Prevent blowing debris and particulates so as not to be injurious to human health and the environment; d. Prevent water pollution and prevent the escape of solid waste or leachate to waters of the State; and Minimize objectionable odors, dust, unsightliness, and aesthetically objectionable conditions, and prevent the accumulation of materials in an untidy and unsafe manner so as to become a fire and safety hazard.	Generation of solid waste for temporary storage prior to processing, disposal of that waste – **relevant and appropriate**	SC R.61- 107.5(C)(1)	✓	✓	✓

Action Specific ARARs *(cont'd)*						
Action	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
Disposal of Wastes Off-Site (e.g., development water, contaminated soils/sediments, vegetation)						
Off-Site Disposal of Solid Waste	Shall ultimately dispose of solid waste at facilities and/or sites permitted or registered by the Department for processing or disposal of that waste stream.	Generation of solid waste intended for off-site disposal – **relevant and appropriate**	SC R.61-107.5(D)(3)		✓	✓
Off-site Disposal of RCRA-*Hazardous* Waste in a Land-Based Unit [1]	May be land disposed if it meets the requirements in the table "Treatment Standards for Hazardous Waste" at 40 CFR 268.40 before land disposal.	Land disposal, as defined in 40 CFR 268.2, of restricted RCRA waste – **applicable**	40 CFR §268.40(a) SC R.61-79 268.40*(a)*		✓	✓
	All underlying hazardous constituents [as defined in 40 CFR 268.2(i)] must meet the Universal Treatment Standards (UTSs), found in 40 CFR 268.48 Table UTS prior to land disposal.	Land disposal of restricted RCRA characteristic wastes (D001-D043) not managed in a wastewater treatment system regulated under the Clean Water Act (CWA), that is CWA equivalent, or that is injected into a Class I nonhazardous injection well – **applicable**	40 CFR §268.40(e) SC R.61-79 268.40*(e)*		✓	✓
	Must be treated according to the alternative treatment standards of 40 CFR 268.49(c) or Must be treated according to the UTSs [specified in 40 CFR 268.48 Table UTS] applicable to the listed and/or characteristic waste contaminating the soil prior to land disposal.	Land disposal, as defined in 40 CFR 268.2, of restricted hazardous soils –**applicable**	40 CFR §268.49(b) SC R.61-79 268.49*(b)*		✓	✓
	To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards of 40 CFR 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentration in the waste extract or waste, or the generator may use knowledge of the waste. If the waste contains constituents (including underlying hazardous constituents [UHCs] in the characteristic wastes) in excess of the applicable UTS levels in 40 CFR 268.48, the waste is prohibited from land disposal, and all requirements of Part 268 are applicable, except as otherwise specified.	Land disposal of RCRA toxicity characteristic wastes (D004-D011) that are newly identified – **applicable**	40 CFR §268.34(f) SC R.61-79 268.34*(f)*		✓	✓
Transportation of Wastes						
Transportation of Samples (i.e. Solid Waste, Soils and Wastewaters)	Are not subject to any requirements of 40 CFR Parts 261 through 268 or 270 when: · • the sample is being transported to a laboratory for the purpose of testing; or · • the sample is being transported back to the sample collector after testing · • the sample is being stored by sample collector before transport to a lab for testing.	Samples of solid waste or a sample of water, soil for purpose of conducting testing to determine its characteristics or composition – **applicable**	40 CFR §261.4(d)(1)(i)-(iii) SC R.61-79 261.4(d) (1)		✓	✓

Action Specific ARARs *(cont'd/end)*						
Action	**Requirements**	**Prerequisite**	**Citation**	**Alt-2a**	**Alt-2b**	**Alt-3**
Discharge of Treated Groundwater (If Necessary)						
Discharge to Surface Water	Any discharge into waters of the State must be permitted by the Department and receive a degree of treatment and/or control which shall produce an effluent which is consistent with the Act, the Clean Water Act (P.L. 92-500, 95-217, 97-117, 100-4), this regulation, and related regulations. *Note:* Under CERCLA Section 121(e) permits are not required for on-site response actions. Instead, SRS must meet any applicable effluent limits in its existing NPDES discharge permit or other substantive requirements, including the numeric water quality criteria for the protection and maintenance of the appropriate class of surface waters as adopted in SC R.61-68 and listed in Sections E, G, and the appendix therein.	Discharge of pollutants (including toxic substances) into waters of the State of South Carolina – **applicable**	SC R.61- 68E.4.a SC R.61-68 E.14			✓
	Site-specific permit effluent limitations and alternate criteria less stringent than those derived in accordance with the requirements in SC R.61-68 E.14.c. may be derived where it is demonstrated that such limits and criteria shall maintain the existing and classified uses.		SC R.61-68 E.14.c.(7)			✓
	Discharge of garbage, cinders, ashes, oils, sludges, or other refuse is not allowed.	Quality Standards for Waters of the State of South Carolina (classified as FW as provided in SC R.61-68G.10) – **applicable**	SC R.61- 68G.10.a			✓
	Treated wastes, toxic wastes, deleterious substances in sufficient amounts to make the waters unsafe or unsuitable for primary contact recreation or to impair the waters for any other best usage are not allowed.		SC R.61- 68G.10.b			✓
	Discharge of toxic pollutants is not allowed except as prescribed in Section E of SC R.61-68.		SC R.61- 68G.10.c			✓
	Stormwater, and other nonpoint source runoff is allowed if water quality necessary for existing and classified uses shall be maintained and protected consistent with anti-degradation rules.		SC R.61- 68G.10.d			✓
	Dissolved oxygen – daily average not less than 5.0 mg/L with a low of 4.0 mg/L		SC R.61-68G.10.e			✓
	pH between 6.0 and 8.5		SC R.61-68G.10.g			✓
Underground Injection Well Installation, Operation, and Abandonment						
Monitoring of Class V underground injection wells	Monitoring requirements shall, at a minimum, specify: Monitoring of the nature of injected fluids with metering and daily recording of injected and produced fluid volumes as appropriate; Monitoring of injection pressure and either flow rate or volume semimonthly, or metering and daily recording of injected and produce fluid, volumes as appropriate; Demonstration of mechanical integrity at least once every five years during the life of the well; Monitoring of the fluid level in the injection zone semimonthly, where appropriate and monitoring of the parameters chosen to measure water quality in the monitoring wells semimonthly	Monitoring into the injection zone of ground waters of the State of South Carolina - **applicable**	SC R.61-87.14(G)(3)	✓		
Operation and maintenance of Class V underground injection wells	Shall at all times properly operate and maintain all facilities and systems of treatment and controls which are installed or used.	Operation of well for underground injection of any fluids into the subsurface or ground waters of the State of South Carolina – **applicable**	SC R.61-87.13(X)	✓		
	Shall report malfunction of injection system which may cause fluid migration into or between underground sources of drinking water; shall immediately stop injection upon determination that the injection system has malfunctioned and could cause fluid migration into or between underground sources of drinking water; shall not restart the injection system until the malfunction has been corrected		SC R.61-87.13(EE)	✓		

1- The requirements from 40 CFR Part 268 contained in this table will be triggered if any generated wastes, including coal ash, coal fines, soil, sediments, and/or groundwater are characterized as RCRA hazardous wastes

Appendix B

Cost Estimates

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DAG OU PFAS
Alternative 1
No Action

