

REDSTONE ARSENAL

Army Cleanup Program

Installation Action Plan Final

June 2024

TABLE OF CONTENTS

STATEMENT OF PURPOSE 5

INSTALLATION OVERVIEW 6

ACRONYMS 7

PHASE TRANSLATION TABLE 10

PROGRAM SUMMARY 11

SITE-LEVEL INFORMATION 12

 01202.1004_MSFC-034_FORMER CHEMICAL PRODUCTION AREA 13

 01202.1023_RSA-010_CLOSED UNLINED SANITARY LANDFILL 15

 01202.1026_RSA-013_UNLINED INACTIVE OPEN BURN PADS 17

 01202.1027_RSA-014_UNLINED INACTIVE BURN TRENCHES 19

 01202.1058_RSA-045_SMOKE MUNITIONS PLANT 3 21

 01202.1061_RSA-048_INACTIVE CLOSED SANITARY LANDFIL 22

 01202.1062_RSA-049_CAPPED ARSENIC WASTE LAGOONS-WES 23

 01202.1066_RSA-053_INACTIVE SANITARY & INDUSTRIAL L 24

 01202.1067_RSA-054_INACTIVE SANITARY & INDUSTRIAL L 25

 01202.1069_RSA-056_CAPPED ARSENIC WASTE PONDS-SOUTH 26

 01202.1070_RSA-057_INACTIVE ARSENIC WASTE LAGOON-EA 27

 01202.1071_RSA-058_INACTIVE CLOSED RUBBLE FILL & WA 28

 01202.1072_RSA-059_INACTIVE CLOSED CONSTRUCTION RUB 30

 01202.1073_RSA-060_INACTIVE SANITARY & INDUSTRIAL L 31

 01202.1078_RSA-065_FORMER CHEMICAL DRUM STORAGE ARE 32

 01202.1080_RSA-067_FORMER CHEMICAL DRUM STORAGE ARE 34

 01202.1082_RSA-069_FORMER CHEMICAL DRUM STORAGE ARE 36

 01202.1096_RSA-083_INACTIVE SPRAY PAINT BOOTH SUMP 38

 01202.1122_RSA-109_FORMER CHEMICAL MUNITIONS STAGIN 40

 01202.1128_RSA-115_INACTIVE EAST SIDE BLOWDOWN LAGO 42

 01202.1130_RSA-117_FORMER LIQUID CAUSTIC MFG. PLANT 43

 01202.1135_RSA-122_DISMANTLED LEWISITE MFG. PLANTS 45

 01202.1150_RSA-139_CAPPED ARSENIC WASTE POND-NORTH 47

 01202.1151_RSA-140_INACTIVE DISPOSAL AREA 49

 01202.1153_RSA-142_CHLORINATED-SOLVENT SPILL AREA 50

 01202.1154_RSA-143_UNDERGROUND STORAGE TANK SPILL S 52

 01202.1156_RSA-145_GROUNDWATER UNIT GW-01 53

 01202.1157_RSA-146_GROUNDWATER UNIT GW-02 55

 01202.1158_RSA-147_GROUNDWATER UNIT GW-03 57

 01202.1159_RSA-148_GROUNDWATER UNIT GW-04 59

 01202.1160_RSA-149_GROUNDWATER UNIT GW-05 60

 01202.1161_RSA-151_GROUNDWATER UNIT GW-07 61

 01202.1162_RSA-152_GROUNDWATER UNIT GW-08 63

 01202.1163_RSA-156_GROUNDWATER UNIT GW-12 65

 01202.1164_RSA-183_FORMER LEWISITE PRODUCTION FACIL 66

 01202.1193_CCRSA-315_ABANDONED DRUM AREA 68

| | |
|--|-----|
| 01202.1211_RSA-204_THIOKOL OXIDIZER FACILITY..... | 70 |
| 01202.1213_RSA-206_PROPELLANT MIXING FACILITY #2 & | 72 |
| 01202.1216_RSA-209_PROPELLANT CRUSHING/GRINDING & F..... | 73 |
| 01202.1223_RSA-217_INERT STORAGE WAREHOUSE FACILITI | 74 |
| 01202.1225_RSA-219_CHEMICAL STORAGE AREA IN SALVAGE | 75 |
| 01202.1229_RSA-225_FUSE MODIFICATION LINE 7 | 76 |
| 01202.1243_RSA-238_HVA PLANT #2 MUSTARD LINES 5 & 6 | 77 |
| 01202.1244_RSA-150_GROUNDWATER UNIT 06 | 79 |
| 01202.1245_RSA-153_GROUNDWATER UNIT 09 | 80 |
| 01202.1246_RSA-154_GROUNDWATER UNIT 10 | 81 |
| 01202.1247_RSA-155_GROUNDWATER UNIT 11 | 82 |
| 01202.1248_RSA-157_GROUNDWATER UNIT 13 | 83 |
| 01202.1251_RSA-250_FORMER STORAGE WAREHOUSE BLDG 77 | 84 |
| 01202.1252_RSA-252_INCENDIARY BOMB FACILITY PLANT 2 | 85 |
| 01202.1256_CCRSA-317_CONSTRUCTION SITE E BLDG 5674 | 87 |
| 01202.1262_RSA-262_CWS WAREHOUSE AREA BLDGS 8021-80 | 89 |
| 01202.1263_RSA-263_CWS MOTORPOOL(B 8017)/CHANGE HOU..... | 91 |
| 01202.1268_RSA-269_FORMER UST, BUILDING 7852 | 92 |
| 01202.1269_RSA-271_FORMER BOILER HOUSE, BUILDING 77 | 93 |
| 01202.1284_CCSWMU-008_SEWAGE TREATMENT PLANT #4 | 95 |
| 01202.1285_CCSWMU-291_UST AT FORMER BLDG T-3162 (ST | 96 |
| 01202.1286_CCSWMU-293_FORMER USTs AT BLDG 3639..... | 97 |
| 01202.1292_CCSWMU-028_IN-GROUND OWS 5693 AREA..... | 98 |
| 01202.1293_CCSWMU-306_STEAM HEATING PLANT, BLDG 729 | 99 |
| 01202.1297_CCSWMU-304_OWS,WASHRACK&SUMP ADJACENT TO | 100 |
| 01202.1303_CCSWMU-009_INACTIVE SEWAGE TREATMENT PLA | 101 |
| 01202.1306_CCSWMU-116_SOUTH SIDE BLOWDOWN LAGOON, T..... | 103 |
| 01202.1309_CCSWMU-003_IN-GROUND OIL/WATER SEPARATOR | 104 |
| 01202.1311_CCRSA-308_Exterior Sump at Bldg 7120 | 105 |
| 01202.1314_CCRSA-311_SUMP & CONCRETE PITS AT BLDG 7 | 106 |
| 01202.1317_CCRSA-314_Used Oil AST & Spill site Bldg | 107 |
| 01202.1323_MSFC-033A_SURFACE SOIL EAST OF BLDG 4816 | 108 |
| 01202.1388_CCRSA-320_PARKING/EQUIPMENT STAGING AREA | 109 |
| 01202.1389_CCRSA-321_CLEARED AREA E & NE BLDG 3639 | 110 |
| 01202.1400_CCSWMU-286_BOILER/STEAM PLANT, BLDG 3624 | 111 |
| 01202.1414_RSA-PFAS_PFAS | 112 |
| 01202.1005_MSFC-035_INACTIVE SUMP/TILED DRAIN FIELD..... | 113 |
| 01202.1125_RSA-112_FORMER DEMILITARIZATION & DISPOS | 115 |
| 01202.1126_RSA-113_INACTIVE DISPOSAL TRENCHES & BUR | 117 |
| 01202.1127_RSA-114_INACTIVE MADKIN MOUNTAIN ROCK QU | 119 |
| 01202.1175_RSA-141-R-01_4.2 Inch Mortar Disposal Si | 121 |
| 01202.1180_MSFC-003-R-01_Inactive Old Bone Yard Dis..... | 123 |
| 01202.1186_RSA-066-R-01_RSA-66..... | 125 |
| 01202.1188_RSA-068-R-01_RSA-68..... | 127 |
| 01202.1191_RSA-110-R-01_RSA-110 | 129 |
| 01202.1196_RSA-188_NORTHERN BURIAL AREA / BURNING G | 131 |
| 01202.1276_RSA-278-R-01_Highway 565 Area | 133 |
| 01202.1278_RSA-072-R-01_Former Mortar Test Site (Not in Range) | 135 |

| | |
|---|------------|
| 01202.1279_RSA-234-R-01_WASTE DISPOSAL PIT | 136 |
| 01202.1280_RSA-249-R-01_INACTIVE OLD BONEYARD DISPO | 138 |
| 01202.1281_RSA-280-R-01_Skunk Hollow Small Arms Ran | 140 |
| 01202.1282_RSA-221-R-01_FuseStorage&Munitions Dispo | 142 |
| 01202.1315_RSA-312-R-01_Former Range Area Gate 7 Ex | 144 |
| 01202.1316_RSA-313-R-01_W side Former High explosiv | 146 |
| 01202.1259_CCI0U-03_HSV SPRING BRANCH PATTON RD THR | 148 |
| 01202.1260_CCI0U-04_HSV SPRING BRNCH/INDIAN CREEK C | 149 |
| 01202.1264_CCI0U-05_MCDONALD CREEK | 150 |
| 01202.1266_CCI0U-06_INDIAN CREEK | 151 |
| 01202.1325_CCI0U-07_SOUTHEASTERN BOUNDARY SYSTEM | 152 |
| 01202.1326_CCI0U-08_MCKINLEY RANGE | 153 |
| 01202.1327_CCI0U-09_SOUTHWEST AREA | 154 |
| 01202.1328_CCI0U-01_HSV SPRING BRANCH E OF MCDONALD | 155 |
| 01202.1329_CCI0U-02_HUNTSVILLE SPRING BRANCH E OF | 156 |
| 01202.1330_CCI0U-10_BRADFORD SINKS | 157 |
| 01202.1331_CCI0U-11_TENNESSAA RIVER EAST | 158 |
| 01202.1333_CCI0U-12_TENNESSEE RIVER WEST | 159 |
| 01202.1337_CCRSA-064_INACTIVE MUNITIONS DEMIL/DISPO | 160 |
| 01202.1338_CCRSA-051_INACTIVE MUNITIONS DEMIL & DIS | 162 |
| 01202.1339_CCRSA-052_INACTIVE MUNITIONS DEMIL & DI | 164 |
| 01202.1342_CCRSA-061_INACTIVE MUNITIONS DEMIL/DISPO | 166 |
| 01202.1348_CCRSA-063_INACTIVE CHEMICAL MUNITIONS DI | 168 |
| 01202.1381_CCRSA-281_DISPOSAL TRENCHES AT RSA-046 R | 170 |
| 01202.1387_CCRSA-318_SMOKE POT DISPOSAL AREA | 172 |
| 01202.1403_CCRSA-257_ROCK POND | 174 |
| 01202.1405_CCRSA-264_RR SPRING | 176 |
| SITE SUMMARY | 178 |
| SITE CLOSEOUT SUMMARY | 179 |
| COMMUNITY INVOLVEMENT | 186 |
| FIVE-YEAR / PERIODIC REVIEW SUMMARY | 187 |

STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: REDSTONE ARSENAL

Installation City: REDSTONE ARSENAL

Installation County: MADISON

Installation State: AL

Regulatory Participation - Federal: US Environmental Protection Agency, Region 4

Regulatory Participation - State: Alabama Department of Environmental Management

ACRONYMS

| Acronym | Definition |
|---------|--|
| ABP | Agent Breakdown Products |
| ADEM | Alabama Department of Environmental Management |
| AHWMMA | Alabama Hazardous Wastes Management and Minimization Act |
| ARBCA | Alabama Risk-Based Corrective Action |
| AST | Aboveground Storage Tank |
| BHHRA | Baseline Human Health Risk Assessment |
| CA | Chemical Agent |
| CACM | Chemical Agent Contaminated Material |
| CAMU | Corrective Action Management Unit |
| CC | Compliance-Related Cleanup |
| CCRSA | Compliance-Related Cleanup, Redstone Arsenal |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act of 1980 |
| CG | Phosgene |
| CMI(C) | Corrective Measures Implementation (Construction) |
| CMI(O) | Corrective Measures Implementation (Operations) |
| CMIP | Corrective Measures Implementation Plan |
| CMS | Corrective Measures Study |
| CMR | Corrective Measures Report |
| COC | Contaminants of Concern |
| COPC | Chemicals of Potential Concern |
| CRL | Cleanup Restoration & Liabilities |
| CS | Conformation Sampling |
| CWM | Chemical Warfare Materiel |
| DAF4 | Dilution Attenuation Factor 4 |
| DCE | cis-1,2-dichloroethylene |
| DCS | Deputy Chief of Staff |
| DD | Decision Document |
| DDD | Dichlorodiphenyldichloroethylene |
| DDE | Dichlorodiphenyltrichloroethane |
| DDT | Dichloro-Diphenyl-Trichloroethane |
| DES | Design |
| DNAPL | Dense Non-aqueous Phase Liquid |
| DOD | Department of Defense |
| ENV | Environmental |
| ERH | Electrical Resistance Heating |
| FYR | Five-Year Review |
| FS | Feasibility Study |
| ft | feet |

| Acronym | Definition |
|---------|--|
| GCWD | Gulf Chemical Warfare Department |
| HHRA | Human Health Risk Assessment |
| IAP | Installation Action Plan |
| ID | Identification |
| IM | Interim Measures |
| IRA | Interim Remedial Action |
| IR | Installation Restoration |
| IROD | Interim Record of Decision |
| IOU | Integrator Operable Unit |
| ISEB | In Situ Enhanced Bioremediation |
| LTM | Long-Term Management |
| LUC | Land Use Control |
| MEC | Munitions and Explosives of Concern |
| MNA | Monitored Natural Attenuation |
| MPPEH | Material potentially Presenting an Explosive Hazard |
| MR | Munitions Response |
| MRSPP | Munitions Response Site Prioritization Protocol |
| MSFC | Marshall Space Flight Center |
| NFA | No Further Action |
| NASA | National Aeronautics and Space Administration |
| NBA | Northern Burning Area |
| NPL | National Priorities List |
| OB | Open Burning |
| OD | Open Detonation |
| OWS | Oil/Water Separator |
| PA | Preliminary Assessment |
| PAH | Polycyclic Aromatic Hydrocarbons |
| PCB | Polychlorinated Biphenyl |
| PFAS | Per- and Polyfluoroalkyl Substances |
| POL | Petroleum, Oil, and Lubricants |
| PR | Periodic Review |
| PSV | Preliminary Screening Value |
| RAB | Restoration Advisory Board |
| RA(C) | Remedial Action (Construction) |
| RA(O) | Remedial Action (Operations) |
| RARE | Redstone Arsenal Rocket Engine |
| RAWP | Remedial Action Work Plan |
| RC | Response Complete |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RDX | Cyclotrimethylenetrinitramine |
| RFA | Resource Conservation and Recovery Act Facility Assessment |

| Acronym | Definition |
|---------|---|
| RFI | Resource Conservation and Recovery Act Facility Investigation |
| RI | Remedial Investigation |
| RIP | Remedy-In-Place |
| ROD | Record of Decision |
| ROP | Redstone Ordnance Plant |
| RRSE | Relative Risk Site Evaluation |
| RSA | Redstone Arsenal |
| SC | Site Closeout |
| SI | Site Inspection |
| SFSP | Site Field Sampling Plan |
| SSL | Soil Screening Level |
| SVOC | Semi-Volatile Organic Compound |
| SWMU | Solid Waste Management Unit |
| TAPP | Technical Assistance for Public Participation |
| TCE | Trichloroethylene |
| TCRA | Time-Critical Removal Action |
| TPH | Total Petroleum Hydrocarbons |
| TSA | Temporary Storage Area |
| TVA | Tennessee Valley Authority |
| UE | Unrestricted Exposure |
| UST | Underground Storage Tank |
| UU | Unlimited Use |
| UXO | Unexploded Ordnance |
| VOC | Volatile Organic Compound |
| WP | White Phosphorous |
| WWII | World War II |

PHASE TRANSLATION TABLE

| CERCLA Phase | RCRA Phase | RCRA UST Phase |
|--|---|---|
| Preliminary Assessment (PA) | RCRA Facility Assessment (RFA) | Initial Site Characterization (ISC) |
| Site Inspection (SI) | Confirmation Sampling (CS) | Investigation (INV) |
| Remedial Investigation/ Feasibility Study (RI/FS) | RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) | Corrective Action Plan (CAP) |
| Remedial Design (RD) | Design (DES) | Design (DES) |
| Interim Remedial Action (IRA) | Interim Measure (IM) | Interim Remedial Action (IRA) |
| Remedial Action (Construction) (RA(C)) | Corrective Measures Implementation (Construction) (CMI(C)) | Implementation (Construction) (IMP(C)) |
| Remedial Action (Operations) (RA(O)) | Corrective Measures Implementation (Operations) (CMI(O)) | Implementation (Operations) (IMP(O)) |
| Long-Term Management (LTM) | Long-Term Management (LTM) | Long-Term Management (LTM) |

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 7/72

Number of Open Sites with Response Complete/Total Open MR Sites: 0/18

Number of Open Sites with Response Complete/Total Open CC Sites: 0/21

SITE-LEVEL INFORMATION

01202.1004_MSFC-034_FORMER CHEMICAL PRODUCTION AREA

Env Site ID: MSFC-034

Cleanup Site: FORMER CHEMICAL PRODUCTION AREA

Alias: MSFC-034

Regulatory Driver: RCRA-C

RIP Date: 10/1/2041

RC Date: 10/1/2070

RC Reason: Not assigned

SC Date: 10/2/2070

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1995 | 9/30/1999 |
| RFI/CMS: | 6/30/2009 | 8/30/2028 |
| DES: | 10/1/2024 | 9/30/2028 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2027 | 9/30/2041 |
| CMI(O): | 10/1/2041 | 10/1/2070 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1004 (alias MSFC-034) is an approximately 54-acre former chemical agent production area located on Redstone Arsenal (RSA) within the National Aeronautics and Space Administration's (NASA) George C. Marshall Space Flight Center (MSFC). This site includes areas associated with World War II (WWII) era mustard production and filling facilities including 24 underground storage tanks (USTs) (16 ethanol and eight fuel oil) and the subsequent scrubbing and decontamination of facilities. Contaminants were believed to have been released by these chemical agent (CA) production and filling activities. The site's unexploded ordnance (UXO) probability is none and prior to December 2023, the chemical warfare materiel (CWM) probability ranged from Seldom to Likely in addition to areas designated as Unlikely. To date, no CWM and/or CA has been encountered and in December 2023 a Site-Specific Probability Assessment was approved by the Army reducing the CWM probabilities within the former manufacturing lines and former production and filling facilities from Seldom and Likely to Unlikely. A CWM probability of Seldom remains for any remaining underground transfer piping since any remaining media from within the piping has not been investigated. Therefore, the current CWM probability for the entire site ranges from Seldom, 0.4 acres, to Unlikely, 53.6 acres. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide interim record of decision (IROD) establishes land-use controls (LUCs) to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The Resource Conservation and Recovery Act (RCRA) permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring a RCRA Facility Investigation (RFI). RFI field activities were conducted from 2011 to 2018 within the areas of the site with a CWM probability of "Unlikely" and were compiled into an RFI report. Based on the results of the RFI conducted within the "Unlikely" CWM probability areas, the Army's historical operations at MSFC-034 have resulted in the release of site-related constituents to soil and groundwater at concentrations that pose unacceptable health risk to human health. Additional RFI field activities within the areas of the site with a CWM probability of "Seldom" to "Likely" were completed in 2022. Results from this investigation and the investigation within the "Unlikely" CWM probability areas, were compiled into one RFI report for

the entire site for Army and Alabama Department of Environmental Management (ADEM) review and approval. Based on the RFI intrusive investigations across the entire site, the suspected contaminants of concern (COCs) for the site are metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polychlorinated biphenyl (PCBs) in soil and metals, VOCs, and SVOCs in groundwater. VOCs have the potential for off-site contamination. Migration of the remaining COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. The RFI Report for the entire site is expected to be finalized and approved by the Army and ADEM in 2024 and the corrective measures study (CMS) for the entire site is expected to be approved by the Army in 2024. There are no key documents currently underway. The current and future land use of the site is recreational and/or industrial research and development in support of MSFC. The path forward is to complete the CMS, design (DES), corrective measures implementation (construction) (CMI(C)), and corrective measures implementation (operations) (CMI(O)) phases. The Corrective Measures Implementation Plan (CMIP) will be developed during the DES Phase. Corrective measures are anticipated to include excavation and off-site disposal of contaminated soil, and electrical resistance heating (ERH) treatment and monitoring, in-situ environmental bioremediation (ISEB), and monitored natural attenuation (MNA) to address groundwater contamination. Groundwater will be addressed under this site. Because the future land use will remain recreational and industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for unlimited use (UU)/unlimited exposure (UE), MNA, LUCs, and five year/periodic remedy reviews will continue indefinitely.

01202.1023_RSA-010_CLOSED UNLINED SANITARY LANDFILL

Env Site ID: RSA-010

Cleanup Site: CLOSED UNLINED SANITARY LANDFILL

Alias: RSA-010

Regulatory Driver: RCRA-C

RIP Date: 10/1/2030

RC Date: 10/1/2059

RC Reason: Not assigned

SC Date: 10/2/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 10/31/1993 | 8/30/2026 |
| DES: | 9/30/2024 | 9/30/2026 |
| IRA: | -- | -- |
| CMI(C): | 10/01/2026 | 9/30/2030 |
| CMI(O): | 10/1/2030 | 10/1/2059 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1023 (alias RSA-010) is a closed sanitary landfill comprising 66 acres in the central portion of RSA. The sanitary landfill was constructed in 1972, received waste until 1991, and was closed in 1992. RSA-010 consists of waste oil pits that were used historically for disposal of waste lube oil, fuel oil sludge, and sewage treatment grease trap solids in the northern portion of the landfill and household waste, paper products, hospital infectious waste, construction debris, asbestos, and ash from incinerated paper located in closed sanitary trenches in the southern and remaining portions of the site. Trenches and pits were used for disposal and storage of the sanitary, municipal, rubble, and construction debris-related waste. Currently, a 43.55-acre active operational construction and demolition landfill overlies the former sanitary landfill. Commingled plumes beneath RSA-010 result primarily from sources at the NASA MSFC and include releases from environmental sites within the (01202.1159) groundwater site. During construction of a surface-water diversion ditch in June 2015, a partially buried drum containing a small amount of munition-related material was discovered. The source and origin of the material is unknown. The disposal activities are not suspected to have generated large amounts of this type of debris, and its presence in RSA-010 is probably limited. The UXO probability for the site remains "None". Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. RFI field activities were completed in 2016 at the surface media site and concluded that, based on available information collected to date, the Army's historical operations at RSA-010 have resulted in releases to surface media of contaminants which pose an unacceptable health risk to human health and environment based on presence, toxicity, and/or mobility of contamination. Groundwater beneath RSA-010 poses an unacceptable human health risk from VOCs, including trichloroethene (TCE) and breakdown products, semi-volatile organic compounds (SVOCs), PAHs, metals, explosives, and organochlorine pesticides, with contribution of VOCs from off-site sources. There is low potential for off-

site migration of COCs due to the nature of the COCs and location of the site. In addition, munitions-related material has been encountered at this site as a result of undocumented disposal events. The RFI Report was approved by the Army and ADEM in 2023. There are no key documents currently underway. Current and anticipated future land use is industrial. The path forward includes completing the CMS, DES, CMI(C), and CMI(O) phases. The CMIP will be developed during the DES Phase. Corrective measures are anticipated to include excavation and off-site disposal of contaminated soil, construction of low-permeability soil cover (capping), and MNA to address groundwater contamination. Groundwater will be addressed under this site. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, MNA, LUCs, and five year/periodic remedy reviews will continue indefinitely.

01202.1026_RSA-013_UNLINED INACTIVE OPEN BURN PADS

Env Site ID: RSA-013

Cleanup Site: UNLINED INACTIVE OPEN BURN PADS

Alias: RSA-013

Regulatory Driver: RCRA-C

RIP Date: 9/29/2026

RC Date: 9/29/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1991 |
| RFI/CMS: | 10/15/2009 | 6/28/2023 |
| DES: | 1/1/2019 | 7/28/2023 |
| IRA: | -- | -- |
| CMI(C): | 5/2/2023 | 9/29/2026 |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: Site 01202.1026 (alias RSA-013) covers approximately 4.3-AC and is located near the southwest corner of RSA, south of McAlpine Road, and northeast of the Tennessee River. RSA-013 is located on Tennessee Valley Authority (TVA) property that RSA has a memorandum of agreement to use and within an operational range. TVA must approve all plans for this site. The site consists of an open burn area where chlorinated solvents, solvent-contaminated materials, waste rocket motor propellant, and scrap metal were incinerated on the ground surface. The resulting ash was disposed of at the RSA-014 (01202.1027) ash field and at RSA-066-R-01 (01202.1186). The site also includes the former RSA-132 (01202.1145) popping furnace area and the former RSA-133 (01202.1146) rocket motor washout rack and sump area. Contaminants were believed to have been released by these open burn operations. A groundwater pump and treat system was operated from 1997-2000 for VOC contamination. High levels of perchlorate have been detected in the groundwater. UXO is potentially present at the site. The UXO probability for the site is low. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-013 have resulted in concentrations of site-related constituents in surface media which pose a leaching threat to groundwater. Based on the RFI, COCs for the site include perchlorate and cyclotrimethylenetrinitramine (RDX) in soil and VOCs, SVOCs, perchlorate, and explosive compounds in groundwater. TCE and perchlorate have migrated off-site. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2021 and the site was identified in the RCRA Permit as requiring a CMIP. The CMIP was approved by ADEM in 2022 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document was completed in 2023. The CMI(C) fieldwork is currently underway and is expected to be completed in 2024.

There are no key documents currently underway. Current and future land use will continue as the open burn (OB)/open detonation (OD) buffer zone. Future industrial development may be possible. (RSA-013-R-01 has been opened but is listed as response complete because this site is on an active range.) The path forward is to complete the CMI(C) phase for surface media. During the CMI(C), the selected alternative for excavation and off-site disposal of perchlorate and RDX contaminated soils and backfill of soil from an approved borrow source will be carried out. The corrective measures conducted at this site are intended to be the final corrective action for surface media and are expected to result in no further action for RSA-013 and the site will be administratively closed. Groundwater for the site will be addressed under the RSA-151 (01202.1161) Groundwater Unit. It is anticipated that the site will be remediated to a level that allows for UU/UE. LUCs and five year/periodic remedy reviews will continue until UU/UE is achieved.

01202.1027_RSA-014_UNLINED INACTIVE BURN TRENCHES

Env Site ID: RSA-014

Cleanup Site: UNLINED INACTIVE BURN TRENCHES

Alias: RSA-014

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1991 |
| RFI/CMS: | 6/30/2009 | 5/30/2024 |
| DES: | 1/1/2019 | 6/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 5/2/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1027 (alias RSA-014) occupies 19.5 acres and is located in the southwest corner of RSA, south of McAlpine Road, northeast of the Tennessee River. RSA-014 consists of two noncontiguous parcels identified as RSA-014 North and RSA-014 South. RSA-014 North is 9.7-AC and was added to the RSA-014 footprint based on potential source area investigation recommendations. RSA-014 South is located adjacent to TVA property and is approximately 9.8-AC in size. The site includes and surrounds two former unlined trenches designed for disposal and burning of incinerate solid materials contaminated with rocket propellant, waste solvents, and solvent-contaminated materials. Evidence exists that chemical munitions were disposed of at this site. UXO is present at the site. Contaminants were believed to have been released by these waste disposal activities. The UXO probability is moderate/high for RSA-014 South and low for RSA-014 North. The CWM probability is seldom for RSA-014 South and none for RSA-014 North. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. Previous investigations identified VOC contamination. A soil vapor extraction system was operated from 1999 to 2000 to address VOC contamination. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-014 have resulted in concentrations of site-related constituents in surface media. Based on the RFI, COCs for the site include TCE and munitions and explosives of concern (MEC) in soil and VOCs, SVOCs, explosives, perchlorate, and manganese in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2020 and the site was identified in the RCRA Permit as requiring a CMIP. The CMIP was approved by ADEM in 2022. The Statement of Basis/Decision Document was completed in 2023. The Permit Modification incorporating the selected corrective measures and the CMI(C) fieldwork are expected to be completed

in 2024. Key document currently underway is the Final Corrective Measures Report. The current and anticipated future land use is to continue as the OB/OD buffer zone. The path forward is to complete the CMI(C) and Long-Term Management (LTM) phases. During the CMI(C), the selected alternative of excavation and off-site disposal of contaminated soil and implementation of LUCs will be implemented to eliminate the on-site risk associated with TCE-contaminated soil and MEC that may remain at the site. Groundwater for the site will be addressed under the RSA-151 (01202.1161) Groundwater Unit. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1058_RSA-045_SMOKE MUNITIONS PLANT 3

Env Site ID: RSA-045

Cleanup Site: SMOKE MUNITIONS PLANT 3

Alias: RSA-045

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 8/1/2058

RC Reason: Not assigned

SC Date: 8/2/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1995 | 9/30/1999 |
| RFI/CMS: | 6/30/2009 | 5/31/2021 |
| DES: | 9/1/2018 | 5/31/2021 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2021 | 9/30/2024 |
| CMI(O): | 8/1/2022 | 8/1/2058 |
| LTM: | -- | -- |

Site Narrative: RSA-045 is a 38.5-acre industrial discharge site. This site is located east of Patton Road and north of Martin Road in the north central parcel of RSA. The site was initially an underground waste oil storage tank at Building 3775, located near wetlands and Huntsville Spring Branch. Possible leakage was occurring from the tank which stored waste oil with possible other contaminants. RSA-045 now encompasses 38.5 acres due to historical information indicating the site was used as an Adamsite and tear gas filling plant. The northeast portion of the site is within the 100-year flood zone. The RFI found pesticides in soil are above Alabama Risk-Based Corrective Action (ARBCA) action levels and require corrective action to lower risk. VOCs above MCLs require corrective action in groundwater and PAHs and pesticides in groundwater above human health-based screening values require monitoring. There is no potential for off-site migration. ADEM approved the CMIP in December 2020. The selected remedy for soils is soil excavation with off-site disposal. The selected groundwater remedy is ISEB followed by MNA for 36 years based on a model to treat VOCs under RSA-045. Completed phases of work are Preliminary Assessment (PA)/Site Inspection (SI), RFI, and DES. The CMI(C) is currently underway. ISEB injections were completed in May 2022. Soil excavation and backfill is underway. The path forward is to complete CMI-C and 36 years of CMI-O. A corrective measures report (CMR) was submitted in May 2023. Final concurrence from ADEM will be obtained once the Army and ADEM agree on NEUR language. The CMI-C phase will remain open until the Army resolves NEUR language with ADEM. All CMI-C fieldwork has been completed and the remedy is in place as of Aug. 8, 2023. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. LUCs include posting of signage and administrative controls to manage the use of groundwater. Current and future land use is industrial. It is anticipated that UU/UE will be achieved. MNA, LUCs, annual monitoring reports, and periodic reviews will be required until UU/UE is achieved.

01202.1061_RSA-048_INACTIVE CLOSED SANITARY LANDFIL

Env Site ID: RSA-048

Cleanup Site: INACTIVE CLOSED SANITARY LANDFIL

Alias: RSA-048

Regulatory Driver: RCRA-C

RIP Date: 5/15/2028

RC Date: 5/15/2028

RC Reason: Not assigned

SC Date: 5/16/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1995 |
| RFI/CMS: | 9/30/2005 | 5/15/2024 |
| DES: | 12/15/2012 | 6/15/2025 |
| IRA: | -- | -- |
| CMI(C): | 6/15/2025 | 5/15/2028 |
| CMI(O): | -- | -- |
| LTM: | 5/15/2028 | 5/15/2057 |

Site Narrative: RSA-048 is a 5.5-acre surface disposal area/landfill. This site is located north of the old railroad bed, east of Patton Road, west of McDonald Creek, and north of Martin Road in the northeast portion of RSA. This disposal area is approximately 4.5 acres. It was active from 1947 through the early 1950s and received construction rubble. Limited previous sampling indicates the presence of industrial waste constituents. The disposal area was not capped but has a thin layer of soil covering the waste piles/trenches. Low levels of SVOCs lead and chromium have been confirmed in the soil. Environmental concerns are driven by the potential of contaminant release from the disposal of sanitary waste in the wetland. Site COCs are metals, SVOCs, and VOCs in soil sediment and groundwater. As a result of the permit renewal in 2010 this site was moved from the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) program to the RCRA program. The current phases of work are the RFI/CMS and DES, and the future phases are CMI(C) and long-term management (LTM) phases. The anticipated remedy is capping and LUCs including signage to prohibit soil disturbance and restricting use to commercial/industrial with MNA, LUCs and monitoring for groundwater. Current and future land use is industrial. There is no potential for off-site migration. It is not anticipated that UU/UE will be achieved. LUCs and periodic reviews are required until UU/UE is achieved.

01202.1062_RSA-049_CAPPED ARSENIC WASTE LAGOONS-WES

Env Site ID: RSA-049

Cleanup Site: CAPPED ARSENIC WASTE LAGOONS-WES

Alias: RSA-049

Regulatory Driver: RCRA-C

RIP Date: 9/30/2008

RC Date: 9/30/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 10/2/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE:

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1996 |
| RFI/CMS: | 10/31/1996 | 9/30/2007 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | 10/31/2007 | 9/30/2008 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2008 | 10/1/2054 |

Site Narrative: RSA-049 is a 12.56-acre site containing capped arsenic waste ponds. The site is located southwest of the Toftoy Thruway and Neal Road interchange. Three unlined surface waste ponds were constructed at the site in the early 1940s. These were used in support of waste collection and treatment for the former WWII Lewisite plants. Large disposal reactors used lime to treat the arsenic waste before releasing it to the unlined ponds. After WWII the ponds were used for industrial waste and rubble disposal from the former Lewisite plants and MSFC. This continued until the location was backfilled in 1977. COCs include arsenic, mercury, PAHs, TCE, and carbon tetrachloride. Media of concern include surface soil, subsurface soil, and groundwater. In 1997, a multilayer RCRA-type cap was installed over the waste ponds and associated contaminated areas. Phases of work completed are the PA/SI, Remedial Investigation (RI)/Feasibility Study (FS), and CMI(C). As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. The site is currently in the LTM phase. Long-term groundwater monitoring is being performed to confirm that additional arsenic and mercury are not leaching from RSA-049 and demonstrate that TCE and carbon tetrachloride seen in wells surrounding the former waste ponds is attributed to another site, potentially MSFC-027. Groundwater in deeper co-mingled plumes under the site is being investigated as part of the larger RSA-148 (01202.1159) groundwater site. Based on the executed remedy the potential for off-site migration is low. Current and future site use is for non-intrusive use consistent with capping. There are LUCs in place to prevent residential use and ensure the integrity of the cap. LTM is scheduled to continue for the site. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-049 will not be remediated to a level that allows for UU/UE. Long-term groundwater monitoring at the cap, LUCs, periodic reviews, and annual reports are required indefinitely.

01202.1066_RSA-053_INACTIVE SANITARY & INDUSTRIAL L

Env Site ID: RSA-053

Cleanup Site: INACTIVE SANITARY & INDUSTRIAL L

Alias: RSA-053

Regulatory Driver: RCRA-C

RIP Date: 7/7/2016

RC Date: 7/7/2016

RC Reason: All Required Cleanup(s) Completed

SC Date: 7/9/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 1/31/2005 | 7/15/2011 |
| DES: | 6/30/2009 | 4/15/2013 |
| IRA: | -- | -- |
| CMI(C): | 6/30/2009 | 7/7/2016 |
| CMI(O): | -- | -- |
| LTM: | 7/8/2016 | 7/8/2054 |

Site Narrative: RSA-053 is a 13.03-acre site that contains a closed sanitary and industrial waste landfill active from 1963 to 1973. While it was operational it received household administrative sanitary and industrial wastes. The site is located south of Refuge Road and Landfill Road and north of Huntsville Spring Branch. It structurally consisted of landfill trenches and waste oil pits. After 1973, the trenches were covered with soil and re-vegetated. Dichloro-diphenyl-trichloroethane (DDT) manufacturing wastes at the site were moved during 1979 and 1980. COCs are metals, pesticides, SVOCs, and VOCs. Media of concern are surface soil, subsurface soil, sediment, and groundwater. In 2013, on-site waste consolidation was used to reduce the landfill footprint. The southern trench area was excavated and consolidated with the north. An engineered cover system and soil were placed over the combined waste. A landfill monitoring system was also installed. Phases of work completed are the PA/SI, RFI, DES, and CMI(C). As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. The site is currently in the LTM phase. Long-term groundwater monitoring is being performed to ensure that the landfill cover system remains protective. Groundwater under the site is being investigated as part of the larger RSA-148 groundwater site. Based on the executed corrective measures the potential for off-site migration is low. There are LUCs in place to prevent residential use, ensure the integrity of the cap, and establish an environmental land use restriction. Current and future site use is for non-intrusive use consistent with capping. LTM is scheduled to continue for the site. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-053 will not be remediated to a level that allows for UU/UE. Long-term groundwater monitoring at the landfill, LUCs, periodic reviews, and annual reports are required indefinitely.