Item	Quantity	Units	Unit Cost	Total Cost
Direct Capital Costs				
Institutional Controls				
Posting of Warning Signs		0 ea	$ 500	$ -
Land Use Control Implementation Plan		0 ea	$ 5,000	$ -
Deed Restrictions		0 ea	$ 5,000	$ -
Subtotal - Direct Capital Cost				$ -
Mobilization/Demobilization		9% of subtotal direct capital		$ -
Site Preparation/Site Restoration		9% of subtotal direct capital		$ -
Total Direct Capital Cost				$ -
Indirect Capital Costs				
Engineering & Design		14% of direct capital		$ -
Project/Construction Management		25% of direct capital		$ -
Health & Safety		6% of direct capital		$ -
Overhead		30% of direct capital + indirect capita		$ -
Contingency		26% of direct capital + indirect capita		$ -
Total Indirect Capital Cost				$ -
Total Estimated Capital Cost				$ -
Direct O&M Costs				
Annual Costs (Existing System during Post-ROD Design & Const)		1.5% 3 Year Discount Rate[1]		*Years 2027-2029*
Access Controls		0 ea	$ 500	$ -
Maintenance		0 ea	$ 1,900	$ -
Subtotal - Annual Costs				$ -
Present Value Cost				$ -
Annual Costs		1.9% 30 Year Discount Rate[1]		*Years 2029-2057*
Access Controls		0 ea	$ 500	$ -
Annual Inspection/Maintenance		0 ea	$ 1,900	$ -
Subtotal - 10 Year Annual Costs				$ -
Present Value Cost				$ -
Five Year Costs		1.9% 30 Year Discount Rate[1]		*Years 2029-2057*
Remedy Review		0 ea	$ 15,000	$ -
Present Value Cost				$ -
Total Present Value Direct O&M Cost				$ -
Indirect O&M Costs				
Project/Admin Management		14% of direct O&M		$ -
Health & Safety		19% of direct O&M		$ -
Overhead		30% of direct O&M + indirect O&M		$ -
Contingency		20% of direct O&M + indirect O&M		$ -
Total Present Worth Indirect O&M Cost				$ -
Total Estimated Present Worth O&M Cost				$ -
TOTAL ESTIMATED COST				$ -

[1] Interest rates for costs with 3-year and 30-year durations are based on SRNS Technical Memorandum ERTEC-2017-00002.
Real Interest Rates for OMB Circular No. A-94
Treasury Notes and Bonds of Specified Maturitie

DAG OU PFAS
Alternative 2a
PAB – CAC Injections

Item	Quantity	Units	Unit Cost	Total Cost
Direct Capital Costs				
Infrastructure				
Construct Access Road	1,500	lf	$ 12	$ 18,000
Site Preparation				
Clear and Grubbing				
Clear Vegetation and Debris, Stockpile at Site Perimeter	0.46	ac	$ 2,600	$ 1,194
Clear Trees and Grub Stumps, Stockpile at Site Perimeter	0.46	ac	$ 4,500	$ 2,066
Contour Site After Clearing and Grubbing	0.46	ac	$ 1,700	$ 781
Stormwater Management				
Stormwater Management/Pollution Prevention Plan (SWPPP)	1	ea	$ 40,000	$ 40,000
Stormwater Management (Best Management Practices [BMPs])	1,000	lf	$ 25	$ 25,000
Treatment Implementation				
Initial Reporting	1	ea	$ 41,806	$ 41,806
Vendor Design and Implementation of CAC Barrier	400	ea	$ 8,986	$ 3,594,204
Injection Permit	1	ea	$ 20,000	$ 20,000
Site Restoration	1	ea	$ 100,000	$ 100,000
Subtotal - Direct Capital Cost				$ 3,843,050
Mobilization/Demobilization		3% of subtotal direct capital		$ 115,291
Monitoring Network				
One Time Costs (Mobilization, meetings, documents, etc.)	1	ea	$ 9,110	$ 9,110
Monitoring Well Installation (screened 25-35 ft bgs)	7	well	$ 10,170	$ 71,189
Monitoring Well Installation (screened 50-60 ft bgs)	7	well	$ 12,675	$ 88,724
Total Direct Capital Cost (CAC Injection)				**$ 4,127,364**
Indirect Capital Costs				
SRS Engineering & Design Support		8% of direct capital		$ 316,667
Project/Construction Management		15% of direct capital		$ 593,751
Health & Safety		3% of direct capital		$ 118,750
Overhead		30% of direct capital + indirect capital		$ 1,496,253
Contingency		26% of direct capital + indirect capital		$ 1,296,753
Total Indirect Capital Cost (CAC Injection)				**$ 3,822,174**
Total Estimated Capital Cost (CAC Injection)				**$ 7,949,538**

DAG OU PFAS
Alternative 2a
PAB – CAC Injections

Direct O&M Costs						
Annual Costs (Existing System during Post-ROD Design & Const)		1.5%	3 Year Discount Rate[1]			*Years 2027-2029*
Access Controls	1	ea		$ 500	$	500
Maintenance	1	ea		$ 1,900	$	1,900
Subtotal - Annual Costs					$	2,400
Present Value Cost						$4,625
Three Year Costs		1.5%	3 Year Discount Rate[1]			*Year 2030*
Post Construction Report	1	ea		$ 100,000	$	100,000
Present Value Cost						$91,454
Annual Costs (Post Construction)		1.9%	30 Year Discount Rate[1]			*Years 2029-2057*
Annual Monitoring	1	ea		$ 30,000	$	30,000
Reporting	1	ea		$ 40,000	$	40,000
Subtotal - 30 Year Annual Costs					$	70,000
Present Value Cost					$	1,426,271
Fifteen Year Cost		1.9%	30 Year Discount Rate[1]			*Year 2041*
Barrier Maintenance - Reinjection of CAC		50%	of total capital cost		$	3,890,258
Present Value Cost					$	2,933,362
Total Present Value Direct O&M Cost					$	4,455,711
Indirect O&M Costs						
Project/Admin Management		14%	of direct O&M		$	623,800
Health & Safety		1%	of direct O&M		$	44,557
Overhead		30%	of direct O&M + indirect O&M		$	1,523,853
Contingency		20%	of direct O&M + indirect O&M		$	990,505
Total Present Worth Indirect O&M Cost					$	3,182,715
Total Estimated Present Worth O&M Cost					$	7,638,426
TOTAL ESTIMATED COST						
CAC Injections					$	15,587,964

[1] Interest rates for costs with 3-year and 30-year durations are based on SRNS Technical Memorandum ERTEC-2017-00002.
Real Interest Rates for OMB Circular No. A-94
Treasury Notes and Bonds of Specified Maturities