01202.1067_RSA-054_INACTIVE SANITARY & INDUSTRIAL L

Env Site ID: RSA-054

Cleanup Site: INACTIVE SANITARY & INDUSTRIAL L

Alias: RSA-054

Regulatory Driver: RCRA-C

RIP Date: 1/28/2019

RC Date: 1/28/2019

RC Reason: All Required Cleanup(s) Completed

SC Date: 1/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 9/30/2005 | 11/30/2011 |
| DES: | 9/15/2005 | 4/15/2013 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2005 | 1/28/2019 |
| CMI(O): | -- | -- |
| LTM: | 1/29/2019 | 1/29/2054 |

Site Narrative: RSA-054 is currently a 16.82-acre site that contains a former sanitary and industrial landfill. This site is located east of Mills Road and west of Lindner Road along Fowler Road. RSA-054 (north of Fowler Road) also includes site RSA-055 (south of Fowler Road). The landfill which operated in the 1960s and 1970s received household administrative sanitary and industrial wastes. Wastes containing DDT were buried at various locations in the landfill between 1968 and 1973. These wastes were later excavated and moved to the DDT Waste Soils Landfill at RSA-107. The COCs include metals, PAHs, pesticides, SVOCs, and VOCs in soil and groundwater. The corrective measures implementation plan (CMIP) was completed and fieldwork began in 2013. Waste was excavated from underneath Fowler Road and from the portion of the landfill south of Fowler Road (RSA-055). This waste was consolidated with the landfill north of Fowler Road and capped. The corrective measures were completed in July 2014. Completed phases of work are PA/SI, RFI, DES, and CMI(C). As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. The site is currently in the LTM phase. Long-term groundwater monitoring is being performed to ensure that the landfill cover system remains protective. Groundwater will be addressed under the RSA-147 and RSA-148 groundwater sites. The final remedy supports future land use for the north area for parking and green space. The excavated south area supports future facility development or expansion. Current and future land use is industrial. LTM is scheduled to continue for the site. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-054 will not be remediated to a level that allows for UU/UE. Long-term groundwater monitoring at the landfill, LUCs, periodic reviews, and annual reports are required indefinitely.

01202.1069_RSA-056_CAPPED ARSENIC WASTE PONDS-SOUTH

Env Site ID: RSA-056

Cleanup Site: CAPPED ARSENIC WASTE PONDS-SOUTH

Alias: RSA-056

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: Not assigned

SC Date: 5/27/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 9/30/2005 | 9/30/2009 |
| DES: | 5/31/2005 | 4/15/2019 |
| IRA: | 6/15/1995 | 2/15/2001 |
| CMI(C): | 8/7/2017 | 9/30/2024 |
| CMI(O): | -- | -- |
| LTM: | 5/26/2023 | 5/26/2053 |

Site Narrative: RSA-056 is a 4.47-acre site classified as a surface impoundment/lagoon. The site is located in the east central part of Redstone Arsenal north of Viper Road, west and south of Metrology Drive, and east of Calibration Road. It was an open unlined surface impoundment that received arsenic-contaminated industrial waste sludge and wastewater from Lewisite manufacturing activities in the early 1940s. In the 1960s the lagoons received demolition debris from the Lewisite manufacturing facilities. The area was capped with compacted clay in 1995. High levels of arsenic were found in the soils and sediment. The site was fenced and the soil (clay) cap was extended in 2001 to cover the entire contaminated area. Site contaminants are metals in soil and sediment along with multiple COCs in groundwater. There is limited potential for contaminant migration. Current and future site use is for non-intrusive use consistent with capping. Completed phases of work are PA/SI and RFI/CMS. As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. The CMI(C) implemented LUCs to ensure the cap remains an effective remedy. The CMI(C) work was completed in December 2021. The Corrective Measures Implementation Report was submitted to ADEM in December 2022 and will receive final approval once the NEUR language is agreed upon between the Army and ADEM. The CMI(C) phase will remain open until the Army resolves the NEUR language with ADEM. All fieldwork is complete and the remedy is in place as of May 25, 2023. The current phases of work are CMI-C and LTM. Groundwater contamination will be addressed as part of the RSA-147 groundwater unit. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-056 will not be remediated to a level that allows for UU/UE. Long-term groundwater monitoring at the cap, LUCs, periodic reviews, and annual reports are required indefinitely.

01202.1070_RSA-057_INACTIVE ARSENIC WASTE LAGOON-EA

Env Site ID: RSA-057

Cleanup Site: INACTIVE ARSENIC WASTE LAGOON-EA

Alias: RSA-057

Regulatory Driver: RCRA-C

RIP Date: 9/19/2012

RC Date: 9/19/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/21/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE:

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 4/30/1990 |
| CS: | 5/31/1990 | 9/30/1995 |
| RFI/CMS: | 1/31/2003 | 9/30/2007 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | 5/31/2007 | 9/19/2012 |
| CMI(O): | 2/29/2008 | 9/19/2012 |
| LTM: | 9/20/2012 | 9/20/2054 |

Site Narrative: RSA-057 is an 8.06-acre site that contained two waste collection ponds (arsenic and acetylene). The site is located southwest of the Patton Road and Martin Road interchange. In 1942, two unlined surface waste ponds were constructed at RSA-057. These were supposed to support waste collection for two Lewisite manufacturing plants. However, the smaller arsenic trichloride pond and the larger acetylene pond were never fully equipped or utilized as originally intended. From 1943 to 1959 the two ponds sporadically received waste material from both operational Lewisite plants and Lewisite container decontamination activities. After 1959 there is no indication of site use. COCs are arsenic, mercury, and TCE. Media of concern are surface soil and subsurface soil. The remedy was completed in 2008. It involved excavating the contaminated soil (up to 12 feet below ground surface) and then transporting it off-site. The excavations were then backfilled and compacted with clean soil. Phases of work completed are the PA/SI, RI/FS, and RA(C). As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. The site is currently in LTM with LUCs that are being monitored. Groundwater sampling done up until 2013 indicated it was not impacted by the RSA-057 remedial actions. Therefore, groundwater monitoring was suspended in 2013. Groundwater under the site is being investigated as part of the larger RSA-147 groundwater site. Redstone will continue to receive monitoring reports for the established LUCs. Based on the executed remedy the potential for off-site migration is low. There are LUCs in place to prevent residential use and ensure the integrity of the introduced clean soil. The current and future land use for the site is industrial (open space/buffer zone). LTM is scheduled to continue for the site. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-057 will not be remediated to a level that allows for UU/UE. LUCs periodic reviews and annual reports are required indefinitely.

01202.1071_RSA-058_INACTIVE CLOSED RUBBLE FILL & WA

Env Site ID: RSA-058

Cleanup Site: INACTIVE CLOSED RUBBLE FILL & WA

Alias: RSA-058

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 4/15/2053

RC Reason: Not assigned

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1994 |
| RFI/CMS: | 1/31/2006 | 12/15/2011 |
| DES: | 5/15/2012 | 9/13/2018 |
| IRA: | -- | -- |
| CMI(C): | 5/15/2012 | 9/29/2024 |
| CMI(O): | 9/29/2024 | 9/29/2053 |
| LTM: | -- | -- |

Site Narrative: RSA-058 is an approximately 34-acre site located east of Patton Road and is classified as a surface disposal area/landfill. This landfill received incineration ash from demilitarization operations, rubble (e.g. concrete blocks and slabs, tires, 55-gallon drums, five-gallon cans, metal debris), damaged PCB transformers, and building materials from a nearby Olin DDT Manufacturing site. The site was fenced in 2001. Surface water and groundwater from this site drain into the Wheeler Wildlife Refuge through the Huntsville Spring Branch and McDonald Creek. Both streams are also main drainage channels for the city of Huntsville. The human health risk assessment (HHRA) in the RFI found explosives, perchlorate, pesticides, SVOCs, and VOCs were above RSLs in groundwater and require further action. Groundwater will be addressed under groundwater site RSA-145 (01202.1156). The RFI HHRA found metals, SVOCs, and pesticides in sediment present unacceptable risk from indirect exposure of sport-caught fish. The HHRA found that levels of contaminants in soils for pesticides, SVOCs, VOCs, and explosives pose an unacceptable health threat and warrant corrective action. The selected remedy for soils is excavation and off-site disposal. In addition, the remedy involves permanent fish tissue sampling (refer to Phase II CMI(P)), LUCs, and periodic reviews. A Phase 1 Corrective Measures report summarizing completed work was sent to ADEM on March 31, 2017. Metals, SVOCs, VOCs, pesticides, and explosives remained in soil above ARBCA action levels and require further corrective action. The CMI(C) Phase 2 remedy of soil excavation was completed on Oct. 27, 2023. Fish tissue sampling will be performed during the CMI(O) phase. Completed phases of work are PA/SI, RFI, and DES. NOTE- As a result of the RCRA permit renewal in 2010 this site was moved from the CERCLA program to RCRA. The future phase of work is CMI(O) to include LUCs, periodic reviews, and a fish tissue biological monitoring program to determine when fish consumption is safe for the recreational fishers. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. Current and future land use is industrial. There is moderate potential for off-

site migration. Achievement of UU/UE status is not anticipated. Fish tissue sampling, LUCs, and periodic reviews are required indefinitely.

01202.1072_RSA-059_INACTIVE CLOSED CONSTRUCTION RUB

Env Site ID: RSA-059

Cleanup Site: INACTIVE CLOSED CONSTRUCTION RUB

Alias: RSA-059

Regulatory Driver: RCRA-C

RIP Date: 1/15/2031

RC Date: 1/16/2031

RC Reason: Not assigned

SC Date: 1/17/2060

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 9/30/2005 | 1/15/2026 |
| DES: | 11/15/2012 | 1/15/2026 |
| IRA: | -- | -- |
| CMI(C): | 1/15/2026 | 1/15/2031 |
| CMI(O): | -- | -- |
| LTM: | 1/16/2031 | 1/16/2060 |

Site Narrative: RSA-059 is an approximately 12- acre site and is classified as a surface disposal area/landfill. RSA-059 is located in the central portion of RSA, south of Mills Road, and west of Patton Road. It is bounded on the north, east, and south sides by wetlands. The site was previously used for disposal of rubble construction, debris (primarily railroad ties), sanitary, and industrial waste. The site was active from the late-1940s to the mid-1970s. The Army completed a baseline human health risk assessment (BHRA) which found that exposure to chemicals in groundwater posed an unacceptable human health risk if groundwater was developed for potable purposes. A preliminary risk evaluation completed for soils concluded action was warranted for soils to address unacceptable risks to hypothetical future residential receptors. Site contaminants are VOCs, SVOCs, pesticides, PCBs, and metals in soil, sediment, surface water, and groundwater. A PA/SI has been completed for the site. As a result of the permit renewal in 2010 this site was moved from the CERCLA program to RCRA. The current phases of work are RFI/CMS and DES which will be followed by the CMI-C and LTM phase. In 2022 a geophysical investigation was carried out to gather data for preparation of the CMS. The southern and eastern portions of the site are within the 100-year flood zone. A major sewage lift station is located in the western portion of this site. This area shall be remediated to a level that would allow maintenance and potential expansion. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. There is limited potential for off-site migration. Current and future land use is industrial. The anticipated remedy is capping and groundwater monitoring. LUCs and periodic reviews are required. It is not anticipated that UU/UE will be achieved. Groundwater monitoring, LUCs, and periodic reviews will continue indefinitely. Document(s) in progress- 1) Request for extension of Rev 0 DES was submitted to ADEM on April 4, 2023, with a target delivery of Dec. 20, 2024. 2) The CMS is currently underway.

01202.1073_RSA-060_INACTIVE SANITARY & INDUSTRIAL L

Env Site ID: RSA-060

Cleanup Site: INACTIVE SANITARY & INDUSTRIAL L

Alias: RSA-060

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: Not assigned

SC Date: 1/1/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: High

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1993 |
| RFI/CMS: | 1/31/2006 | 9/15/2015 |
| DES: | 5/15/2012 | 9/15/2016 |
| IRA: | -- | -- |
| CMI(C): | 5/15/2012 | 9/30/2024 |
| CMI(O): | -- | -- |
| LTM: | 12/31/2019 | 12/31/2054 |

Site Narrative: RSA-060 is a 22-acre site that was formerly an inactive unlined landfill. The site is located in central Redstone Arsenal, southeast of RSA-053, north of the Huntsville Spring Branch, and south of Mills Road. It was used for sanitary and industrial waste disposal from 1963 to 1968. This site consisted of several covered, unlined disposal trenches running northeast-southwest, which were used for sanitary and industrial waste disposal. It also includes a closed RCRA site, RSA-124 (01202.1137). Pesticides (off-spec products from the Olin manufacturing facility) were buried throughout the site. The RI's BHHRA found SVOCs and pesticides as COCs present in soil at levels presenting risk to residential receptors. The RI found VOCs and pesticides in soil to be present at concentrations above their dilution attenuation factor 4 (DAF4) soil screening level (SSL) values, presenting a leaching threat to groundwater. The CMS recommended excavation, consolidation, and capping as corrective measures. CMI-C fieldwork began in October 2016. All wastes have been excavated, consolidated, and capped on the site. The Rev. 2 Corrective Measures Implementation Report was submitted to ADEM in March 2023 and will receive final approval once NEUR language is agreed upon between the Army and ADEM. Completed phases include PA/SI, RFI/CMS, DES. The current phases are the CMI(C) and LTM. The CMI-C phase will remain open until the Army resolves NEUR language with ADEM. All CMI-C fieldwork has been completed and the remedy is in place as of June 26, 2023. Long-term groundwater monitoring has begun and will be performed to ensure that the landfill cover system remains protective. Groundwater will be addressed under the RSA-147 and RSA-148 groundwater sites. Current and future land use is industrial with hunting allowed. There is no potential for off-site migration. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. It is anticipated that soil and groundwater contaminant concentration at RSA-060 will not be remediated to a level that allows for UU/UE. LUCs, groundwater monitoring, periodic reviews, and annual reports are required indefinitely.

01202.1078_RSA-065_FORMER CHEMICAL DRUM STORAGE ARE

Env Site ID: RSA-065

Cleanup Site: FORMER CHEMICAL DRUM STORAGE ARE

Alias: RSA-065

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1995 | 9/30/1997 |
| RFI/CMS: | 12/31/2010 | 8/30/2024 |
| DES: | 9/28/2018 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 3/28/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1078 (alias RSA-065) is a 147-AC fenced area located on an active range in the southern portion of RSA and is flat containing numerous rectangular storage cells with each cell occupying about 200 square feet (sq ft). The site was used for above ground drum storage for chemical warfare agents including lewisite and mustard gas during the 1940s and 1950s. The chemical materials were shipped off-post for disposal or were demilitarized at other locations at RSA. Contaminants were believed to have been released by these storage activities. Due to the site history associated with storage of chemical warfare agents, this site has a seldom probability of encountering CWM. Due to the site being located on an operational range, the site has a low probability of encountering UXO. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-065 have resulted in minimal releases of hazardous substances to surface media which do not pose unacceptable threat to human health or the environment or a leaching threat to groundwater. However, due to the site's historical use for storage of the chemical agents mustard and lewisite and the detection of low levels of thiodiglycol (breakdown product of the chemical agent mustard) in sediment and surface water samples during the RFI, indicating that residual mustard may be present in the former storage cells, corrective measures are warranted for surface media. COCs for groundwater are VOCs and explosives and will be addressed by the RSA-152 (01202.1162) groundwater unit. There is a low potential for migration of COCs off the site due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. The CMI(C)

fieldwork is expected to begin in 2025. There are no key documents currently underway. The current and anticipated future land use of the site is industrial and recreational. The path forward is to complete the CMI(C) and LTM phases. During the CMI(C), the selected alternative of implementation of LUCs will be implemented to eliminate the on-site risk associated with the presence of residual mustard that remains on the site. Groundwater for the site will be addressed under the RSA-152 (01202.1162) Groundwater Unit. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1080_RSA-067_FORMER CHEMICAL DRUM STORAGE ARE

Env Site ID: RSA-067

Cleanup Site: FORMER CHEMICAL DRUM STORAGE ARE

Alias: RSA-067

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1991 | 9/30/1995 |
| RFI/CMS: | 6/30/2009 | 8/30/2024 |
| DES: | 9/28/2018 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 3/28/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1080 (alias RSA-067) is a 67-AC fenced area located on an active range in the southern portion of RSA and is flat containing numerous rectangular storage cells with each cell occupying about 200 sq ft. The site was used for above ground drum storage for chemical warfare agents including lewisite and mustard gas during the 1940s and 1950s. The chemical materials were shipped off-post for disposal or were demilitarized at other locations at RSA. Contaminants were believed to have been released by these storage activities. Due to the site history associated with storage of chemical warfare agents, this site has a seldom probability of encountering CWM. Due to the site being located on an operational range, the site has a low probability of encountering UXO. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-067 have resulted in minimal releases of hazardous substances to surface media which do not pose unacceptable threat to human health or the environment or a leaching threat to groundwater. However, due to the site's historical use for storage of the chemical agents mustard and lewisite and the detection of low levels of thiodiglycol (breakdown product of the chemical agent mustard) in sediment and surface water samples during the RFI, indicating that residual mustard may be present in the former storage cells, corrective measures are warranted for surface media. There are no COCs exceeding screening values for groundwater at the site. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. The CMI(C) fieldwork is expected to begin in 2025.

There are no key documents currently underway. The current and anticipated future land use of the site is industrial and recreational. The path forward is to complete the CMI(C) and LTM phases. During the CMI(C), the selected alternative of implementation of LUCs will be implemented to eliminate the on-site risk associated with the presence of residual mustard that remains on the site. No corrective measures are required for groundwater. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1082_RSA-069_FORMER CHEMICAL DRUM STORAGE ARE

Env Site ID: RSA-069

Cleanup Site: FORMER CHEMICAL DRUM STORAGE ARE

Alias: RSA-069

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1995 | 9/30/1998 |
| RFI/CMS: | 6/30/2009 | 8/30/2024 |
| DES: | 9/28/2018 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 3/28/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1082 (alias RSA-069) is an 80-AC fenced area located on an active range in the southern portion of RSA and is flat containing numerous rectangular storage cells with each cell occupying about 200 sq ft. The site was used for above ground drum storage for chemical warfare agents including lewisite and mustard gas during the 1940s and 1950s. The chemical materials were shipped off-post for disposal or were demilitarized at other locations at RSA. Contaminants were believed to have been released by these storage activities. Due to the site history associated with storage of chemical warfare agents, this site has a seldom probability of encountering CWM. Due to the site being located on an operational range, the site has a low probability of encountering UXO. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-069 have resulted in minimal releases of hazardous substances to surface media which do not pose unacceptable threat to human health or the environment or a leaching threat to groundwater. However, due to the site's historical use for storage of the chemical agents mustard and lewisite and the detection of low levels of thiodiglycol (breakdown product of the chemical agent mustard) in sediment and surface water samples during the RFI, indicating that residual mustard may be present in the former storage cells, corrective measures are warranted for surface media. Suspected COCs for groundwater are VOCs under the northern portion of RSA-069 and are due to the release from the waste disposal trenches at RSA-068-R-01 (01202.1188). Groundwater contamination will be addressed by RSA-068-R-01 (01202.1188). There is a low potential for migration of COCs off the site due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit

modification. The Statement of Basis/Decision Document is expected to be finalized and approved by the Army and the CMI(C) fieldwork is expected to be completed in 2024. Key document currently underway is the Final Corrective Measures Report. The current and anticipated future land use of the site is industrial and recreational. The path forward is to complete the CMI(C) and LTM phases. During the CMI(C), the selected alternative of implementation of LUCs will be implemented to eliminate the on-site risk associated with the presence of residual mustard that remains on the site. Groundwater for the site will be addressed by RSA-068-R-01 (01202.1188). Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1096_RSA-083_INACTIVE SPRAY PAINT BOOTH SUMP

Env Site ID: RSA-083

Cleanup Site: INACTIVE SPRAY PAINT BOOTH SUMP

Alias: RSA-083

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 5/31/2052

RC Reason: Not assigned

SC Date: 6/1/2052

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1989 |
| CS: | 10/31/1995 | 1/31/2011 |
| RFI/CMS: | 6/30/2009 | 5/30/2017 |
| DES: | 12/15/2015 | 8/20/2019 |
| IRA: | -- | -- |
| CMI(C): | 8/20/2019 | 9/30/2024 |
| CMI(O): | 5/31/2022 | 5/31/2052 |
| LTM: | -- | -- |

Site Narrative: RSA-083 is an approximately 5.9-acre site within the former Thiokol North Plant area. The site consists of Building 7344 as well as a sump associated with a former water-curtain paint operation carried out at the building. Building 7344 is the only building at RSA-083. It was constructed in 1960 as a large-missile casing spray-painting facility. The excess paint mist emissions were collected on a water-curtain unit and the surface of the sump. They were then re-circulated, collected, and contained in drums. Supernatant was discharged to a septic tank and drainage system located in the northwest corner of the site. TCE was the primary solvent used for these activities. Building 7344 is currently being used as a guided missile research facility. Historical sampling at RSA-083 included analyses for VOCs, SVOCs, pesticides/PCBs, metals, PAH compounds, perchlorate, and explosives. The RFI report was submitted to ADEM in October 2015. The RFI's ARBCA evaluation concluded future potable use of groundwater at the site would pose an unacceptable threat to human health. VOCs and one explosive in groundwater were found present at concentrations higher than federal and state MCLs. The RFI recommended no further action (NFA) for surface media at the site. This site is isolated from the commingled plumes of RSA-146. Therefore, any required actions for groundwater at this site cannot be transferred to the groundwater unit. VOCs and one explosive, 2-4- Dinitrotoluene, in groundwater require further action. The CMIP was approved by ADEM on Aug. 20, 2019. TCE concentrations have decreased steadily over time suggesting that natural attenuation is actively reducing contaminant concentrations in site groundwater. This steady TCE decrease has been accompanied by increases in the concentrations of TCE degradation products cis-1 2-dichloroethylene (DCE) and vinyl chloride. Stable-to-decreasing concentrations in nearby wells suggest that the groundwater plume is not migrating. The selected remedy for groundwater is MNA for 30 years based on a model to treat VOCs under RSA-083. There is low potential for migration. Future land use is industrial development. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and anticipated site specific LUCs include administrative controls to prevent use of groundwater for potable purposes and signage. The Rev. 1 Corrective Measure report was submitted to ADEM in April 2023 and will receive final

approval once NEUR language is agreed upon between the Army and ADEM. All CMI-C fieldwork has been completed and the remedy is in place as of Aug. 18, 2023. The path forward is to complete the projected 30 years of MNA during the CMI(O) phase. It is anticipated that groundwater contaminant concentration at RSA-083 will be remediated to a level allows for UU/UE. CMI(O) activities, including periodic reviews, LUCs, and submittal of annual monitoring reports, will continue until UU/UE is achieved.

01202.1122_RSA-109_FORMER CHEMICAL MUNITIONS STAGIN

Env Site ID: RSA-109

Cleanup Site: FORMER CHEMICAL MUNITIONS STAGIN

Alias: RSA-109

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 11/30/1988 | 9/30/1989 |
| CS: | -- | -- |
| RFI/CMS: | 10/31/1995 | 3/28/2023 |
| DES: | 1/1/2019 | 7/25/2023 |
| IRA: | -- | -- |
| CMI(C): | 5/2/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1122 (alias RSA-109) is a 10-AC site located in the center of RSA. The site is within a wetland located in the center of an active range and adjacent to the Huntsville Spring Branch. The site was active from 1942 until approximately 1945 as a suspected staging area for chemical agent operations during WWII and then during the late 1940s as a disposal location for debris resulting from demolition of chemical manufacturing plants at RSA. Debris pile materials present consist of clay building tiles/bricks suspected to have come from chemical agent manufacturing plants that produced mustard and/or Lewisite. Contaminants were believed to have been released by these chemical agent operations. The site has an UXO probability of low and a CWM probability of seldom. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-109 have resulted in concentrations of site-related constituents in surface media posing unacceptable human health risks to current and future commercial workers and hypothetical residents. Based on the RFI, COCs in soil are arsenic. No COCs were identified in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM in 2018 and the CMS was approved by the Army in 2020 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document was finalized and approved by the Army in 2023. The CMI(C) fieldwork is expected to be completed in 2024. Key document currently underway is the Final Corrective Measures Report.

The current and anticipated future land use of the site is industrial research and development in support of Redstone Test Center. The path forward is to complete the CMI(C) and LTM phases. During the CMI(C), the selected alternative of excavation and off-site disposal of arsenic contaminated soil and LUCs for potential MEC will be implemented. No action is required for groundwater. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1128_RSA-115_INACTIVE EAST SIDE BLOWDOWN LAGO

Env Site ID: RSA-115

Cleanup Site: INACTIVE EAST SIDE BLOWDOWN LAGO

Alias: RSA-115

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 4/15/2031

RC Reason: Not assigned

SC Date: 4/16/2031

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1991 |
| RFI/CMS: | 5/30/2012 | 9/30/2024 |
| DES: | 9/19/2023 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 6/15/2025 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 4/15/2031 |
| LTM: | -- | -- |

Site Narrative: RSA-115 is located in the southern portion of the arsenal south of Buxton and Pershing Roads on the eastern side of Test Area 5 (an operational range). This area was a rocket motor test stand and blowdown lagoon and is about 7500 sf. The site had an unlined holding basin that contained discharged cooling water during test firings of rocket motors from the adjacent Attitude Test Stand 8887. The wastewater was held in the lagoon until it evaporated and/or percolated through the soil. The cooling water mixed with the rocket motor exhaust containing unsymmetrical dimethyl hydrazine as the primary active fuel ingredient and red fuming nitric acid as the primary oxidant. The lagoon has an earthen berm and is surrounded by small pine trees. The lagoon was last used during horizontal test firing at the test stand during the 1960s. The site was first investigated in 2006 as part of the preliminary site assessment investigation for the RSA-156 groundwater site. COCs include perchlorate, VOCs, and metals. ADEM approved the RFI in October 2020, which recommended NFA for soils and the remedy for groundwater is MNA. Five years of monitoring are based on modeling performed during the CMS. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Path forward is to complete the RFI/CMS, DES, CMI(C) and CMI(O). Future land use for the site is industrial and potential for site migration is low. Contaminant concentration will be remediated to a level that allows for UU/UE. Wells will be abandoned at site closure. MNA LUCs and periodic reviews will continue until UU/UE is achieved.

01202.1130_RSA-117_FORMER LIQUID CAUSTIC MFG. PLANT

Env Site ID: RSA-117

Cleanup Site: FORMER LIQUID CAUSTIC MFG. PLANT

Alias: RSA-117

Regulatory Driver: RCRA-C

RIP Date: 5/31/2032

RC Date: 5/31/2032

RC Reason: Not assigned

SC Date: 5/31/2061

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1989 |
| CS: | 10/31/1989 | 9/30/1990 |
| RFI/CMS: | 6/30/2009 | 5/31/2032 |
| DES: | -- | -- |
| IRA: | 10/22/2018 | 5/30/2032 |
| CMI(C): | -- | -- |
| CMI(O): | 5/30/2032 | 5/30/2061 |
| LTM: | -- | -- |

Site Narrative: RSA-117 is an 85-acre site located east of Industrial Road, south of Mills Road, and west of Patton Road. Current and reasonably anticipated future land use is industrial development. Historical operations within the RSA-117 site boundary included conveyance of wastewater containing DDT, metals, chlorinated organics, oils, ammonia, acids, caustics, and PCBs through ditches and sewers from various manufacturing facilities as well as manufacturing of chlorine, caustic, and hydrogen from salt utilizing asbestos-diaphragm-cell technology. RSA-117 is made up of several areas. The Rev. 0 RFI included ARBCA evaluations for the former DDT manufacturing area, the former chlorine plant, and the inactive industrial discharge lagoon. The former DDT manufacturing area ARBCA evaluation identifies metals, pesticides (organochlorine pesticides), SVOCs, VOCs, and PAHs as COCs with concentrations presenting unacceptable human health risk in soils. The former chlorine plant area ARBCA evaluation found metals, pesticides, PCBs, and PAHs as COCs with concentrations presenting unacceptable human health risk in soils. The Inactive Industrial Discharge Lagoon ARBCA evaluation found metals and PCBs as COCs with concentrations that present unacceptable human health risk in soils. The ARBCA evaluation for groundwater under the site found VOCs, SVOCs, PAHs, pesticides, PCBs, and metals as COCs present at concentrations in groundwater that pose unacceptable risk to human health if groundwater at the site is used for potable purposes. A vapor intrusion evaluation indicated VOCs in soil potentially pose unacceptable risk to future buildings erected at the site. There is no potential migration off the installation but migration to Huntsville Spring Branch is possible. The RFI and interim measures (IM) phases are underway. An interim corrective measures study report has been produced which recommended in situ solidification/stabilization of soils at the site to prevent leaching to groundwater, excavation of soils and sediment, construction of a corrective action management unit (CAMU) for disposal of excavated site soils and sediment, and MNA for groundwater. Design of the CAMU is underway, which will be followed by permitting and construction. Interim corrective measures including In Situ Soil Stabilization and excavation of soils and sediment will occur concurrently with CAMU construction, as CAMU cell construction will occur in a phased approach as the cells are filled with

contaminated soils during Interim Corrective Measures fieldwork. The CAMU will require ongoing operation and maintenance for leachate collection and treatment, required mowing, and leak detection. The need for DES and CMI-C phases of work will be determined after the RFI is completed and receives ADEM concurrence. A CMI-O phase is anticipated to be required for long term operation and management of the CAMU and groundwater MNA. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is not anticipated that UU/UE will be achieved. LUCs, MNA, and periodic reviews will continue indefinitely.

01202.1135_RSA-122_DISMANTLED LEWISITE MFG. PLANTS

Env Site ID: RSA-122

Cleanup Site: DISMANTLED LEWISITE MFG. PLANTS

Alias: RSA-122

Regulatory Driver: RCRA-C

RIP Date: 9/30/2027

RC Date: 9/30/2027

RC Reason: Not assigned

SC Date: 10/2/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: High

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1989 |
| CS: | 10/31/1989 | 9/30/1993 |
| RFI/CMS: | 1/31/2003 | 8/30/2025 |
| DES: | 9/30/2010 | 9/30/2025 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2005 | 9/30/2027 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2027 | 10/1/2056 |

Site Narrative: Site 01202.1135 (alias RSA-122) is an approximately 42-AC site located in the east central part of RSA, north of Viper Road, and west of Meteorology Road. This site was a Lewisite manufacturing (Plant #2) during the mid-1940s. This area consisted of four production lines. Lines 3 and 4 were active while lines 5 and 6 were never operational for the production of Lewisite; however, Line 5 area was used for decontamination of the one-ton containers used for Lewisite storage and transportation.

Contaminants were believed to have been released by these manufacturing activities. The area also includes an arsenic trichloride manufacturing plant whose waste was discharged to RSA-139 (01202.1150). Subsequent development has partitioned the site. It is an active area with Testing, Measurement, and Diagnostic Equipment (Bldg 5435) and other operations. Disposal lagoons associated with this manufacturing area are identified as RSA-056 (01202.1069), RSA-057 (01202.1070), and RSA-139. Lines 3 and 4 discharged to RSA-056. Lines 5 and 6 were constructed to discharge to RSA-057.

The site’s UXO probability is none and the CWM probability ranges from unlikely to occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

Previous investigations were conducted under CERCLA and have confirmed the presence of mercury and arsenic contamination in surface and subsurface soils as well as sediments and 2-chlorovinylarsonous acid in subsurface soils at the waste collection pit. Site related contaminants have been detected in springs in a tributary that feeds into Huntsville Spring Branch. An FS, statement of basis/proposed plan, and ROD were finalized in 2009, from which corrective measures were conducted from October 2010 through July 2011. Corrective measure activities consisted of excavation and off-site disposal of approximately 8,300 tons of arsenic- and mercury-contaminated soil. As part of this corrective measures study, an updated Alabama Risk-Based Corrective Action evaluation was developed in 2019, which considered the removed contamination as well as the results of confirmation samples from the 2010 to 2011 removal action. This post action risk assessment concluded that based on the risk thresholds

accepted by ADEM and EPA in the 2009 ROD, the cleanup action met the previously established remedial goal objectives. However, because the Army did not achieve regulatory approval from ADEM for the CMIP for RSA-122, a corrective measures report documenting this action was never submitted prior to the expiration of the cleanup contract. As a result, the completion of the cleanup was never approved by the ADEM and in 2010, program was transitioned from CERCLA to RCRA and the RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring a CMIP. Based on previous investigations, the COCs in soil are arsenic and one PAH. COCs in groundwater include metals, SVOCs, and VOCs and will be addressed by the RSA-147 (01202.1158) groundwater unit. There is a low potential for off-site migration of COCs due to the nature of the COCs and location of the site. The CMS was approved by the Army in 2020. The CMIP was approved by ADEM in 2023. The Statement of Basis/Decision Document and Permit Modification to incorporate the selected corrective measures are expected to be completed in 2024. CMI(C) fieldwork is expected to begin in 2025. There are no key documents currently underway. The current and anticipated future land use of the site is industrial (research and development).

The path forward is to complete the CMI(C) and LTM phases. During the CMI(C) phase, the selected alternative of excavation and off-site disposal of arsenic-contaminated soils, excavation and off-site disposal of below-grade relict structures and associated contaminated soil, and implementation of LUCs to address arsenic and PAH in subsurface soil remaining above unrestricted reuse requirements and potential CA remaining in the subsurface will be implemented. Groundwater for the site will be addressed under the RSA-147 (01202.1158) groundwater unit. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1150_RSA-139_CAPPED ARSENIC WASTE POND-NORTH

Env Site ID: RSA-139

Cleanup Site: CAPPED ARSENIC WASTE POND-NORTH

Alias: RSA-139

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: All Required Cleanup(s) Completed

SC Date: 5/27/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1989 |
| CS: | 10/31/1989 | 9/30/1993 |
| RFI/CMS: | 9/30/2005 | 9/30/2009 |
| DES: | 7/15/2010 | 4/15/2019 |
| IRA: | -- | -- |
| CMI(C): | 11/15/2010 | 9/30/2024 |
| CMI(O): | -- | -- |
| LTM: | 5/26/2023 | 5/26/2054 |

Site Narrative: Site RSA-139 is an approximately 0.5-acre site located in the east-central part of Redstone Arsenal north of Viper Road, west and south of Metrology Drive, and east of Calibration Road. It was an open unlined surface impoundment that received waste discharge from arsenic trichloride manufacturing (included in RSA-122) facilities in the early-1940s. The site was capped with compacted clay and fenced in 1995. COCs include metals in soil and SVOCs in groundwater. The soil and sediment contain high levels of metals, mainly arsenic. Significant investigation/cleanup actions have been completed. A combined RO) for RSA-056, RSA-122, and RSA-139 has been signed under the FY05 Performance Based Acquisition. The ROD was signed in September 2009. The final Remedial Action Work Plan (RAWP) was initially submitted in July 2010. The fieldwork for the remedial action for fencing was initiated in November 2010 and was completed in July 2011. As a result of the permit renewal in 2010, this site was moved from the CERCLA program to the RCRA program. Due to an issue with the Alabama Uniform Environmental Covenant Act, ADEM did not approve the final RAWP. Revisions to the RAWP were submitted in January 2011, July 2011, January 2012, and June 2012 to address ADEM comments. ADEM requested that the RAWP be converted into a CMIP, which was then approved by ADEM. LUCs are the remedy for the site with supporting long-term groundwater monitoring to demonstrate the cap effectiveness. Current and future site use is for non-intrusive use consistent with capping. Completed phases include PA/SI, RFI/CMS, and DES. The CMI(C) implemented LUCs to ensure the cap remains an effective remedy. The CMI(C) work was completed in December 2021. The Corrective Measures Implementation Report was submitted to ADEM in December 2022 and will receive final approval once the NEUR language is agreed upon between the Army and ADEM. The CMI(C) phase will remain open until the Army resolves the NEUR language with ADEM. All fieldwork is complete and the remedy is in place as of May 25, 2023. The current phase of work is LTM, which will be performed to ensure that the cap remains protective. Potential for off-site migration is low. Groundwater contamination will be addressed as part of the RSA-147 groundwater unit. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is

anticipated that soil and groundwater contaminant concentration at RSA-139 will not be remediated to a level allows for UU/UE. Long-term groundwater monitoring at the cap, LUCs, periodic reviews, and annual reports will be required indefinitely.

01202.1151_RSA-140_INACTIVE DISPOSAL AREA

Env Site ID: RSA-140

Cleanup Site: INACTIVE DISPOSAL AREA

Alias: RSA-140

Regulatory Driver: CERCLA

RIP Date: 9/27/2023

RC Date: 9/27/2023

RC Reason: All required cleanups completed

SC Date: 9/28/2023

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|--------|------------|-----------|
| PA: | 10/31/1991 | 9/30/1992 |
| SI: | 10/31/1992 | 9/30/1993 |
| RI/FS: | 6/30/2009 | 4/2/2017 |
| RD: | 9/30/2017 | 8/20/2019 |
| IRA: | -- | -- |
| RA(C): | 5/31/2021 | 9/27/2023 |
| RA(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: RSA-140 is located in the southeastern section of RSA, north of Buxton Road and south of the Defense Reutilization and Marketing Office area. The 3-acre site consists of two separate disposal mound areas (heights up to 7 feet) covering a total area of 320 sq ft. The disposal mounds were found to contain construction-type materials (e.g. metallic objects, cement blocks, glass, charcoal, and insulation) from the 1960s and 1970s. The debris piles at RSA-140 were discovered in 1991 during construction of a gravel access road across the laser test range facility. At the time the debris was believed to have been from a former DRMO disposal area in the late 1960s and early 1970s. As a result of the permit renewal in 2010 this site was moved from the CERCLA program to RCRA. The RFI fieldwork was completed in May 2013 and the RFI report was submitted to ADEM in June 2014. The RFI decision process evaluated potential threats resulting from soil-to-groundwater migration, direct contact risks to human health assuming unrestricted use, and threats to ecological receptors. The RFI's ARBCA evaluations found cadmium, lead, Aroclor-1254, dieldrin, and several PAHs are COCs in soils that present unacceptable risk to human health and require additional action before the site can be released as NFA. TCE is present in groundwater at concentrations above federal and state MCLs. The TCE in groundwater under RSA-140 is from an upgradient source and will be addressed under an action related to this source of contamination with RSA-219 (01202.1225). The CMIP was approved by ADEM in August 2019. The selected remedy is excavation of contaminated surface and subsurface soil. Completed phases include PA/SI, RFI/CMS, and DES. CMI(C) began in July 2022 and was completed in September 2023. ADEM approved the CMR and concurred with NFA for the site in September 2023. Upon receipt of the NFA, remediation of the site was complete and the site was closed. Future land use is industrial and testing. Potential for off-site migration is low. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Site is UU/UE.

01202.1153_RSA-142_CHLORINATED-SOLVENT SPILL AREA

Env Site ID: RSA-142

Cleanup Site: CHLORINATED-SOLVENT SPILL AREA

Alias: RSA-142

Regulatory Driver: RCRA-C

RIP Date: 7/18/2023

RC Date: 7/18/2023

RC Reason: All required clean ups completed

SC Date: 7/20/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|----------|------------|------------|
| RFA: | 10/31/1991 | 9/30/1992 |
| CS: | 10/31/1992 | 9/30/1995 |
| RFI/CMS: | 6/30/2006 | 2/15/2012 |
| DES: | 6/30/2009 | 11/15/2013 |
| IRA: | -- | -- |
| CMI(C): | 6/30/2009 | 7/18/2023 |
| CMI(O): | -- | -- |
| LTM: | 7/19/2023 | 7/19/2054 |

Site Narrative: RSA-142 is located east of Blue Bird Road, south of Eagle Road, and north of Pheasant Road. This 8.7-acre site initially included vapor degreasing spill area at Building 7664 but was expanded to include additional Buildings 7663 (146-PS-03A-14), 7676 (146-PS-03A-12), 7683 (146-PS-03EE), 7665 (146-PS-03A-08) and a portion of the original Redstone Ordnance Plant (ROP) Burster Line 1. The vapor degreaser/distillation unit at this site was similar to the degreaser/distillation units at RSA-094 through 098. In 1989 a valve malfunction on the solvent reclamation still of the degreaser resulted in a reported spill of 30 gallons of TCE to a nearby ditch. Prior to connection to the sewer line, trench drains along the building feature discharged to the ditch and drained east toward the wetlands across East Line Rd. All buildings at RSA-142 were demolished in the late 1990s and no buildings associated with former activities remain at the site. Building 7700 was built later at RSA-142 to house a groundwater remediation system. Data indicates significant releases of TCE and perchlorate to soil and groundwater. Perchlorate, VOCs, and metals are the COCs in soils. The RI's fate and transport evaluation determined that VOCs and perchlorate were present in soils at levels that pose a leaching threat to groundwater. The BHHRA in the RI found that VOCs and perchlorate in groundwater posed an unacceptable risk to human health if developed for potable purposes. As a result of the permit renewal in 2010 this site was moved from the CERCLA program to RCRA. Future land use is industrial development. There is no potential for off-site migration. Corrective measures to address soil contamination at RSA-142 occurred from March 2013 to June 2016 and included thermal ERH treatment and soil excavation and backfilling. The CMI-C was completed but left two source areas above the remediation goal which were under and adjacent to Building 7700. A CMIP addendum to address the two areas above the remediation goals was approved by ADEM in Nov. 2018. The CMIP addendum selected capping and LUCs as the remedy. An engineered cover was placed over the area adjacent to Building 7700 that exceeds the soil remedial goal and presented a leaching threat to groundwater. LUCs including signs, inspections, and administrative controls are in place to prevent soil disturbance under the building and an engineered cover and prevent COCs from leaching to groundwater. In May 2022 a Rev. 1 CMR was submitted to ADEM. Completed

phases include RFA, CS, IRA, RFI/CMS, DES, and CMI-C. The current phase is LTM. LTM is required to maintain LUCs. Groundwater is addressed by RSA-146 (01202.1157) due to being part of a co-mingled plume. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil and groundwater contaminant concentration at RSA-142 will not be remediated to a level allows for UU/UE. LUCs, annual reporting, and periodic reviews are required indefinitely.

01202.1154_RSA-143_UNDERGROUND STORAGE TANK SPILL S

Env Site ID: RSA-143

Cleanup Site: UNDERGROUND STORAGE TANK SPILL S

Alias: RSA-143

Regulatory Driver: RCRA-I

RIP Date: 5/15/2026

RC Date: 5/15/2055

RC Reason: Not assigned

SC Date: 5/16/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|---------|------------|-----------|
| ISC: | 10/31/1993 | 9/30/1994 |
| INV: | 10/31/1994 | 9/30/1996 |
| CAP: | 10/31/1996 | 9/30/2024 |
| DES: | 5/31/2022 | 9/30/2024 |
| IRA: | -- | -- |
| IMP(C): | 5/31/2004 | 5/15/2026 |
| IMP(O): | 5/15/2026 | 5/15/2055 |
| LTM: | -- | -- |

Site Narrative: RSA-143 is a 4.76-acre site that includes the former CCSWMU-143 site located at the intersection of Goss Road and Vincent Drive. RSA-143 includes areas around Building 3240 and Building 3234. Petroleum contamination was discovered near Building 3240 in 1993. A preliminary site contaminant assessment was performed in 1993 which confirmed the presence of soil and groundwater contamination. In 1996 the four gasoline USTs at Building 3240 and a waste oil tank located southeast of Building 3240 were closed and removed as part of a CERCLA action. CERCLA investigation results suggested that releases occurred from Building 3240 as well as Building 3234. Corrective measures for the contamination associated with Building 3240 and 3234 were implemented under the CERCLA program in August 2004 and are now regulated under RSA's RCRA permit as a result of the permit renewal in 2010. The corrective action plan was revised in 2007. The new underground injection control permit was issued in 2008 and was renewed in 2022. A dual phase extraction system operated from 2009 until 2014. The active installation convenience store (Building 3234) is located west of the existing site boundary and was considered part of former site CCSWMU-143. The convenience store currently operates three 12000-gallon gasoline USTs which are located to the northwest of Building 3234. The RFI was submitted to ADEM in August 2015. It combined investigation results for both releases (Building 3240 and 3234). The RFI has been approved by ADEM. The path forward is to complete the DES (CMIP currently underway) CMI(C) and CMI(O). Corrective action for soils is not required because site COCs present in soil do not pose an unacceptable risk to potential receptors, nor a leaching threat to groundwater.. The anticipated remedy for groundwater is ISEB, MNA, and LUCs. Groundwater COCs warranting action are metals, petroleum, oil, and lubricants (POL), TCE and explosives.. Future land use is commercial development. There is low potential for off-site migration. It is not anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews are required indefinitely.

01202.1156_RSA-145_GROUNDWATER UNIT GW-01

Env Site ID: RSA-145

Cleanup Site: GROUNDWATER UNIT GW-01

Alias: RSA-145

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/1/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 1/31/1990 | 2/28/1991 |
| CS: | 6/30/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 11/13/2024 |
| DES: | 10/1/2024 | 5/31/2026 |
| IRA: | 9/30/2006 | 5/31/2028 |
| CMI(C): | 5/31/2026 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: RSA-145 is a groundwater unit incorporating 9886 acres in the northeast portion of RSA. The site overlaps the following active surface sites- RSA-003, 005, 008, 045, 048, 058, 112, 113, 128, 143, 228, 230, 231, 233, 234, 248, 280, 283, 286, 287, 291, 293, 294, 305, 314, 318, and 321. Groundwater for active sites RSA-058 (01202.1071) and CCRSA-318 (01202.1387) are all managed under RSA-145. Groundwater for closed sites RSA-230 (01202.1235), RSA-231 (01202.1236), RSA-233 (01202.1237), RSA-236 (01202.1240), CCSWMU-283 (01202.1290), CCSWMU-305 (01202.1294), and RSA-D (01202.1168) are managed under this groundwater unit. For information on the history of operations COCs and description of release see the individual surface sites. Current and reasonably anticipated future land use north of Goss Road is residential. The area south of Goss Road is Commercial and industrial. Current data indicate that off-post sources contribute to RSA-145 groundwater and surface water contamination. Groundwater contaminants surface through multiple springs resulting in surface water contamination. TCE has been found to stay consistent at low levels along creeks as they flow through the arsenal. There are both losing and gaining reaches of stream segments. Based on these findings the use of an integrator operable unit (IOU) and perimeter well network will be required to evaluate the cumulative effects of these inputs. The RFI was approved by ADEM in January 2020. Site COCs are VOCs, SVOCs, metals, perchlorate, and explosives. Migration to surface water bodies is occurring. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The current phase is the CMS. Sampling to confirm chlorobenzene detections in groundwater and drilling to add direct push technology points plus one new bedrock well to obtain current groundwater data was completed Oct. 25, 2022 to support CMS. Rev.0 CMI(P) is underway with a target of submission to ADEM by Nov. 13, 2024. The cleanup strategy is to complete CMS, decision document (DD), permit modification, DES, CMI(C) and CMI(O). Anticipated remedy for groundwater is Chemical Oxidation and MNA. The IROD is inspected annually to ensure compliance. Achievement of UU/UE status is not anticipated. MNA, LUCs and periodic reviews will continue indefinitely. Document(s) in progress- 1)

Request for extension of Rev0 DES was submitted to ADEM on Nov. 7, 2023, with a target delivery of Nov. 11, 2024.

01202.1157_RSA-146_GROUNDWATER UNIT GW-02

Env Site ID: RSA-146

Cleanup Site: GROUNDWATER UNIT GW-02

Alias: RSA-146

Regulatory Driver: RCRA-C

RIP Date: 6/1/2040

RC Date: 6/1/2069

RC Reason: Not assigned

SC Date: 6/2/2069

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: High

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 9/30/1990 | 2/28/1991 |
| CS: | 6/30/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 6/1/2037 |
| DES: | 5/31/2035 | 6/1/2037 |
| IRA: | 9/30/2007 | 5/31/2037 |
| CMI(C): | 6/1/2037 | 5/31/2040 |
| CMI(O): | 6/1/2040 | 6/1/2069 |
| LTM: | -- | -- |

Site Narrative: RSA-146 is a groundwater unit incorporating 6613 acres in the southeast portion of RSA. The site has groundwater cleanup responsibility for the following surface sites- RSA-011, 087, 088, 089, 092, 093, 094, 095, 096, 097, 135H, 138M, 142, 144, 172, 187, 189, 191, 192, 194, 195, 196 (098), 197, 198 (085), 199, 200, 201, 203, 205, 207, 208, 210, 211, 212, 213, 214, 215, 217, 220, 237, 239, 242, 245, 247, 272, 273, 274, 275, 276, RSA-A, RSA-C. The site includes the groundwater below the former ROP, the Redstone Arsenal Rocket Engine (RARE) North Plant, and the RARE South Plant solid rocket motor production areas. For information on the history of operations, COCs and description of release see the individual surface sites. RSA-146 includes a buffer area located off-post having residential and recreational use. The current and reasonably anticipated future land use on-post is industrial. RSA-146 includes contamination from many surface-site sources of TCE (some present as dense non-aqueous phase liquid (DNAPL)) and perchlorate that have migrated to the groundwater and formed comingled and widespread plumes. Transport occurs through groundwater springs and surface water. Some contaminants have migrated off-post into areas of residential and recreational use. Several DNAPL sources have already been addressed as part of site-specific actions. Deep groundwater contamination is still present under these sites. The drinking water for this area comes from the Tennessee River. Site COCs include- VOCs (primarily TCE), perchlorate, and explosives. Off-post migration is occurring. The RFI report was submitted to ADEM in April 2016. The Army, with ADEM concurrence, agreed to complete interim measures to address known areas of contamination. An Interim Corrective Measures Study report has been completed. The RFI/CMS and Interim Remedial Action (IRA) phases are underway. The cleanup strategy is to finalize the RFI after the IM clean up goals have been met or sufficient data has been collected to allow completion of a RFI without continued IM implementation. Future phases of work are DES, CMIC, and CMI(O). The Interim Corrective Measures Study identified In-situ Bioremediation, In-Situ Bio-Geochemical Reduction, and Monitored Natural Attenuation as the interim corrective action technologies to be utilized. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected

annually to ensure compliance. The anticipated final remedy is MNA and LUCs. It is anticipated that groundwater contaminant concentration at RSA-146 will not be remediated to a level allows for UU/UE. MNA, LUCs, annual reporting, and periodic reviews will be required indefinitely.

01202.1158_RSA-147_GROUNDWATER UNIT GW-03

Env Site ID: RSA-147

Cleanup Site: GROUNDWATER UNIT GW-03

Alias: RSA-147

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/1/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 6/30/2026 |
| DES: | 10/1/2024 | 6/30/2026 |
| IRA: | 9/30/2007 | 5/31/2028 |
| CMI(C): | 7/1/2026 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: RSA-147 is a groundwater unit incorporating 1300 acres in the interior of RSA, north of Huntsville Spring Branch, west of Patton Road, east of Mills Road, and south of Neal Road. The site overlaps the following the surface sites- RSA-030, RSA-031, RSA-033, RSA-043, RSA-044, RSA-054/055, RSA-056, RSA-059, RSA-057, RSA-060, RSA-075, RSA-101, RSA-114, RSA-117 (incorporating RSA-102, RSA-103, RSA-104, RSA-105, RSA-106 and RSA-118), RSA-119, RSA-122, RSA-124, RSA-125, RSA-126, RSA-127, RSA-139, RSA-216, RSA-223, RSA-224, RSA-225, RSA-226, RSA-227, RSA-238, RSA-240, RSA-270, RSA-277, RSA-279, RSA-290, RSA-320, and RSA-F. Active surface sites- RSA-054/055 (01202.1067/01202.1068), RSA-056 (01202.1069), RSA-057 (01202.1070), RSA-122 (01202.1135), and RSA-139 (01202.1150) are managed with RSA-147. Closed sites- RSA-226 (01202.1230), RSA-227 (01202.1231), CCSWMU-240 (01202.1299), and CCSWMU-277 (01202.1302) are managed under RSA-147. For information on the history of operations, COCs, and description of release see the individual surface sites. Groundwater contamination is manifesting through localized plumes of VOCs, metals, and pesticides. Many of the plumes are isolated, of limited extent, and are being addressed under the surface media site. Other plumes are comingled and addressed under RSA-147. Groundwater contaminants have migrated to the surface through multiple springs resulting in surface water contamination. Several springs discharge chlorinated solvent contamination to Huntsville Spring Branch. There is low potential for off-site migration. Site contaminants of potential concern (COPC) are VOCs, SVOCs, pesticides, metals, and explosives. Migration to surface water bodies is occurring at low concentrations. The current phase is the RFI/CMS phase and the IRA phase. The IRA phase includes administration of the installation wide IROD, which establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance. A combined RFI for RSA-147, 148, and RSA-149 is underway. Current and future land use for RSA-147, 148, and RSA-149 is for industrial purposes, pastures, forest, and wetlands. The path forward is to complete the CMS/DD, DES, CMI(C), and CMI(O). Anticipated remedy includes MNA and LUCs. It is anticipated that groundwater

contaminant concentration at RSA-147 will not be remediated to a level allows for UU/UE. MNA, LUCs to manage use of groundwater, annual reporting, and periodic reviews are required indefinitely.

01202.1159_RSA-148_GROUNDWATER UNIT GW-04

Env Site ID: RSA-148

Cleanup Site: GROUNDWATER UNIT GW-04

Alias: RSA-148

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/01/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 6/30/2026 |
| DES: | 10/1/2024 | 6/30/2026 |
| IRA: | 9/30/2007 | 5/31/2028 |
| CMI(C): | 7/1/2026 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: RSA-148 is a groundwater unit incorporating 3500 acres in the central interior of RSA, north of Huntsville Spring Branch, west of Mills Road, east of Dodd Road, and south of Neal Road. The site overlaps the surface sites (closed sites are identified in parentheses)- MSFC-003-R-01, (MSFC-027), MSFC-035, (MSFC-052e), (MSFC-074), RSA-010, RSA-028, RSA-049, RSA-053, RSA-060, RSA-061, RSA-062, RSA-101, (RSA-107), RSA-114, (RSA-123), RSA-141, RSA-183, (RSA-222), RSA-238, RSA-249, RSA-250, (RSA-251), RSA-252, RSA-304, CCRSA-317, RSA-320, and (RSA-E). Management of groundwater associated with surface sites- MSFC-027 (01202.1003) for mercury only, RSA-049 (01202.1062), RSA-053 (01202.1066), RSA-060 (01202.1073), and RSA-183 (01202.1164) are covered under this groundwater unit. For information on the history of operations, COCs, and description of release see the individual surface sites. This groundwater site drains to Huntsville Spring Branch within the boundaries of the Wheeler National Wildlife Refuge. Several plumes of chlorinated solvents in this groundwater site are commingled with plumes from NASAs MSFC. Several springs discharge elevated concentrations of chlorinated solvent contamination into Huntsville Spring Branch. This site is significantly impacted by contamination originating at MSFC. Army sites within MSFC in some cases overlie the broader NASA-MSFC plumes and contribute to the commingled groundwater contamination. Migration to surface water bodies is occurring. There is low potential for off-site migration due to the location near the center of the installation. Site COPCs are VOCs, SVOCs, pesticides, metals, and explosives. The current phase is the RFI/CMS phase and an IRA phase. The IRA phase includes administration of the installation wide IROD, which establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance. It is not anticipated that UU/UE will be achieved. A combined RFI for RSA-147, 148, and RSA-149 is underway. Current and future land use for RSA-147, 148, and RSA-149 is for industrial purposes, pastures, forest, and wetlands. The path forward is to complete the RFI/CMS/DD, DES, CMI(C), and CMI(O). The anticipated remedy is MNA and LUCs. MNA, LUCs to manage the use of groundwater, annual reporting, and periodic reviews will be required indefinitely.

01202.1160_RSA-149_GROUNDWATER UNIT GW-05

Env Site ID: RSA-149

MRSPP: N/A

Cleanup Site: GROUNDWATER UNIT GW-05

Alias: RSA-149

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/01/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 6/30/2026 |
| DES: | 10/1/2024 | 6/30/2026 |
| IRA: | 9/30/2007 | 5/31/2028 |
| CMI(C): | 7/1/2026 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: RSA-149 is a groundwater unit incorporating 3900 acres in the western-central portion of RSA, north of Huntsville Spring Branch, west of the MSFC boundary and Ride Out Road, and east of Indian Creek. The site overlaps the following surface sites (those shown in parentheses are closed)- MSFC-003-R-01, MSFC-053, MSFC-027, MSFC-034, (MSFC-055), (MSFC-060), (MSFC-065), (MSFC-077), (MSFC-082), (MSFC-082-R-01), (MSFC-002/087), (MSFC-D), RSA-009, RSA-052, RSA-063, RSA-072, RSA-101, RSA-109, (RSA-121), RSA-141, RSA-264, and (RSA-285). All individual surface sites are responsible for their own groundwater. For information on the history of operations, COCs, and description of release see the individual surface sites. Numerous commingled plumes originating from NASA activities extend throughout this groundwater site with discharge to springs along Huntsville Spring Branch within Wheeler National Wildlife Refuge. The presence of a threatened small fish species (Alabama Darter) increases the ecological concern. Site COPCs are VOCs, SVOCs, pesticides, metals, and explosives. Migration to surface water bodies is occurring. There is low potential for off-site migration due to the location near the center of the installation. The current phase is the RFI/CMS phase and an IRA phase. A combined RFI for RSA-147, 148, and RSA-149 is underway. Current and future land use for RSA-147, 148, and RSA-149 is for industrial purposes, pastures, forest, and wetlands. The IRA phase includes administration of the installation wide IROD which establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance. The path forward is to complete the RFI/CMS/DD, DES, CMI(C), and CMI(O). The anticipated remedy is MNA and LUCs. It is not anticipated that UU/UE will be achieved. MNA, LUCs to manage the use of groundwater, annual reporting, and periodic reviews will be required indefinitely.

01202.1161_RSA-151_GROUNDWATER UNIT GW-07

Env Site ID: RSA-151

Cleanup Site: GROUNDWATER UNIT GW-07

Alias: RSA-151

Regulatory Driver: RCRA-C

RIP Date: 10/1/2032

RC Date: 10/1/2061

RC Reason: Not assigned

SC Date: 10/2/2061

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 8/30/2026 |
| DES: | 9/1/2018 | 9/30/2026 |
| IRA: | 9/30/2007 | 9/29/2031 |
| CMI(C): | 10/1/2026 | 9/30/2032 |
| CMI(O): | 10/1/2032 | 10/1/2061 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1161 (alias RSA-151) is a groundwater unit incorporating 572 acres in the southwestern portion of RSA along the Tennessee River. There is an active range within this site. As an outcome of historical land use, RSA-151 hosts all or portions of active surface sites RSA-013 (01202.1026), RSA-014 (01202.1027), RSA-110-R-01 (01202.1191), RSA-132 (01202.1145) and RSA-133 (01202.1146). RSA-151 manages groundwater for RSA-013, RSA-014, RSA-132, and RSA-133. Contaminants were believed to have been released by historical activities conducted at these surface sites.

Investigations have identified a large commingled chlorinated solvent/perchlorate plume. Wells installed along the boundary of the arsenal near the Tennessee River detected elevated levels of contamination, but samples from the river did not indicate contamination. The presence of archeological sites and the need for chemical agent screening in some areas has increased the complexity and cost of investigations. A pump and treat system was operated to treat VOCs in this area from 1997-1999 and was shut down because of perchlorate issues.

Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2018 and concluded that, based on information collected to date, the Army's historical operations at RSA-151 have resulted in concentrations of site-related constituents in groundwater which pose an unacceptable risk to human-health receptors. A commingled plume exists within the shallow and deep groundwater flow zones. This composite plume integrates all the individual chemical exceedances for each groundwater flow zone and represents the extent of RSL exceedances for multiple contaminants. COCs in groundwater include VOCs, SVOCs, explosive compounds, pesticides,

perchlorate, one agent breakdown product (ABP), and metals. There is high potential for contaminant migration off-site to the Tennessee River. The RFI Report was approved by ADEM in 2018 and the site was identified in the RCRA permit as requiring a CMIP. The CMS Report for RSA-151 was approved by the Army in 2020 and discussed the need for design optimization activities. The design optimization began in 2022 and was completed in 2023. Findings from the design optimization were presented in a final report and approved by the Army in 2024 and refined the ISEB design. The results indicated that the planned amendment should be changed from sodium lactate to a longer-lived amendment such as EVO and that extraction wells should be included between injection lines in order to improve amendment distribution. Key documents currently underway include the Statement of Basis/Decision Document, CMIP, and the Permit Modification to incorporate the selected corrective measures. Current and anticipated future land use is industrial (OB/OD area).

The path forward is to complete the CMS, DES, CMI(C), and CMI(O) phases. During the CMI(C) phase, the selected alternative ERH, ISEB, MNA, and LUCs to address VOCs and perchlorate in overburden groundwater will be implemented. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, MNA, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1162_RSA-152_GROUNDWATER UNIT GW-08

Env Site ID: RSA-152

Cleanup Site: GROUNDWATER UNIT GW-08

Alias: RSA-152

Regulatory Driver: RCRA-C

RIP Date: 10/1/2029

RC Date: 10/1/2058

RC Reason: Not assigned

SC Date: 10/2/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/1997 | 8/30/2027 |
| DES: | 9/1/2024 | 9/30/2027 |
| IRA: | 9/30/2007 | 9/30/2029 |
| CMI(C): | 10/1/2027 | 9/30/2029 |
| CMI(O): | 10/1/2029 | 10/1/2058 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1162 (alias RSA-152) is a groundwater unit incorporating 889 acres in the southwestern portion of RSA along the Tennessee River. Land above RSA-152 is within the buffer zone of active ranges. As an outcome of historical land use, RSA-152 hosts all or portions of 7 surface media sites- RSA-032 (01202.1045), RSA-065 (01202.1078), RSA-066-R-01 (01202.1186), RSA-067 (01202.1080), RSA-068-R-01 (01202.1188), RSA-069 (01202.1082), and RSA-255 (01202.1255). Groundwater within RSA-032 and RSA-065 are managed under this groundwater unit. Surface media sites within RSA-152, historically part of the Gulf Chemical Warfare Depot (GCWD), were used for hazardous and nonhazardous materials storage, munitions and chemical agent storage, demilitarization of chemically filled ordnance, and explosives detonation and disposal. Contaminants were believed to have been released by historical activities conducted at these surface sites.

Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2013 and concluded that, based on information collected to date, the Army's historical operations at RSA-152 have resulted in concentrations of site-related constituents in groundwater which pose an unacceptable risk to human-health receptors. COCs in groundwater include VOCs and explosives. There is low potential for migration of RSA-152 contaminants to surface water. The RFI Report was approved by ADEM in 2021 and the site was identified in the RCRA permit as requiring a CMIP. Design optimization activities began and were completed in 2023. Findings from the design optimization will be presented in a final report for Army review and approval in 2024. The CMS is also expected to be finalized and approved by the Army in 2024. Key documents currently underway are the Statement of Basis/Decision Document, CMIP, and the Permit Modification to incorporate the selected

corrective measures. Current and anticipated future land use is supply storage areas, maintenance areas, and training areas.

The path forward is to complete the CMS, DES, CMI(C), and CMI(O) phases. During the CMI(C) phase, the recommended alternative ERH, ISEB, MNA, and LUCs to address groundwater contamination will be implemented. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, MNA, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1163_RSA-156_GROUNDWATER UNIT GW-12

Env Site ID: RSA-156

Cleanup Site: GROUNDWATER UNIT GW-12

Alias: RSA-156

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 5/31/2055

RC Reason: Not assigned

SC Date: 6/1/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 6/30/1990 | 2/28/1991 |
| CS: | 7/31/1994 | 9/30/1997 |
| RFI/CMS: | 10/31/2005 | 9/30/2024 |
| DES: | 5/31/2022 | 9/30/2024 |
| IRA: | 9/30/2007 | 5/31/2026 |
| CMI(C): | 7/1/2024 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 5/31/2055 |
| LTM: | -- | -- |

Site Narrative: RSA-156 is a groundwater unit incorporating 1400 acres in the southernmost portion of RSA along the Tennessee River. The site includes the RSA-116 surface media site. In addition to the RSA-116 static test stand, the unit contains hundreds of igloo-style magazines used for storage of explosives conventional munitions and chemical munitions (historically) as well as various small-scale testing and conditioning facilities. Current and reasonably anticipated future land use is industrial. Site COCs are metals, SVOCs, VOCs, perchlorate, and explosives. Due to low contaminant levels, there is low potential for off-site migration. The RFI was approved by ADEM, and the CMS has been approved by the Army. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The cleanup strategy is to complete DES, DD, permit modification, CMI(C) and CMI(O). The CMS identified the anticipated remedy as MNA and LUCs. The IROD is inspected annually to ensure compliance. Achievement of UU/UE status is not anticipated. MNA LUCs and periodic reviews are required indefinitely. Document(s) in progress- 1) RSA-156/157 CMIP is currently underway.

01202.1164_RSA-183_FORMER LEWISITE PRODUCTION FACIL

Env Site ID: RSA-183

Cleanup Site: FORMER LEWISITE PRODUCTION FACIL

Alias: RSA-183

Regulatory Driver: RCRA-C

RIP Date: 9/30/2027

RC Date: 9/30/2027

RC Reason: Not assigned

SC Date: 10/2/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.5

RRSE: High

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1990 | 9/30/1996 |
| RFI/CMS: | 1/31/2003 | 8/30/2025 |
| DES: | 7/15/2010 | 9/30/2025 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2005 | 9/30/2027 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2027 | 10/1/2056 |

Site Narrative: Site 01202.1164 (alias RSA-183) consists of approximately 157 acres located in the central portion of RSA that was the former site of lewisite manufacturing operations. RSA-183 consists of an area formerly occupied by plants that manufactured lewisite and its raw materials. The present RSA-183 boundary encompasses all of the area where surface media (soil, surface water, and sediments) are known or suspected to be contaminated due to manufacturing operations at the former lewisite plants.

Although the 157 acres of land are defined as the RSA-183 "site", included within the site boundary are two lewisite manufacturing plants, a capped arsenic waste lagoon (RSA-049, 01202.1062), an abandoned industrial sewer system, a former motor pool (post-lewisite manufacture), a former unit substation, a former chemical storage warehouse (post-lewisite manufacture), a north-south-trending drainage ditch system, and a large sinkhole.

The site's UXO probability is none and the CWM probability ranges from unlikely to occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

An RI was previously completed at RSA-183 under CERCLA and concluded that historical uses of the waste lagoons resulted in the contamination of surface and subsurface soils with inorganic contaminants (predominantly arsenic and mercury) at levels that require active remediation to protect human and ecological health under both the residential and industrial risk scenarios.

An FS and ROD were prepared by the Army, and the selected remedy was soil excavation, treatment, off-site disposal, backfill, short-term sediment and groundwater monitoring, and institutional controls. In July 2010, a final RAWP was submitted to remediate approximately 4,175 cubic yards of arsenic-contaminated soil. Excavation and off-site disposal of 8,100 cubic yards of arsenic-contaminated soil were conducted from Aug. 12, 2010 to Sept. 15, 2010 based on the remedial goals specified in the work plan. However, because the Army did not achieve regulatory approval from ADEM for the remedial

action work plan for RSA-183, a corrective measures report documenting this action was never submitted prior to the expiration of the cleanup contract. As a result, the completion of the cleanup was never approved by the ADEM and in 2010 the program was transitioned from CERCLA to RCRA and the RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring a CMIP. Based on previous investigations, the COCs in soil include arsenic and one PAH. COCs in groundwater include several VOCs, SVOCs, and metals (including arsenic) and will be addressed by the RSA-148 (01202.1159) groundwater unit. There is a low potential for off-site migration of COCs due to the nature of the COCs and location of the site. The CMS was approved by the Army in 2020. The CMIP was approved by ADEM in 2023. The Statement of Basis/Decision Document and Permit Modification to incorporate the selected corrective measures are expected to be completed in 2024. CMI(C) fieldwork is expected to begin in 2025. There are no key documents currently underway. The current and anticipated future land use is Industrial development on the northern end and open space and hunting on the southern end of the site.

The path forward is to complete the CMI(C) and LTM phases. During the CMI(C) phase, the selected alternative of excavation and off-site disposal of arsenic-contaminated soils excavation and off-site disposal of below-grade relict structures and associated contaminated soil, and implementation of LUCs to address arsenic and PAH in subsurface soil remaining above unrestricted reuse requirements and potential CA remaining in the subsurface will be implemented. Groundwater contamination for the site will be addressed under the RSA-148 groundwater unit. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1193_CCRSA-315_ABANDONED DRUM AREA

Env Site ID: CCRSA-315

Cleanup Site: ABANDONED DRUM AREA

Alias: RSA-315

Regulatory Driver: RCRA-C

RIP Date: 9/29/2024

RC Date: 9/29/2024

RC Reason: Not assigned

SC Date: 3/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 2/15/2011 | 3/15/2011 |
| CS: | -- | -- |
| RFI/CMS: | 5/15/2012 | 6/2/2017 |
| DES: | 9/27/2017 | 10/7/2020 |
| IRA: | -- | -- |
| CMI(C): | 9/27/2017 | 9/29/2024 |
| CMI(O): | -- | -- |
| LTM: | 3/29/2023 | 3/29/2054 |

Site Narrative: CCRSA-315 is a 0.15-acre surface disposal area located along the northeast edge of the RSA Golf Course north of Goss Road. During a site visit in February 2011, approximately 15 (5-gallon) steel containers, four (55-gallon) steel drums, tire casings, concrete, and metal debris were observed distributed across three locations. The rusted condition of the steel containers indicated that they were exposed to the elements for a long period of time. The possibilities for the origin of the containers include construction efforts that were completed in the area and the operation or maintenance of the golf course. As such, these containers may have contained petroleum products, fertilizers, pesticides, or herbicides. Due to the rusted condition of the drums, none of the drums contained any contents at the time they were discovered. Two small concrete pads exist in the southeastern portion of the site that are associated with former golf course maintenance/storage buildings. A historic/archeological area of concern exists within the site boundary as well as a suspected historic cemetery lot. Soil sampling was completed for the areas of concern and the drums were removed. Based on the soil sampling, RSA-315 was identified as a new solid waste management unit (SWMU) in a notification provided to ADEM on March 29, 2011. The field investigation for the RFI was initiated in November 2012. The RFI report indicated that metals were present above screening levels in one of the three locations. The RFI's ARBCA evaluation concluded arsenic was detected in surface soil exceeding action levels and is the site COC. The RFI found lead and arsenic to be potential leaching threats as both were above their RSA-specific DAF4 SSL, however the ADEM approved CMIP precluded corrective measures for potential leaching concerns as there is no overburden groundwater beneath RSA-315. The potential for off-site migration is low. During the RFI, overburden groundwater was not found to be present at the site and as a result ADEM approved no further action for groundwater at RSA-315. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Completed phases of work include PA/SI, RFI, and DES. The CMIP recommending LUCs as the remedy was approved by ADEM in October 2020. CMI(C) fieldwork to install LUCs was completed in 2021, and the CMR was submitted to ADEM in June 2022. Final approval of the CMR is expected once the Army and ADEM agree

upon NEUR language. LUCs include a vinyl coated wire single strand fence and signage. All fieldwork is complete and the remedy is in place as of Aug. 10, 2022. CMI-C will close once the Army and ADEM agree on NEUR language. The current phase at the site is CMI-C and LTM. It is anticipated that soil concentration will not be remediated to a level that allows for UU/UE. LUCs and periodic reviews will be required indefinitely.

01202.1211_RSA-204_THIOKOL OXIDIZER FACILITY

Env Site ID: RSA-204

Cleanup Site: THIOKOL OXIDIZER FACILITY

Alias: RSA-204

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 1/1/2054

RC Reason: Not assigned

SC Date: 1/2/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | 6/30/2004 | 6/30/2009 |
| RFI/CMS: | 6/30/2009 | 9/15/2015 |
| DES: | 9/15/2012 | 2/28/2017 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2012 | 9/30/2024 |
| CMI(O): | 1/1/2020 | 1/1/2054 |
| LTM: | -- | -- |

Site Narrative: RSA-204 is an 8.5-acre site of the former Thiokol Oxidizer Facility located on Falcon and Swan Road at the intersection of Eagle Road and Magazine Road. The site is approximately located in the southeastern portion of RSA, in the former Thiokol North Plant area in Test Area TA-10 within groundwater unit RSA-146. This site includes Buildings 7687, 7688, 7689, 7690, and 7691. Building 7687 was used for oxidizer storage, Building 7688 was used as an oxidizer drying facility with an associated temporary storage area (TSA). Building 7689 was used as an ammonium perchlorate grinding facility with an associated 1.3 propellant waste sump and TSA. Building 7690 was used as a nitramine grinding facility with an associated 1.1 propellant waste sump and TSA. Building 7691 was used as an ammonium perchlorate processing facility with an associated 1.3 propellant waste sump, a former septic tank, and drain field which received oxidizer wastes and two TSAs. An east-west running trench drain is located on the east side of 7690 that led east to an exterior captive sump (RSA-135m). A TSA (CCSWMU-181) is NFA in the Compliance Cleanup (CC) Program as of 2002. Floor drains were visible in the north end of 7691 leading to two exterior captive sumps (RSA-137k and RSA-137l). A waste storage bin labeled AP/Inert Waste and TSAs (RSA-138k and RSA-138l) were noted outside the building. A 2004 investigation detected perchlorate in soils and TCE and perchlorate in groundwater. Some evidence of a small water treatment system was observed to the north of the building. The site is also the source of an isolated groundwater contaminant plume. As a result of the permit renewal in 2010 this site was moved from the CERCLA program to the RCRA program. The RFI was approved in 2013. The RFI's ARBCA evaluation found that perchlorate, VOCs, and explosives were present in groundwater at concentrations that warrant action to protect human health. The RFI's contaminant migration screening-level assessment found that perchlorate was present in subsurface soil at concentrations that had potential to leach to groundwater. There is no potential for off-site migration. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. A CMIP was approved by ADEM in February 2017. The remedy for soil of excavation with off-site disposal and low-permeability cap emplacement has been completed along with LUCs under Building 7689. ISEB for the groundwater

has completed the initial and second round of injections. MNA started in January 2020 after the first groundwater injection. CMI-O is ongoing for MNA and LUCs. Site specific LUCs include signage and administrative controls to ensure the cap is not disturbed and to manage the use of groundwater. Completed phases of work include PA/SI, RFI, DES. Current phases are CMI-C and CMI(O). CMI-C will be closed once the CMR receives final approval. The CMR was submitted in April 2021 and will receive final approval once the Army and ADEM agree on NEUR language. The fieldwork was completed and the remedy was in place as of June 1st, 2021. Future land use is industrial. It is anticipated that soil and groundwater contaminant concentrations at RSA-204 will be remediated to a level that does not allow for UU/UE. MNA, LUCs, annual reports, and periodic reviews are required indefinitely.