DAG OU PFAS
Alternative 2b
PAB – GAC Trench

Item	Quantity	Units	Unit Cost	Total Cost
Direct Capital Costs				
Infrastructure				
Construct Access Road	1,500	lf	$ 12	$ 18,000
Site Preparation				
Clear and Grubbing				
Clear Vegetation and Debris, Stockpile at Site Perimeter	0.46	ac	$ 2,600	$ 1,194
Clear Trees and Grub Stumps, Stockpile at Site Perimeter	0.46	ac	$ 4,500	$ 2,066
Contour Site After Clearing and Grubbing	0.46	ac	$ 1,700	$ 781
Stormwater Management				
Stormwater Management/Pollution Prevention Plan (SWPPP)	1	ea	$ 40,000	$ 40,000
Stormwater Management (Best Management Practices [BMPs])	1,000	lf	$ 25	$ 25,000
Treatment Implementation				
Initial Reporting	1	ea	$ 41,806	$ 41,806
Design	1	ea	$ 509,191	$ 509,191
Granular Activated Carbon (10% of trench volume)	1,017,500	lb-GAC	$ 2.50	$ 2,543,750
Sand (90% of trench volume)	13,750	ton	$ 100	$ 1,375,000
Trench Construction (1000 ft long x 10 ft wide x 50 ft deep)	10,185	yd^3	$ 537.04	$ 5,469,829
Contaminated Soil Transport and Disposal in Subtitle C Landfill	18,512	ton	$ 489	$ 9,052,570
Site Restoration	1	ea	$ 100,000	$ 100,000
Subtotal - Direct Capital Cost				$ 19,179,186
Mobilization/Demobilization		3% of subtotal direct capital		$ 575,376
Monitoring Network				
One Time Costs (Mobilization, meetings, documents, etc.)	1	ea	$ 9,110	$ 9,110
Monitoring Well Installation (screened 25-35 ft bgs)	7	well	$ 10,170	$ 71,189
Monitoring Well Installation (screened 50-60 ft bgs)	7	well	$ 12,675	$ 88,724
Total Direct Capital Cost (GAC Trench)				**$ 19,923,584**
Indirect Capital Costs				
SRS Engineering & Design Support		1.5% of direct capital		$ 296,318
Project/Construction Management		3% of direct capital		$ 592,637
Health & Safety		0.5% of direct capital		$ 98,773
Overhead		30% of direct capital + indirect capital		$ 6,222,687
Contingency		26% of direct capital + indirect capital		$ 5,392,995
Total Indirect Capital Cost (GAC Trench)				**$ 12,603,410**
Total Estimated Capital Cost (GAC Trench)				**$ 32,526,995**

DAG OU PFAS
Alternative 2b
PAB – GAC Trench

Direct O&M Costs						
Annual Costs (Existing System during Post-ROD Design & Const)		1.5%	3 Year Discount Rate[1]			*Years 2027-2029*
Access Controls	1		ea	$ 500	$	500
Maintenance	1		ea	$ 1,900	$	1,900
Subtotal - Annual Costs					$	2,400
Present Value Cost						$4,625
Three Year Costs		1.5%	3 Year Discount Rate[1]			*Year 2030*
Post Construction Report	1		ea	$ 100,000	$	100,000
Present Value Cost						$91,454
Annual Costs (Post Construction)		1.9%	30 Year Discount Rate[1]			*Years 2029-2057*
Annual Monitoring	1		ea	$ 30,000	$	30,000
Reporting	1		ea	$ 40,000	$	40,000
Subtotal - 30 Year Annual Costs					$	70,000
Present Value Cost					$	1,426,271
Fifteen Year Cost		1.9%	30 Year Discount Rate[1]			*Year 2041*
Barrier Maintenance - Reinjection of CAC		50%	of total capital cost of CAC barrier		$	3,890,258
Present Value Cost					$	2,933,362
Total Present Value Direct O&M Cost					**$**	**4,455,711**
Indirect O&M Costs						
Project/Admin Management		14%	of direct O&M		$	623,800
Health & Safety		1%	of direct O&M		$	44,557
Overhead		30%	of direct O&M + indirect O&M		$	1,523,853
Contingency		20%	of direct O&M + indirect O&M		$	990,505
Total Present Worth Indirect O&M Cost					**$**	**3,182,715**
Total Estimated Present Worth O&M Cost					**$**	**7,638,426**
TOTAL ESTIMATED COST						
GAC Trench					**$**	**40,165,421**

[1] Interest rates for costs with 3-year and 30-year durations are based on SRNS Technical Memorandum ERTEC-2017-00002.
Real Interest Rates for OMB Circular No. A-94
Treasury Notes and Bonds of Specified Maturities

DAG OU PFAS
Alternative 3
Pump and Treat

Item	Quantity	Units	Unit Cost	Total Cost
Direct Capital Costs				
Infrastructure				
Construct Access Road	1,500	lf	$ 12	$ 18,000
Install Powerline	3,000	lf	$ 25	$ 75,000
Install Phonelines	3,000	lf	$ 5	$ 15,000
Site Preparation				
Clear and Grubbing				
Clear Vegetation and Debris, Stockpile at Site Perimeter	0.49	ac	$ 2,600	$ 1,286
Clear Trees and Grub Stumps, Stockpile at Site Perimeter	0.49	ac	$ 4,500	$ 2,226
Contour Site After Clearing and Grubbing	0.49	ac	$ 1,700	$ 841
Excavate to create basin (15 ft x 50 ft x 10 ft deep)	278	yd^3	$ 13	$ 3,611
Stormwater Management				
Stormwater Management/Pollution Prevention Plan (SWPPP)	1	ea	$ 40,000	$ 40,000
Stormwater Management (Best Management Practices [BMPs])	1,000	lf	$ 25	$ 25,000
Treatment Implementation				
Installation of Extraction Well Network and Piping to Treatment Building				
Extraction Well Installation - One Time Costs (Mobilization, meetings, documents, etc.)	1	ea	$ 9,110	$ 9,110
Extraction Well Installation - Construction	5	well	$ 43,249	$ 216,247
Pump and Aquifer Test	1	ea	$ 103,000	$ 103,000
Piping to Treatment Building	2,000	lf	$ 15	$ 30,000
GAC Filter Vessels and Associated Infrastructure (70 gmp)				
General Conditions	1	ea	$ 184,000	$ 184,000
Separations Equipment (6000 lb capacity vessels, 5100 lb GAC per vessel)	1	ea	$ 320,000	$ 320,000
Piping and Appurtenances	1	ea	$ 160,000	$ 160,000
Electrical and Instrumentation/Controls	1	ea	$ 64,000	$ 64,000
Treatment building	800	ft^2	$ 500	$ 400,000
Site Work	1	ea	$ 40,000	$ 40,000
Installation (Equipment and Piping)	1	ea	$ 240,000	$ 240,000
Initial Permitting and Reporting				
Title 5	1	ea	$ 12,162	$ 12,162
Rad NESHAP	1	ea	$ 12,162	$ 12,162
NESHAP 5G	1	ea	$ 12,162	$ 12,162
IWT	1	ea	$ 6,781	$ 6,781
Subtotal - Direct Capital Cost				$ 1,990,587
Mobilization/Demobilization		9% of subtotal direct capital		$ 179,153
Site Preparation/Site Restoration		9% of subtotal direct capital		$ 179,153
Monitoring Network				
One Time Costs (Mobilization, meetings, documents, etc.)	1	ea	$ 9,110	$ 9,110
Monitoring Well Installation (Screened 25-35 ft bgs)	5	well	$ 10,170	$ 50,849
Monitoring Well Installation (Screened 50-60 ft bgs)	5	well	$ 12,675	$ 63,374
Total Direct Capital Cost				$ 2,472,226
Indirect Capital Costs				
SRS Engineering & Design Support		14% of direct capital		$ 328,845
Project/Construction Management		25% of direct capital		$ 587,223
Health & Safety		6% of direct capital		$ 140,934
Overhead		30% of direct capital + indirect capital		$ 1,021,769
Contingency		26% of direct capital + indirect capital		$ 885,533
Total Indirect Capital Cost				$ 2,964,303
Total Estimated Capital Cost				$ 5,436,529