01202.1213_RSA-206_PROPELLANT MIXING FACILITY #2 &

Env Site ID: RSA-206

Cleanup Site: PROPELLANT MIXING FACILITY #2 &

Alias: RSA-206

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 8/1/2054

RC Reason: Not assigned

SC Date: 8/2/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | 6/30/2004 | 6/30/2009 |
| RFI/CMS: | 6/30/2009 | 5/1/2017 |
| DES: | 8/22/2018 | 12/15/2020 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2021 | 9/30/2024 |
| CMI(O): | 8/1/2022 | 8/1/2054 |
| LTM: | -- | -- |

Site Narrative: RSA-206 is located at the intersection of Magazine Road and Sparrow Road on the southeast portion of the installation. This 3.5-acre site includes Buildings 7339 and 7340 that were part of the propellant plant located along Snake Pit Road. These buildings were constructed in 1960 for use by Thiokol as a mixer building and secondary casting and finishing facility for rocket motors respectively. Subsurface discharge and/or piping leaks associated with casting operation completed in Building 7340 and potential spills and floor washdown liquids associated with activities in Building 7339 may have provided a pathway for contamination at the site. In 2004, VOCs and perchlorate were detected in soil and groundwater. ADEM concurred with the RFI report's recommendation of corrective measures for groundwater and NFA for surface media in May 2016. The RFI's ARBCA evaluation found that concentrations of perchlorate, VOCs, and explosives in groundwater present an unacceptable risk to human health if the groundwater is developed for potable purposes and warrant corrective action. The CMIP has been approved by ADEM. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The remedy for groundwater is ISEB and MNA. ISEB injections were completed in May 2022. The CMR was submitted to ADEM in March 2023 and will receive final concurrence from ADEM once the Army and ADEM agree on NEUR language. The path forward is to complete the CMI-C and 30 years of CMI-O. The CMI-C phase will remain open until the Army resolves NEUR language with ADEM. All CMI-C fieldwork has been completed and the remedy is in place as of August 10, 2023. Site COCs are VOCs, perchlorate, and explosives. Current and future land use is industrial and potential for off-site migration is low. It is anticipated that groundwater contaminant concentration at RSA-206 will be remediated to a level that does allow for UU/UE. MNA, LUCs to manage use of groundwater, annual monitoring reports, and periodic review will continue until UU/UE is achieved.

01202.1216_RSA-209_PROPELLANT CRUSHING/GRINDING & F

Env Site ID: RSA-209

Cleanup Site: PROPELLANT CRUSHING/GRINDING & F

Alias: RSA-209

Regulatory Driver: RCRA-C

RIP Date: 9/29/2025

RC Date: 9/29/2062

RC Reason: Not assigned

SC Date: 9/30/2062

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | 6/30/2004 | 6/30/2009 |
| RFI/CMS: | 6/30/2009 | 6/30/2020 |
| DES: | 9/1/2018 | 6/30/2020 |
| IRA: | -- | -- |
| CMI(C): | 3/1/2022 | 9/29/2025 |
| CMI(O): | 9/29/2024 | 9/29/2062 |
| LTM: | -- | -- |

Site Narrative: RSA-209 is located on Line Road, south of Redstone Road in the southeast portion of RSA. Constructed in 1955, Building 7568 was used as an ammonium perchlorate and potassium perchlorate crushing and grinding facility until 1971. Grinding operations included receiving/storing raw materials and processing them through a hopper into large mills to grind the oxidizer into powder. Cleaning of the grinding machinery may also have taken place on the premises. Vacuums were typically used during grinding to mitigate dust. The western side of the building had seven bays that were used for grinding, analytical laboratories ovens for removing solvent from nitroglycerin instrumentation, and storage. The southeastern corner of the building contained X-ray facilities, a photographic laboratory, an analytical laboratory, and an air conditioning room. The northeast corner of the building contained offices and two storage bays. The Army regained control of the facility in 1971 and its use is undocumented until 1975. From 1975 to 1982 the facility was used for unknown purposes in Dragon Missile production. Recent building lists indicate that this facility was used for fuse production in the early 1990s. The building was demolished between 1997 and 2000. Possible release of contaminants occurred from spills or floor washdowns of Building 7568. ADEM concurred with the RFI report's recommendation of NFA for surface media in May 2016. The RFI's ARBCA evaluation found perchlorate, explosives, and VOCs in groundwater were present at concentrations that posed unacceptable risk to human health if groundwater was developed as a potable water source. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The CMIP was approved by ADEM in June 2020. The path forward is to complete the CMI(C) and 38 years of CMI(O) based on a model. The remedy for groundwater is ISEB, MNA, and LUCs. Site COCs are VOCs, perchlorate, and explosives. Current and future land use for the site is industrial. The potential for off-site migration is low. It is anticipated that UU/UE will be achieved. MNA, LUCs to manage the use of groundwater, annual monitoring reports, and periodic reviews will continue until UU/UE is achieved.

01202.1223_RSA-217_INERT STORAGE WAREHOUSE FACILITI

Env Site ID: RSA-217

Cleanup Site: INERT STORAGE WAREHOUSE FACILITI

Alias: RSA-217

Regulatory Driver: RCRA-C

RIP Date: 5/15/2030

RC Date: 5/15/2030

RC Reason: Not assigned

SC Date: 5/16/2030

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | -- | -- |
| RFI/CMS: | 12/31/2009 | 5/31/2025 |
| DES: | 5/31/2023 | 5/31/2025 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2025 | 5/15/2030 |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: RSA-217 lies within an approximately 30-acre warehouse and administrative building complex and is part of the former ROP administration area situated between West Line and Warehouse roads on the southeast portion of RSA. The site consists of multiple buildings historically used for storage of inert components and shipping supplies for the ammunition division. RSA-217 has been defined as the structures and area around six of the building in the complex where past activities could have potentially resulted in a release. Data from RFI fieldwork indicates the following a small area of surface and shallow surface soils associated with the small pit/sump adjacent to Building 7437 pose a cumulative risk to human health from PAH and arsenic concentrations present in the soils. These soils will require a remedial action. All other surface media within site RSA-217 pose no unacceptable health threat to commercial/industrial or residential receptors from direct exposure to soil. A screening-level vapor intrusion evaluation showed that VOC concentrations in soil and groundwater do not pose an unacceptable health threat to occupants of future buildings. The anticipated remedy is soil removal with off-site disposal. NFA is anticipated for surface media after completion of corrective measures construction. Future land use is industrial and potential for off-site migration is low. Site COCs are PAHs, TCE, and explosives. Groundwater will be addressed under RSA-146. The RFI was approved. The CMS and DES are underway and the anticipated future phase of work is the CMI(C). UU/UE for soils is expected to be achieved. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. This site will be administratively closed and groundwater will be addressed under RSA-146.

01202.1225_RSA-219_CHEMICAL STORAGE AREA IN SALVAGE

Env Site ID: RSA-219

Cleanup Site: CHEMICAL STORAGE AREA IN SALVAGE

Alias: RSA-219

Regulatory Driver: RCRA-C

RIP Date: 6/1/2031

RC Date: 5/31/2060

RC Reason: Not assigned

SC Date: 6/1/2060

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | -- | -- |
| RFI/CMS: | 12/31/2009 | 4/30/2026 |
| DES: | 5/31/2024 | 5/31/2026 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2026 | 5/31/2031 |
| CMI(O): | 6/1/2031 | 5/31/2060 |
| LTM: | -- | -- |

Site Narrative: RSA-219 is situated in the central portion of groundwater site RSA-146 and is an approximate 5-acre site within and near the current Defense Logistics Agency Salvage Yard which is located at the southern end of Warehouse Road. The current and reasonably anticipated future land use is industrial development. The investigation of RSA-219 focused on potential releases from historical short-term storage of materials including where storage barns had been utilized during the 1980s and a suspected open storage/disposal area where solvents had been stored on asphalt pads and a historical TCE release was known to have occurred. Site COPCs are VOCs PAHs and explosives in groundwater. There is low potential for off-site migration. A screening-level vapor intrusion evaluation showed that VOC concentrations in soil and groundwater do not pose an unacceptable health threat to occupants of future buildings. The RFI/CMS phase is underway. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The path forward is to complete the RFI/CMS/DD DES CMI(C) and CMI(O). Anticipated remedy for groundwater is ISEB followed by MNA. It is not anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews will be required indefinitely.

01202.1229_RSA-225_FUSE MODIFICATION LINE 7

Env Site ID: RSA-225

Cleanup Site: FUSE MODIFICATION LINE 7

Alias: RSA-225

Regulatory Driver: RCRA-C

RIP Date: 5/31/2022

RC Date: 5/31/2032

RC Reason: Not assigned

SC Date: 6/1/2032

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 2/29/2004 | 5/31/2004 |
| CS: | -- | -- |
| RFI/CMS: | 6/30/2009 | 5/31/2021 |
| DES: | 9/1/2018 | 5/31/2021 |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | 5/31/2022 | 5/31/2032 |
| LTM: | -- | -- |

Site Narrative: RSA-225 occupies approximately 1.2 acres and is located near the center of RSA within the RSA-147 groundwater site south of the intersection of Jungerman Road and Fowler Road. The four original buildings located within RSA-225 were used for fuse modification operations. Historic aerial photographs verify that the four buildings were constructed or modified for this purpose between 1943 and 1956. Only two buildings of the four original structures remain. Site COCs are VOCs, SVOCs, and explosives in groundwater. Future land use is industrial and the potential for off-site migration is low. ADEM concurred with the RFI's recommendation of NFA for soils and an action for groundwater to be addressed with the surface site. The CMIP was approved by ADEM in November 2020. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Baseline groundwater sampling was conducted during the design phase, while creating the CMIP. The CMIP, approved by ADEM in November 2020, recommended MNA at the site and submittal of annual monitoring reports. The CMI-C phase was not required since baseline sampling was conducted as a part of the design phase and ADEM approved moving to submittal of annual monitoring reports. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The path forward is to complete the CMI(O). Remedy is MNA, which is anticipated to be 10 years based on modeling. It is anticipated that groundwater contaminant concentration at RSA-225 will be remediated to a level that allows for UU/UE. MNA, LUCs, and periodic reviews will continue until UU/UE is achieved.

01202.1243_RSA-238_HVA PLANT #2 MUSTARD LINES 5 & 6

Env Site ID: RSA-238

Cleanup Site: HVA PLANT #2 MUSTARD LINES 5 & 6

Alias: RSA-238

Regulatory Driver: RCRA-C

RIP Date: 9/30/2030

RC Date: 9/30/2030

RC Reason: Not assigned

SC Date: 10/2/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 2/29/2004 | 5/31/2004 |
| CS: | 5/31/2004 | 6/30/2005 |
| RFI/CMS: | 6/30/2009 | 8/30/2027 |
| DES: | 9/30/2024 | 9/30/2027 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2027 | 9/30/2030 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2030 | 10/1/2059 |

Site Narrative: Site 01202.1243 (alias RSA-238) is an approximately 33-AC site located in the center of RSA on the east side of Stewart Road south of Mills Road. The site includes the WWII HVA Plant 2 facilities Mustard lines 5 and 6. The facilities started operation in September and November 1942, respectively and were shut down in May 1943. Chemicals used in the mustard manufacturing process included but were not limited to fuel oil, sulfur monochloride, ethyl alcohol, chlorine, carbon tetrachloride, kerosene, acetylene, tetrachloride, and sodium hypochlorite solutions. Stockpiles of material presumably coke was observed in aerial photographs near the Plant No. 6 facility. Coke was used in the ethylene scrubber operations. Contaminants were believed to have been released by these CA manufacturing activities.

The sites UXO probability is low, and the CWM is unlikely across the site. Current anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying this site as requiring an RFI. RFI field activities were conducted from 2013 to 2014 within the areas of the site associated with HTW locations; field activities within the "Occasional" to "Likely" CWM probability areas were completed in 2022. Information from the RFI field activities concluded that, based on information collected to date, the Army's historical operations at RSA-238 have resulted in contamination to groundwater. The COCs in groundwater include VOCs and SVOCs. No COCs requiring action were identified in soil. Additionally, no CA or CWM was detected during RFI field activities. Therefore, the Occasional to Likely CWM probability areas were lowered to Unlikely in 2023. Migration of the COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. The RFI Report was approved by ADEM and the CMS was approved by the Army in 2023. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the CMS, DES, CMI(C), and LTM phases. The CMIP will be developed during the DES Phase. During the CMI(C) phase, the selected alternative of implementation of LUCs to manage any residual risk associated with CA and/or CWM and MNA baseline to address VOCs and SVOCs in groundwater will be implemented. No corrective measures for soil are required. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1244_RSA-150_GROUNDWATER UNIT 06

Env Site ID: RSA-150

Cleanup Site: GROUNDWATER UNIT 06

Alias: RSA-150

Regulatory Driver: RCRA-C

RIP Date: 5/31/2027

RC Date: 5/31/2056

RC Reason: Not assigned

SC Date: 6/1/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 1/31/2004 | 6/30/2004 |
| CS: | 10/31/2004 | 9/30/2007 |
| RFI/CMS: | 6/30/2009 | 5/31/2025 |
| DES: | 5/31/2022 | 5/31/2025 |
| IRA: | 9/30/2007 | 5/31/2026 |
| CMI(C): | 5/31/2025 | 5/31/2027 |
| CMI(O): | 5/31/2027 | 5/31/2056 |
| LTM: | -- | -- |

Site Narrative: The RSA-150 groundwater unit incorporates 10400 acres located in the north-central and western portions of the installation. The footprint of RSA-150 overlaps surface sites- MSFC-033A, 051, 254, 278, RSA-072-R-01 (282), 284, 312, 313, and 315. Management of groundwater associated with surface sites- RSA-278 (01202.1276), RSA-072-R-01 (282) (01202.1276), and RSA-315 (01202.1193) are covered under this groundwater unit. Historic use COCs and description of release are described in the individual surface sites. Portions of Test Areas 3 and 6 are also located above this groundwater site. There is evidence of petroleum and solvent contaminants migrating to this site from off-post sources. There is no potential for off-site migration. A hazardous waste facility permit pursuant to the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) was issued Sept. 30, 2010, and the program was transitioned from CERCLA to RCRA. In FY08 an upgradient perimeter well network was installed. Additional wells were installed during the 2011 Phase I and the 2013 Phase II RFI field investigations. The RFI was approved by ADEM in October 2019. The CMS recommends groundwater monitoring and LUCs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Future work to be completed includes DD, DES, permit modification, CMI(C), and CMI(O). Site COCs exceeding screening values are metals SVOCs, VOCs, and explosives. It is not anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews will be required indefinitely.

01202.1245_RSA-153_GROUNDWATER UNIT 09

Env Site ID: RSA-153

Cleanup Site: GROUNDWATER UNIT 09

Alias: RSA-153

Regulatory Driver: RCRA-C

RIP Date: 5/31/2027

RC Date: 5/31/2056

RC Reason: Not assigned

SC Date: 6/1/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/31/2004 | 6/30/2004 |
| CS: | 10/31/2004 | 9/30/2007 |
| RFI/CMS: | 6/30/2009 | 5/31/2025 |
| DES: | 5/31/2022 | 5/31/2025 |
| IRA: | 9/30/2007 | 5/31/2026 |
| CMI(C): | 5/31/2025 | 5/31/2027 |
| CMI(O): | 5/31/2027 | 5/31/2056 |
| LTM: | -- | -- |

Site Narrative: RSA-153 groundwater unit incorporates 6300 acres located on the western side of Redstone Arsenal. The footprint of RSA-153 overlaps active surface sites- RSA-278, 312, and 313. The individual surface sites are responsible for their own groundwater. Portions of Test Areas 3 and 6 are also located above this groundwater site. Historic use COCs and description of release are described in the individual surface sites. There is evidence of petroleum and solvent contaminants migrating to this site from off-post sources. There is low potential for off-site migration. A hazardous waste facility permit pursuant to the AHWMMMA was issued Sept. 30, 2010, and the program was transitioned from CERCLA to RCRA. In FY08 an upgradient perimeter well network was installed. Additional wells were installed at RSA-153 during the 2011 Phase I and the 2013 Phase II RFI field investigations. The RFI was approved by ADEM in October 2019. The CMS recommends groundwater monitoring and LUCs. Site COCs exceeding screening values are metals, SVOCs, VOCs, and explosives. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Future phases to complete are DES, CMI(C), and CMI(O). It is anticipated UU/UE will not be achieved. MNA LUCs and periodic reviews will be required indefinitely.

01202.1246_RSA-154_GROUNDWATER UNIT 10

Env Site ID: RSA-154

Cleanup Site: GROUNDWATER UNIT 10

Alias: RSA-154

Regulatory Driver: RCRA-C

RIP Date: 3/23/2030

RC Date: 9/12/2059

RC Reason: Not assigned

SC Date: 9/13/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 1/31/2004 | 6/30/2004 |
| CS: | 10/31/2004 | 9/30/2007 |
| RFI/CMS: | 6/30/2009 | 7/1/2027 |
| DES: | 10/1/2024 | 7/1/2027 |
| IRA: | 9/30/2007 | 3/23/2030 |
| CMI(C): | 7/1/2027 | 3/23/2030 |
| CMI(O): | 3/23/2030 | 9/12/2059 |
| LTM: | -- | -- |

Site Narrative: RSA-154 groundwater unit incorporates 3,300 acres located in the south-central part of Redstone Arsenal. The groundwater unit overlaps the footprint of the following active surface media sites RSA-037, 063, 101, 257, 258, 259, 260, 261, 262, 263, 264, 268, 269, 310, and 346. RSA-037(01202.1050) and RSA-261 (01202.1261) groundwater corrective actions will be managed under RSA-154. The remaining surface sites within RSA-154 manage their own groundwater. Historical and current activities at this site include missile firing and detonation on test ranges. For more detailed information on the history of operations, COCs, and description of release see the individual surface sites. Six distinct plume areas were identified in the Rev. 0 RFI report for RSA-154 and RSA-155 that was submitted to ADEM in 2015 and did not receive an approval. Two of the six plume areas have since been delineated with ADEM approval of RFIs for surface sites RSA-262 and RSA-263. Updated Site Field Sampling Plans (SFSP) from 2021 identify five separate focus areas. The most recent ARBCA study found site COPCs are VOCs, SVOCs, explosives, and metals. Plumes are discrete and isolated. There is low potential for off-site migration. A Rev. 1 RFI report for RSA-154 and RSA-155 is underway. The underway phases are the RFI/CMS and the IRA phase. IRA phase actions include administration of an installation wide IROD, which establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD LUCs are inspected annually to ensure compliance. The path forward is to complete the RFI/CMS/DD, DES, CMI(C), and CMI(O). It is anticipated that the final remedy will be MNA and LUCs. Current and future land use is industrial. It is anticipated that groundwater contaminant concentration at RSA-154 will not be remediated to a level allows for UU/UE. MNA, LUCs to manage the use of groundwater, annual reporting, and periodic reviews will be required indefinitely.

01202.1247_RSA-155_GROUNDWATER UNIT 11

Env Site ID: RSA-155

Cleanup Site: GROUNDWATER UNIT 11

Alias: RSA-155

Regulatory Driver: RCRA-C

RIP Date: 3/23/2030

RC Date: 9/12/2059

RC Reason: Not assigned

SC Date: 9/13/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/31/2004 | 6/30/2004 |
| CS: | 10/31/2004 | 9/30/2007 |
| RFI/CMS: | 6/30/2009 | 7/1/2027 |
| DES: | 10/1/2024 | 7/1/2027 |
| IRA: | 9/30/2007 | 3/23/2030 |
| CMI(C): | 7/1/2027 | 3/23/2030 |
| CMI(O): | 3/23/2030 | 3/23/2059 |
| LTM: | -- | -- |

Site Narrative: RSA-155 groundwater unit incorporates 1600 acres located in the southwestern part of RSA bordering the Tennessee River. Historical activities at this unit include materials transfer and storage as well as destructive testing of munitions. This unit includes active surface media sites RSA-265 and 288. Groundwater is managed under RSA-155 for these sites. Six distinct plume areas were identified in the Rev. 0 RFI report for RSA-154 and RSA-155 that was submitted to ADEM in 2015 which did not receive approval. Two of the six plume areas have since been delineated with ADEM approval of RFIs for surface sites RSA-262 and RSA-263. Updated SFSPs from 2021 identify five separate focus areas. The most recent ARBCA study found site COPCs are VOCs, SVOCs, explosives, and metals. Plumes are discrete and isolated. There is low potential to migrate off-post. A Rev. 1 RFI report for RSA-154 and RSA-155 is underway. The underway phases are the RFI/CMS and the IRA phase. IRA phase actions include administration of an installation wide IROD, which establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance. The path forward is to complete the RFI/CMS/DD, DES, CMI(C), and CMI(O). It is anticipated that the final remedy will be MNA and LUCs. Current and future anticipated land use is industrial. It is not anticipated that UU/UE will be achieved. MNA, LUCs to manage the use of groundwater, annual reporting, and periodic reviews will be required indefinitely.

01202.1248_RSA-157_GROUNDWATER UNIT 13

Env Site ID: RSA-157

Cleanup Site: GROUNDWATER UNIT 13

Alias: RSA-157

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 5/31/2055

RC Reason: Not assigned

SC Date: 6/1/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/31/2004 | 6/30/2004 |
| CS: | 10/31/2004 | 1/31/2008 |
| RFI/CMS: | 6/30/2009 | 9/30/2024 |
| DES: | 5/31/2022 | 9/30/2024 |
| IRA: | 9/30/2007 | 5/31/2026 |
| CMI(C): | 7/1/2024 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 5/31/2055 |
| LTM: | -- | -- |

Site Narrative: RSA-157 groundwater unit incorporates 1100 acres with three surface media sites- RSA-115, 266, and 289. This groundwater unit is located along the Tennessee River in the southeastern portion of the arsenal. In addition to the RSA-115 status test stand the RSA-266 magazine area and the RSA-289 water treatment sludge beds this unit contains dozens of igloo-style magazines used for storage of explosives conventional munitions and chemical munitions (historically). Current and reasonably anticipated future land use is industrial. Site contaminants are metals SVOCs VOCs perchlorate and explosives. Due to low contaminant levels, there is low potential for off-site migration. The RFI has been approved by ADEM and the CMS has been approved by the Army. An IRA phase is underway to enforce an IROD that restricts the potable use of on-post groundwater. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The IROD is inspected annually to ensure compliance. The cleanup strategy is to complete the underway DES phase. Future work to be completed includes the DD, DES, CMI(C), and CMI(O). The CMS anticipated the remedy as MNA and LUCs. Achievement of UU/UE status is not anticipated. MNA, LUCs and periodic reviews will be required indefinitely. Document(s) in progress- 1) The RSA-156/157 CMIP is currently underway.

01202.1251_RSA-250_FORMER STORAGE WAREHOUSE BLDG 77

Env Site ID: RSA-250

Cleanup Site: FORMER STORAGE WAREHOUSE BLDG 77

Alias: HAMUST56

Regulatory Driver: RCRA-C

RIP Date: 2/20/2018

RC Date: 2/20/2018

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | -- | -- |
| RFI/CMS: | 6/30/2004 | 3/15/2016 |
| DES: | 6/30/2009 | 11/15/2016 |
| IRA: | 6/30/2009 | 11/30/2011 |
| CMI(C): | 6/30/2009 | 2/20/2018 |
| CMI(O): | -- | -- |
| LTM: | 2/7/2019 | 9/29/2054 |

Site Narrative: RSA-250 is a 1.3-acre site located south of Fowler Road and on the west side of Hicks Road. The site is in the western portion of the area formerly known as Plants Area No. 2 and encompasses 1.3 acres at the northern end of Building 5678. Current Building 5678 is a result of the combination of the three former Buildings 778, 779, and 780 in a line north to south respectively. Documentation indicated Building 778 was used to store coke (used in phosgene production) unidentified components automotive parts blank gas mask faceplates conveyor lines (potentially for chemical warfare manufacturing) and other inert materials. In 1948, Building 778 was used for the storage of blank gas mask faceplates. Metals and SVOCs were detected in soil with arsenic detected at a maximum of 596 milligrams per kilogram near former Building 778 (north end of Building 5678). Chloroform was the only parameter detected above screening levels in groundwater. ADEM concurred with the RFI report recommending corrective measures for surface media with NFA for groundwater. Corrective measures were performed between July 2016 and July 2017 and removed the contaminated surface and subsurface soils except in the area beneath the northern side of the heating ventilation and air conditioning concrete pad. Consequently, LUCs were implemented for this area. The LUC area covers 0.01 acres (357.67 square feet). The current and planned future land use for the site is for industrial development. Potential for off-site migration is low. LTM is expected to continue for the site. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that soil contaminant concentration at RSA-250 will not be remediated to a level allows for UU/UE. LUCs, periodic reviews, and annual reports are required indefinitely.

01202.1252_RSA-252_INCENDIARY BOMB FACILITY PLANT 2

Env Site ID: RSA-252

Cleanup Site: INCENDIARY BOMB FACILITY PLANT 2

Alias: RSA-252

Regulatory Driver: RCRA-C

RIP Date: 5/31/2030

RC Date: 5/31/2059

RC Reason: Not assigned

SC Date: 6/1/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | 6/30/2004 | 1/31/2005 |
| RFI/CMS: | 6/30/2009 | 4/16/2021 |
| DES: | 9/30/2017 | 5/16/2021 |
| IRA: | 10/31/2007 | 2/29/2008 |
| CMI(C): | 12/30/2020 | 5/31/2030 |
| CMI(O): | 5/31/2030 | 5/31/2059 |
| LTM: | -- | -- |

Site Narrative: RSA-252 is an approximately 16-acre site located south of Mills Road between Stewart and Refuge Roads. The main structure within RSA-252 is Building 5681. Building 5681 was constructed in 1943 initially as a mustard filling plant, however it was never used for this purpose and was converted to an oil incendiary filling plant. Structures associated with this building included two gasoline pump houses, two gasoline storage tanks, three magazines, and various neighboring warehouses. Four different types of munitions had been produced up to June 1945. Chemicals used during incendiary operations included gasoline, stearic acid, calcium, isobutyl methacrylate, magnesium particles, sodium nitrate, asphalt, and caustics. Waste generated from these processes was reported to have been burned at the plant burning pit located approximately 200 yards west of the plant. In 1947 this building was used for the bagging of DDT. Additional insecticides were produced in liquid and dust forms during the 1948 - 1950 timeframe. Releases of COCs possibly occurred from spills, floor washdown, and dispersal from the burning pit. Metals, SVOCs, and elevated DDT concentrations were observed in soil around Building 5681. A time-critical removal action (TCRA) was performed in 2007. The TCRA included the excavation and disposal of 135 cubic yards of soil followed by site backfilling and restoration of a security fence around Building 5681. The RFI for RSA-252 was approved by ADEM in 2016. Media of concern include soil and groundwater. The RFI's ARBCA evaluation found VOCs, PAHs, and pesticides in soils at concentrations that warrant action to protect human health. The ARBCA evaluation found concentrations of pesticides, VOCs, and SOVCs detected in groundwater samples present an unacceptable risk to human health if groundwater is developed as a potable water source. The current and anticipated future land use is industrial. The potential for off-site migration is low due to the site being in the central portion of Redstone. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The remedy for surface soil is excavation and disposal (anticipated at a Redstone CAMU) and LUCs including signage and administrative controls. The groundwater remedy is LUCs and MNA. The CMIP was approved in December 2020. The

current phase is CMI(C). Future phases include CMI(O). Contaminant concentration is at a level that does not allow for UU/UE. MNA, LUCs, annual reporting, and periodic reviews are required indefinitely.

01202.1256_CCRSA-317_CONSTRUCTION SITE E BLDG 5674

Env Site ID: CCRSA-317

Cleanup Site: CONSTRUCTION SITE E BLDG 5674

Alias: RSA-317

Regulatory Driver: RCRA-C

RIP Date: 9/30/2030

RC Date: 9/30/2030

RC Reason: Not assigned

SC Date: 10/2/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 3/15/2013 | 6/15/2013 |
| CS: | -- | -- |
| RFI/CMS: | 3/15/2014 | 8/30/2028 |
| DES: | 10/1/2025 | 9/30/2028 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2028 | 9/30/2030 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2030 | 10/1/2059 |

Site Narrative: Site 01202.1256 (alias RSA-317 and CCRSA-317) is an approximately 1.5-AC site in the central portion of RSA west of Patton Road and south of Martin Road. The site is bounded by Technology Road to the north, Refuge Road and Building 5681 to the east, by Building 5676 to the south, and by Building 5674 to the west. The site is a cleared area that has no buildings or other structures. The area comprising CCRSA-317 was being cleared and graded as part of ongoing construction activities at RSA; during soil grading operations associated with construction activities a heavy equipment operator observed an area of soil that appeared to be burning and emitting a white smoke after the soil had been removed from the area during leveling operations. The area was re-covered with soil and the burning and white smoke ceased. The cause of the smoke is unknown. A visual inspection did not indicate the presence of UXO or pieces of scrap metal that would suggest that munitions were present. After securing the site and stopping all construction activities an additional site visit was completed on April 11, 2013. During visual inspection of the site, a thin layer of black material was observed in the area where the burning and smoking was observed and in many other areas across the site. The origin of this black material is unknown.

The site has a UXO probability of "None". Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

Solid Waste Management Unit Assessment Report was prepared for the site and submitted to ADEM in May 2013. Recommendations for additional investigation at CCRSA-317 are based on site observations limited analytical data and the former documented use of surrounding areas for production of incendiary devices. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. RFI fieldwork was completed in 2022 and concluded that, based on information collected to date, there are no COCs in soil or groundwater requiring corrective measures. The RFI

Report and CMS are expected to be finalized in 2024. There are no key documents currently underway. Current and anticipated future land use is industrial development.

The path forward is to complete the CMS, DES, CMI(C), and LTM phases. The CMIP will be developed during the DES phase and will recommend LTM with LUCs monitoring/maintenance and periodic reviews. During the CMI(C) phase, it is assumed the recommended alternative of LUCs will be implemented to manage the residual on-site risk associated with potential MEC. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1262_RSA-262_CWS WAREHOUSE AREA BLDGS 8021-80

Env Site ID: RSA-262

Cleanup Site: CWS WAREHOUSE AREA BLDGS 8021-80

Alias: RSA-262

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 5/31/2061

RC Reason: Not assigned

SC Date: 6/1/2061

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 2/29/2004 | 5/31/2004 |
| CS: | 5/31/2004 | 6/30/2005 |
| RFI/CMS: | 9/30/2009 | 6/30/2024 |
| DES: | 5/31/2022 | 6/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2024 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 5/31/2061 |
| LTM: | -- | -- |

Site Narrative: RSA-262 is an approximately 50-acre site located in the south-central part of RSA within the former GCWD area. The GCWD warehouses were constructed in 1943 and have been used for storage of inert materials such as spare parts and shipping crates and for rehabilitation of unserviceable munitions and equipment. By 1960 the warehouses became general purpose warehouses. Currently five (8021, 8022, 8023, 8024, and 8026) of the seven warehouses remain and are used primarily for general storage and administrative purposes. Buildings 8025 and 8027 were being demolished during VSI activities conducted in 2004. Approximately 15.2 acres of the site is covered by buildings or a former building slab; the open storage area comprises 8.7 acres, a small area of the site is paved with asphalt roadway, and the remainder of the site is vegetated with maintained grass. RFI data for this site were obtained from numerous investigations beginning in 2004. Sampling targeted potential contaminant source areas identified during reviews of historical information, visual inspections, and phased RFI sampling. Potential sources of contamination include on/off-loading areas associated with warehouse loading docks, a concrete oil and grease service pit associated with Building 8024, and contamination from the open storage area. ADEM concurred with the RFI in August 2018. The ARBCA evaluation provided in the RFI report indicated PAH impacted soil associated with the former oil and grease pit, near Building 8024, poses an unacceptable cumulative risk to human health. The ARBCA evaluation concluded that VOCs, 2-nitrotoluene, and dibenz(a,h)anthracene pose an unacceptable human health risk should groundwater be developed as a potable water source. A screening-level vapor intrusion evaluation showed that VOC concentrations in soil and groundwater do not pose an unacceptable health threat to occupants of future buildings. The remedy for soil is excavation with off-site disposal. Anticipated remedy for groundwater is ISEB, MNA, and LUCs. The current phase is DES. ADEM is currently reviewing Rev. 1 of the CMIP. Based modeling performed during the CMS it is expected to take 35 years of CMI(O) to achieve site closure. There is low potential for off-site migration. Future land use is industrial development. The COCs are VOCs, SVOCs, one explosive, and PAHs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation

boundary. Future phases of work are DES, CMI(C), and CMI(O). It is anticipated that UU/UE will be achieved. MNA, LUCs, annual monitoring reports, and periodic reviews will continue until UU/UE is achieved.

01202.1263_RSA-263_CWS MOTORPOOL(B 8017)/CHANGE HOU

Env Site ID: RSA-263

MRSPP: N/A

Cleanup Site: CWS MOTORPOOL(B 8017)/CHANGE HOU

Alias: RSA-263

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 5/31/2030

RC Reason: Not assigned

SC Date: 6/1/2030

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 2/29/2004 | 5/31/2004 |
| CS: | -- | -- |
| RFI/CMS: | 6/30/2009 | 9/30/2024 |
| DES: | 5/31/2021 | 10/1/2024 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2024 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 5/31/2030 |
| LTM: | -- | -- |

Site Narrative: RSA-263 is a 3.3-acre site located in the south-central area of RSA north of Buxton Road. The site is located within the RSA-154 groundwater site. Current and reasonably anticipated future land use is industrial development. Historical usage included a motor repair building and change house to support GCWD operations prior to 1957. These buildings were later used for general repair and a laboratory and equipment testing building. A former gasoline pump station and motor grease wash stall were also located on the site. A UST was removed in the 1980s. The RFI concluded that the Army’s historical activities at RSA-263 resulted in a release of metals, semi-volatile organic compounds, and volatile organic compounds to surface media. ADEM concurred with the RFI report recommendation of NFA for surface media and an action for groundwater to stay with the RSA-263 surface site. Site COCs are VOCs, SVOCs (PAHs), and metals in groundwater. The potential for off-site migration is low. The RFI/CMS is complete. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Cleanup strategy is to complete the CMIP and DD to address groundwater under this site. Future phases are to complete the CMI(C) and CMI(O). Four years of CMI(O) are estimated based on modeling. The CMS identified the preferred alternative as MNA. It is anticipated that UU/UE will be achieved MNA will continue until UU/UE is achieved.

01202.1268_RSA-269_FORMER UST, BUILDING 7852

Env Site ID: RSA-269

Cleanup Site: FORMER UST, BUILDING 7852

Alias: RSA-269

Regulatory Driver: RCRA-I

RIP Date: 5/31/2021

RC Date: 9/29/2027

RC Reason: Not assigned

SC Date: 9/30/2027

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|---------|------------|------------|
| ISC: | 2/29/2004 | 5/31/2004 |
| INV: | 12/31/2009 | 3/15/2010 |
| CAP: | 3/15/2010 | 10/31/2017 |
| DES: | 8/15/2012 | 1/25/2021 |
| IRA: | -- | -- |
| IMP(C): | -- | -- |
| IMP(O): | 5/31/2021 | 9/29/2027 |
| LTM: | -- | -- |

Site Narrative: RSA-269 is a small area (approximately 0.1 acres) consisting of Building 7852 and a 1000-gallon UST located east of the building and within Test Area 2 on the southern portion of RSA west of Patton Road. Building 7852 was built in 1959 as a pump house in support of operations on Test Area 2. The UST is not included on the list of removed USTs provided by the Redstone Compliance Group and although unlikely it is possible that the UST has been abandoned in place. A VSI and a limited site assessment were conducted in 2005. The RFI was approved by ADEM in August 2017. Site COCs are PAHs and TCE. Surface media has achieved NFA. Baseline groundwater sampling conducted during the DES phase found groundwater at or below cleanup goals. The CMIP, approved by ADEM in January 2021, recommended MNA at the site and submittal of annual monitoring reports. The CMI-C phase was not required since baseline sampling was conducted as a part of the design phase and ADEM approved moving to submittal of annual monitoring reports. The current phase of work is three years of monitoring in CMI(O). This will be extended as the remediation goal for the site will not be met in three years. The remedy is MNA. There is low potential for off-site migration. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and future land use is industrial development. MNA and LUCs will continue until UU/UE is achieved.