DAG OU PFAS
Alternative 3
Pump and Treat

Direct O&M Costs						
Annual Costs (Existing System during Post-ROD Design & Const)		1.5%	3 Year Discount Rate[1]			*Years 2027-2029*
Access Controls	1	ea		$ 500	$	500
Maintenance	1	ea		$ 1,900	$	1,900
Subtotal - Annual Costs					$	2,400
Present Value Cost						$4,624.75
Three Year Costs		1.5%	3 Year Discount Rate[1]			*Year 2030*
Post Construction Report	1	ea		$ 100,000	$	100,000
Present Value Cost						$91,454
Annual Costs (Post Construction)		1.9%	30 Year Discount Rate[1]			*Years 2029-2057*
Extraction Well Network O&M	5	well		$ 15,000	$	75,000
Associated with Treatment Facility and Media Replacement/Disposal						
Utilities		1 ea		$ 12,000	$	12,000
Media Disposal and Replacement (Destruction + Media)		22200 lb		$ 2	$	44,400
Media Transport (To and from reactivation facility)		7400 mile		$ 3	$	22,200
Maintenance		1 ea		$ 19,000	$	19,000
Analytical Monitoring		1 ea		$ 16,000	$	16,000
O&M Labor		1 ea		$ 225,000	$	225,000
Reporting/Permitting						
Annual Report		1 ea		$ 84,000	$	84,000
Annual Well Monitoring		1 ea		$ 30,000	$	30,000
NPDES Fee		1 ea		$ 800	$	800
Subtotal - Annual Costs					$	528,400
Present Value Cost					$	10,766,602
Total Present Value Direct O&M Cost						**$10,862,681**
Indirect O&M Costs						
Project/Admin Management		14%	of direct O&M		$	1,520,775
Health & Safety		2%	of direct O&M		$	217,254
Overhead		30%	of direct O&M + indirect O&M		$	3,780,213
Contingency		20%	of direct O&M + indirect O&M		$	2,457,138
Total Present Worth Indirect O&M Cost					$	7,975,380
Total Estimated Present Worth 30 Year O&M Cost					$	18,838,061
TOTAL ESTIMATED COST					$	24,274,590

[1] Interest rates for costs with 3-year and 30-year durations are based on SRNS Technical Memorandum ERTEC-2017-00002.
Real Interest Rates for OMB Circular No. A-94
Treasury Notes and Bonds of Specified Maturities

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Appendix C

2025 Groundwater Investigative Sampling Data

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Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
4/2/2025	DISO-01	26	30	ft	FD	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.9	0.655	1.90	ng/L	U	
4/2/2025	DISO-01	26	30	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.98	0.682	1.98	ng/L	U	
4/2/2025	DISO-01	26	30	ft	FD	EPA533	PERFLUOROBUTANESULFONIC ACID	1.7	0.629	1.70	ng/L	U	
4/2/2025	DISO-01	26	30	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.76	0.654	1.76	ng/L	U	
4/2/2025	DISO-01	26	30	ft	FD	EPA533	PERFLUOROHEXANESULFONIC ACID	3.09	0.629	1.73	ng/L		
4/2/2025	DISO-01	26	30	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	3.27	0.654	1.80	ng/L		
4/2/2025	DISO-01	26	30	ft	FD	EPA533	PERFLUORONONANOIC ACID	25.6	0.629	1.90	ng/L		
4/2/2025	DISO-01	26	30	ft	REG	EPA533	PERFLUORONONANOIC ACID	27.1	0.654	1.98	ng/L		
4/2/2025	DISO-01	26	30	ft	FD	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	5.93	0.629	1.90	ng/L		
4/2/2025	DISO-01	26	30	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	7.02	0.654	1.98	ng/L		
4/2/2025	DISO-01	26	30	ft	FD	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	2	0.629	1.90	ng/L		
4/2/2025	DISO-01	26	30	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	1.98	0.654	1.98	ng/L		S
4/3/2025	DISO-01	37	42	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.86	0.639	1.86	ng/L	U	
4/3/2025	DISO-01	37	42	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	16.5	0.613	1.65	ng/L		
4/3/2025	DISO-01	37	42	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	122	0.613	1.69	ng/L		
4/3/2025	DISO-01	37	42	ft	REG	EPA533	PERFLUORONONANOIC ACID	1090	13.2	40.0	ng/L		
4/3/2025	DISO-01	37	42	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	205	13.2	40.0	ng/L		
4/3/2025	DISO-01	37	42	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	62.5	0.613	1.86	ng/L		
4/4/2025	DISO-01	45	50	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.87	0.645	1.87	ng/L	U	
4/4/2025	DISO-01	45	50	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	15.9	0.619	1.67	ng/L		
4/4/2025	DISO-01	45	50	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	150	0.619	1.71	ng/L		
4/4/2025	DISO-01	45	50	ft	REG	EPA533	PERFLUORONONANOIC ACID	1670	13.2	40.1	ng/L		
4/4/2025	DISO-01	45	50	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	440	13.2	40.1	ng/L		
4/4/2025	DISO-01	45	50	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	80.2	0.619	1.87	ng/L		
4/4/2025	DISO-01	63	68	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.8	0.617	1.80	ng/L	U	
4/4/2025	DISO-01	63	68	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	2.74	0.592	1.60	ng/L		
4/4/2025	DISO-01	63	68	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	4.02	0.592	1.63	ng/L		
4/4/2025	DISO-01	63	68	ft	REG	EPA533	PERFLUORONONANOIC ACID	4.47	0.592	1.80	ng/L		
4/4/2025	DISO-01	63	68	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.15	0.592	1.80	ng/L	J	21
4/4/2025	DISO-01	63	68	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	5.25	0.592	1.80	ng/L		
4/7/2025	DISO-01	76	80	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.93	0.665	1.93	ng/L	U	
4/7/2025	DISO-01	76	80	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.72	0.638	1.72	ng/L	U	
4/7/2025	DISO-01	76	80	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.76	0.638	1.76	ng/L	U	
4/7/2025	DISO-01	76	80	ft	REG	EPA533	PERFLUORONONANOIC ACID	1.93	0.638	1.93	ng/L	U	
4/7/2025	DISO-01	76	80	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.93	0.638	1.93	ng/L	U	
4/7/2025	DISO-01	76	80	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	1.93	0.638	1.93	ng/L	U	
2/11/2025	DISO-02	23	28	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.83	0.628	1.83	ng/L	U	