01202.1269_RSA-271_FORMER BOILER HOUSE, BUILDING 77

Env Site ID: RSA-271

Cleanup Site: FORMER BOILER HOUSE, BUILDING 77

Alias: RSA-271

Regulatory Driver: RCRA-C

RIP Date: 9/2/2025

RC Date: 9/2/2054

RC Reason: Not assigned

SC Date: 9/3/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Medium

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 2/29/2004 | 6/30/2005 |
| CS: | 12/31/2009 | 3/31/2010 |
| RFI/CMS: | 3/15/2010 | 5/30/2024 |
| DES: | 3/15/2017 | 5/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 9/1/2022 | 9/1/2025 |
| CMI(O): | 9/2/2025 | 9/2/2054 |
| LTM: | -- | -- |

Site Narrative: RSA-271 is a 0.25-acre site located between the intersections of Raven Road and Curlew Drive along Eagle Road in the North Plant area of lower southeast RSA. The former boiler house (Building 7729) is the location of a former UST used to support this operation. During ROP operations, Building 7729 was used as a steam heating plant. The building has been demolished and the site currently has no buildings within its footprint. The site lies within the Raytheon Missile Facility Operation area. A list of removed USTs indicates that a 2800-gallon steel UST (installation date unknown) was removed in September 1998. During the steam house/boiler operations the UST was used to store No. 2 Fuel Oil. Investigative and remedial actions began at the site in 1996 when the site was included in a Phase 1 assessment of the RARE North Plant area performed by Thiokol. In 1998 the installation collected the first samples as part of an assessment targeting the UST and hotwell/blowoff areas. Records show the UST was removed in the same year although no post-removal sample data is available. Petroleum range organics were found in six locations collected in 2005 with the highest concentrations within the former UST pit. No SVOC/PAH compounds were present in soils above screening levels. Groundwater samples contained petroleum range organics and PAH compounds at levels above screening levels. In 2010, limited sampling was conducted at the former UST pit to collect samples for potential waste characterization. In addition, during ongoing construction actions at the site in fall 2011, the former blowout/hotwell was compromised resulting in a release. The post-response surface soil samples were collected in accordance with ADEM's petroleum spill response requirements. The RFI was approved in April 2020 recommending action for soils and groundwater. The RFI's ARBCA evaluation found manganese, 1-methylnaphthalene, dibenz(a,h)anthracene, TCE, perchlorate, and 2-nitrotoluene present in groundwater at concentrations that pose an unacceptable human health risk if groundwater is developed as a potable water source. The RFI concluded that 1-methylnaphthalene and naphthalene were leaching threats to groundwater; however, later modeling data provided in the CMS and a re-evaluation of the risk assessment determined that action for surface media is not required. The CMI(P), approved by ADEM in August 2022, requires soil sampling to verify the CMS model. Path forward is to

complete the DD, permit modification, CMI(C), and 30 years of CMI(O). The design optimization results identified an exceedance of naphthalene that poses an ongoing leaching threat to groundwater at the point of compliance. Soil excavation with off-site disposal is planned for fall 2024 when the water table is low enough for excavation. Anticipated remedy for groundwater is MNA over a period of 26-years based on modeling contained in REV 1 CMI(P) Site COCs are VOCs, SVOCs, explosives, perchlorate, and manganese. Future land use for the site is industrial development and potential for off-site migration is low. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Contaminant concentrations in groundwater will be remediated to a level that allows for UU/UE. MNA, LUCs to manage use of groundwater, annual monitoring reports, and periodic reviews are required until groundwater cleanup goals are achieved.

01202.1284_CCSWMU-008_SEWAGE TREATMENT PLANT #4

Env Site ID: CCSWMU-008

Cleanup Site: SEWAGE TREATMENT PLANT #4

Alias: RSA-008

Regulatory Driver: RCRA-C

RIP Date: 11/1/2025

RC Date: 11/1/2034

RC Reason: Not assigned

SC Date: 11/2/2034

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 8/31/1989 | 9/30/1991 |
| CS: | -- | -- |
| RFI/CMS: | 9/30/2004 | 11/30/2024 |
| DES: | 4/1/2023 | 12/31/2024 |
| IRA: | -- | -- |
| CMI(C): | 12/31/2024 | 11/1/2025 |
| CMI(O): | 11/1/2025 | 11/1/2034 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-008 Sewage Treatment Plant No. 4 is located in the northeastern section of RSA north of Martin Road east of Patton Road south of Hansen Road and west of McDonald Creek. The in-ground concrete facility was constructed in 1959 and removed from active service in 1992; however, the sewage treatment plant has the capability to be still used on an as needed basis. The plant was used for treatment of sewage and wastewater generated in the northern portion of RSA. CCSWMU-008 also received floor wash water from some of the research labs and motor pools as well as water separated by the OWSs located in the area. The RFI was approved by ADEM in July 2020 which recommended NFA for soils and MNA for groundwater based on modeling of a 10-year duration. The COCs for the site are VOCs (TCE), pesticides (4,4'-dichlorodiphenyldichloroethane (DDD); dichlorodiphenyldichloroethene (DDE) and alpha hexachlorocyclohexane dieldrin), and metals (arsenic). The current phase to complete is the RFI/CMS and DES The Rev-0 CMIP was submitted on Dec. 1, 2023. Future phases are CMI(C) and CMI(O). Current and future use will be continued use as a sewer lift station and surge capacity. Potential for off-site migration is low. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is anticipated that UU/UE will be achieved. MNA, LUCs and periodic reviews are required until UU/UE is achieved.

01202.1285_CCSWMU-291_UST AT FORMER BLDG T-3162 (ST

Env Site ID: CCSWMU-291

Cleanup Site: UST AT FORMER BLDG T-3162 (ST

Alias: RSA-291

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/1/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 4/30/2007 | 1/31/2008 |
| CS: | -- | -- |
| RFI/CMS: | 1/31/2008 | 5/31/2026 |
| DES: | 5/31/2024 | 5/31/2026 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2026 | 5/31/2028 |
| CMI(O): | 6/1/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-291 is located in the northeastern portion of RSA south of Bob Wallace Avenue and west of Patton Road. The site is in a non-contiguous parcel outside of the main boundary fence but still within the installation. Land use allows for housing quality of life venues and childcare and educational facilities. The area is currently used by the US Army Reserve Center for training purposes and that use will continue into the foreseeable future. Building T-3162 was built in 1942 as a boiler house. The facility operated as a steam plant through 1976 and was demolished by 1983. Records documenting the removal of USTs at T-3162 are not available. Site COCs are SVOCs (i.e., PAHs) in groundwater. Contamination is migrating off-site towards a residential area. The RFI was approved in 2023. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The cleanup strategy is NFA for soils and corrective action for groundwater. Groundwater will be addressed under this site. Future phases of work are to complete the RFI/CMS, DES, CMI(C), and CMI(O). The anticipated groundwater remedy is MNA. It is anticipated that groundwater contaminant concentration at RSA-291 will not be remediated to a level allowing for UU/UE. MNA LUCs and periodic reviews are required indefinitely.

01202.1286_CCSWMU-293_FORMER USTs AT BLDG 3639

Env Site ID: CCSWMU-293

Cleanup Site: FORMER USTs AT BLDG 3639

Alias: RSA-293

Regulatory Driver: RCRA-C

RIP Date: 9/30/2027

RC Date: 9/30/2056

RC Reason: Not assigned

SC Date: 10/1/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 1/31/2004 | 1/31/2008 |
| CS: | -- | -- |
| RFI/CMS: | 5/15/2013 | 4/30/2024 |
| DES: | 10/1/2024 | 9/29/2025 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2025 | 9/30/2027 |
| CMI(O): | 9/30/2027 | 9/30/2056 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-293 is located in the eastern portion of RSA east of Patriot Drive West of Patton Road and North of Overlook Road. Building 3639 was used as a screening and proportioning building for various mix components (105-millimeter M-1 white and M-2 colored smoke canisters) in the 1940s. In the 1950s Building 3639 was converted to a gasoline/diesel fueling station. Five USTs were removed from CCSWMU-293 in 1996. There are no COCs for soil. Explosives, VOCs (Benzene), and SVOCs are COCs in groundwater. The RFI report is complete which recommended NFA for soils and corrective measures for groundwater was approved by ADEM in a letter dated April 6, 2021. Path forward includes completing the RFI/CMS, DES, CMI(C), and CMI(O). Corrective measures for RSA-321 will be combined with RSA-293 for CMS, DES, CMI(C), and CMIO phases. The current and future land use for the site is industrial and the potential for off-site migration is low. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is not anticipated that UU/UE will be achieved. MNA LUCs and periodic reviews are required indefinitely.

01202.1292_CCSWMU-028_IN-GROUND OWS 5693 AREA

Env Site ID: CCSWMU-028

Cleanup Site: IN-GROUND OWS 5693 AREA

Alias: RSA-028

Regulatory Driver: RCRA-C

RIP Date: 5/31/2029

RC Date: 5/31/2051

RC Reason: Not assigned

SC Date: 6/1/2051

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 8/31/1989 | 9/30/1991 |
| CS: | 1/31/2000 | 10/31/2001 |
| RFI/CMS: | 3/31/2011 | 5/31/2026 |
| DES: | 5/31/2024 | 5/31/2026 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2026 | 5/31/2029 |
| CMI(O): | 5/31/2029 | 5/31/2051 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-028 is a 17.64-acre site located in the 5693 POL Yard product storage area in the Central portion of RSA near Huntsville Spring Branch. CCSWMU-028 consisted of four in-ground oil-water separators located within the confines of the RSA POL storage yard. The four oil/water separators (OWS) have been removed. The evidence suggests that the total petroleum hydrocarbons (TPH) detected in soil and groundwater could have potentially come from sources other than the OWS. Numerous sources including ASTs and pipelines used to store and transfer petroleum fuels are located in the immediate area surrounding CCSWMU-028. Further investigation at CCSWMU-028 encompassed the POL storage yard and surrounding areas. The cleanup strategy for CCSWMU-028 assumes that the clean-up will incorporate the entire area associated with the RSA POL Fuel Storage Yard into studies and corrective actions. Corrective action will be required for groundwater with dig and haul for soils of CCSWMU-028 and the RSA POL Fuel Storage Yard. Site COCs found to be exceeding baseline screening values and/or RSLs and exhibiting a potential leaching concern to groundwater from surface media are VOCs POL and metals. Groundwater under CCSWMU-E (01202.1283) is part of a multi-site plume from CCSWMU-028 and will be addressed under this site. The RFI is complete. Future work to be completed includes completion of DES, CMI(C), and CMI(O). CMI(O) is expected to be 22 years based on modeling from the CMS. Future land uses for the site are industrial/maintenance purposes and potential for off-site migration is low. It is anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews are required until UU/UE is achieved. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary.

01202.1293_CCSWMU-306_STEAM HEATING PLANT, BLDG 729

Env Site ID: CCSWMU-306

Cleanup Site: STEAM HEATING PLANT, BLDG 729

Alias: RSA-306

Regulatory Driver: RCRA-C

RIP Date: 5/31/2025

RC Date: 5/31/2054

RC Reason: Not assigned

SC Date: 6/1/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 3/31/2008 | 5/31/2008 |
| CS: | -- | -- |
| RFI/CMS: | 7/31/2009 | 9/30/2024 |
| DES: | 5/31/2021 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2024 | 5/31/2025 |
| CMI(O): | 5/31/2025 | 5/31/2054 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-306 (Building 7291) is a 0.1-acre site located south of Redstone Road and east of Line Road in the northern portion of the former RARE South Plant area in the southeast portion of RSA. The current and reasonably anticipated future land use is industrial (Research Development Testing and Evaluation). The site includes Building 7291, a concrete sump, OWS and a water conditioning vault. Building 7291 was constructed as a steam heating plant/boiler house and includes two 15,000-gallon steel No. 2 fuel oil USTs on the east side of the building. The USTs were removed in February 1996 and replaced with one 10,000-gallon AST. Site COCs are VOCs and SVOCs. There is no potential for off-post migration. ADEM has concurred with the RFI report's recommendation of NFA for surface media with an action for groundwater contamination under the surface site. The current phases are the RFI/CMS and DES phase which will include assessment of free-product. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The cleanup strategy is to complete the future RFI/CMS, CMI(C) and CMI(O) phases. Documents(s) in progress include the DD. The anticipated remedy is light non-aqueous phase liquid recovery, MNA and LUCs. Achievement of UU/UE status is not anticipated. MNA, LUCs and periodic reviews are required indefinitely.

01202.1297_CCSWMU-304_OWS,WASHRACK&SUMP ADJACENT TO

Env Site ID: CCSWMU-304

Cleanup Site: OWS,WASHRACK&SUMP ADJACENT TO

Alias: RSA-304

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/1/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 3/31/2008 | 5/31/2008 |
| CS: | -- | -- |
| RFI/CMS: | 7/31/2009 | 5/15/2025 |
| DES: | 3/29/2023 | 5/15/2025 |
| IRA: | -- | -- |
| CMI(C): | 5/15/2025 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-304 (Building 5498) is located in the eastern portion of RSA east of Miles Road and north of Stewart Road. The original washrack and OWS at Building 5498 were constructed around 1979. Available information indicates that the washrack was historically and currently being used for washing vehicles and equipment associated with maintenance activities completed at RSA. The SWMU consists of the concrete washing area settling basins and OWS. The original OWS was replaced with a 3000-gallon doubled walled fiberglass and enhanced coalescing OWS in 2002. This is the new central OWS. It became operational in 2004. The washrack and sump were existing prior to the installation of the OWS. Due to the close proximity and similar contaminants a combined RFI for RSA-304/RSA-320 was completed and approved by ADEM in December 2022. The constituents that shall be addressed as part of the remedial action for surface media at RSA-304 are benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; heptachlor epoxide; and hexachlorobenzene. The constituents that shall be addressed as part of the remedial action for groundwater at RSA-304 and RSA-320 are DDD, DDE, 1,1,2,2-tetrachloroethane (TeCA); aldrin, alpha- hexachlorocyclohexane (alpha-BHC); benzo(a)anthracene; bis(2-chloroethyl) ether; dibenz(a,h)anthracene; dieldrin; endrin ketone; heptachlor epoxide; naphthalene; and zinc. As they were released from RSA-226 and RSA-227, the constituents 1,1-dichloroethene (DCE) and TCE shall be addressed as part of the corrective measures for groundwater at the RSA-147/148/149 Groundwater Units. The anticipated remedy for soils is excavation and off-site disposal. The anticipated remedy for groundwater is MNA and LUCs to manage the use of groundwater. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Path forward is to complete the CMS, permit modification, CMI(C), and CMI(O). The current and future land use for the site is industrial and the potential for off-site migration is low. It is not anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews are required indefinitely.

01202.1303_CCSWMU-009_INACTIVE SEWAGE TREATMENT PLA

Env Site ID: CCSWMU-009

Cleanup Site: INACTIVE SEWAGE TREATMENT PLA

Alias: RSA- 009

Regulatory Driver: RCRA-C

RIP Date: 10/1/2025

RC Date: 5/31/2028

RC Reason: Not assigned

SC Date: 6/1/2028

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 8/31/1989 | 9/30/1991 |
| CS: | -- | -- |
| RFI/CMS: | 2/28/2007 | 11/5/2020 |
| DES: | 5/15/2012 | 11/5/2020 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2021 | 9/30/2025 |
| CMI(O): | 10/1/2025 | 5/31/2028 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-009 Inactive Sewage Treatment Plant No. 3 is located in the northeastern portion of RSA, north of Martin Road. The treatment plant was originally constructed in 1942. The plant was operated under a National Pollution Discharge Elimination System permit allowing a monthly flow of 2.0 million gallons per day. The treatment plant historically treated sewage generated in the central portion of RSA as well as discharges from the MSFC. Potential sources of contamination include spills, subsurface discharges, and leaks from piping, sludge drying beds, clarifiers, and the trickling filter. The plant ceased treatment of sewage in 1992 but remains functional. The current use of the plant is only for storage of raw sewage when operation concerns with other treatment plants or pipeline repairs require diversion of flow. The efforts to complete the RFI were funded and began in 2007. Delays in completing the investigation due to archeological concerns were identified in January 2008. Data from the RFI indicates that PCBs and PAHs are COCs in soils above ARBCA action levels and require corrective action. PAHs were found present at levels above RSLs for groundwater in one well at the site and require corrective action. The CMIP was approved by ADEM in September 2018. The planned remedy is excavation with off-site disposal for contaminated soils and monitoring of PAHs in one groundwater monitoring well. CMI(C) field work for excavation and disposal of soils began in August of 2022. Soils placed in the sludge drying beds during the previous archeological investigation were disposed of off-site as well during corrective measure fieldwork. During CMI-C, multiple over excavations of soils were required. Soils with PCB contamination at levels present above the Toxic Substances Contract Act (TSCA) limit of 50 mg/kg were present in soils at the site not outlined in the original CMIP. The Army plans to end the current fieldwork and submit a Corrective Measure Report to ADEM summarizing the excavation and recommending follow up sampling to better delineated the PCB contamination in soils before continuing excavation. The path forward includes completing CMI(C) and CMI(O). The remedy is soil excavation and off-site disposal to residential levels. Three years of groundwater monitoring are anticipated for PAHs in one well to verify that levels are below RSLs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation

boundary. Administrative LUCs will remain in place preventing potable use of groundwater until clean up goals are achieved. Current and future land use is industrial. There is no potential for off-site migration. It is anticipated that UU/UE will be achieved. Groundwater monitoring, LUCs, and periodic reviews will continue until site closure.

01202.1306_CCSWMU-116_SOUTH SIDE BLOWDOWN LAGOON, T

Env Site ID: CCSWMU-116

Cleanup Site: SOUTH SIDE BLOWDOWN LAGOON, T

Alias: RSA-116

Regulatory Driver: RCRA-C

RIP Date: 5/31/2026

RC Date: 5/31/2031

RC Reason: Not assigned

SC Date: 6/1/2031

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 8/31/1989 | 9/30/1991 |
| CS: | 10/31/2010 | 10/15/2012 |
| RFI/CMS: | 10/15/2012 | 9/30/2024 |
| DES: | 9/19/2023 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 7/1/2025 | 5/31/2026 |
| CMI(O): | 5/31/2026 | 5/31/2031 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-116 (RSA-116) is an approximately 4.5-acre site located in the southern portion of RSA south of Buxton and Pershing roads on the south side of Test Area 5. CCSWMU-116 was originally constructed as a holding basin for spent cooling water discharged during rocket motor test firing at Test Stand 8879. The cooling water was mixed with rocket motor exhaust. The spent cooling water was held in the lagoon and evaporated and/or percolated through the soil. There is a release structure at the base of the lagoon for drainage to the creek. In 1993 the lagoon was upgraded lined with a synthetic membrane and an 8-foot chain link fence was installed. The site is still used to capture water used during the static testing of rocket motors. The final RCRA confirmation sampling report South-Side Blowdown Lagoon Test Area 5 CCSWMU-116 was submitted to ADEM on May 8, 2006. The RFI recommended NFA for soils with five years of MNA for groundwater based on modeling to address the COCs VOCs, PAHs, and nitroaromatics. The RFI was approved by the ADEM in a letter dated May 26, 2021. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Path forward is to complete the RFI/CMS, DES, CMI(C), and CMI(O). Future land use for the site is research development testing and evaluation. Potential for off-site migration is low. Contaminant concentration for groundwater will be remediated to a level that allows for UU/UE. MNA, LUCs, and periodic reviews are required until UU/UE is achieved.

01202.1309_CCSWMU-003_IN-GROUND OIL/WATER SEPARATOR

Env Site ID: CCSWMU-003

Cleanup Site: IN-GROUND OIL/WATER SEPARATOR

Alias: RSA-003

Regulatory Driver: RCRA-C

RIP Date: 5/31/2025

RC Date: 1/30/2062

RC Reason: Not assigned

SC Date: 1/31/2062

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 8/31/1989 | 9/30/1991 |
| CS: | 1/31/2000 | 10/31/2001 |
| RFI/CMS: | 2/29/2004 | 11/5/2020 |
| DES: | 5/15/2012 | 11/5/2020 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2021 | 5/31/2025 |
| CMI(O): | 1/30/2024 | 1/30/2062 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-003 is a 0.09-acre site located outside Building 3617 in the northeast portion of RSA. The site contained an in-ground OWS that received waste lubricant oils grease and detergents from vehicle maintenance activities until 1997. The previous in-ground OWS was replaced by a new in-ground OWS. Potential spills and leaks from the OWS may have provided a pathway for VOCs and SVOCs to impact surface and subsurface soil and groundwater. Groundwater contains TPH, TCE, DCE, dichloroethane and vinyl chloride above maximum contaminant level. The supplemental RFI and an ARBCA human health risk evaluation identified six VOC COCs in groundwater (TCE and its break down products) and explosives that warrant corrective action. ADEM concurred with the RFI Report's recommendation for NFA for surface media in December 2015. The CMIP was approved in October 2018 for groundwater to be addressed. The DD was submitted in May 2017, updated in June 2020, and ultimately approved Nov. 5, 2020 by the Garrison Commander. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The path forward is to complete CMI(C) and CMI(O). ISEB injections were performed in August 2023. MNA and LUCs are anticipated for groundwater. LUCs consist of administrative controls to manage the use of groundwater until clean up goals are achieved. Based on modeling performed during the CMS, 38 years of monitoring are projected prior to site closure. Current and future land use for the site is commercial and industrial. The potential for off-site migration is low. It is anticipated that groundwater contaminant concentration at CCSWMU-003 will be remediated to a level that does allow for UU/UE. MNA, LUCs, annual reports, and periodic reviews will be required until the site reaches UU/UE.

01202.1311_CCRSA-308_Exterior Sump at Bldg 7120

Env Site ID: CCRSA-308

Cleanup Site: Exterior Sump at Bldg 7120

Alias: RSA-308

Regulatory Driver: RCRA-C

RIP Date: 9/30/2025

RC Date: 9/29/2045

RC Reason: Not assigned

SC Date: 9/30/2045

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 8/31/2009 | 10/31/2009 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2012 | 9/30/2024 |
| DES: | 5/15/2021 | 9/30/2024 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2024 | 9/30/2025 |
| CMI(O): | 9/30/2025 | 9/29/2045 |
| LTM: | -- | -- |

Site Narrative: CCRSA-308 is a 0.01-acre site located in the southeastern portion of RSA just northeast of the intersection of Redstone Road and Line Road outside Building 7120. Building 7120 was built in 1945 to serve as the Ordnance Missile Laboratories propulsion laboratory and auditorium. It contains offices an auditorium, a maintenance shop, laboratories and a 28-bay propellant mixing/testing area. The majority of activities conducted were related to physical tests of rockets and missiles to better understand flight mechanics and design physics. These activities included propellant mixing casting curing testing painting and/or degreasing. Current activities conducted in the test bays include mixing and testing of small batches of propellants. ADEM concurred with the RFI in March 2017 which recommends corrective measures for soil and a groundwater action for the following COCs – perchlorate, explosives, and PAHs. Groundwater will be addressed with the surface site. No active corrective measures for soil will be conducted. Soil excavation at this location is not practical due to the presence of a nearby building. The preferred corrective measure alternative is soil contamination monitoring through groundwater concentration reduction for soil and MNA for groundwater. Based on modeling performed during the CMS, 20 years of monitoring are projected prior to site closure. The CMIP was approved in January 2024. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The path forward includes completion of the SB/DD, permit modification, DES, CMI(C), and CMI(O). Current and future use for the site is research development testing and evaluation. Potential for off-site migration is low. It is anticipated that UU/UE will be achieved. MNA LUCs and periodic reviews are required until UU/UE is achieved.

01202.1314_CCRSA-311_SUMP & CONCRETE PITS AT BLDG 7

Env Site ID: CCRSA-311

Cleanup Site: SUMP & CONCRETE PITS AT BLDG 7

Alias: RSA-311

Regulatory Driver: RCRA-C

RIP Date: 11/15/2026

RC Date: 11/15/2055

RC Reason: Not assigned

SC Date: 11/16/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 8/31/2009 | 10/31/2009 |
| CS: | -- | -- |
| RFI/CMS: | 4/30/2011 | 5/30/2024 |
| DES: | 3/15/2023 | 10/15/2024 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2024 | 11/15/2026 |
| CMI(O): | 11/15/2026 | 11/15/2055 |
| LTM: | -- | -- |

Site Narrative: CCRSA-311 is a 0.08-acre site located in the southeastern portion of RSA just northwest of the intersection of Flicker Road and Swallow Road within Test Area 10. Building 7352 was constructed in 1989 as a bowl and wastewater clean-up facility for equipment and tools used in propellant mixing and casting at nearby facilities. Building 7352 is now used to support Research and Development activities for a missile propellant recycling program. The recycling process uses anhydrous ammonia to dissolve and remove propellant materials from missile housings. Currently the building is closed, and access is restricted following a May 2010 propellant explosion. There is the potential for the presence of hazardous constituents in the sumps and pits. The RFI report which recommended NFA for the surface media/soil and corrective measures for the groundwater for the COCs TCE, explosives, and perchlorate was approved by ADEM in a letter dated Feb. 2, 2021. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. The path forward is to complete the, DD, permit modification, DES, and CMI(C). Current and future land use for the site is research development testing and evaluation. Potential for off-site migration is low. It is not anticipated that UU/UE will be achieved. MNA LUCs and periodic reviews are required indefinitely.

01202.1317_CCRSA-314_Used Oil AST & Spill site Bldg

Env Site ID: CCRSA-314

Cleanup Site: Used Oil AST & Spill site Bldg

Alias: RSA-314

Regulatory Driver: RCRA-C

RIP Date: 7/1/2026

RC Date: 7/2/2030

RC Reason: Not assigned

SC Date: 7/3/2030

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 9/30/2010 | 11/30/2010 |
| CS: | -- | -- |
| RFI/CMS: | 4/30/2011 | 5/31/2024 |
| DES: | 3/15/2023 | 6/30/2025 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2024 | 7/1/2026 |
| CMI(O): | 7/2/2026 | 7/2/2030 |
| LTM: | -- | -- |

Site Narrative: CCRSA-314 is a 0.01-acre site located in the eastern portion of RSA in the motor pool area west of Patton Road. The site consists of the used oil aboveground storage tank (AST) and spill site located near Building 3670. Building 3670 is the heavy equipment (e.g., bulldozer and forklift) maintenance facility. The AST was installed in 1992. It has a capacity of 2000 gallons. Reportedly fewer than 25 gallons of used oil were spilled at this location as a result of a failure of the overfill alarm. During the tank removal the presence of contamination at a depth of four feet indicated that the spill was likely larger than reported and that additional investigations were required. Due to high levels of petroleum contamination in the soil this area was identified as a new SWMU. In 2013 during the Phase II investigation free-product up to one foot thick was discovered in four monitoring wells. The RFI report was approved by ADEM in August 2020 recommending corrective measures for soil and groundwater. It is anticipated that excavation and off-site disposal will be the remedy for soils. Corrective actions for groundwater may include MNA and LUCs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and future land use for the site is industrial. There is low potential for off-site migration. Site COCs are VOCs, SVOCs, POL, and metals. Future phases of work are DES, CMI(C), and CMI(O). It is anticipated that groundwater contaminant concentration at RSA-314 will be remediated to a level that allows for UU/UE. MNA, LUCs and periodic reviews are required until UU/UE is achieved.

01202.1323_MSFC-033A_SURFACE SOIL EAST OF BLDG 4816

Env Site ID: MSFC-033A

Cleanup Site: SURFACE SOIL EAST OF BLDG 4816

Alias: MSFC-033A

Regulatory Driver: RCRA-C

RIP Date: 9/29/2024

RC Date: 9/29/2024

RC Reason: Not assigned

SC Date: 10/1/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Low

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 10/15/2010 | 12/15/2010 |
| CS: | -- | -- |
| RFI/CMS: | 5/15/2012 | 5/15/2017 |
| DES: | 5/31/2017 | 10/22/2018 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2021 | 9/29/2024 |
| CMI(O): | -- | -- |
| LTM: | 9/30/2024 | 9/30/2053 |

Site Narrative: MSFC-033A, located on the east side of Building 4815 which is adjacent to the Redstone Army Airfield runway, is an area where soil was inadvertently relocated from a portion of site MSFC-033. NASA site MSFC-033 was a waste accumulation area for the MSFC Maintenance and Supply Operations area at the Redstone Army Airfield Buildings 4815, 4816, and 4817. The unit was approximately 3 feet (ft) by 16 ft concrete apron adjacent to Building 4815. Waste handled included waste mineral spirits and lube oil, waste sand blast residue and waste JP-4 fuel. MSFC-033 is no longer present and has been covered by an addition to Building 4815. However, during the construction of the building addition in 2011, soils from MSFC-033 were relocated immediately adjacent to the eastern wall of the addition, which resulted in the creation of Army site MSFC-033A. To evaluate the nature and extent of potential contaminants at MSFC-033A, surface soil and subsurface soil samples were collected, and PAH compounds were identified as exceeding soil screening levels. This area was identified as a new RCRA SWMU in December 2010 as requested by ADEM. The fieldwork has been completed and the Rev 0 RFI Report was submitted in April 2015, ADEM concurred with the RFI report in October 2015 which recommended LUCs based on the premise that soils under the building are not accessible to properly investigate. Corrective measures field activities were completed in December 2021 and the corrective measures report was submitted to ADEM for review and/or approval in November 2022. Responsibility for groundwater remediation has been deferred to NASA. It is not anticipated that UU/UE will be achieved. LUCS and periodic reviews are required indefinitely.

01202.1388_CCRSA-320_PARKING/EQUIPMENT STAGING AREA

Env Site ID: CCRSA-320

Cleanup Site: PARKING/EQUIPMENT STAGING AREA

Alias: RSA-320

Regulatory Driver: RCRA-C

RIP Date: 5/31/2028

RC Date: 5/31/2057

RC Reason: Not assigned

SC Date: 6/1/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 12/15/2014 | 6/15/2015 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/2015 | 5/15/2025 |
| DES: | 3/29/2023 | 5/15/2025 |
| IRA: | -- | -- |
| CMI(C): | 5/15/2025 | 5/31/2028 |
| CMI(O): | 5/31/2028 | 5/31/2057 |
| LTM: | -- | -- |

Site Narrative: CCRSA-320 is a 1.55-acre parking and equipment staging area located in the maintenance shop complex in the central portion of RSA. A review of available historical records indicates that the general area which includes CCRSA-320 has been active since 1943. Historical aerial photographs indicate that the area identified as CCRSA-320 has been used for vehicle parking and staging since at least 1964. Surface soils within this area contain PAHs at concentrations exceeding the RSA-specific RSLs. CCRSA-320 was identified as new SWMU in a Dec. 18, 2014 and a notification letter provided to ADEM. The SWMU assessment report concluded that soils have been potentially impacted by activities associated with the parking/staging area. PAH sources may include tar from the degrading asphalt road area or oil grease and hydraulic fluid leaks from equipment being parked/staged in the area. Due to the close proximity and similar contaminants a combined RFI for RSA-304/RSA-320 was approved by ADEM in December 2022. The constituents that shall be addressed as part of the remedial action for groundwater at RSA-304 and RSA-320 are DDD; DDE; 1,1,2,2-tetrachloroethane (TeCA); aldrin, alpha-hexachlorocyclohexane (alpha-BHC); benzo(a)anthracene; bis(2-chloroethyl) ether; dibenz(a,h)anthracene; dieldrin; endrin ketone; heptachlor epoxide; naphthalene; and zinc. As they were released from RSA-226 and RSA-227, the constituents DCE and TCE shall be addressed as part of the corrective measures for groundwater at the RSA-147/148/149 Groundwater Units. The anticipated remedy for groundwater is MNA. The path forward is to complete the CMS, DES, CMI-C, and CMI-O phases. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. There is low potential for off-site migration. Current and future land use is industrial. It is not anticipated that UU/UE will be achieved. MNA, LUCs, and periodic reviews are required indefinitely.

01202.1389_CCRSA-321_CLEARED AREA E & NE BLDG 3639

Env Site ID: CCRSA-321

Cleanup Site: CLEARED AREA E & NE BLDG 3639

Alias: RSA-321

Regulatory Driver: RCRA-C

RIP Date: 5/31/2027

RC Date: 5/31/2056

RC Reason: Not assigned

SC Date: 9/30/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 3/15/2015 | 5/15/2015 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2015 | 5/31/2025 |
| DES: | 10/1/2024 | 9/29/2025 |
| IRA: | -- | -- |
| CMI(C): | 9/30/2025 | 9/29/2027 |
| CMI(O): | 9/29/2027 | 9/29/2056 |
| LTM: | -- | -- |

Site Narrative: CCRSA-321 is a 3.58-acre cleared area located to the east and northeast of Building 3639 (CCRSA-293) in the northeastern portion of RSA. It is located in the area identified with the former Smoke Munitions and Filling Plant #2 of the Army's ROP and has an extensive operational history. Historical records indicate that Building 3639 was used as a screening and proportioning smoke components building. E3637 directly across Patriot Drive was designated as a powder magazine. Buildings to the left were used for warehousing operations and maintenance activities. An aerial photograph from 1956 indicates an area of soil disturbance (cleared area) behind and to the north of Building 3639 which is not visible in the photograph from 1959. A similar cleared area is visible in the photograph from 1961 but not in the photograph from 1965. There is also some evidence that a drain field and/or septic system associated with Building 3639 may be present in the area. The cleared areas are impacted by detections of PAHs in soil to the east and north of CCRSA-293. PAHs and benzene were detected in groundwater at concentrations above RSLs. CCRSA-321 was identified as a new SWMU in a March 10, 2015 and a notification letter provided to ADEM. A SWMU assessment report recommended that CCRSA-321 be added to RSA's permit as a new site requiring an RFI. The RFI report which recommended NFA for soils and MNA for groundwater was approved by ADEM in a letter dated Jan. 11, 2023. Corrective measures for CCRSA-321 will be combined with RSA-293 during the CMS, DES, CMI(C) and CMI(O) phases. There is low potential for off-site migration. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Current and future land use is industrial. It is not anticipated that UU/UE will be achieved. MNA LUCs and periodic reviews are required indefinitely.

01202.1400_CCSWMU-286_BOILER/STEAM PLANT, BLDG 3624

Env Site ID: CCSWMU-286

Cleanup Site: BOILER/STEAM PLANT, BLDG 3624

Alias: RSA-286

Regulatory Driver: RCRA-C

RIP Date: 5/31/2027

RC Date: 5/31/2056

RC Reason: Not assigned

SC Date: 6/1/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: Not Evaluated

MRSPP: N/A

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 1/15/2004 | 1/15/2008 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2008 | 9/18/2025 |
| DES: | 3/29/2023 | 9/18/2025 |
| IRA: | -- | -- |
| CMI(C): | 5/31/2025 | 5/31/2027 |
| CMI(O): | 5/31/2027 | 5/31/2056 |
| LTM: | -- | -- |

Site Narrative: CCSWMU-286 is a 0.33-acre site located in the eastern portion of RSA east of Ajax Road and south Gray Road. CCSWMU-286 is 8253 square feet and was constructed as boiler house in 1943. Building 3624 was constructed as a coal fired boiler. The boiler was replaced in 1960 with four new water-tube boilers. The boiler was then fueled with natural gas and fuel oil as standby. Due to the long history of use of the building as a boiler releases of boiler chemicals and POL from AST pipelines and operational activities occurred during past operations. COCs include metals and PAHs. The RFI was approved in March 2021 and recommends corrective measures for soil and groundwater. The future phases are to complete the RFI/CMS, DES, CMI(C), and CMI(O). The future land use for the site is administration purposes and the potential for off-site migration is low. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is not anticipated that UU/UE will be achieved. MNA LUCs and periodic reviews are required indefinitely.

01202.1414_RSA-PFAS_PFAS

Env Site ID: RSA-PFAS

Cleanup Site: PFAS

Alias: RSA-PFAS

Regulatory Driver: CERCLA

RIP Date: 12/1/2028

RC Date: 12/1/2028

RC Reason: Not assigned

SC Date: 12/2/2028

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE:

MRSPP: N/A

| Phase | Start | End |
|--------|-----------|-----------|
| PA: | 5/21/2018 | 9/15/2019 |
| SI: | 3/15/2020 | 3/15/2022 |
| RI/FS: | 10/1/2021 | 12/1/2028 |
| RD: | -- | -- |
| IRA: | -- | -- |
| RA(C): | -- | -- |
| RA(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: RSA-PFAS site includes all noncontiguous areas where per- and polyfluoroalkyl substances (PFAS) are known or suspected to have been used. PFAS are widely used chemicals found in aqueous film forming foam for testing training firefighting and other life-saving emergency responses. A PA/SI was conducted to identify releases to the environment at the installation. The PA was completed in 2019 and found 21 possible areas of potential interest where PFAS contamination is suspected to be present. After moving into the SI phase in 2020 it was determined that only 10 sites either have exceeded the Office of Secretary of Defense defined screening levels for PFAS constituents in groundwater and/or have data supporting further investigation. As a result, 10 of the areas of potential concern will move forward to begin an RI. Path forward is to complete the RI/FS phase.

01202.1005_MSFC-035_INACTIVE SUMP/TILED DRAIN FIELD

Env Site ID: MSFC-035

Cleanup Site: INACTIVE SUMP/TILED DRAIN FIELD

Alias: MSFC-035

Regulatory Driver: RCRA-C

RIP Date: 9/30/2036

RC Date: 9/30/2036

RC Reason: Not assigned

SC Date: 10/2/2065

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1995 | 11/30/2011 |
| RFI/CMS: | 3/31/2011 | 8/30/2033 |
| DES: | 10/1/2030 | 9/30/2033 |
| IRA: | 3/31/2011 | 9/30/2026 |
| CMI(C): | 10/1/2033 | 9/30/2036 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2036 | 10/1/2065 |

Site Narrative: Site 01202.1005 (alias MSFC-035) is an approximately 10-acre site located on RSA and within the MSFC east test stand area. The site contains a concrete-lined sump and tile drain field and former prisoner of war camp that was believed to have been operational for a few years during WWII. Scrap separation activities and two burn pits for waste pyrogel (magnesium paste and gasoline/asphalt-based incendiary) were believed to have occurred at the site. Storage of drums and open pit burning also possibly occurred at the site. Contaminants were believed to have been released by WWII-era burning operations at the site.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to the completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at MSFC-035 resulted in no chemicals in soil which pose unacceptable risk to human health or the environment. No MEC were found, and the results support the conclusion that no MEC were ever disposed of at the site. Based on the IM Phase I intrusive investigation, suspected COCs for the site are VOCs in groundwater. There were no COCs for soil identified. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 8. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2023 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. Key document currently underway is the Final IM Report.