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
2/11/2025	DISO-02	23	28	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	0.687	0.603	1.63	ng/L	J	21
2/11/2025	DISO-02	23	28	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	3.86	0.603	1.66	ng/L		
2/11/2025	DISO-02	23	28	ft	REG	EPA533	PERFLUORONONANOIC ACID	632	6.60	20.0	ng/L		
2/11/2025	DISO-02	23	28	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	28	0.603	1.83	ng/L		
2/11/2025	DISO-02	23	28	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	39.6	0.603	1.83	ng/L		
2/13/2025	DISO-02	28	31	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.81	0.623	1.81	ng/L	U	
2/13/2025	DISO-02	28	31	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	6.76	0.598	1.61	ng/L		
2/13/2025	DISO-02	28	31	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	43.1	0.598	1.65	ng/L		
2/13/2025	DISO-02	28	31	ft	REG	EPA533	PERFLUORONONANOIC ACID	1200	16.5	50.0	ng/L		
2/13/2025	DISO-02	28	31	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	180	16.5	50.0	ng/L		
2/13/2025	DISO-02	28	31	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	67.7	0.598	1.81	ng/L		
2/17/2025	DISO-02	38	42	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.79	0.616	1.79	ng/L	U	
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	20	5.0	20	ng/L	U	
2/17/2025	DISO-02	38	42	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	2.15	0.591	1.59	ng/L		
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	PERFLUOROBUTANESULFONIC ACID	1.8	0.47	5.0	ng/L	J	21
2/17/2025	DISO-02	38	42	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	13.1	0.591	1.63	ng/L		
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	PERFLUOROHEXANESULFONIC ACID	14	0.92	5.0	ng/L		
2/17/2025	DISO-02	38	42	ft	REG	EPA533	PERFLUORONONANOIC ACID	524	6.60	20.0	ng/L		
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	PERFLUORONONANOIC ACID	480	0.52	5.0	ng/L		
2/17/2025	DISO-02	38	42	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	46.4	0.591	1.79	ng/L		
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	PERFLUOROOCTANESULFONIC ACID (PFOS)	42	1.2	5.0	ng/L		V
2/17/2025	DISO-02	38	42	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	20.7	0.591	1.79	ng/L		
2/17/2025	DISO-02	38	42	ft	SPL	EPA1633	PERFLUOROOCTANOIC ACID (PFOA)	19	1.0	5.0	ng/L		
3/26/2025	DISO-03	16	20	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.77	0.610	1.77	ng/L	U	
3/26/2025	DISO-03	16	20	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	0.993	0.586	1.58	ng/L	J	21
3/26/2025	DISO-03	16	20	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	6.6	0.586	1.62	ng/L		
3/26/2025	DISO-03	16	20	ft	REG	EPA533	PERFLUORONONANOIC ACID	226	6.60	20.0	ng/L		
3/26/2025	DISO-03	16	20	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	48.4	0.586	1.77	ng/L		
3/26/2025	DISO-03	16	20	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	23.4	0.586	1.77	ng/L		
3/27/2025	DISO-03	48	52	ft	FD	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.82	0.627	1.82	ng/L	U	
3/27/2025	DISO-03	48	52	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.81	0.622	1.81	ng/L	U	
3/27/2025	DISO-03	48	52	ft	FD	EPA533	PERFLUOROBUTANESULFONIC ACID	1.63	0.601	1.62	ng/L		
3/27/2025	DISO-03	48	52	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.65	0.597	1.61	ng/L		
3/27/2025	DISO-03	48	52	ft	FD	EPA533	PERFLUOROHEXANESULFONIC ACID	17.5	0.601	1.66	ng/L		
3/27/2025	DISO-03	48	52	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	14.9	0.597	1.65	ng/L		
3/27/2025	DISO-03	48	52	ft	FD	EPA533	PERFLUORONONANOIC ACID	220	6.60	20.0	ng/L		
3/27/2025	DISO-03	48	52	ft	REG	EPA533	PERFLUORONONANOIC ACID	224	6.60	20.0	ng/L		

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
3/27/2025	DISO-03	48	52	ft	FD	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	15.3	0.601	1.82	ng/L		
3/27/2025	DISO-03	48	52	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	16.6	0.597	1.81	ng/L		
3/27/2025	DISO-03	48	52	ft	FD	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	46.5	0.601	1.82	ng/L		
3/27/2025	DISO-03	48	52	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	45.7	0.597	1.81	ng/L		
3/28/2025	DISO-03	62	67	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.89	0.649	1.89	ng/L	U	
3/28/2025	DISO-03	62	67	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.68	0.622	1.68	ng/L	U	
3/28/2025	DISO-03	62	67	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.72	0.622	1.72	ng/L	U	
3/28/2025	DISO-03	62	67	ft	REG	EPA533	PERFLUORONONANOIC ACID	1.28	0.622	1.89	ng/L	J	21
3/28/2025	DISO-03	62	67	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.89	0.622	1.89	ng/L	U	
3/28/2025	DISO-03	62	67	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	1.03	0.622	1.89	ng/L	J	21
3/28/2025	DISO-03	76	80	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.87	0.643	1.87	ng/L	U	
3/28/2025	DISO-03	76	80	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.11	0.617	1.66	ng/L	J	21
3/28/2025	DISO-03	76	80	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.7	0.617	1.70	ng/L	U	
3/28/2025	DISO-03	76	80	ft	REG	EPA533	PERFLUORONONANOIC ACID	1.87	0.617	1.87	ng/L	U	
3/28/2025	DISO-03	76	80	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.87	0.617	1.87	ng/L	U	
3/28/2025	DISO-03	76	80	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	2.18	0.617	1.87	ng/L		
4/1/2025	DISO-03	101	106	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.9	0.652	1.90	ng/L	U	
4/1/2025	DISO-03	101	106	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.69	0.626	1.69	ng/L	U	
4/1/2025	DISO-03	101	106	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.73	0.626	1.73	ng/L	U	
4/1/2025	DISO-03	101	106	ft	REG	EPA533	PERFLUORONONANOIC ACID	1.9	0.626	1.90	ng/L	U	
4/1/2025	DISO-03	101	106	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.9	0.626	1.90	ng/L	U	
4/1/2025	DISO-03	101	106	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	1.9	0.626	1.90	ng/L	U	
2/21/2025	DISO-04	18	23	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.8	0.620	1.80	ng/L	U	
2/21/2025	DISO-04	18	23	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	0.768	0.595	1.60	ng/L	J	21
2/21/2025	DISO-04	18	23	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	4.39	0.595	1.64	ng/L		
2/21/2025	DISO-04	18	23	ft	REG	EPA533	PERFLUORONONANOIC ACID	111	0.595	1.80	ng/L		
2/21/2025	DISO-04	18	23	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	18.1	0.595	1.80	ng/L		
2/21/2025	DISO-04	18	23	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	19.4	0.595	1.80	ng/L		
2/24/2025	DISO-04	28	32	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.86	0.641	1.86	ng/L	U	
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	4.2	1.1	4.2	ng/L	U	
2/24/2025	DISO-04	28	32	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	0.692	0.615	1.66	ng/L	J	21
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	PERFLUOROBUTANESULFONIC ACID	0.71	0.10	1.1	ng/L	J	21
2/24/2025	DISO-04	28	32	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	5.24	0.615	1.70	ng/L		
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	PERFLUOROHEXANESULFONIC ACID	6.5	0.20	1.1	ng/L		
2/24/2025	DISO-04	28	32	ft	REG	EPA533	PERFLUORONONANOIC ACID	195	6.60	20.0	ng/L		
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	PERFLUORONONANOIC ACID	190	0.11	1.1	ng/L		
2/24/2025	DISO-04	28	32	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	22.7	0.615	1.86	ng/L		