Current and future land use of the site is industrial research and development in support of MSFC. The UXO probability for the site is none and the CWM probability is unlikely. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative to remove MSFC-035 from the RCRA Permit as a site requiring an IM and/or source removal and move forward with the RFI will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1125_RSA-112_FORMER DEMILITARIZATION & DISPOS

Env Site ID: RSA-112

Cleanup Site: FORMER DEMILITARIZATION & DISPOS

Alias: RSA-112

Regulatory Driver: RCRA-C

RIP Date: 9/30/2038

RC Date: 9/30/2038

RC Reason: Not assigned

SC Date: 10/2/2067

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1990 |
| CS: | 10/31/1995 | 9/30/1996 |
| RFI/CMS: | 6/30/2009 | 8/30/2035 |
| DES: | 10/1/2032 | 9/30/2035 |
| IRA: | 3/31/2011 | 9/30/2029 |
| CMI(C): | 10/1/2035 | 9/30/2038 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2038 | 10/1/2067 |

Site Narrative: Site 01202.1125 (alias RSA-112) is an approximately 91-AC site located in the east-central part of the RSA. The site is located in the 100-year floodplain of the Huntsville Spring Branch and is primarily wooded and surrounded by wetlands. Three perennial surface water streams transect RSA 112 all of which originate within the residential and industrialized areas of Huntsville upstream of RSA. The site was used for demilitarization and disposal of conventional munitions, burning of MEC, and drum handling. Contaminants were believed to have been released by these demilitarization and disposal activities.

The site has an UXO probability ranking of moderate/high and a CWM probability ranking of seldom. Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2017 and concluded that, based on the information collected to date, the Army's historical operations at RSA-112 have resulted in the presence of MEC in the subsurface and potentially on the surface that pose near-term unacceptable risks to site users. Based on the IM Phase I intrusive investigation, suspected COCs for the site are MEC and arsenic in soil and perchlorate, TCE, and 2-nitrotoluene in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 4. The IM Phase I Recommended Action Plan

was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is industrial, research/development, and recreational.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative of surface clearance and excavation of subsurface saturated response areas will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five year/periodic remedy reviews will continue indefinitely.

01202.1126_RSA-113_INACTIVE DISPOSAL TRENCHES & BUR

Env Site ID: RSA-113

Cleanup Site: INACTIVE DISPOSAL TRENCHES & BUR

Alias: RSA-113

Regulatory Driver: RCRA-C

RIP Date: 9/30/2039

RC Date: 9/30/2039

RC Reason: Not assigned

SC Date: 10/2/2068

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 10/31/1989 | 9/30/1990 |
| CS: | 10/31/1993 | 9/30/1995 |
| RFI/CMS: | 9/30/2005 | 8/30/2036 |
| DES: | 10/1/2033 | 9/30/2036 |
| IRA: | 3/31/2011 | 9/30/2030 |
| CMI(C): | 10/1/2036 | 9/30/2039 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2039 | 10/1/2068 |

Site Narrative: Site 01202.1126 (alias RSA-113) is an approximately 12-acre site located in the east central portion of the RSA north of Creek Road south of Martin Road and east of Patton Road. The site consists of two inactive disposal trenches and a fuze disposal area used during WWII for disposal of MEC, including CWM. Contaminants were believed to have been released by munitions and disposal activities within these disposal areas.

The site has an UXO probability ranking of moderate/high and a CWM probability ranking of occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-113 have resulted in the presence of MEC in the subsurface soil that pose near-term unacceptable risks to site users. Based on the IM Phase I intrusive investigation, suspected COCs include MEC, arsenic, lead, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), TCE, and benzo(a)pyrene in soil and perchlorate, (cis)-1,2-dichloroethene, TCE, 2,4-dinitrotoluene, and 1-methynaphthalene in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, The Munition Response Site Priority is 6. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is

expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development and recreational.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative of surface and subsurface removal of MEC, and the subsurface removal of defined disposal trench area, will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1127_RSA-114_INACTIVE MADKIN MOUNTAIN ROCK QU

Env Site ID: RSA-114

Cleanup Site: INACTIVE MADKIN MOUNTAIN ROCK QU

Alias: RSA-114

Regulatory Driver: RCRA-C

RIP Date: 9/29/2033

RC Date: 9/29/2033

RC Reason: Not assigned

SC Date: 9/30/2033

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 10/31/1988 | 9/30/1989 |
| CS: | 10/31/1989 | 9/30/1996 |
| RFI/CMS: | 6/30/2009 | 9/29/2033 |
| DES: | -- | -- |
| IRA: | 3/31/2011 | 9/29/2029 |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: Site 01202.1127 (alias RSA-114) is an approximately 7-acre site located north of the intersection of Neal Road and Mills Road. The site is a large, inactive groundwater-filled limestone quarry located at the base of the south side of Madkin Mountain. The quarry is approximately 200 feet wide and 800 feet long and has a relatively flat, rocky bottom. The water-filled portion of the quarry measures approximately 4 acres, with approximately 3 additional acres of the surrounding area included with the site. After the quarry was closed during the mid-1940s, tons of surplus materials (for example, soldier gas mask canisters, mustard chemical production plant filters) were disposed of in the quarry. Contaminants were believed to have been released by these disposal activities.

The water level depth varies widely with seasonal fluctuations. In July 1990, the water level in RSA-114 had dropped and large waste piles were evident on the south side of the quarry, including a pile of gas mask canisters and a pile of charcoal columns from former chemical agent operations. Underwater investigations conducted to date have indicated the presence of intact, agent-configured drums and 4.2-inch mortars on the quarry floor. The site was fenced in 2001.

The site has an UXO probability ranking of moderate/high and a CWM probability ranking of occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I investigation is complete, and the results indicate the Army's historical operations at RSA-114 have resulted in the presence of debris piles containing material potentially presenting an explosive hazard (MPPEH), chemical defense equipment, and potential CA/ chemical agent contaminated material (CACM) of the flooded quarry which indicates MEC, CA, and CACM are potentially present and pose near-term unacceptable risks to site users. Based on the IM Phase I investigation, suspected COCs are CACM and MEC in sediments and surface water. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 5. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2021 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved in 2024. There are no key documents currently underway. The future land use of the site is recreational.

The path forward is to complete the IM and RFI/CMS phases. During the IM Phase II, the recommended alternative to dewater the quarry and remove all MPPEH and waste will be implemented. The IM Phase II is expected to include the removal of all items from the quarry floor and surrounding area and would eliminate future pathways of MEC and CWM exposure to human and ecological receptors after the action is completed, and it would minimize future releases of contamination to site media. Based on the assumption that all contamination would be removed during the IM Phase II, no further action will most likely be recommended at the completion of the RFI/CMS. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. It is anticipated that the site will be remediated to a level that allows for UU/UE. LUCs and five-year/periodic remedy reviews will continue until UU/UE is achieved.

01202.1175_RSA-141-R-01_4.2 Inch Mortar Disposal Si

Env Site ID: RSA-141-R-01

Cleanup Site: 4.2 Inch Mortar Disposal Si

Alias: RSA-141

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 6

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 1/7/2002 | 5/1/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 6/30/2009 | 1/26/2024 |
| DES: | 1/1/2019 | 2/26/2024 |
| IRA: | -- | -- |
| CMI(C): | 5/2/2023 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1175 (alias RSA-141 and RSA-141-R-01) is a 14.5-AC site located in the central portion of RSA, within the MSFC. Beginning in the 1940s, RSA-141-R-01 was part of the Post Engineer heavy equipment and motor pool area as well as the location of a coal storage area. Railroad track ran north-south through RSA-141-R-01, connecting Huntsville Arsenal Chemical Plants Area Number 1 to the north and the GCWD Area to the south. RSA-141-R-01 is considered an explosive ordnance disposal area where munitions-related items have been unearthed, and munitions disposal by burial has been verbally reported. These verbal reports have not been substantiated by historical records or field investigation. Contaminants were believed to have been released by these munitions disposal activities.

Given past discoveries during land development and the findings of a 1994 intrusive investigation, 4.2-inch mortar projectiles were anticipated to be found buried at this site. The site has an UXO probability of low and a CWM probability of seldom. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-141-R-01 have resulted in concentrations of site-related constituents of surface media. Based on the RFI, COCs in soil include MEC, arsenic, and benzo(a)pyrene and TCE in soil vapor. COCs in groundwater are manganese and VOCs and will be addressed by NASA as part of their Operable Unit-3 remedial action. There is a low potential for migration of COCs off the site due to the nature of the COCs and location of the site. Based on the results of the RFI, the Munition Response Site Priority is 6. The RFI Report was approved by ADEM in 2017 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document is expected to be finalized and approved by the

Army and the CMI(C) fieldwork is expected to be completed in 2024. Key document currently underway is the Final Corrective Measures Report. The current and anticipated future land use of the site is business/industrial research and development.

The path forward is to complete the CMI(C) and LTM phases. During the CMI(C) phase, the selected alternative implementation of LUCs will be implemented to eliminate the on-site risk associated with MEC, arsenic, and benzo(a)pyrene in soil and TCE in soil vapor. Groundwater for the site will be addressed by NASA. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1180_MSFC-003-R-01_Inactive Old Bone Yard Dis

Env Site ID: MSFC-003-R-01

Cleanup Site: Inactive Old Bone Yard Dis

Alias: MSFC-003

Regulatory Driver: RCRA-C

RIP Date: 9/30/2055

RC Date: 9/30/2055

RC Reason: Not assigned

SC Date: 10/2/2084

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/7/2002 | 5/1/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 11/30/2009 | 8/30/2053 |
| DES: | 10/1/2031 | 9/30/2053 |
| IRA: | 3/31/2011 | 9/30/2047 |
| CMI(C): | 10/1/2032 | 9/30/2055 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2055 | 10/1/2084 |

Site Narrative: Site 01202.1180 (alias MSFC-003 and MSFC-003-R-01) encompasses approximately 55.23-acre and lies in the approximate center of the NASA /MSFC. The 55.23 environmental site boundary was officially, administratively established by the Army in 2007 to include the following historical waste disposal areas, which together cover 51 acres- MSFC-3 (approximately 24 acres), MSFC-3E (approximately 6 acres), MSFC-82 (approximately 17 acres), and MSFC-82S (approximately 4 acres). Due to these similarities, the four historical waste disposal areas were subdivided into the following three Munitions Response Sites (MRS) - MRS-1 includes historical waste disposal area MSFC-3E, MRS-2 includes historical waste disposal area MSFC-3 and the northern third of historical waste disposal area MSFC-082, and MRS-3 includes the southern two-thirds of historical waste disposal area MSFC-082 and historical waste disposal area MSFC-082S. MSFC-003-R-01 is an inactive demilitarization and disposal site which was used to dispose of and/or treat chemical munitions toxic materials chemical wastes and phosphorous-filled munitions. Contaminants were believed to have been released by these demilitarization and disposal activities.

The site's UXO probability ranges from low to moderate/high and the CWM probability ranges from seldom to occasional. Current and future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I was initiated in FY12. MRS-3 was not included in the initial IM Phase I investigation. The IM Phase I intrusive investigation at MRS-1 and MRS-2 was completed in 2016 and concluded that, Army's historical operations at MSFC-003-R-01 have resulted in the presence of munitions-related items and substances that pose an unacceptable near-term hazard and/or risk to human health. Based on the IM Phase I intrusive investigation at MRS-1 and MRS-2, suspected COCs for the site are MEC, metals, explosives, SVOCs, and VOCs in soil and metals, explosives, SVOCs, and VOCs in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority for the entire site is 3. The IM Phase I Recommended Action Plan for MRS-1 and MRS-2 was finalized and approved by the Army in 2021 and the IM Phase II source removal fieldwork at MRS-1 and MRS-2 is currently underway. Key documents currently underway are the IM Phase I Work Plan and safety plans for MRS-3. The current and anticipated future land use of the site is industrial research and development in support of MSFC.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases at all three MRSs. During the IM Phase I at MRS-3, the nature and extent of CWM and/or CA contamination will be determined. During the IM Phase II at MRS-1 and MRS-2, the recommended alternative to remove MEC and permit-specified features using advanced geophysical classification techniques will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase for all three MRSs. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1186_RSA-066-R-01_RSA-66

Env Site ID: RSA-066-R-01

Cleanup Site: RSA-66

Alias: RSA-066

Regulatory Driver: RCRA-C

RIP Date: 9/30/2038

RC Date: 9/30/2038

RC Reason: Not assigned

SC Date: 10/2/2067

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 7/15/1988 | 6/15/1990 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/1990 | 8/30/2035 |
| DES: | 10/1/2032 | 9/30/2035 |
| IRA: | 3/15/2011 | 9/30/2029 |
| CMI(C): | 10/1/2035 | 9/30/2038 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2038 | 10/1/2067 |

Site Narrative: Site 01202.1186 (alias RSA-066 and RSA-066-R-01) is an approximately 21.3-acre site located within a former operational range on the southern portion of RSA within one-half mile of the Tennessee River. The site is reported to be a closed, unlined waste disposal and demolition area that was active from the 1950s until the early 1980s. Disposal activities were reported to have been confined within pits or small trenches in the eastern portion of the site. The waste disposal portion of the site consists of approximately 2 acres and was reportedly used as a disposal area for ash, residue, and unsalvageable metal debris from open burning of propellants, explosives, and solvent-contaminated wastes. The site was also believed to have been used for the demilitarization of chemical-filled ordnance. Contaminants are believed to have been released by these demilitarization and disposal activities at this site.

Previous investigations have confirmed the presence of MEC, including sub-munitions. A TCRA was conducted at RSA-066-R-01 in 2000 to characterize, overpack, and remove eleven 5-gallon containers of material reportedly described as barium hydroxide. These containers were discovered abandoned on the ground near the center of RSA-066-R-01. Soil confirmation samples collected from under the drums did not reveal contamination concerns for metals. Earth moving activities conducted in association with ground clearing and grass planting for deer in 2000 inadvertently uncovered ordnance that were only shallowly buried beneath the surface. In addition, a supplemental RI was initiated at the site in the Spring of 2000 to determine the nature and extent of contamination in site media, but a UXO sweep performed at the site confirmed the presence of uncovered ordnance on the ground surface and the supplemental RI was put on hold. The site was fenced with five-strand barbed wire in 2001 as part of a second TCRA.

The site has an UXO probability ranking of moderate/high and a CWM probability ranking of unlikely. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2019 and concluded that, based on information collected to date, the Army's historical operations at the site have resulted in the presence of munitions-related items and substances that pose an unacceptable near-term hazard and/or risk to human health. CWM was not encountered. Based on the IM Phase I investigation, suspected COCs for the site are MEC, VOCs, and SVOCs in soil and VOCs, SVOCs, and explosives in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 3. The IM Phase I Recommended Action Plan was finalized and approved by the Army 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative of MEC removal within area targets will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1188_RSA-068-R-01_RSA-68

Env Site ID: RSA-068-R-01

Cleanup Site: RSA-68

Alias: RSA-068

Regulatory Driver: RCRA-C

RIP Date: 9/30/2068

RC Date: 9/30/2068

RC Reason: Not assigned

SC Date: 10/2/2097

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 7/15/1988 | 6/15/1990 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/1990 | 8/30/2065 |
| DES: | 10/1/2063 | 9/30/2065 |
| IRA: | 3/15/2011 | 9/30/2060 |
| CMI(C): | 10/1/2065 | 9/30/2068 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2068 | 10/1/2097 |

Site Narrative: Site 01202.1188 (alias RSA-068 and RSA-068-R-01) is an approximately 12-AC site located on a former operational range on the southern portion of RSA within one-half mile of the Tennessee River. The site was reportedly used as a demilitarization and disposal area for explosives during the 1940s. Disposal activities consisted of detonation of explosives or burning on the ground surface within a 5-AC area in the southwest corner of the site in the 1940s. From the 1950s to approximately 1980, the site was reportedly utilized as a disposal area for toxic waste, ordnance, metal, toxic gas (for example, phosgene [CG] gas) and laboratory chemicals, including inhibited red fuming nitric acid, cyanide, chromium, hydrogen sulfide, ammonia, metallic salts, chlorine trifluoride, and beryllium. Chlorine trifluoride (approximately 100 gallons in 1980) was reportedly neutralized in a pit using sodium bicarbonate. The inhibited red fuming nitric acid was reportedly neutralized in open pits lined with crushed limestone. Other wastes were reportedly disposed of in trenches/pits and covered with dirt. Most chemicals were reportedly disposed of in two trenches located along the eastern and southern margins of the site. Contaminants are believed to have been released by these demilitarization and disposal activities at this site.

During a previous test pit excavation, metal waste and buried ordnance were encountered. A “clean CG container” and Chemical Agent Identification Set ampoules and packed in gas containers were also reported to have been discovered at the site. During a test pit excavation in the central portion of the site in 1990, metal waste and buried ordnance were encountered. After discovery of these items, the area was surface cleared and access restricted.

The site’s UXO probability is moderate/high, and the CWM probability is occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2019 and concluded that, based on information collected to date, the Army's historical operations at RSA-068-R-01 have resulted in the presence of munitions-related items and substances that pose an unacceptable near-term hazard and/or risk to human health. During the IM Phase I intrusive investigation teams encountered MEC, munitions-related items, and potential CWM, including AN-M79 1,000-pound bombs. The items were left in place and will be recovered during future IM intrusive fieldwork as part of a Supplemental IM Phase I. Based on the IM Phase I investigation, suspected COCs for the site are MEC, metals, VOCs, one explosive, perchlorate, and one PAH for soil and VOCs, one SVOC, PAHs, one explosive, perchlorate, and four PAHs for groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 4. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022. The IM Phase I Statement of Basis/Decision Document was drafted in 2023, but was put on hold pending completion of the Supplemental IM Phase I. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative of removal of area targets will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1191_RSA-110-R-01_RSA-110

Env Site ID: RSA-110-R-01

Cleanup Site: RSA-110

Alias: RSA-110

Regulatory Driver: RCRA-C

RIP Date: 9/30/2034

RC Date: 9/30/2034

RC Reason: Not assigned

SC Date: 10/2/2063

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 5/15/1995 | 2/15/1998 |
| CS: | -- | -- |
| RFI/CMS: | 2/15/1998 | 8/30/2032 |
| DES: | 10/1/2029 | 9/30/2032 |
| IRA: | 3/15/2011 | 9/30/2026 |
| CMI(C): | 10/1/2032 | 9/30/2034 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2034 | 10/1/2063 |

Site Narrative: Site 01202.1191 (alias RSA-110 and RSA-110-R-01) is an approximately 24-AC site located in the southeastern portion of RSA within the floodplain of the Tennessee River. The site was used in the 1940s and 1950s for CA drum storage and the reported unloading and staging of chemical ordnance. Evaluation of historical aerial photographs identified a suspected drum storage area, consisting of approximately 25 rows of 55-gallon drums lying on their sides on a series of organized east-west tracks. Historical records indicate that up to 228 55-gallon drums of FS smoke (a mixture of sulfur trioxide and chlorosulfonic acid) may have been burned and disposed of (buried and abandoned) within RSA-110-R-01. Contaminants were believed to have been released by munitions and chemical disposal activities at this site.

Previous site investigations have confirmed the presence of MEC. The site's UXO probability is moderate/high and the CWM probability is unlikely. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2019 and concluded that, based on information collected to date, the Army's historical operations at RSA-110-R-01 have resulted in presence of munitions-related items and substances that pose an unacceptable hazard and/or risk to human health. Based on the IM Phase I investigation, suspected COCs for the site are MEC, metals, TCE, and PAHs in soil

and VOCs, SVOCs, PAHs, and perchlorate in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 3. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2023 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. Key document currently underway is the Final IM Report. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative to remove RSA-110-R-01 from the RCRA Permit as a site requiring an IM or source removal and proceed to the RFI will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1196_RSA-188_NORTHERN BURIAL AREA / BURNING G

Env Site ID: RSA-188

Cleanup Site: NORTHERN BURIAL AREA / BURNING G

Alias: RSA-188

Regulatory Driver: RCRA-C

RIP Date: 10/1/2037

RC Date: 10/1/2066

RC Reason: Not assigned

SC Date: 10/2/2066

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 9

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 9/30/2003 | 6/30/2004 |
| CS: | 6/30/2004 | 1/31/2005 |
| RFI/CMS: | 2/15/2009 | 8/30/2034 |
| DES: | 10/1/2029 | 9/30/2034 |
| IRA: | 3/31/2010 | 9/30/2026 |
| CMI(C): | 10/1/2034 | 9/30/2037 |
| CMI(O): | 10/1/2037 | 10/1/2066 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1196 (alias RSA-188 and RSA-188-R-01) is a 6.61-AC site consisting of two non-contiguous potential source areas, Northern Burning Area (NBA) (approximately 3.76 AC) and Burning Ground #3 (BG3) (approximately 2.85 AC). Historical documents indicate the site was used for the burning of small quantities of chemicals and production wastes, munitions after testing, and munitions from ROP) operations. Contaminants were believed to have been released by munitions and chemical disposal activities at this site.

Investigations conducted at RSA-188 have confirmed the presence of MEC at BG3. MEC has not been found at the NBA. The site's UXO probability is moderate/high for BG3 and low for the NBA. The CWM probability is unlikely for the entire site. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I Intrusive Investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-188 have resulted in the presence of MEC in the subsurface that poses near-term unacceptable risks to site users performing intrusive activities. Based on the IM Phase I intrusive investigation, suspected COCs are MEC, arsenic, and lead in soil and perchlorate, VOCs, and explosives in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I

investigation, the Munition Response Site Priority is 4. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2021 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. Key document currently underway is the Final IM Report. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and CMI(O) phases. During the IM Phase II, the recommended alternative to remove RSA-188 from the RCRA Permit as a site requiring an IM or source removal and proceed to the RFI will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, MNA, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1276_RSA-278-R-01_Highway 565 Area

Env Site ID: RSA-278-R-01

Cleanup Site: Highway 565 Area

Alias: RSA-278

Regulatory Driver: RCRA-C

RIP Date: 9/30/2030

RC Date: 9/30/2030

RC Reason: Not assigned

SC Date: 10/2/2059

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 4

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/31/2002 | 5/31/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 12/31/2009 | 8/30/2028 |
| DES: | 10/1/2024 | 9/30/2028 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2028 | 9/30/2030 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2030 | 10/1/2059 |

Site Narrative: Site 01202.1276 (alias RSA-278 and RSA-278-R-01) is an approximately 110-acre site that was transferred from the northwest corner of the installation in the mid-1980s to the state of Alabama for the construction of Highway 565. The site is at the north end of three former ranges- North Bombing Range, 4.2-Inch Mortar Range, and High Explosives Drop Test Site, Area A and includes a portion of Interstate-565 (I-565) (i.e., Highway 565 Area), several developed parcels, and approximately 35.1 acres of undeveloped land. No portion of this site is currently owned or controlled by the US Department of Defense (DOD). Five munition related items were found during the construction of I-565; however, the extent of MEC or related materials remaining (if any) on the site is unknown. In 2008, this site was added to the list of Military Munitions Response Program sites requiring investigation and potential additional actions based upon historical information. No other work or investigations have been conducted at this MRS since the property was transferred. The site has an UXO probability of low. Current and anticipated future site access controls include industrial/commercial off post. The use of potable and non-potable groundwater within the site boundary is managed by the Alabama Department of Environmental Management, Water Division-Water Well Standards Program, Division 335-9. Sampling frequency is periodic due to existing well networks impacted by rights of entry.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. A RFI work plan was approved by ADEM in 2016. However, rights-of-entry to some of the parcels requiring an investigation were not obtained. COCs of potential concern include munitions constituents (explosives and metals). Rights-of-entry were obtained in 2023. ADEM approval of the RFI work plan and completion of the RFI fieldwork are anticipated in 2024. Key documents currently underway are the Final RFI Report and CMS. The current and anticipated future land use of the site is commercial with non-DOD property owners.

The path forward is to complete the RFI/CMS, DES, CMI(C), and LTM phases. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or

contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1278_RSA-072-R-01_Former Mortar Test Site (Not in Range)

Env Site ID: RSA-072-R-01

Cleanup Site: Former Mortar Test Site (Not in Range)

Alias: RSA-282

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: Not assigned

SC Date: 5/31/2054

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 1/31/2002 | 5/31/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 9/30/2009 | 10/23/2021 |
| DES: | 1/1/2017 | 11/23/2021 |
| IRA: | 9/30/2007 | 10/31/2008 |
| CMI(C): | 5/31/2021 | 9/30/2024 |
| CMI(O): | -- | -- |
| LTM: | 5/30/2024 | 5/30/2054 |

Site Narrative: RSA-072-R-01 (RSA-282) is a 117-acre surface site located in the northwestern portion of RSA and is situated southwest of the RSA Army Airfield. RSA-072-R-01 contains all of Hackberry Road and portions of Hale Road and Shelby Drive. The site was a mortar-tube proofing range in the 1940s. The site was removed from the range inventory in 2005 in support of the expansion of the Software Engineering Directorate Complex. The RFI results provided a Munitions Response Site Prioritization Protocol ranking that was approved in 2018. The Explosive Hazard Evaluation Module Rating is E. The Chemical Hazard Evaluation Module Rating is No Known or Suspect CWM Hazard. The Health Hazard Evaluation Module Rating is G. The Munition Response Site Priority is 6. The COCs are MEC in the subsurface. Current site access controls include signage fencing and UXO probability. The UXO probability ranking is low for the subsurface. Sampling frequency is periodic. The CMIP was approved by ADEM in October 2019. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. In January 2023, fieldwork to install LUCs was completed and the CMR was submitted to ADEM In July 2023. The CMR will receive final approval once the Army and ADEM agree on NEUR language. The CMI-C phase will end once final approval of the CMR is obtained. All field work is complete and the remedy is in place as of Sept. 28, 2023. The path forward is to complete the CMI(C) and LTM with LUCs monitoring/maintenance and periodic reviews. The current and future land use of the site is administration and research. It is not anticipated that UU/UE will be achieved. LUCs and periodic reviews will continue indefinitely.

01202.1279_RSA-234-R-01_WASTE DISPOSAL PIT

Env Site ID: RSA-234-R-01

Cleanup Site: WASTE DISPOSAL PIT

Alias: RSA-234

Regulatory Driver: RCRA-C

RIP Date: 10/1/2027

RC Date: 9/30/2045

RC Reason: Not assigned

SC Date: 10/2/2074

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 5

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 11/30/2003 | 5/31/2004 |
| CS: | -- | -- |
| RFI/CMS: | 6/30/2009 | 8/30/2025 |
| DES: | 8/29/2022 | 9/30/2025 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2025 | 9/30/2027 |
| CMI(O): | 10/1/2027 | 9/30/2045 |
| LTM: | 10/1/2045 | 10/1/2074 |

Site Narrative: Site 01202.1279 (alias RSA-234 and RSA-234-R-01) is an approximately 1-acre site located in the northeast part of RSA. The site is the location of former Building 642. Building 642 was constructed in 1942 initially as an incendiary bomb filling plant and grenade filling plant warehouse. It was converted in March 1942 to a M-54 incendiary bomb loading plant. In April 1942 the entire building and approximately four tons of thermate were destroyed in a fire and the remaining structure was razed. The RSA historical records and site aerial photographs indicate that the remaining slab was then used as a waste disposal area to burn and dispose of various waste smoke mixes and rejected 105mm canisters. These operations continued until sometime before 1975. Currently the former building concrete slab is deteriorated in many areas and the area surrounding the slab is heavily wooded. Contaminants were believed to have been released by these munitions filling and loading activities.

The site's UXO probability is low. Current and future anticipated site access controls include signage and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-234-R-01 have resulted in concentrations of site-related constituents of surface media and groundwater that pose an unacceptable threat to human health and/or the environment. Based on the RFI, COCs in soil include MEC, metals, and ABPs and VOCs and 2-nitrotoluene in groundwater. There is a low potential for migration of COCs off the site due to the nature of the COCs and location of the site. Based on the results of the RFI, the Munition Response Site Priority is 5. The RFI Report was approved by ADEM in 2019 and the site was identified in the RCRA permit as requiring a CMIP. The CMS was approved by the Army in 2023. The CMIP and the Statement of Basis/Decision Document are expected to be finalized and approved by the Army and ADEM in 2024. Key document currently underway is the Permit Modification to incorporate the selected corrective measures. The current and anticipated future land use of the site is business and recreational.

The path forward is to complete the DES, CMI(C), and CMI(O) phases. During the CMI(C) phase, the selected alternative of excavation and off-site disposal of contaminated soils and MNA baseline to eliminate the on-site risk associated with MEC, metals, and ABPs in soil and VOCs and 2-nitrotolulene in groundwater will be implemented. During the CMI(O) phase, 18 years of MNA for groundwater will be implemented. It is anticipated that the site will be remediated to a level that allows for UU/UE. LUCs and five-year/periodic remedy reviews will continue until UU/UE is achieved.

01202.1280_RSA-249-R-01_INACTIVE OLD BONEYARD DISPO

Env Site ID: RSA-249-R-01

Cleanup Site: INACTIVE OLD BONEYARD DISPO

Alias: RSA-249

Regulatory Driver: RCRA-C

RIP Date: 10/1/2029

RC Date: 10/1/2058

RC Reason: Not assigned

SC Date: 10/2/2058

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.3

RRSE: N/A

MRSPP: 6

| Phase | Start | End |
|-----------------|------------|------------|
| RFA: | 11/30/2003 | 5/31/2004 |
| CS: | 2/28/2006 | 11/30/2011 |
| RFI/CMS: | 9/30/2010 | 8/30/2026 |
| DES: | 8/29/2022 | 9/30/2026 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2026 | 9/30/2029 |
| CMI(O): | 10/1/2029 | 10/1/2058 |
| LTM: | -- | -- |

Site Narrative: Site 01202.1280 (alias RSA-249 and RSA-249-R-01) is a 21.8-AC site. The site was used as a former salvage yard from 1942 to the early 1960s where various salvageable and surplus materials were handled. The salvage yard handled the collection of empty munitions boxes, drums, barrels, wire, and numerous other items. During the late 1940s and into the 1950s, the site was reportedly used for munitions disposal and demilitarization operations. Such operations included the demilitarization and redistribution of chemical warfare manufacturing equipment and reject chemical munitions to other components of the armed services. There was no evidence that any surplus items processed at the salvage yard contained CWM; however, munitions manufacturing equipment was decontaminated on the site. Contaminants were believed to have been released by these munition disposal and demilitarization operations.

The site has an UXO probability of low and a CWM probability of seldom. Current and anticipated future site access controls include signage and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-249-R-01 have resulted in concentrations of site-related constituents of surface media and groundwater. Based on the RFI, COCs in soil include MEC, PAHs, dioxins and furans and COCs in groundwater include VOCs and one explosive. There is a high potential for off-site migration due to the nature of the COCs and location of the site. Based on the results of the RFI, the Munition Response Site Priority is 4. The RFI Report was approved by ADEM in 2020 and the CMS was approved by the Army in 2021 and the site was identified in the RCRA Permit as requiring a CMIP. Design optimization activities began and are expected to be completed in 2024. Findings from the design optimization will be presented in a final report for Army review and approval in 2024. Key documents currently underway are the CMIP, Statement of Basis/Decision Document, and a

Permit Modification to incorporate the selected corrective measures. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the CMS, DES, CMI(C), and CMI(O) phases. During the CMI(C), the selected alternative of excavation and off-site disposal of contaminated soil, ISEB, and groundwater MNA will be implemented to eliminate the on-site risk associated with MEC, PAHs, dioxins, and furans in soil and VOCs and 2-nitrotolulene in groundwater. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, MNA, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1281_RSA-280-R-01_Skunk Hollow Small Arms Ran

Env Site ID: RSA-280-R-01

Cleanup Site: Skunk Hollow Small Arms Ran

Alias: RSA-280

Regulatory Driver: RCRA-C

RIP Date: 9/29/2025

RC Date: 9/29/2025

RC Reason: Not assigned

SC Date: 9/30/2025

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 7

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 1/31/2002 | 5/31/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 5/15/2012 | 3/5/2021 |
| DES: | 9/1/2018 | 4/5/2021 |
| IRA: | -- | -- |
| CMI(C): | 8/29/2022 | 9/29/2025 |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: Site 01202.1281 (alias RSA-281 and RSA-280-R-01) is a 0.84-AC site in the northeastern portion of RSA. The site was constructed in 1991 and consisted of a 25-meter rifle range with an impact berm primarily used for small arms firing, including M-16 rifles, 40mm practice grenades, and pistols. The small arms range was believed to have been in limited use for only two years and was closed in approximately 2001-2002 due to the potential for small arms to ricochet. The range included a covered firing and target area (Building 3520), an automatic target turning system, and a parking lot to the north of Building 3520. In 2012, the partially baffled Building 3520 was demolished. The wooden baffles, which were part of the structure and contained lead bullets, were left on site until 2014 when wood sampling was completed. After building demolition, a clear plastic tarp was placed over the exposed impact berm to minimize contaminant runoff/erosion. Contaminants were believed to have been released by these small arms range activities.

The site's UXO probability is low. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI intrusive investigation was completed in 2015 and concluded that, based on information collected to date, the Army's historical operations at RSA-280-R-01 have resulted in concentrations of site-related constituents in surface media. Based on the RFI intrusive investigation, COCs for the site are lead in soils. The lead-contaminated soil does not pose a leaching threat to groundwater or unacceptable risk to ecological receptors. There are no other COCs exceeding screening values for groundwater at the site. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the RFI, the Munition Response Site Priority is 7. The RFI Report was approved by ADEM in 2015 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2020 and the

selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document was approved by the Army in 2021. CMI(C) fieldwork was completed in 2023. Key document currently underway is the Final Corrective Measures Report. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the CMI(C) phase. During the CMI(C) phase, the selected alternative of excavation and off-site disposal to eliminate the on-site risk of lead-contaminated soil was implemented. The corrective measures at this site are intended to be the final corrective action for surface media and expected to result in no further action and unrestricted site use. This site will be administratively closed at the end of CMI(C). No corrective measures are required for groundwater. It is anticipated that the site will be remediated to a level that allows for UU/UE. LUCs and five-year/periodic remedy reviews will continue until UU/UE is achieved.

01202.1282_RSA-221-R-01_FuseStorage&Munitions Dispo

Env Site ID: RSA-221-R-01

Cleanup Site: FuseStorage&Munitions Dispo

Alias: RSA-221

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 5

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 1/31/2002 | 5/31/2003 |
| CS: | 2/28/2006 | 9/30/2008 |
| RFI/CMS: | 10/15/2009 | 2/26/2024 |
| DES: | 9/25/2019 | 2/26/2024 |
| IRA: | -- | -- |
| CMI(C): | 9/25/2019 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1282 (alias RSA-221 and RSA-221-R-01) is a 13.4-AC surface site located in the southeast portion of RSA. The site contains six former fuze storage buildings (Buildings 7261 through 7266) which were formerly identified as aboveground fuze storage magazines F-701 through F-706. There is a 785-foot-long drainage swale east of Building 7261. The swale appears to be drainage that was constructed as part of a former railroad line that paralleled Ninebark Road and was used to service the storage buildings. Contaminants were believed to have been released by fuze storage activities.

Although MEC has not been identified during previous investigations, this site is adjacent to active and historical ranges, a large amount of wholly inert items were recovered from RSA-221-R-01, and uninvestigated anomalies detected above the project threshold limits still exist in the subsurface at RSA-221-R-01. The site has a UXO probability of low. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-221-R-01 have resulted in no contamination to surface media or groundwater. There are no COCs in surface media or groundwater. However, since this site retains limited statistical uncertainty regarding the presence of small amounts of MEC, the Army recommends managing this uncertainty through the implementation of corrective measures. No corrective measures are required for groundwater. There is a low potential for migration of COCs off the site due to the nature of the COCs and location of the site. Based on the RFI, the Munition Response Site Priority is 8. The RFI Report was approved by ADEM in 2018 and the CMS was approved by the Army in 2017 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2021 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision document and CMI(C) fieldwork are expected to be completed in 2024. Key

document currently underway is the Final Corrective Measures Report. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the CMI(C) and LTM phases. During the CMI(C) phase, the selected alternative of implementation of LUCs will be implemented to manage the on-site risk associated with MEC. No corrective measures are required for groundwater. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1315_RSA-312-R-01_Former Range Area Gate 7 Ex

Env Site ID: RSA-312-R-01

Cleanup Site: Former Range Area Gate 7 Ex

Alias: RSA-312

Regulatory Driver: RCRA-C

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 10/2/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 3

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 9/15/2010 | 3/31/2011 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2010 | 9/2/2022 |
| DES: | 9/25/2019 | 9/6/2023 |
| IRA: | -- | -- |
| CMI(C): | 9/15/2022 | 9/30/2026 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2026 | 10/1/2055 |

Site Narrative: Site 01202.1315 (alias RSA-312 and RSA-312-R-01) is a 59.14-AC site located in the west-central portion of RSA west of Anderson Road. The site was formerly located within TA-3 and TA-6 which were used to test munitions produced at RSA. However, as part of the RSA mission-related Gate 7 expansion project in the early 2010s, RSA officially excised this site from TA-3 and TA-6. Currently, RSA-312-R-01 is considered a buffer area for the western RSA boundary and TA-3 and TA-6. RSA-312-R-01 also encompasses most of an existing SWMU, RSA-073 (01202.1086). Historical information indicates that RSA-073 was used for explosives training and munitions testing and as impact areas for numerous types of bombs during the 1940s and 1950s. An 8.49-acre portion of RSA-073, referred to as Former M50 Testing Area, has been included with RSA-312-R-01. The remaining areas with RSA-312-R-01 were not used as impact or explosive testing areas but as safety/buffer zones for ranges to the north and east-northeast in the 1940s and 1950s. Contaminants were believed to have been released by these explosives training and munitions testing activities.