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	PERFLUOROOCTANESULFONIC ACID (PFOS)	21	0.26	1.1	ng/L		V
2/24/2025	DISO-04	28	32	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	25.4	0.615	1.86	ng/L		
2/24/2025	DISO-04	28	32	ft	SPL	EPA1633	PERFLUOROOCTANOIC ACID (PFOA)	25	0.22	1.1	ng/L		
2/25/2025	DISO-04	38	42	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.93	0.663	1.93	ng/L	U	
2/25/2025	DISO-04	38	42	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.1	0.636	1.72	ng/L	J	21
2/25/2025	DISO-04	38	42	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	8.4	0.636	1.75	ng/L		
2/25/2025	DISO-04	38	42	ft	REG	EPA533	PERFLUORONONANOIC ACID	632	16.5	50.0	ng/L		
2/25/2025	DISO-04	38	42	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	35.2	0.636	1.93	ng/L		
2/25/2025	DISO-04	38	42	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	63.7	0.636	1.93	ng/L		
2/27/2025	DISO-04	64	68	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.95	0.672	1.95	ng/L	U	
2/27/2025	DISO-04	64	68	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.74	0.644	1.74	ng/L	U	
2/27/2025	DISO-04	64	68	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.78	0.644	1.78	ng/L	U	
2/27/2025	DISO-04	64	68	ft	REG	EPA533	PERFLUORONONANOIC ACID	4.91	0.644	1.95	ng/L		
2/27/2025	DISO-04	64	68	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.95	0.644	1.95	ng/L	U	
2/27/2025	DISO-04	64	68	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	3.04	0.644	1.95	ng/L		
3/20/2025	DISO-05	15	20	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.8	0.618	1.80	ng/L	U	
3/20/2025	DISO-05	15	20	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	0.704	0.593	1.60	ng/L	J	21
3/20/2025	DISO-05	15	20	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.53	0.593	1.64	ng/L	J	21
3/20/2025	DISO-05	15	20	ft	REG	EPA533	PERFLUORONONANOIC ACID	2.44	0.593	1.80	ng/L		
3/20/2025	DISO-05	15	20	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	27.7	0.593	1.80	ng/L		
3/20/2025	DISO-05	15	20	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	9.7	0.593	1.80	ng/L		
3/20/2025	DISO-05	25	30	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.99	0.684	1.99	ng/L	U	
3/20/2025	DISO-05	25	30	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.07	0.656	1.77	ng/L	J	21
3/20/2025	DISO-05	25	30	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	9.16	0.656	1.81	ng/L		
3/20/2025	DISO-05	25	30	ft	REG	EPA533	PERFLUORONONANOIC ACID	15.5	0.656	1.99	ng/L		
3/20/2025	DISO-05	25	30	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	8.51	0.656	1.99	ng/L		
3/20/2025	DISO-05	25	30	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	35.5	0.656	1.99	ng/L		
3/21/2025	DISO-05	40	45	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.84	0.632	1.84	ng/L	U	
3/21/2025	DISO-05	40	45	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.39	0.606	1.64	ng/L	J	21
3/21/2025	DISO-05	40	45	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	9	0.606	1.67	ng/L		
3/21/2025	DISO-05	40	45	ft	REG	EPA533	PERFLUORONONANOIC ACID	622	6.60	20.0	ng/L		
3/21/2025	DISO-05	40	45	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	26.7	0.606	1.84	ng/L		
3/21/2025	DISO-05	40	45	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	72.7	0.606	1.84	ng/L		
3/21/2025	DISO-05	60	65	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.94	0.666	1.94	ng/L	U	
3/21/2025	DISO-05	60	65	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.23	0.639	1.72	ng/L	J	21
3/21/2025	DISO-05	60	65	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	8.18	0.639	1.76	ng/L		
3/21/2025	DISO-05	60	65	ft	REG	EPA533	PERFLUORONONANOIC ACID	474	6.60	20.0	ng/L		

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
3/21/2025	DISO-05	60	65	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	6.94	0.639	1.94	ng/L		
3/21/2025	DISO-05	60	65	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	70.9	0.639	1.94	ng/L		
3/24/2025	DISO-05	70	75	ft	FD	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.81	0.622	1.81	ng/L	U	
3/24/2025	DISO-05	70	75	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.84	0.632	1.84	ng/L	U	
3/24/2025	DISO-05	70	75	ft	FD	EPA533	PERFLUOROBUTANESULFONIC ACID	1.61	0.597	1.61	ng/L	U	
3/24/2025	DISO-05	70	75	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.64	0.607	1.64	ng/L	U	
3/24/2025	DISO-05	70	75	ft	FD	EPA533	PERFLUOROHEXANESULFONIC ACID	0.867	0.597	1.65	ng/L	J	21
3/24/2025	DISO-05	70	75	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	0.751	0.607	1.67	ng/L	J	21
3/24/2025	DISO-05	70	75	ft	FD	EPA533	PERFLUORONONANOIC ACID	48.2	0.597	1.81	ng/L		
3/24/2025	DISO-05	70	75	ft	REG	EPA533	PERFLUORONONANOIC ACID	18.3	0.607	1.84	ng/L		
3/24/2025	DISO-05	70	75	ft	FD	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	0.695	0.597	1.81	ng/L	J	21
3/24/2025	DISO-05	70	75	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.84	0.607	1.84	ng/L	U	
3/24/2025	DISO-05	70	75	ft	FD	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	13.5	0.597	1.81	ng/L		
3/24/2025	DISO-05	70	75	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	8.69	0.607	1.84	ng/L		
3/4/2025	DISO-06	17	21	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.87	0.642	1.87	ng/L	U	
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	24	4.9	24	ng/L	U	
3/4/2025	DISO-06	17	21	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.39	0.616	1.66	ng/L	J	21
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	PERFLUOROBUTANESULFONIC ACID	1.4	0.52	6.0	ng/L	J	21
3/4/2025	DISO-06	17	21	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	4.65	0.616	1.70	ng/L		
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	PERFLUOROHEXANESULFONIC ACID	3.8	1.8	6.0	ng/L	J	21
3/4/2025	DISO-06	17	21	ft	REG	EPA533	PERFLUORONONANOIC ACID	3.86	0.616	1.87	ng/L		
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	PERFLUORONONANOIC ACID	5.7	1.9	6.0	ng/L	J	21
3/4/2025	DISO-06	17	21	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	3.4	0.616	1.87	ng/L		
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	PERFLUOROOCTANESULFONIC ACID (PFOS)	4.5	0.97	6.0	ng/L	J	21
3/4/2025	DISO-06	17	21	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	7.82	0.616	1.87	ng/L		
3/4/2025	DISO-06	17	21	ft	SPL	EPA1633	PERFLUOROOCTANOIC ACID (PFOA)	9.5	1.6	6.0	ng/L		
3/5/2025	DISO-06	25	30	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.77	0.609	1.77	ng/L	U	
3/5/2025	DISO-06	25	30	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.58	0.584	1.58	ng/L	U	
3/5/2025	DISO-06	25	30	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	2.42	0.584	1.61	ng/L		
3/5/2025	DISO-06	25	30	ft	REG	EPA533	PERFLUORONONANOIC ACID	5.22	0.584	1.77	ng/L		
3/5/2025	DISO-06	25	30	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.39	0.584	1.77	ng/L	J	21
3/5/2025	DISO-06	25	30	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	4.4	0.584	1.77	ng/L		
3/6/2025	DISO-06	43	48	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.82	0.627	1.82	ng/L	U	
3/6/2025	DISO-06	43	48	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.48	0.601	1.62	ng/L	J	21
3/6/2025	DISO-06	43	48	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	9.5	0.601	1.66	ng/L		
3/6/2025	DISO-06	43	48	ft	REG	EPA533	PERFLUORONONANOIC ACID	734	16.5	50.0	ng/L		
3/6/2025	DISO-06	43	48	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	36.2	0.601	1.82	ng/L		

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
3/6/2025	DISO-06	43	48	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	60.9	0.601	1.82	ng/L		
3/7/2025	DISO-06	69	73	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.88	0.647	1.88	ng/L	U	
3/7/2025	DISO-06	69	73	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.67	0.621	1.67	ng/L	U	
3/7/2025	DISO-06	69	73	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.71	0.621	1.71	ng/L	U	
3/7/2025	DISO-06	69	73	ft	REG	EPA533	PERFLUORONONANOIC ACID	4.06	0.621	1.88	ng/L		
3/7/2025	DISO-06	69	73	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.88	0.621	1.88	ng/L	U	
3/7/2025	DISO-06	69	73	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	1.88	0.621	1.88	ng/L	U	
3/11/2025	DISO-06	90	95	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.9	0.652	1.90	ng/L	U	
3/11/2025	DISO-06	90	95	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.69	0.625	1.69	ng/L	U	
3/11/2025	DISO-06	90	95	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.72	0.625	1.72	ng/L	U	
3/11/2025	DISO-06	90	95	ft	REG	EPA533	PERFLUORONONANOIC ACID	2.9	0.625	1.90	ng/L		
3/11/2025	DISO-06	90	95	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.9	0.625	1.90	ng/L	U	
3/11/2025	DISO-06	90	95	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	2.03	0.625	1.90	ng/L		
3/13/2025	DISO-07	19	24	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.81	0.621	1.81	ng/L	U	
3/13/2025	DISO-07	19	24	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.61	0.596	1.61	ng/L	U	
3/13/2025	DISO-07	19	24	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.64	0.596	1.64	ng/L	U	
3/13/2025	DISO-07	19	24	ft	REG	EPA533	PERFLUORONONANOIC ACID	1.07	0.596	1.81	ng/L	J	21
3/13/2025	DISO-07	19	24	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.81	0.596	1.81	ng/L	U	
3/13/2025	DISO-07	19	24	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	0.747	0.596	1.81	ng/L	J	21
3/14/2025	DISO-07	29	34	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.84	0.632	1.84	ng/L	U	
3/14/2025	DISO-07	29	34	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.63	0.606	1.63	ng/L	U	
3/14/2025	DISO-07	29	34	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	1.69	0.606	1.67	ng/L		
3/14/2025	DISO-07	29	34	ft	REG	EPA533	PERFLUORONONANOIC ACID	46.8	0.606	1.84	ng/L		
3/14/2025	DISO-07	29	34	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	4.45	0.606	1.84	ng/L		
3/14/2025	DISO-07	29	34	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	6.59	0.606	1.84	ng/L		
3/17/2025	DISO-07	45	50	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.84	0.632	1.84	ng/L	U	
3/17/2025	DISO-07	45	50	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.64	0.606	1.64	ng/L	U	
3/17/2025	DISO-07	45	50	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	2.4	0.606	1.67	ng/L		
3/17/2025	DISO-07	45	50	ft	REG	EPA533	PERFLUORONONANOIC ACID	44.4	0.606	1.84	ng/L		
3/17/2025	DISO-07	45	50	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	8.43	0.606	1.84	ng/L		
3/17/2025	DISO-07	45	50	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	5.14	0.606	1.84	ng/L		
3/18/2025	DISO-07	58	61	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.92	0.660	1.92	ng/L	U	
3/18/2025	DISO-07	58	61	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	2.61	0.633	1.71	ng/L		
3/18/2025	DISO-07	58	61	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	14.2	0.633	1.75	ng/L		
3/18/2025	DISO-07	58	61	ft	REG	EPA533	PERFLUORONONANOIC ACID	478	6.59	20.0	ng/L		
3/18/2025	DISO-07	58	61	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	18.2	0.633	1.92	ng/L		
3/18/2025	DISO-07	58	61	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	56.4	0.633	1.92	ng/L		

Sample Date	Location	Start Depth	End Depth	Unit	Sample Type	Analytical Method	Analyte Name	Result	Detection Limit	Quantitation Limit	Unit	Qualifiers	DQM Reason Code
3/19/2025	DISO-07	86	90	ft	REG	EPA533	HEXAFLUOROPROPYLENE OXIDE DIMER ACID	1.91	0.658	1.91	ng/L	U	
3/19/2025	DISO-07	86	90	ft	REG	EPA533	PERFLUOROBUTANESULFONIC ACID	1.7	0.631	1.70	ng/L	U	
3/19/2025	DISO-07	86	90	ft	REG	EPA533	PERFLUOROHEXANESULFONIC ACID	0.765	0.631	1.74	ng/L	J	21
3/19/2025	DISO-07	86	90	ft	REG	EPA533	PERFLUORONONANOIC ACID	3.2	0.631	1.91	ng/L		
3/19/2025	DISO-07	86	90	ft	REG	EPA533	PERFLUOROOCTANESULFONIC ACID (PFOS)	1.91	0.631	1.91	ng/L	U	
3/19/2025	DISO-07	86	90	ft	REG	EPA533	PERFLUOROOCTANOIC ACID (PFOA)	13.2	0.631	1.91	ng/L		

Notes:
ft – feet
ng/L – nanogram per liter
ft^3/min – cubic feet per minute
Sample types: REG – Regular; FD – Field Duplicate; SLP - Split
Qualifiers: U – Non-detect; J – Estimated

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SR 224 (Rev 10-31-2013)

Express Mail/Overnight Delivery Service Request

This form must accompany material to the mailroom.

To: **Mail Room Personnel / Building 731-1N**	Date 09/28/2026

United Parcel Service (UPS)

Service Required

○ AM Next Morning Before 10:30 ○ Next Business Day ○ 2nd Business Day ○ Saturday Delivery*

Sender's Name (Print)	Address	Phone No.	Speed Chart Code
Luchelle Abney	730-4B, 135	803-952-7401	07YXBPMDOC

Delivery Option*

■ Delivery Confirmation ☐ Signature Required

Declared Value of this Shipment is $ N/A

Security Classification

◉ Unclassified ○ Official Use Only ○ UCNI ○ Classified

Destination Information

Name/Company	Street Address		
MS. SUSIE O'CONNOR UNIVERSITY OF SOUTH CAROLINA - AIKEN GREGG-GRANITEVILLE LIBRARY	471 UNIVERSITY PARKWAY		
Phone Number	City	State	Zip
803-641-3264	AIKEN	SC	29801

I certify that overnight delivery of

REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS FOR THE D-AREA GROUNDWATER OPERABLE UNIT PER- AND POLYFLUOROALKYL SUBSTANCES PLUME (U)

(Title of Document or Description of Material)

is necessary to comply with mission objectives and that no other method of forwarding is available or feasible to meet the required delivery deadline. This is Official Business material.

NOTE: All Classified Material must be taken to the Classified Operations Group in 773-A.
All International Shipments must be approved by Export Control located in Building 703-45A prior to shipping.

APPROVALS

COG Clerk Receiving Request (Print) ***If Applicable***	COG Clerk Receiving Request (Signature) ***If Applicable***
Division Director/Manager Name - Level 4 (Print) Chris Bergren	Division Director/Manager - Level 4 (Signature)

* Denotes Additional Fee Applies

JLEE
8035575456
SAVANNAH RIVER NUCLEAR SOLUTIO
BLDG 731-1N RM 113
AIKEN SC 29808

2 LBS **1 OF 1**

DWT: 13,12,3

SHIP TO:
GEGG GRANITEVILLE LIBRARY
803-641-3261
SUSIE O'CONNER
UNIVERSITY OF SOUTH CAROLINA
471 UNIVERSITY PARKWAY
AIKEN SC 29801-6389

SC 298 0-01

UPS NEXT DAY AIR **1**

TRACKING #: 1Z A5E 795 01 9203 3461

BILLING: P/P

Reference # 1: 07YXBPMDOC

CS 26.0.09. WNTNV50 40.0A 09/2026*

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Sender's Name (Print)	Address	Phone No.	Speed Chart Code
LUCHELLE ABNEY	730-4B	2-7401	07YXBPMDOC

Delivery Option*

■ Delivery Confirmation ☐ Signature Required

Declared Value of this Shipment is $ N/A

Security Classification

◉ Unclassified ○ Official Use Only ○ UCNI ○ Classified

Destination Information

Name/Company	Street Address		
Mr. Bill Sudduth Government Information Dept. Thomas Cooper Library	1322 Greene Street		
Phone Number	City	State	Zip
803-777-5699	Columbia	SC	29208