MEC have been encountered within the Former M50 Testing Area of this site. The UXO probability within the Former M50 Testing Area is moderate/high and the UXO probability for the remainder of the site is low. The CWM probability for the entire site is unlikely. Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-312-R-01 have resulted in MEC in the subsurface posing unacceptable human health risks to current and future human receptors. No additional COCs in soil requiring action were identified. COCs in groundwater include explosives and will be addressed by the RSA-150 (01202.1244) and RSA-153 (01202.1245) groundwater units. There is a low potential for migration of COCs off the site and/or RSA due to the nature of the COCs and location of the site. Based

on the results of the RFI, the Munition Response Site Priority is 4. The RFI Report was approved by ADEM in 2018 and the CMS was approved by the Army in 2020 and the site was identified in the RCRA permit as requiring a CMIP. The CMIP was approved by ADEM in 2022 and the selected corrective measures for the site were incorporated into a recent Permit modification. The Statement of Basis/Decision Document was approved and the CMI(C) fieldwork began in 2023 and is expected to be completed in 2024. Key documents currently underway are the Final Corrective Measures Report. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the CMI(C) and LTM phases. During the CMI(C) phase, the selected alternative of excavation and off-site disposal of MEC in the subsurface and implementation of LUCs to protect receptors from residual MEC will be implemented. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1316_RSA-313-R-01_W side Former High explosiv

Env Site ID: RSA-313-R-01

Cleanup Site: W side Former High explosiv

Alias: RSA-313

Regulatory Driver: RCRA-C

RIP Date: 10/1/2027

RC Date: 9/30/2032

RC Reason: Not assigned

SC Date: 10/2/2061

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP: 4

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 12/31/2010 | 3/31/2011 |
| CS: | -- | -- |
| RFI/CMS: | 5/15/2012 | 8/30/2025 |
| DES: | 9/25/2019 | 9/30/2025 |
| IRA: | -- | -- |
| CMI(C): | 5/23/2020 | 9/30/2027 |
| CMI(O): | 10/1/2027 | 9/30/2032 |
| LTM: | 10/1/2032 | 10/1/2061 |

Site Narrative: Site 01202.1316 (alias RSA-313 and RSA-313-R-01) is a 96.4-acre site located in the northwestern portion of RSA and consists of mostly wooded and limited pasture areas and contains Lady Ann Lake (120-AC reservoir). Available historical information indicates that the areas within RSA-313-R-01 were not used as impact or explosives testing areas. The western boundaries of TA-3 and TA-6 are included in RSA-313-R-01. No conventional munitions are currently tested or expended on TA-3. Some areas of TA-6 located well east of RSA-313-R-01 are currently used for firing small missiles and rockets. Part of the site is within the buffer zone for two former range areas- Area 2 (Former Bombing Range) and RSA-071 (High Explosive Drop Test Site, Area A) (01202.1084). A small portion of RSA-071 is within the RSA-313-R-01 boundary (eastern portion of RSA-313 North). RSA-071 is within the range fan that was reportedly used for testing various types of 4.2-inch mortars during WWII. Contaminants were believed to have been released by these munitions testing activities.

RSA-313 North (18.67-acre) along I-565 in the northern portion of the site and RSA-313 South (14.60-acre) along the southern portion of the site, south of Martin Road. Due to the differing site conditions for RSA-313 North and RSA-313 South, the Army recommended dividing this site into two separate MRSs - MRS-1 and MRS-2. MRS-2 consists of RSA-313 North and MRS-1 consists of the remainder of the site. Part of MRS-1 falls in the area of the Zierdt Road expansion project and includes a total of 77.8-acre. No munition-related items have been encountered at MRS-1, and MRS-1 is categorized as a low UXO probability area. MRS-2 consists of 18.67-acre. Munitions have been recovered from the subsurface of MRS-2. The entire MRS-2 is categorized as a medium/high UXO probability area. The CWM probability for the entire site, MRS-1 and MRS-2, is unlikely. Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. The RFI was completed in 2018 and concluded that, based on information collected to date, the

Army's historical operations at RSA-313-R-01 have resulted in MEC in the subsurface, especially in MRS-2, and COCs in groundwater which pose an unacceptable risk to potential receptors. Approximately 12.1-acre of MRS-2 have not been geophysically mapped, and 208 single point anomalies selected for intrusive investigation during the RFI were not investigated due to the discovery of a potentially liquid-filled 4.2-inch mortar that was subsequently determined to be an inert, sand-filled 4.2-inch mortar. Therefore, additional munitions, representing potential MEC, may be present in the subsurface at the site. COCs in groundwater include VOCs, SVOCs, and explosives. There is a low potential for migration of COCs off the site and/or RSA due to the nature of the COCs and location of the site. Based on the results of the RFI, the Munition Response Site Priority is 5. The RFI Report was approved by ADEM in 2019 and the CMS was approved by the Army in 2020 and the site was identified in the RCRA permit as requiring a CMIP. Key documents currently underway are the CMIP, Statement of Basis/Decision Document, and a Permit Modification to incorporate the selected corrective measures. The current and anticipated future land use of the site is industrial range buffer and the location of Zierdt Road.

The path forward is to complete the CMS, DES, CMI(C), CMI(O), and LTM phases. During the CMI(C) phase, the selected alternative of excavation and off-site disposal of MEC at MRS-2 and groundwater MNA to address potential risks posed by SVOCs, VOCs, and explosives will be implemented. Upon completion of the CMI(C), it is assumed the site will require CMI(O) with LUCs monitoring/maintenance and periodic reviews for five years. After year five, the groundwater MNA would be incorporated into the monitoring for the underlying groundwater units RSA-150 (01202.1244) and RSA-153 (01202.1245). Upon completion of the CMI(O), it is assumed the site will require LTM with LUCs monitoring/maintenance and periodic reviews to address the risk of potential MEC remaining on site. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1259_CCI0U-03_HSV SPRING BRANCH PATTON RD THR

Env Site ID: CCI0U-03

Cleanup Site: HSV SPRING BRANCH PATTON RD THR

Alias: IOU-03

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-03 encompasses a total of 1347 acres near the center of RSA. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. This subunit is located entirely within the Huntsville Spring Branch watershed and includes approximately three miles of Huntsville Spring Branch. Ten surface drainage features identified as permanent or ephemeral streams are located within this subunit. Seven are located north of Huntsville Spring Branch and three are located south of this river. All but one of these streams connects installation restoration sites to Huntsville Spring Branch. In addition, there are nine major storm water drainage ditches- five north of Huntsville Spring Branch and four south of this river. A total of 104 springs have been identified within or bordering this subunit. The following surface sites are located within or hydraulically connected to this subunit- RSA-010, RSA-053, RSA-059, RSA-060, RSA-061, RSA-117, RSA-122, RSA-270, RSA-E and RSA-F. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River watershed. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-03 include weapons testing and operational range use. COCs are VOCs, SVOCs, pesticides, metals, and explosives, perchlorate, CWM, MEC, and PCBs. Medias of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1260_CCI0U-04_HSV SPRING BRNCH/INDIAN CREEK C

Env Site ID: CCI0U-04

Cleanup Site: HSV SPRING BRNCH/INDIAN CREEK C

Alias: IOU-04

Regulatory Driver: RCRA-C

RIP Date: 1/15/2028

RC Date: 1/15/2028

RC Reason: Not assigned

SC Date: 1/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 1/15/2015 | 1/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-04 encompasses a total of 1296 acres near the center of RSA. This subunit is located within the Huntsville Spring Branch and Indian Creek watersheds and includes approximately 4.9 miles of Huntsville Spring Branch. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of 97 springs have been identified within or bordering this subunit. The following surface sites are located within or drain directly into this subunit- RSA-050, RSA-052, RSA-063, RSA-074, RSA-10,9 RSA-254, and RSA-264. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River watershed. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-04 include- industrial weapons testing and range operations. COCs are VOCs, SVOCs, pesticides, metals, explosives, CWM, and MEC. Medias of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1264_CCI0U-05_MCDONALD CREEK

Env Site ID: CCI0U-05

Cleanup Site: MCDONALD CREEK

Alias: IOU-05

Regulatory Driver: RCRA-C

RIP Date: 3/15/2028

RC Date: 3/15/2028

RC Reason: Not assigned

SC Date: 3/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 3/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-05 encompasses a total of 388 acres in the northeast part of RSA. This subunit includes approximately 4.4 miles of McDonald Creek that drains into Huntsville Spring Branch. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of 41 springs have been identified within or bordering this subunit. The following surface sites are located within or drain directly into this subunit- RSA-003, RSA-008, RSA-040, RSA-047, RSA-048, RSA-058, RSA-143, RSA-158, RSA-228, RSA-229, and RSA-280. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River watershed. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-05 include administrative community service operations recreational and training. COCs are VOCs, SVOCs, pesticides, metals, and explosives, CWM, and MEC. Medias of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1266_CCI0U-06_INDIAN CREEK

Env Site ID: CCI0U-06

Cleanup Site: INDIAN CREEK

Alias: IOU-06

Regulatory Driver: RCRA-C

RIP Date: 3/15/2028

RC Date: 3/15/2028

RC Reason: Not assigned

SC Date: 3/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 1/15/2015 | 3/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-06 encompasses a total of 2104 acres in the western portion of RSA. This subunit includes approximately 7.3 miles of Indian Creek that drains into Huntsville Spring Branch. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of 117 springs have been identified within or bordering this subunit. The following surface sites are located within or drain directly into this subunit- RSA-009, RSA-050, RSA-052, RSA-071, RSA-072, RSA-074, RSA-141, RSA-278, RSA-282, MSFC-053, and MSFC-077. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-06 include administrative community service operations recreational and training. COCs are VOCs, SVOCs, pesticides, metals, explosives, CWM, MEC, and PCBs. Medias of concern are surface water and springs. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. There is low potential for off-site migration. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1325_CCI0U-07_SOUTHEASTERN BOUNDARY SYSTEM

Env Site ID: CCI0U-07

Cleanup Site: SOUTHEASTERN BOUNDARY SYSTEM

Alias: IOU-07

Regulatory Driver: RCRA-C

RIP Date: 9/15/2039

RC Date: 9/15/2039

RC Reason: Not assigned

SC Date: 9/16/2039

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 9/15/2039 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-07 encompasses a total of 248 acres in the southeast portion of RSA. This subunit includes approximately four miles of the southeast boundary stream. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of 117 springs have been identified within or bordering this subunit. The following surface sites are located within or drain directly into this subunit- RSA-096, RSA-097, RSA-138m, RSA-142, RSA-189, RSA-190, RSA-191, RSA-210, RSA-213, RSA-271, RSA-274, RSA-A, and RSA-C. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-07 include industrial and test ranges. COCs are VOCs, SVOCs, pesticides, metals, explosives, perchlorate, CWM, MEC, and PCBs. Media of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1326_CCI0U-08_MCKINLEY RANGE

Env Site ID: CCI0U-08

Cleanup Site: MCKINLEY RANGE

Alias: IOU-08

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 4/15/2015 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-08 subunit encompasses a total of 752 acres in the south-central portion of RSA. A total of 637 acres of wetland are included in this subunit. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of three springs have been identified within or bordering this subunit. The following surface sites are located within or drain directly into this subunit- RSA-037, RSA-257, RSA-258, RSA-259, RSA-260, RSA-261, RSA-262, RSA-268, and RSA-269. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-08 include training supply storage and test ranges. COCs are VOCs, SVOCs, metals, explosives, perchlorate, and MEC. Media of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1327_CCI0U-09_SOUTHWEST AREA

Env Site ID: CCI0U-09

Cleanup Site: SOUTHWEST AREA

Alias: IOU-09

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 3/15/2015 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-09 encompasses a total of 790 acres in the southwest portion of RSA. A total of 505 acres of wetland are included in this subunit. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of 15 streams and 13 springs have been identified within or bordering this subunit. Ten surface sites are located within or drain directly into this subunit. Groundwater sites RSA-151, RSA-152, RSA-156, and RSA-157 encompass this subunit. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of this site include utilities maintenance supply storage training and test ranges. COCs are VOCs, SVOCs, metals, pesticides, explosives, perchlorate, CWM, MEC, and PCBs. Media of concern surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1328_CCI0U-01_HSV SPRING BRANCH E OF MCDONALD

Env Site ID: CCI0U-01

Cleanup Site: HSV SPRING BRANCH E OF MCDONALD

Alias: IOU-01

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-01 encompasses a total of 786 acres on the east side of RSA. This subunit is located entirely within the Huntsville Spring Branch watershed and includes approximately 2.1 miles of Huntsville Spring Branch. The northern and eastern portions of this subunit lie along the RSA boundary. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. Numerous surface drainage features enter the south end of this subunit draining the former Thiokol North Plant area. However, drainage features connecting to CERCLA sites in other parts of this subunit are limited to one stream in the vicinity of RSA-129 which connects that site to Huntsville Spring Branch. A total of 13 springs have been identified within or bordering this subunit. Three sites (RSA-011 RSA-129 and RSA-296) are located in or immediately adjacent to this subunit. An additional 10 sites connect to the subunit via storm water drainage lines. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River watershed. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-01 include manufacturing and production and training. COCs are VOCs and metals at RSA-129. Media of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1329_CCI0U-02_HUNTSVILLE SPRING BRANCH E OF

Env Site ID: CCI0U-02

Cleanup Site: HUNTSVILLE SPRING BRANCH E OF

Alias: IOU-02

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCI0U-02 encompasses a total of 972 acres on the east side of RSA. This subunit is located entirely within the Huntsville Spring Branch watershed and includes approximately 1.6 miles of Huntsville Spring Branch. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. Three surface drainage features including permanent and ephemeral streams are located in the northern sections of this subunit. A total of 26 springs have been identified within or bordering this subunit. The following surface sites are located within or bordering the Huntsville Spring Branch of Patton Road subunit- RSA-005, RSA-045, RSA-057, RSA-126, RSA-058, RSA-112, RSA-113, RSA-134, RSA-083, RSA-130, RSA-202, RSA-129, RSA-16,0 RSA-206, and one Military Munitions Response Program site (RSA-294). There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of IOU-02 include - manufacturing and production operation research development testing and engineering recreation and training. COCs are VOCs, SVOCs, metals, pesticides, explosives, perchlorate, CWM, MEC, and PCBs. Media of concern is surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1330_CCIU-10_BRADFORD SINKS

Env Site ID: CCIU-10

Cleanup Site: BRADFORD SINKS

Alias: IOU-10

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 1/15/2015 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCIU-10 encompasses a total of 754 acres in the southwest portion of RSA.

Approximately 1.1 miles of Bradford Sinks are found within this subunit. A total of 617 acres of wetland are included in this subunit. IOUS are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. A total of one stream and 14 springs have been identified within or bordering this subunit. Only one RCRA site encompass this subunit RSA-051. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An Integrator Operable Unit Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of this site include- test ranges. COCs are metals and white phosphorus. Media of concern are surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1331_CCIU-11_TENNESSAA RIVER EAST

Env Site ID: CCIU-11

Cleanup Site: TENNESSAA RIVER EAST

Alias: IOU-11

Regulatory Driver: RCRA-C

RIP Date: 9/15/2039

RC Date: 9/15/2039

RC Reason: Not assigned

SC Date: 9/16/2039

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|------------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 12/15/2014 | 9/15/2039 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCIU-11 encompasses a total of 612 acres in the southeast portion of RSA along the Tennessee River. Approximately 0.2 miles of the Southeastern Boundary Stream are found within this subunit. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. The Tennessee River East is located within the Aldridge Creek watershed. A total of 514 acres of wetland are included in this subunit. A total of two streams and 12 springs have been identified within or bordering this subunit. Surface sites within this subunit include- RSA-046, RSA-064, RSA-217, RSA-218, RSA-219, RSA-220, RSA-221, and RSA-281. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of this site include- test ranges manufacturing/production recreation storage training and utilities. COCs are VOCs, SVOCs, metals, explosives, perchlorate, and MEC. Media of concern is surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1333_CCIU-12_TENNESSEE RIVER WEST

Env Site ID: CCIU-12

Cleanup Site: TENNESSEE RIVER WEST

Alias: IOU-12

Regulatory Driver: RCRA-C

RIP Date: 9/15/2028

RC Date: 9/15/2028

RC Reason: Not assigned

SC Date: 9/16/2028

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 6/15/2010 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 1/15/2015 | 9/15/2028 |
| DES: | -- | -- |
| IRA: | -- | -- |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: CCIU-12 encompasses a total of 1124 acres in the southwest portion of RSA along the Tennessee River. Approximately 1.8 miles of Huntsville Spring Branch are found within this subunit. IOUs are wetland stream and floodplain areas established to address the overall impacts to human health and the environment from upgradient sources which include surface and groundwater RCRA sites. Inundation events in these flood-prone areas have the potential of distributing contaminants over a much broader area. These wetlands streams and floodplain areas span a considerable portion of RSA and these features receive contaminant loading from a number of surface media and groundwater sites. Six surface drainage features classified as permanent or ephemeral streams are located within this subunit. Three of these features connect to RCRA sites. Three springs have been identified within this subunit. Surface sites within this subunit include- RSA-032, RSA-108, RSA-265, and RSA-288. There is potential for off-site migration of contaminants from the IOU sites to the Tennessee River. An IOU Protocol Report of Findings was produced in 2010. An RFI for the IOU sites is planned to begin after completion of the groundwater RFI reports for that unit. The results of the RFI will determine the need for any future corrective actions. Future land uses in the vicinity of this site include- test ranges storage maintenance training and utilities. COCs are VOCs, SVOCs and metals. Media of concern is surface water and springs. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. It is too early to determine if contaminant concentrations will be at a level that allows for UU/UE.

01202.1337_CCRSA-064_INACTIVE MUNITIONS DEMIL/DISPO

Env Site ID: CCRSA-064

Cleanup Site: INACTIVE MUNITIONS DEMIL/DISPO

Alias: RSA-064

Regulatory Driver: RCRA-C

RIP Date: 9/30/2034

RC Date: 9/30/2034

RC Reason: Not assigned

SC Date: 10/2/2063

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 7/15/1997 | 4/15/1999 |
| CS: | -- | -- |
| RFI/CMS: | 4/15/1999 | 8/30/2032 |
| DES: | 10/1/2029 | 9/30/2032 |
| IRA: | 3/15/2011 | 9/30/2026 |
| CMI(C): | 10/1/2032 | 9/30/2034 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2034 | 10/1/2063 |

Site Narrative: Site 01202.1337 (alias RSA-064 and CCRSA-064) is a 0.3-acre site located on an active range. Historical documentation indicates activities associated with RSA-064 included one-time demilitarization and disposal of chemical munitions. Contaminants were believed to have been released by these demilitarization and disposal activities.

Investigations conducted at the site, to date, have shown no MEC, including CWM, and no CA are present on the entire surface of the site or in the subsurface. The site's UXO probability is low and the CWM probability is seldom. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I Intrusive Investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-064 have resulted in no contamination in soil that pose a near-term unacceptable hazard and/or risk to the evaluated receptors. In addition, the investigation found that the site did not contain COCs in soil or groundwater that pose an unacceptable risk to human health or the environment or have the potential for off-site migration. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 8. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of

Basis/Decision Document is expected to be finalized and approved by the Army in 2024. Key document currently underway is the Final IM Report.

The current and anticipated future land use of the site is industrial research and development in support of Redstone Test Center.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative to remove RSA-064 from the RCRA Permit as a site requiring an IM or source removal and defer the RFI following active range closure will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1338_CCRSA-051_INACTIVE MUNITIONS DEMIL & DIS

Env Site ID: CCRSA-051

Cleanup Site: INACTIVE MUNITIONS DEMIL & DIS

Alias: RSA-051

Regulatory Driver: RCRA-C

RIP Date: 9/30/2041

RC Date: 9/30/2041

RC Reason: Not assigned

SC Date: 10/2/2070

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 3/15/1990 | 3/15/2011 |
| CS: | -- | -- |
| RFI/CMS: | 3/15/2011 | 8/30/2038 |
| DES: | 10/1/2035 | 9/30/2038 |
| IRA: | 3/15/2011 | 9/30/2029 |
| CMI(C): | 10/1/2038 | 9/30/2041 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2041 | 10/1/2070 |

Site Narrative: Site 01202.1338 (alias RSA-051 and CCRSA-051) is an approximately 20.5-AC site located in the southwestern portion of RSA, south of Martin Road, within active test ranges TA-1 and TA-6. RSA-051 includes two areas- a northern portion (RSA-051N) and a southern portion (RSA-051S). RSA-051N comprises approximately 18-AC and was used in the late 1940s and early 1950s for OB/OD of CA-filled munitions and incendiary and smoke munitions, including white phosphorous (WP). RSA-051S is approximately 3,000 ft south and slightly east of RSA-051N and encompasses approximately 2.5-AC. This area was not active until after 1950, after the majority of the chemical munitions manufactured and/or stored on the Arsenal had been moved elsewhere or destroyed. Therefore, it was unknown whether RSA-051S was used for the disposal of significant quantities of chemical munitions. RSA-051S was not discovered until 1997, when trenches were observed in historic aerial photographs and a geophysical survey confirmed their presence. Contaminants were believed to have been released by these OB/OD and disposal operations.

Investigations at the site have confirmed the presence of MEC, but no CWM or CA. The site's UXO probability is moderate/high, and the CWM probability is unlikely. Current site access controls include signage and installation administrative processes. Due to test area restrictions the site is not fenced. Future site access controls may include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2020 and concluded that, based on information collected to date, the Army's historical operations at RSA-051 have resulted in the presence of munitions-related items and substances that pose an unacceptable near-term hazard and/or risk to human health and the environment. Based on the IM Phase I intrusive investigation, suspected COCs for the site are MEC, explosives, metals, and one PAH in soil. No COCs in groundwater have been detected. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 3. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development in support of Redstone Test Center.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C) and LTM phases. During the IM Phase II, the recommended alternative of MEC removal from area targets will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1339_CCRSA-052_INACTIVE MUNITIONS DEMIIL & DI

Env Site ID: CCRSA-052

Cleanup Site: INACTIVE MUNITIONS DEMIIL & DI

Alias: RSA-052

Regulatory Driver: RCRA-C

RIP Date: 9/30/2103

RC Date: 9/30/2103

RC Reason: Not assigned

SC Date: 10/2/2132

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 1/15/1995 | 6/15/1995 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/1995 | 8/30/2100 |
| DES: | 10/1/2097 | 9/30/2100 |
| IRA: | 3/15/2011 | 9/30/2094 |
| CMI(C): | 10/1/2100 | 9/30/2103 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2103 | 10/1/2132 |

Site Narrative: Site 01202.1339 (alias RSA-052 and CCRSA-052) is an approximately 63-AC fenced site located in the central part of RSA west of the MSFC West Test Area bounded by Wheeler National Wildlife Refuge to the northwest and south. RSA-052 was used as an OB/OD area for demilitarization and disposal of CA-filled munitions and incendiary and smoke munitions, including white phosphorous, between 1942 and 1949. Upwards of 654,000 munitions items may have been disposed of at the site. At least 25 trenches ranging from 275 to 650 feet in length have been identified, based on previous geophysical surveys. Ordnance and metal fragments have been reported at the ground surface throughout the site. A portion of the area historically identified as Area 11, to which RSA-052 is a part, is located on MSFC property. This area is identified as MSFC-003 West and is the portion of MSFC-003-R-01 (01202.1180) that lies west of the former railroad track. RSA-052 and MSFC-003 West are believed to have similar historic deposition. Contaminants were believed to have been released by these demilitarization and disposal activities.

A TCRA was performed in 2001 to fence the site and install trench markers. The site's UXO probability is moderate/high, and the CWM probability ranges from occasional to frequent. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I was initiated in 2009, but fieldwork was not completed. The CWM site plan was approved by the Department of Defense Explosives Safety Board in 2018 in preparation for future IM Phase I intrusive investigations. Based on historical information, suspected COCs for the site are ABPs, metals, SVOCs, VOCs, pesticides, PCBs, and explosives in groundwater; metals and VOCs in surface water; VOCs, SVOCs, metals, and ABPs in surface soil; VOCs, SVOCs, pesticides, metals, and ABPs in subsurface soil; and pesticides and SVOCs in sediment. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. There are no key documents currently underway. The IM Phase I is planned to be completed in the future. The current and anticipated future land use of the site is industrial research and development in support of Redstone Test Center.

The path forward is to complete IM, RFI/CMS, DES, CMI(C), and LTM. During the IM Phase I, the nature and extent of CWM and/or CA contamination will be determined. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1342_CCRSA-061_INACTIVE MUNITIONS DEMIL/DISPO

Env Site ID: CCRSA-061

Cleanup Site: INACTIVE MUNITIONS DEMIL/DISPO

Alias: RSA-061

Regulatory Driver: RCRA-C

RIP Date: 9/30/2108

RC Date: 9/30/2108

RC Reason: Not assigned

SC Date: 10/2/2137

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 1/15/1995 | 6/15/1995 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/1995 | 8/30/2105 |
| DES: | 10/1/2103 | 9/30/2105 |
| IRA: | 3/15/2011 | 9/30/2099 |
| CMI(C): | 10/1/2106 | 9/30/2108 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2108 | 10/1/2137 |

Site Narrative: Site 01202.1342 (alias RSA-061 and CCRSA-061) is an approximately 65.4-AC site located in the central part of RSA. RSA-061 lies within RSA TA-1, an active missile test range. RSA-061 was used during the 1940s and 1950s for the demilitarization and disposal of white phosphorous and CWM. The munitions were incinerated in disposal trenches, covered, and the residues are suspected to remain in place. Contaminants were believed to have been released by these demilitarization and disposal activities.

Twenty-four trenches and an anomalous pit have been identified with ordnance and metal fragments evident at the surface throughout the site. White phosphorus rounds have also reportedly been found abandoned in this area. The trenches were marked with vertical railroad ties and concrete posts and appear devoid of undergrowth. A TCRA was performed in 2001 to fence the site and install trench markers. The site's UXO probability is moderate/high, and the CWM probability ranges from occasional to frequent. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I was initiated in 2011, but fieldwork was not completed. The CWM site plan was approved by the Department of Defense Explosives Safety Board in 2018 in preparation for future IM Phase I intrusive investigations. Based on historical information, suspected COCs for the site are MEC, VOCs, SVOCs, explosives and ABPs. Migration of COCs off the site and/or RSA is not anticipated due to the

nature of the COCs and location of the site. There are no key documents currently underway. The IM Phase I is planned to be completed in the future. The current and anticipated future land use of the site is industrial research and development in support of Redstone Test Center.

The path forward is to complete IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase I, the nature and extent of CWM and/or CA contamination will be determined. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1348_CCRSA-063_INACTIVE CHEMICAL MUNITIONS DI

Env Site ID: CCRSA-063

Cleanup Site: INACTIVE CHEMICAL MUNITIONS DI

Alias: RSA-063

Regulatory Driver: RCRA-C

RIP Date: 9/30/2038

RC Date: 9/30/2038

RC Reason: Not assigned

SC Date: 10/2/2067

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 1/15/1995 | 6/15/1995 |
| CS: | -- | -- |
| RFI/CMS: | 6/15/1995 | 8/30/2035 |
| DES: | 10/1/2032 | 9/30/2035 |
| IRA: | 3/15/2011 | 9/30/2029 |
| CMI(C): | 10/1/2035 | 9/30/2038 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2038 | 10/1/2067 |

Site Narrative: Site 01202.1348 (alias RSA-063 and CCRSA-063) is an approximately 6.9-AC site located on Test Area 1, an active range in the central portion of RSA. The site was used from the mid-1940s until the early 1950s for the disposal of chemically filled munitions, incendiary munitions and bulk chemicals in two disposal trenches. Contaminants were believed to have been released by munitions and chemical disposal activities within these two trenches.

Previous site investigations confirmed the presence of the two suspected burial trenches. A TCRA was performed to re-fence and install signage around the perimeter of the site in 2001. The site's UXO probability is moderate/high, and the CWM probability ranges from occasional to seldom. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2018 and concluded that, based on information collected to date, the Army's historical operations at RSA-063 have resulted in the presence of munitions-related items and substances that pose potentially unacceptable hazard and/or risk to human health and the environment. Based on the IM Phase I intrusive investigation, suspected COCs for the site are MEC, PCWM, and arsenic in soils. There were no COCs in groundwater identified. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 3. The IM Phase I

Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is an active range in support of Redstone Test Center.

The path forward is to complete IM, RFI/CMS, DES, CMI(C) and LTM phases. During the IM Phase II, the recommended alternative of removal of MEC and PCWM in burial trenches will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1381_CCRSA-281_DISPOSAL TRENCHES AT RSA-046 R

Env Site ID: CCRSA-281

Cleanup Site: DISPOSAL TRENCHES AT RSA-046 R

Alias: RSA-281

Regulatory Driver: RCRA-C

RIP Date: 9/30/2037

RC Date: 9/30/2037

RC Reason: Not assigned

SC Date: 10/2/2066

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|-----------|
| RFA: | 5/15/2009 | 9/15/2009 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2009 | 8/30/2035 |
| DES: | 10/1/2032 | 9/30/2035 |
| IRA: | 3/15/2011 | 9/30/2034 |
| CMI(C): | 10/1/2035 | 9/30/2037 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2037 | 10/1/2066 |

Site Narrative: Site 01202.1381 (alias RSA-281 and CCRSA-281) consists of approximately 7-AC and is located in the southeastern portion of RSA. The site consists of two separate disposal trench areas a northern site (RSA-281N) and a southern site (RSA-281S). RSA-281N occupies approximately 1.70-AC and RSA-281S occupies approximately 5.34-acre. Both areas are located within the footprint of the Climatic Test Center Portion of Redstone Test Center Test Area 4, an operational range. All of RSA-281N and a portion of RSA-281S are located within the active infrared siting range (RSA-046). Both RSA-281N and RSA-281S consist of historical inactive disposal trenches used from the late 1940s to the mid-1950s to support range clearance activities at historical range identified as RSA-046 (not associated with the active infrared siting range). The historic range is believed to be an impact area for WP rounds. Thousands of these rounds are suspected to have been fired into the area. This is substantiated by discoveries of high explosives and WP shell fragments observed during the construction of Building 7297, located 400 feet north of RSA-281S, and near a soil and concrete berm running north-south through the middle of the site construction. Given the proximity of the historic range to the RSA-281 trench features, demilitarization of WP rounds may have occurred at RSA-281. Contaminants were believed to have been released by historical demilitarization and disposal activities at the site.

Previous investigations have confirmed the presence of MEC, including potential CWM. The site has an UXO probability of moderate/high and a CWM probability of occasional. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a

follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-281 have resulted in the presence of MEC that pose an unacceptable hazard and/or risk to human health and the environment. Based on the IM Phase I intrusive investigation, suspected COCs for the site include MEC, metals, and hexachlorobenzene in soil and explosives in groundwater. Migration of COCs off the site and/or RSA is not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 4. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. There are no key documents currently underway. The current and anticipated future land use of the site is industrial research and development.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative of surface clearance and excavation of disposal trenches will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1387_CCRSA-318_SMOKE POT DISPOSAL AREA

Env Site ID: CCRSA-318

Cleanup Site: SMOKE POT DISPOSAL AREA

Alias: RSA-318

Regulatory Driver: RCRA-C

RIP Date: 9/30/2030

RC Date: 9/30/2030

RC Reason: Not assigned

SC Date: 10/2/2059

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 7/15/2013 | 2/15/2014 |
| CS: | -- | -- |
| RFI/CMS: | 8/15/2014 | 8/30/2028 |
| DES: | 10/1/2025 | 9/30/2028 |
| IRA: | -- | -- |
| CMI(C): | 10/1/2028 | 9/30/2030 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2030 | 10/1/2059 |

Site Narrative: Site 01202.1387 (alias RSA-318 and CCRSA-318) is a 0.5-AC site located in the northeast portion of RSA, east of Hansen Road Bridge at the point where Hansen Road crosses McDonald Creek. RSA-318 appears to be a location where either WWII-era smoke pots produced at RSA were tested or where empty containers were disposed of improperly. At the time of discovery there were a number of extensively rusted containers in the waters of McDonald Creek and imbedded in the creek bank. Based on available historical documentation and visual documentation of the containers they appear to match the design of an M4A2 floating smoke pot. Contaminants were believed to have been released by these disposal activities.

The site has a UXO probability of "Low". Current and anticipated future site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

Solid Waste Management Unit Assessment Report was prepared for the site and submitted to ADEM in September 2013. Recommendations for additional investigation at CCRSA-318 are based on site observations, limited analytical data, and the suspected disposal operations. The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an RFI. RFI fieldwork was completed in 2022 and concluded that, based on information collected to date, there are no COCs in soil and the COCs in groundwater are VOCs. Groundwater contamination will be addressed by the RSA-145 (01202.1156) groundwater unit. There is a low potential for migration of COCs off the site and/or RSA due to the nature of the COCs and location of the site. The RFI Report and CMS are expected to be finalized in 2024. There are no key documents currently underway. Current and anticipated future land use is open space/buffer zone.

The path forward is to complete the CMS, DES, CMI(C), and LTM phases. The CMIP will be developed during the DES phase and will recommend LTM with LUCs monitoring/maintenance and periodic

reviews. During the CMI(C) phase, it is assumed the recommended alternative of LUCs will be implemented to manage the residual on-site risk associated with potential MEC. Groundwater will be managed under the RSA-145 groundwater unit. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1403_CCRSA-257_ROCK POND

Env Site ID: CCRSA-257

Cleanup Site: ROCK POND

Alias: RSA-257

Regulatory Driver: RCRA-C

RIP Date: 9/30/2034

RC Date: 9/30/2034

RC Reason: Not assigned

SC Date: 10/2/2063

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|----------|-----------|-----------|
| RFA: | 2/15/2009 | 5/15/2009 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2009 | 8/30/2032 |
| DES: | 9/30/2030 | 9/30/2032 |
| IRA: | 3/15/2011 | 9/30/2026 |
| CMI(C): | 10/1/2032 | 9/30/2034 |
| CMI(O): | -- | -- |
| LTM: | 10/1/2034 | 10/1/2063 |

Site Narrative: Site 01202.1403 (alias RSA-257 and RSA-257) is an approximately 94-acre site, with a terrestrial component and a pond component with multiple small islands present. The site is located on an active range within the boundaries of the Test Area 1 and 2 buffer zones. Historical documents indicate this site was used to mine gravel and sand, and then was later used by the Army beginning in 1943 as a burn pit and disposal area for smoke-filled and incendiary munitions. The resulting melted material is referred to as slag. Contaminants were believed to have been released by these burning and disposal activities.

Investigations at the site have not recovered any MEC, however, MEC is potentially present in slag piles identified at the site on the land and in the water. The site's UXO probability is moderate/high and the CWM probability is unlikely. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2017 and concluded that, based on information collected to date, the Army's historical operations at RSA-257 have resulted in the potential presence of MEC in the slag present on the surface and in the water that poses near-term unacceptable risks to site users. Based on the IM Phase I intrusive investigation, suspected COCs for the site are metals in soil and surface water. No COCs in groundwater have been identified. Migration of COCs off the site and/or RSA is

not anticipated due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is 4. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved in 2024. Key document currently underway is the Final IM Report. The current and anticipated future land use of the site is range/industrial research and development.

The path forward is to complete the IM, RFI/CMS, DES, CMI(C), and LTM phases. During the IM Phase II, the recommended alternative to remove RSA-257 from the RCRA Permit as a site requiring an IM and/or source removal and defer the RFI following active range closure will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and five-year/periodic remedy reviews will continue indefinitely.

01202.1405_CCRSA-264_RR SPRING

Env Site ID: CCRSA-264

Cleanup Site: RR SPRING

Alias: RSA-264

Regulatory Driver: RCRA-C

RIP Date: 9/29/2030

RC Date: 9/29/2030

RC Reason: Not assigned

SC Date: 9/30/2030

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 33.4

RRSE: N/A

MRSPP:

| Phase | Start | End |
|-----------------|-----------|------------|
| RFA: | 8/15/2008 | 12/15/2008 |
| CS: | -- | -- |
| RFI/CMS: | 9/15/2009 | 9/29/2030 |
| DES: | -- | -- |
| IRA: | 3/15/2011 | 9/30/2027 |
| CMI(C): | -- | -- |
| CMI(O): | -- | -- |
| LTM: | -- | -- |

Site Narrative: Site 01202.1405 (alias RSA-264 and CCRSA-264) is an approximately 82-AC site in the south-central section of RSA approximately 350 feet west of Dodd Road south of Huntsville Spring Branch within n-1. The site is comprised of a terrestrial component (approximately 63-AC) and a perennially inundated slough (approximately 19-acre) connecting on-site springs to Huntsville Spring Branch which forms the northern site boundary. RSA-264 lies in the vicinity of a number of former munitions staging demilitarization and/or disposal sites and is co-located within RSA-101 (01202.1114). The site was established based on an interview with a former employee who stated World War II-era munitions items were historically dumped from railcars into Railroad Spring. Contaminants were believed to have been released by the suspected dumping of munitions within and/or near the site.

Investigations conducted at the site have confirmed the presence of MEC on the surface related to TA-1 operations; however, no munitions related to the WWII-era have been identified. The site's UXO probability is low and the CWM probability is unlikely. Current and future anticipated site access controls include signage, fencing, and installation administrative processes. An installation wide IROD establishes LUCs to manage the use of potable and non-potable groundwater within the installation boundary. Sampling frequency is periodic.