I certify that overnight delivery of

REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS FOR THE D-AREA GROUNDWATER OPERABLE UNIT PER- AND POLYFLUOROALKYL SUBSTANCES PLUME

(Title of Document or Description of Material)

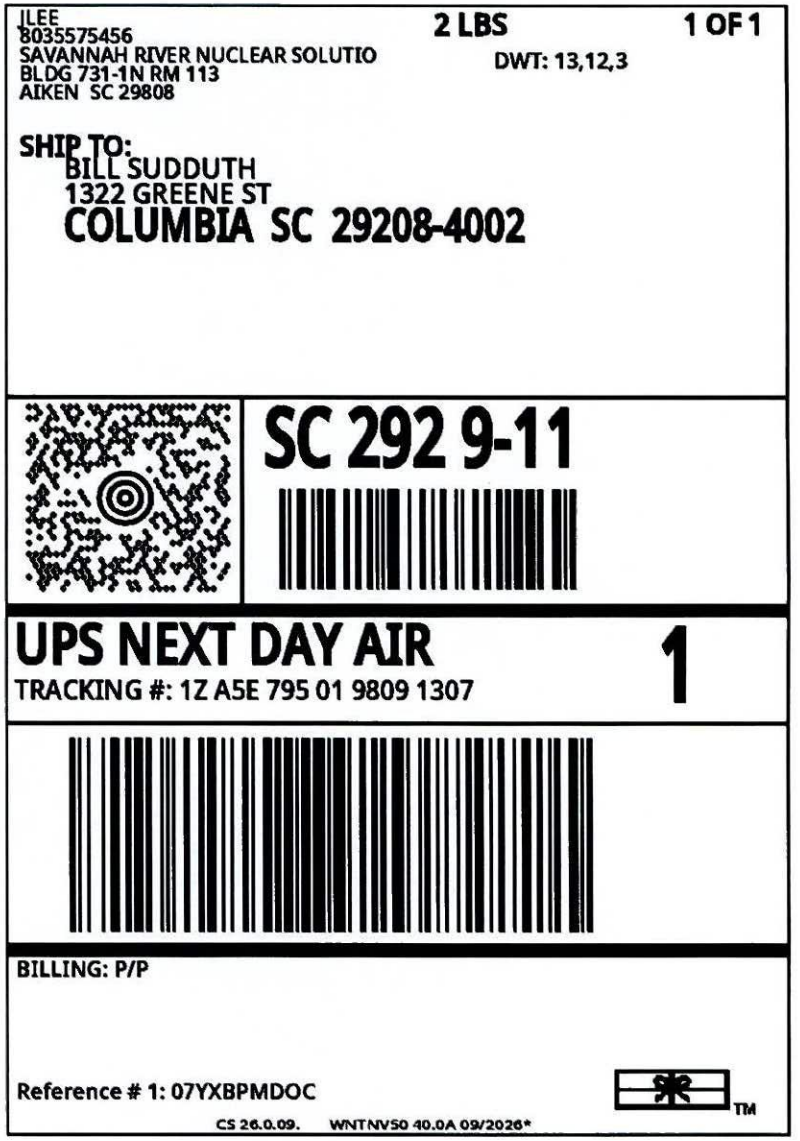
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Division Director/Manager Name - Level 4 (Print) Chris Bergren	Division Director/Manager - Level 4 (Signature)

* Denotes Additional Fee Applies


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8035575456
SAVANNAH RIVER NUCLEAR SOLUTIO
BLDG 731-1N RM 113
AIKEN SC 29808
2 LBS
1 OF 1
DWT: 13,12,3
SHIP TO:
BILL SUDDUTH
1322 GREENE ST
COLUMBIA SC 29208-4002
SC 292 9-11
UPS NEXT DAY AIR
TRACKING #: 1Z A5E 795 01 9809 1307
1
BILLING: P/P
Reference # 1: 07YXBPMDOC
CS 26.0.09. WNTNV50 40.0A 09/2026*

SR 224 (Rev 10-31-2013)

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United Parcel Service (UPS)

Service Required

○ AM Next Morning Before 10:30 ○ Next Business Day ○ 2nd Business Day ○ Saturday Delivery*

Sender's Name (Print)	Address	Phone No.	Speed Chart Code
Luchelle Abney	730-4B, 135	803-952-7401	07YXBPMDOC

Delivery Option*

■ Delivery Confirmation ☐ Signature Required

Declared Value of this Shipment is $ N/A

Security Classification

◉ Unclassified ○ Official Use Only ○ UCNI ○ Classified

Destination Information

Name/Company	Street Address		
MR. DAVID KEARNS REESE LIBRARY GOVT. SECTION AUGUSTA UNIVERSITY	2500 WALTON WAY		
Phone Number	City	State	Zip
706-737-1744	AUGUSTA	GA	30909

I certify that overnight delivery of

REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS FOR THE D-AREA GROUNDWATER OPERABLE UNIT PER- AND FOLYFLUOROALKYL SUBSTANCES PLUME (U)

(Title of Document or Description of Material)

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Division Director/Manager Name - Level 4 (Print) Chris Bergren	Division Director/Manager - Level 4 (Signature)

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JLEE
8035575456
SAVANNAH RIVER NUCLEAR SOLUTIO
BLDG 731-1N RM 113
AIKEN SC 29808

2 LBS **1 OF 1**

DWT: 13,12,3

SHIP TO:
GOVERNMENT INFORMATION DEPARTMENT
7067371749
DAVID KEARNS
THOMAS COOPER LIBRAY
2500 WALTON WAY
AUGUSTA GA 30904-4562

GA 309 0-01

UPS NEXT DAY AIR **1**

TRACKING #: 1Z A5E 795 01 9247 8053

BILLING: P/P

Reference # 1: 07YXBPMDOC

CS 26.0.09. WNTNV50 40.0A 09/2026*

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Sender's Name (Print)	Address	Phone No.	Speed Chart Code
Luchelle Abney	730-4B, 135	803-952-7401	07YXBPMDOC

Delivery Option*

■ Delivery Confirmation ☐ Signature Required

Declared Value of this Shipment is $ N/A

Security Classification

◉ Unclassified ○ Official Use Only ○ UCNI ○ Classified

Destination Information

Name/Company	Street Address		
MS. JENNIFER WEST ASA H. GORDON LIBRARY SAVANNAH STATE UNIVERSITY	2200 THOMPKINS ROAD		
Phone Number	City	State	Zip
912-358-4325	SAVANNAH	GA	31404

I certify that overnight delivery of

REMOVAL SITE EVALUATION REPORT/ENGINEERING EVALUATION/COST ANALYSIS FOR THE D-AREA GROUNDWATER OPERABLE UNIT PER- AND POLYFLUOROALKYL SUBSTANCES PLUME (U)

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8035575456
SAVANNAH RIVER NUCLEAR SOLUTIO
BLDG 731-1N RM 113
AIKEN SC 29808

2 LBS

1 OF 1

DWT: 13,12,3

SHIP TO:
ASA H. GORDON LIBRARY
706-737-1749
JENNIFER WEST
SAVANNAH STATE UNIVERSITY
2200 TOMPKINS ROAD
SAVANNAH GA 31404-5235

GA 314 8-04

UPS NEXT DAY AIR

1

TRACKING #: 1Z A5E 795 01 9841 6117

BILLING: P/P

Reference # 1: 07YXBPMDOC

CS 26.0.09. WNTNV50 40.0A 09/2026*

TM