The RCRA permit was issued Sept. 30, 2010, renewed July 19, 2021, identifying the site as requiring an IM and/or source removal prior to completion of the RFI; therefore, the RFI is on hold until completion of the IM and/or source removal. The IM activities are being conducted in two phases. The IM Phase I includes actions necessary to complete an investigation to generate the data required to implement a follow-on IM. The IM Phase II includes actions necessary to complete the IM and collect enough data to implement a follow-on recommended action.

The IM Phase I intrusive investigation was completed in 2016 and concluded that, based on information collected to date, the Army's historical operations at RSA-264 have not resulted in the presence of munitions-related items and substances that pose an imminent and unacceptable hazard and/or risk to

human health and the environment. Based on the IM Phase I intrusive investigation, there are no site related COCs for soil or groundwater. However, the US Army's current operational range activities from TA-1 and DDT contamination from the Olin Consent Decree area at RSA-101 do affect RSA-264. RSA-101 DDT contamination on RSA-264 will continue to be managed until the Olin Consent Decree is terminated. Potential for migration of COCs off the site and/or RSA is low due to the nature of the COCs and location of the site. Based on the results of the IM Phase I investigation, the Munition Response Site Priority is No Known or Suspected Hazard. The IM Phase I Recommended Action Plan was finalized and approved by the Army in 2022 and the IM Phase I Statement of Basis/Decision Document is expected to be finalized and approved by the Army in 2024. Key document currently underway is the Final IM Report. The current and anticipated future land use of the site is industrial research and development in support of TA-1.

The path forward is to complete IM and RFI/CMS phases. During the IM Phase II, the recommended alternative to remove RSA-264 from the RCRA Permit as a site requiring an IM and/or source removal and defer the RFI following active range closure will be implemented. Nature and extent of any remaining contamination and site restoration decisions will be evaluated during the RFI/CMS phase. It is anticipated the RFI will result in a boundary change that will transfer RSA-264 site acreage to RSA-101 and TA-1 for future management. Following the completion of the RFI, a CMS will be performed to formally document the boundary change and administratively close the site. It is anticipated that the site will be remediated to a level that allows for UU/UE. LUCs and five-year/periodic remedy reviews will continue until UU/UE is achieved.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

| CRL ID | Site Name | Site Closeout Date |
|------------|---|--------------------|
| 01202.1001 | MSFC-002_INACTIVE ABANDONED DRUM DISPOSAL | 9/30/2007 |
| 01202.1002 | MSFC-003_INACTIVE OLD BONE YARD DISPOSAL | 9/30/2001 |
| 01202.1003 | MSFC-027_INACTIVE WASTE ACCUMULATION AREA | 8/19/2019 |
| 01202.1006 | MSFC-053_FORMER PROPELLANT STORAGE AREA | 4/15/2015 |
| 01202.1007 | MSFC-055_DISMANTLED STAUFFER CHEM.MFG. P | 9/30/1999 |
| 01202.1008 | MSFC-060_INACTIVE DELUGE WATER DRAINAGE | 9/30/1999 |
| 01202.1009 | MSFC-065_FORMER PESTICIDE STORAGE SURFACE | 9/30/1999 |
| 01202.1010 | MSFC-074_INACTIVE DISPOSAL SITE | 4/30/2006 |
| 01202.1011 | MSFC-077_INACTIVE OPEN BURNING/DISPOSAL | 9/30/2008 |
| 01202.1012 | MSFC-082_INACTIVE CHEM.MUNTS.DEMIL/DISP. | 9/30/2004 |
| 01202.1013 | MSFC-D_FORMER FUEL OIL STORAGE CONTAINMENT | 9/30/2004 |
| 01202.1014 | RSA-001_FOX ARMY COMMUNITY HOSPITAL INCI | 2/28/1991 |
| 01202.1015 | RSA-002_IN-GROUND OIL/WATER SEPARATOR, B | 2/28/1991 |
| 01202.1016 | RSA-003_IN-GROUND OIL/WATER SEPARATOR, B | 2/28/1991 |
| 01202.1017 | RSA-004_IN-GROUND OIL/WATER SEPARATOR & | 2/28/1991 |
| 01202.1018 | RSA-005_INACTIVE WASTE ACCUMULATION AREA | 7/31/2017 |
| 01202.1019 | RSA-006_PAINT SHOP & SUMPS BLDG 3634 MOT | 2/28/1991 |
| 01202.1020 | RSA-007_HAZARDOUS WASTE STORAGE AREA, BL | 2/28/1991 |
| 01202.1021 | RSA-008_INACTIVE SEWAGE TREATMENT PLANT | 12/31/2002 |
| 01202.1022 | RSA-009_INACTIVE SEWAGE TREATMENT PLANT | 12/31/2002 |
| 01202.1024 | RSA-011_INACTIVE SEWAGE TREATMENT PLANT | 9/6/2007 |
| 01202.1025 | RSA-012_ACTIVE OPEN BURN PANS | 9/30/1990 |
| 01202.1028 | RSA-015_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1029 | RSA-016_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1030 | RSA-017_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1031 | RSA-018_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1032 | RSA-019_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1033 | RSA-020_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1034 | RSA-021_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1035 | RSA-022_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1036 | RSA-023_HAZARDOUS WASTE STORAGE IGLOO, N | 9/30/1990 |
| 01202.1037 | RSA-024_HAZ. WASTE VACANT STORAGE IGLOO, | 9/30/1990 |
| 01202.1038 | RSA-025_HAZ. WASTE VACANT STORAGE IGLOO, | 9/30/1990 |
| 01202.1039 | RSA-026_HAZ. WASTE VACANT STORAGE IGLOO, | 9/30/1990 |
| 01202.1040 | RSA-027_HAZ. WASTE VACANT STORAGE IGLOO, | 9/30/1990 |
| 01202.1041 | RSA-028_IN-GROUND OIL/WATER SEPARATOR, 5 | 9/30/1990 |
| 01202.1042 | RSA-029_REDSTONE ARSENAL SANITARY SEWER | 9/30/1990 |
| 01202.1043 | RSA-030_CENTRAL OIL/WATER SEPARATOR | 9/30/1990 |
| 01202.1044 | RSA-031_CENTRAL OIL/WATER SEPARATOR STORAGE | 9/30/1990 |
| 01202.1045 | RSA-032_INACTIVE SCRAP METAL STORAGE AREA | 7/26/2017 |
| 01202.1046 | RSA-033_PLATING ROOM FLOOR DRAINS, BLDG. | 9/30/1990 |
| 01202.1047 | RSA-034_WASTE AVIATION FUEL TEMP. STORAGE | 9/30/1990 |

| CRL ID | Site Name | Site Closeout Date |
|------------|--|--------------------|
| 01202.1048 | RSA-035_IN-GROUND OIL/WATER SEPARATOR, B | 9/30/1990 |
| 01202.1049 | RSA-036_IN-GROUND OIL/WATER SEPARATOR, B | 9/30/1990 |
| 01202.1050 | RSA-037_REMOVED USED OIL UST SITE, TANK | 9/30/1990 |
| 01202.1051 | RSA-038_REMOVED USED OIL UST SITE, TANK | 3/31/1996 |
| 01202.1052 | RSA-039_REMOVED #2 FUEL OIL UST SITE, TA | 8/31/1993 |
| 01202.1053 | RSA-040_REMOVED USED OIL UST SITE, TANK | 3/31/1996 |
| 01202.1054 | RSA-041_REMOVED USED OIL UST SITE, TANK | 7/31/1992 |
| 01202.1055 | RSA-042_REMOVED O.W. SEP.STORAGE TANK #4 | 9/30/1990 |
| 01202.1056 | RSA-043_REMOVED USED OIL UST SITE, TANK | 4/30/1993 |
| 01202.1057 | RSA-044_REMOVED USED OIL UST SITE, TANK | 9/30/1990 |
| 01202.1059 | RSA-046_INACTIVE CHEMICAL MUNITION & DEM | 9/30/2004 |
| 01202.1060 | RSA-047_FORMER CHEMICAL TRAINING OPERATI | 9/30/2007 |
| 01202.1063 | RSA-050_INACTIVE MUNITIONS DEMIL & DISPO | 1/2/2019 |
| 01202.1064 | RSA-051_INACTIVE MUNITIONS DEMIL & DISPO | 3/15/2011 |
| 01202.1065 | RSA-052_INACTIVE MUNITIONS DEMIL & DISPO | 3/15/2015 |
| 01202.1068 | RSA-055_INACTIVE SANITARY & INDUSTRIAL L | 2/28/2002 |
| 01202.1074 | RSA-061_INACTIVE MUNITIONS DEMIL & DISPO | 3/15/2015 |
| 01202.1075 | RSA-062_INACTIVE MUNITIONS DEMIL & DISPO | 2/28/2002 |
| 01202.1076 | RSA-063_INACTIVE CHEMICAL MUNITION STORA | 3/15/2015 |
| 01202.1077 | RSA-064_INACTIVE MUNITION DEMIL & DISPOS | 3/15/2015 |
| 01202.1079 | RSA-066_INACTIVE ASH DISPOSAL SITE & DEM | 3/15/2015 |
| 01202.1081 | RSA-068_INACTIVE TOXIC CHEMICAL DISPOSAL | 3/15/2015 |
| 01202.1083 | RSA-070_FORMER CHEMICAL DRUM STORAGE ARE | 2/28/2002 |
| 01202.1084 | RSA-071_HIGH EXPLOSIVE DROP TEST SITE AR | 9/30/1990 |
| 01202.1085 | RSA-072_MORTAR SHELL TEST SITE AREA | 9/30/1990 |
| 01202.1086 | RSA-073_HIGH EXPLOSIVE IMPACT TEST SITE | 9/30/1990 |
| 01202.1087 | RSA-074_HIGH EXPLOSIVE IMPACT TEST SITE | 9/30/1990 |
| 01202.1088 | RSA-075_INACTIVE SOLID WASTE INCINERATOR | 9/30/1990 |
| 01202.1089 | RSA-076_REMOVED RDX/HMX FILTRATION UNIT | 9/30/1990 |
| 01202.1090 | RSA-077_REMOVED RDX/HMX FILTRATION UNIT | 9/30/1990 |
| 01202.1091 | RSA-078_FORMER RDX/HMX FILTER UNIT 1 SUM | 9/30/1990 |
| 01202.1092 | RSA-079_FORMER RDX/HMX FILTER UNIT 2 SUM | 9/30/1990 |
| 01202.1093 | RSA-080_FORMER RDX/HMX SUSPEN.TRANSFER P | 9/30/1990 |
| 01202.1094 | RSA-081_REMOVED RDX/HMX CHARCOAL COLUMN | 9/30/1990 |
| 01202.1095 | RSA-082_FORMER SPARGE UNIT SITE, BLDG. 7 | 9/30/2000 |
| 01202.1097 | RSA-084_INACTIVE PROPELLANT WASTES STORA | 6/30/1997 |
| 01202.1098 | RSA-085_INACTIVE PROPELLANT WASTES STORA | 9/30/1990 |
| 01202.1099 | RSA-086_INACTIVE PROPELLANT WASTES STORA | 9/30/1990 |
| 01202.1100 | RSA-087_INACTIVE PROPELLANT WASTES STORA | 9/15/2015 |
| 01202.1101 | RSA-088_INACTIVE PROPELLANT WASTES STORA | 9/15/2015 |
| 01202.1102 | RSA-089_INACTIVE PROPELLANT WASTES STORA | 9/30/2005 |
| 01202.1103 | RSA-090_INACTIVE PROPELLANT WASTES STORA | 9/30/1990 |
| 01202.1104 | RSA-091_INACTIVE PROPELLANT WASTES STORA | 9/30/1990 |
| 01202.1105 | RSA-092_INACTIVE PROPELLANT WASTES STORA | 9/30/1990 |
| 01202.1106 | RSA-093_FORMER RECLAIMED EMPTY DRUM STOR | 9/30/1990 |

| CRL ID | Site Name | Site Closeout Date |
|------------|--|--------------------|
| 01202.1107 | RSA-094_CHLORINATED-SOLVENT DISTILLATION | 9/30/2009 |
| 01202.1108 | RSA-095_CHLORINATED-SOLVENT DISTILLATION | 9/21/2017 |
| 01202.1109 | RSA-096_CHLORINATED-SOLVENT DISTILLATION | 3/15/2015 |
| 01202.1110 | RSA-097_CHLORINATED-SOLVENT DISTILLATION | 1/15/2013 |
| 01202.1111 | RSA-098_CHLORINATED-SOLVENT DISTILLATION | 9/30/2009 |
| 01202.1112 | RSA-099_ABANDONED PLATING SHOP TANKS & S | 9/30/2004 |
| 01202.1113 | RSA-100_REMOVED ABOVE GROUND USED OIL TA | 9/30/1990 |
| 01202.1114 | RSA-101_ENCAPSULATED PESTICIDE CONTAM. S | 9/30/1987 |
| 01202.1115 | RSA-102_DISMANTLED PESTICIDE MFG. PLANT | 9/30/1987 |
| 01202.1116 | RSA-103_CAPPED PESTICIDE SETTLING LAGOON | 9/30/1987 |
| 01202.1117 | RSA-104_ABANDONED ISP WASTE DISCHARGE LI | 9/30/2005 |
| 01202.1118 | RSA-105_INACTIVE CLOSED DDT DRAINAGE DIT | 9/30/1987 |
| 01202.1119 | RSA-106_EARTHEN RETENTION DAMS FOR DDT M | 9/30/1987 |
| 01202.1120 | RSA-107_CLOSED DDT CONTAM.SOILS/DEBRIS L | 9/30/1982 |
| 01202.1121 | RSA-108_TEST RANGE 4 MISSILE IMPACT SITE | 6/30/1997 |
| 01202.1123 | RSA-110_FORMER CHEMICAL DRUM STORAGE ARE | 3/15/2015 |
| 01202.1124 | RSA-111_CONSTRUCTION DEBRIS | 9/30/1990 |
| 01202.1129 | RSA-116_FORMER OPERATIONS AT SO. SIDE LA | 12/31/2002 |
| 01202.1131 | RSA-118_INACTIVE IND. DITCH & DISCHARGE | 9/30/2004 |
| 01202.1132 | RSA-119_ISP INTERNATIONAL MANUFACTURING | 9/30/1990 |
| 01202.1133 | RSA-120_MATTHEWS CAVE AND RAVINE | 9/30/1990 |
| 01202.1134 | RSA-121_PAINT SHOP/PAINT WASHOUT BOOTH, | 9/30/1990 |
| 01202.1136 | RSA-123_INACTIVE CEMENT PLANT SUMP | 9/30/1990 |
| 01202.1137 | RSA-124_DISMANTLED CALGON WTP PROCESS EQ | 9/30/1990 |
| 01202.1138 | RSA-125_WASTE ACCUMULATION AREA, BLDG. | 9/30/1990 |
| 01202.1139 | RSA-126_INACTIVE OPEN BURN TRENCH | 4/6/2021 |
| 01202.1140 | RSA-127_PHOTO LAB WASTEWATER SUMP, BLDG. | 9/30/1990 |
| 01202.1141 | RSA-128_INACTIVE MUSTARD GAS DEMIL AREA | 2/28/2002 |
| 01202.1142 | RSA-129_FORMER BURN PAD & CAPPED WASHOUT | 9/30/2005 |
| 01202.1143 | RSA-130_INACTIVE PHOTOLAB SEPTIC TANK-BL | 10/31/1997 |
| 01202.1144 | RSA-131_ACTIVE OPEN DETONATION AREA | 9/30/1990 |
| 01202.1145 | RSA-132_DISMANTLED & REMOVED POPPING FUR | 11/30/2017 |
| 01202.1146 | RSA-133_INACTIVE ROCKET WASHOUT RACK & S | 11/30/2017 |
| 01202.1147 | RSA-134_INACTIVE DISPOSAL TRENCH & BURN | 10/15/2012 |
| 01202.1148 | RSA-135H_INACTIVE SUMP FOR 1.1 PROPELLAN | 8/12/2019 |
| 01202.1149 | RSA-138M_INACTIVE TEMPORARY STORAGE AREA | 8/30/2014 |
| 01202.1152 | RSA-141_4.2 INCH MORTAR DISPOSAL SITE, B | 3/31/2008 |
| 01202.1155 | RSA-144_CHLORINATED-SOLVENT DISTILLATION | 9/30/2012 |
| 01202.1165 | RSA-A_INACTIVE PROPELLANT STORAGE WELLS | 11/15/2013 |
| 01202.1166 | RSA-B_ABANDONED ARMY PROPELLANT MFG.BLDG | 6/30/1997 |
| 01202.1167 | RSA-C_ABANDONED ARMY PROPELLANT MIXER BL | 2/29/2012 |
| 01202.1168 | RSA-D_FORMER CYANIDE-BASE PAINTING OPERA | 9/30/2008 |
| 01202.1169 | RSA-E_FUEL OIL SPILL FROM TANK #5693 | 12/31/2002 |
| 01202.1170 | RSA-F_FORMER OPERATIONS AT OPEN STORAGE | 12/31/2002 |
| 01202.1194 | PBCatRedstone_FY05 PBC | 9/15/2016 |

| CRL ID | Site Name | Site Closeout Date |
|------------|---|--------------------|
| 01202.1195 | RSA-187_ NORTHERN THIOKOL MIXING FACILITY | 10/31/2013 |
| 01202.1197 | RSA-190_ DISPOSAL/DRAINAGE AREA WEST OF R | 11/30/2011 |
| 01202.1198 | RSA-191_ ROP LINE 1 SERVICE FACILITIES | 12/31/2012 |
| 01202.1199 | RSA-192_ TETRYL AND IGNITER PROCESSING (R | 8/30/2013 |
| 01202.1200 | RSA-193_ THIOKOL IGNITER PREPARATION FACI | 3/15/2014 |
| 01202.1201 | RSA-194_ PHYSICAL TEST LABORATORY & STORA | 2/28/2019 |
| 01202.1202 | RSA-195_ THIOKOL PROPELLANT MIX FACILITY | 1/8/2013 |
| 01202.1203 | RSA-196_ TEST STAND AND CLEANING BUILDING | 9/11/2009 |
| 01202.1204 | RSA-197_ ROCKET MOTOR TEST STAND | 9/30/2010 |
| 01202.1205 | RSA-198_ THIOKOL EQUIPMENT/TOOL CLEANING | 1/28/2019 |
| 01202.1206 | RSA-199_ THIOKOL PROPELLANT MIX FACILITY | 1/17/2019 |
| 01202.1207 | RSA-200_ ROP LINE 5 AREA OPERATIONS FACIL | 1/15/2016 |
| 01202.1208 | RSA-201_ THIOKOL RESEARCH LABORATORY | 6/16/2022 |
| 01202.1209 | RSA-202_ GRADED AREA NW OF ROP STORAGE | 9/30/2012 |
| 01202.1210 | RSA-203_ IGLOO AREA LOADING DOCK | 6/30/2013 |
| 01202.1212 | RSA-205_ PHOTO LAB & MOTOR SERVICE FACILI | 11/30/2012 |
| 01202.1214 | RSA-207_ ROHM & HAAS GORGAS LABORATORY | 1/15/2013 |
| 01202.1215 | RSA-208_ SOUTH PLANT TESTING FACILITIES | 8/12/2019 |
| 01202.1217 | RSA-210_ NITROGLYCERINE WASH HOUSE | 1/15/2016 |
| 01202.1218 | RSA-211_ SOUTH PLANT STORAGE MAGAZINES | 5/31/2013 |
| 01202.1219 | RSA-212_ PROPELLANT DRY HOUSES | 1/15/2016 |
| 01202.1220 | RSA-213_ ROP LINE 4 AREA OPS FACILITY | 10/31/2013 |
| 01202.1221 | RSA-214_ ROP LINE 6 AREA OPS FACILITY | 11/30/2011 |
| 01202.1222 | RSA-215_ RSA-146 HISTORIC SERVICE FACILIT | 8/31/2013 |
| 01202.1224 | RSA-218_ DRMO OPEN STORAGE AREA | 8/12/2019 |
| 01202.1226 | RSA-220_ CONSTRUCTION MATERIAL STORAGE YA | 3/31/2016 |
| 01202.1227 | RSA-223_ CENTRAL RAILROAD CLASSIFICATION | 9/30/2007 |
| 01202.1228 | RSA-224_ CONTAINER STORAGE AREA | 9/30/2008 |
| 01202.1230 | RSA-226_ OPEN STORAGE 54-2 | 3/31/2016 |
| 01202.1231 | RSA-227_ INACTIVE WASHRACK | 9/30/2017 |
| 01202.1232 | RSA-228_ SEWAGE TREATMENT PLANT 2 | 7/15/2017 |
| 01202.1233 | RSA-229_ FORMER PX SERVICE STATION | 10/31/2007 |
| 01202.1234 | RSA-232_ SMF #1 SERVICE STATION | 9/30/2007 |
| 01202.1235 | RSA-230_ ABANDONED RUBBLE PILE | 4/17/2019 |
| 01202.1236 | RSA-231_ SMF #1 MIXING & PREP FACILITIES | 12/8/2020 |
| 01202.1237 | RSA-233_ SMF#2 MIXING AND PREPARATION FAC | 12/20/2016 |
| 01202.1238 | RSA-234_ WASTE DISPOSAL PIT | 7/31/2008 |
| 01202.1239 | RSA-235_ BULK FUEL STORAGE FACILITY | 9/30/2007 |
| 01202.1240 | RSA-236_ GRENADE PACKING AND ASSEMBLY | 9/30/2008 |
| 01202.1241 | RSA-237_ PROPELLANT CUTTING AND DRYING | 1/31/2016 |
| 01202.1242 | RSA-239_ LINE # 1 BOILER HOUSE | 5/30/2018 |
| 01202.1249 | RSA-189_ MOTOR/OXIDIZER PREP FACILITIES | 3/31/2012 |
| 01202.1250 | RSA-249_ INACTIVE OLD BONEYARD DISPOSAL S | 1/31/2009 |
| 01202.1253 | RSA-253_ UTILITY/FLAMMABLE MATERIALS STOR | 2/28/2013 |
| 01202.1254 | CCRSA-316_ 7500 AREA HARDSTAND PARKING | 9/13/2017 |

| CRL ID | Site Name | Site Closeout Date |
|------------|--|--------------------|
| 01202.1255 | RSA-255_MANGANESE ORE STORAGE AREA N. of | 2/2/2023 |
| 01202.1257 | CCRSA-319_FORMER OWS, BLDG 4812 AND PAD | 12/22/2022 |
| 01202.1258 | RSA-258_FORMER PAINT SPRAY BUILDING 7862 | 8/31/2016 |
| 01202.1261 | RSA-261_LANCE MISSILE CONDITIONING FACIL | 1/31/2013 |
| 01202.1265 | RSA-265_GASOLINE DRUM STORAGE AREA | 8/19/2016 |
| 01202.1270 | RSA-272_FORMER UST FOR BOILER UNIT BLD 7 | 1/31/2013 |
| 01202.1271 | RSA-273_PROPELLANT CONDITIONING AND MOTO | 8/31/2013 |
| 01202.1272 | RSA-274_PHYSICS LABORATORY &HIGH EXPLOSI | 1/31/2016 |
| 01202.1273 | RSA-275_FORMER FILM PROCESSING LABORATOR | 3/2/2022 |
| 01202.1274 | RSA-276_FORMER BOILER HOUSE, BLDG 7362 | 1/31/2013 |
| 01202.1275 | RSA-281_DISPOSAL TRENCHES AT RSA-046 RAN | 3/15/2015 |
| 01202.1283 | CCSWMU-E_#2 FUEL OIL SPILL TANK #5693, F | 9/13/2019 |
| 01202.1287 | CCSWMU-288_WTP#1, SLUDGE THICKENER & DRY | 5/3/2016 |
| 01202.1288 | CCSWMU-289_WTP#2, SLUDGE THICKENER & DRY | 5/13/2016 |
| 01202.1289 | CCSWMU-287_COMPONENT STORAGE WAREHOUSE, | 9/30/2017 |
| 01202.1290 | CCSWMU-283_FORMER PRIMARY SUBSTATION NO. | 10/27/2018 |
| 01202.1291 | CCSWMU-284_FIRE TRAINING AREA (FTA) | 12/19/2020 |
| 01202.1294 | CCSWMU-305_DISPATCHER OFC WITH WASHRACK, | 9/30/2014 |
| 01202.1295 | CCSWMU-035_IN-GROUND OIL/WATER SEPARATOR | 12/15/2016 |
| 01202.1296 | CCSWMU-248_BATTERY MAINTENANCE SHOP, BLD | 6/15/2017 |
| 01202.1298 | CCSWMU-268_SEWAGE TREATMENT PLANT, BLDG | 1/31/2016 |
| 01202.1299 | CCSWMU-240_FORMER SUBSTATION NO.7, BLDG | 3/15/2016 |
| 01202.1300 | CCSWMU-246_SEWER EJECTOR & MOTOR POOL, B | 11/7/2017 |
| 01202.1301 | CCSWMU-247_STEEL FABRICATION/MAINTENANCE | 12/16/2021 |
| 01202.1302 | CCSWMU-277_B5487 WW MAINT SHOP ACID BATH | 9/15/2015 |
| 01202.1304 | CCSWMU-F_FENCED OPEN STORAGE/LAYDOWN YAR | 12/17/2020 |
| 01202.1305 | CCSWMU-143_POL-CONTAM. SOIL, B.3234 SOUT | 9/30/2017 |
| 01202.1307 | CCSWMU-030_CENTRAL OIL WATER SEPARATOR | 9/24/2020 |
| 01202.1308 | CCSWMU-031_CENTRAL OIL WATER SEPARATOR S | 9/30/2014 |
| 01202.1312 | CCRSA-309_COVERED TRENCH & SUMP AT BLDG | 7/29/2020 |
| 01202.1313 | CCRSA-310_Former & Suspected OWS at Bldg | 6/15/2016 |
| 01202.1318 | CCRSA-257_Rock Pond | 6/30/2011 |
| 01202.1319 | CCRSA-264_RR spring | 3/15/2015 |
| 01202.1320 | CCRSA-266_Open Storage area N. of Bldg 8 | 1/8/2019 |
| 01202.1390 | CCSWMU-216_LABORATORY INJECTION TEST FAC | 1/3/2019 |
| 01202.1393 | CCSWMU-222_ROADS & GROUNDS MAINTENANCE S | 3/15/2016 |
| 01202.1395 | CCSWMU-241_HW STORAGE IGLOO, BLDG 7313 | 12/3/2018 |
| 01202.1396 | CCSWMU-242_HW STORAGE IGLOO, BLDG 7314 | 11/1/2021 |
| 01202.1397 | CCSWMU-243_PROPELLANT STORAGE, BLDG 7342 | 9/15/2015 |
| 01202.1399 | CCSWMU-245_STEAM HEATING PLANT, BLDG 757 | 7/14/2020 |
| 01202.1401 | CCSWMU-290_WTP#3, SLUDGE THICKENER & DRY | 7/16/2020 |
| 01202.1413 | CCSWMU-182_1.1 GRINDER BLDG P2, TSA BLDG | 5/15/2015 |
| 01202.1171 | RSA-046-R-01_RSA-46 | 5/30/2003 |
| 01202.1172 | RSA-071-R-01_RSA-71 | 5/1/2003 |
| 01202.1173 | RSA-073-R-01_RSA-73 | 5/1/2003 |

| CRL ID | Site Name | Site Closeout Date |
|------------|--|--------------------|
| 01202.1174 | RSA-074-R-01_RSA-74 | 5/1/2003 |
| 01202.1176 | RSA-065-R-01_RSA-65 | 5/30/2003 |
| 01202.1177 | RSA-004-R-01_SMOKE GRENADE AREA | 5/30/2003 |
| 01202.1178 | RSA-003-R-01_RIFLE RANGE | 5/1/2003 |
| 01202.1179 | RSA-001-R-01_HIGHWAY 565 AREA | 5/30/2003 |
| 01202.1181 | RSA-002-R-01_MSFC-3E | 5/31/2003 |
| 01202.1182 | MSFC-077-R-01_MSFC-77 | 9/30/2008 |
| 01202.1183 | MSFC-082-R-01_MSFC-82 | 5/30/2003 |
| 01202.1184 | RSA-013-R-01_RSA-13 | 5/30/2003 |
| 01202.1185 | RSA-014-R-01_RSA-14 | 5/30/2003 |
| 01202.1187 | RSA-067-R-01_RSA-67 | 5/30/2003 |
| 01202.1189 | RSA-069-R-01_RSA-69 | 5/30/2003 |
| 01202.1190 | RSA-070-R-01_RSA-70 | 5/30/2003 |
| 01202.1192 | RSA-132-R-01_RSA-132 | 5/30/2003 |
| 01202.1277 | RSA-279-R-01_Smoke Grenade Area | 9/30/2008 |
| 01202.1310 | PBA@MR Redston_PBA@MR Redstone | 3/15/2015 |
| 01202.1321 | RSA-285-R-01_Former WP Grenade Test Area | 4/30/2015 |
| 01202.1324 | RSA-294-R-01_FIELD TRAINING EX. AREA E | 8/16/2019 |
| 01202.1332 | CCSWMU-002_IN-GROUND OIL/WATER SEPARATOR | 5/31/2006 |
| 01202.1334 | CCSWMU-004_IN-GROUND OWS & WASH RACK BLD | 10/31/2006 |
| 01202.1335 | CCSWMU-006_PAINT SHOP & SUMP AT MOTOR PO | 9/30/1991 |
| 01202.1336 | CCSWMU-012_ACTIVE OPEN BURN PANS, UNIT 2 | 9/30/2008 |
| 01202.1340 | CCSWMU-033_PLATING ROOMS FLOOR DRAINS BU | 10/31/2000 |
| 01202.1341 | CCSWMU-034_WASTE AVIATION FUEL TEMPORARY | 6/30/2005 |
| 01202.1343 | CCSWMU-036_IN-GROUND OIL/WATER SEPARATOR | 10/31/2001 |
| 01202.1344 | CCSWMU-037_USED OIL UST AT BLDG 7857 | 7/31/2011 |
| 01202.1345 | CCSWMU-042_USED OIL UST AT BLDG 4812 | 1/31/2007 |
| 01202.1346 | CCSWMU-044_USED OIL UST AT BLDG 5435B | 5/31/2007 |
| 01202.1347 | CCSWMU-085_INACTIVE TEMPORARY WASTE STOR | 2/28/2006 |
| 01202.1349 | CCSWMU-121_PAINT SHOP & PAINT WASHOUT BO | 6/30/2004 |
| 01202.1350 | CCSWMU-125_SATELLITE WASTE ACCUMULATION | 11/30/2002 |
| 01202.1351 | CCSWMU-127_PHOTO LAB PROCESS WW SUMP BLD | 10/31/2006 |
| 01202.1352 | CCRSA-066_INACTIVE ASH DISPOSAL SITE, AR | 12/15/2013 |
| 01202.1353 | CCSWMU-158_FLAMMABLE MATERIAL STORAGE BL | 10/31/2004 |
| 01202.1354 | CCSWMU-159_CHEMICAL CONTAINMENT STORAGE, | 11/30/2004 |
| 01202.1355 | CCSWMU-160_MIXER BLDG, TSA BLDG 7339 | 12/31/2004 |
| 01202.1356 | CCSWMU-161_CASE PREP BLDG, TSA BLDG 7346 | 12/31/2004 |
| 01202.1357 | CCSWMU-162_SMALL MOTOR LOADING T, TSA BL | 12/31/2004 |
| 01202.1358 | CCSWMU-163_PROPELLANT MIXER, TSA BLDG 73 | 2/28/2005 |
| 01202.1359 | CCSWMU-164_MIXER BLDG, TSA BLDG 7356 | 12/31/2004 |
| 01202.1360 | CCSWMU-165_CASTING BLDG, TSA BLDG 7360 | 2/29/2004 |
| 01202.1361 | CCSWMU-166_LINER PREPARATION, TSA BLDG 7 | 2/29/2004 |
| 01202.1362 | CCSWMU-167_MIXER BLDG, TSA BLDG 7382 | 2/29/2004 |
| 01202.1363 | CCSWMU-168_MOTOR CASTING AND PROCESSING | 2/29/2004 |
| 01202.1364 | CCSWMU-169_MOTOR ASSEMBLY AND PACKOUT, T | 5/31/2006 |

| CRL ID | Site Name | Site Closeout Date |
|------------|--|--------------------|
| 01202.1365 | CCSWMU-170_DEAERATION CLEANUP, TSA BLDG | 7/31/2011 |
| 01202.1366 | CCSWMU-171_PROPELLANT MIXING, TSA BLDG 7 | 2/28/2005 |
| 01202.1367 | CCSWMU-172_MOTOR POOL, TSA, BLDG 7630 | 7/31/2011 |
| 01202.1368 | CCSWMU-173_CHEMISTRY LAB, PAD #1, TSA, B | 12/31/2004 |
| 01202.1369 | CCSWMU-174_CHEMISTRY LAB, PAD #2, TSA, B | 7/31/2011 |
| 01202.1370 | CCSWMU-175_PHYSICAL PROPERTY LAB, PAD #1 | 12/31/2004 |
| 01202.1371 | CCSWMU-176_PHYSICAL PROPERTY LAB, PAD #2 | 2/28/2005 |
| 01202.1372 | CCSWMU-177_SMALL MOTOR FINISHING, TSA, B | 1/31/2009 |
| 01202.1373 | CCSWMU-178_CONTROL LAB AND FIRST AID, PA | 2/28/2005 |
| 01202.1374 | CCSWMU-179_CONTROL LAB/FIRST AID, PAD #2 | 10/31/2005 |
| 01202.1375 | CCSWMU-180_NITRAMINE DRYING PILOT, TSA, | 12/31/2004 |
| 01202.1376 | CCSWMU-181_NITRAMINE GRINDING PILOT, TSA | 2/29/2004 |
| 01202.1377 | CCSWMU-182_1.1 GRINDER BLDG P2, TSA, BLD | 12/31/2012 |
| 01202.1378 | CCRSA-068_INACTIVE CHEMICAL DISPOSAL, AR | 3/15/2014 |
| 01202.1379 | CCRSA-110_FORMER DRUM STORAGE/CONSTRUCTI | 3/15/2014 |
| 01202.1380 | CCRSA-188_NORTHERN BURIAL AREA/BURNING G | 3/15/2014 |
| 01202.1382 | CCSWMU-241_HW STORAGE IGLOO, BLDG 7313 | 12/15/2012 |
| 01202.1383 | CCSWMU-242_HW STORAGE IGLOO, BLDG 7314 | 12/15/2012 |
| 01202.1384 | CCSWMU-243_PROPELLANT STORAGE, BLDG 7342 | 12/15/2012 |
| 01202.1385 | CCSWMU-244_PROPELLANT MIXER BLDG, BLDG 7 | 12/31/2009 |
| 01202.1391 | CCSWMU-216_LABORATORY INJECTION TEST FAC | 9/15/2019 |
| 01202.1392 | CCSWMU-222_ROADS & GROUNDS MAINTENANCE S | 12/15/2012 |
| 01202.1394 | CCSWMU-270_HW TSA & RECYCLING FACILITY, | 4/30/2006 |
| 01202.1404 | CCSWMU-292_UST AT BLDG 3311,BOILER COMPR | 7/31/2008 |
| 01202.1406 | CCSWMU-295_HAZARDOUS WASTE TSA, BLDG 333 | 1/31/2008 |
| 01202.1407 | CCSWMU-298_HAZARDOUS WASTE TSA, BLDG 840 | 5/31/2008 |
| 01202.1408 | CCSWMU-299_HAZARDOUS WASTE TSA, BLDG 721 | 5/31/2008 |
| 01202.1409 | CCSWMU-300_HAZARDOUS WASTE TSA, BLDG 717 | 5/31/2008 |
| 01202.1410 | CCSWMU-301_HAZARDOUS WASTE TSA, BLDG 717 | 5/31/2008 |
| 01202.1411 | CCSWMU-302_HAZARDOUS WASTE TSA, BLDG 380 | 5/31/2008 |
| 01202.1412 | CCSWMU-303_HAZARDOUS WASTE TSA, BLDG 770 | 5/31/2008 |
| 01202.1416 | CCSWMU-307_HAZARDOUS WASTE TSA, B & C, B | 6/30/2008 |

COMMUNITY INVOLVEMENT

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|--|--|
| Community Involvement Plan (Date Last Reviewed): | 06/2021 |
| Technical Review Committee Establishment Date: | N/A |
| Restoration Advisory Board (RAB) Establishment Date: | N/A |
| RAB Adjournment Date: | N/A |
| RAB Adjournment Reason: | N/A |
| Reasons for Not Establishing RAB: | No sufficient, sustained community interest in a RAB has been expressed by the community |
| RAB Date of Solicitation from Community: | 09/29/2022 |
| RAB Results of Solicitation: | N/A |
| Current Technical Assistance for Public Participation (TAPP): | N/A |
| TAPP Title: | N/A |
| Potential TAPP: | N/A |
| Administrative Record Location: | N/A |
| Information Repository Location: | N/A |

FIVE-YEAR / PERIODIC REVIEW SUMMARY

| Status | Review Type | Start Date | End Date | Plans Narrative | Actions Narrative | Results Narrative |
|-----------|-------------|------------|------------|--|---|--|
| Underway | PR | 10/26/2020 | 10/26/2025 | N/A | N/A | N/A |
| Completed | PR | 9/30/2015 | 10/26/2020 | No recommendations or follow-up actions are required since there are no issues identified. | No recommendations or follow-up actions are required. | For sites RSA-049, RSA-053, RSA-054, RSA-055, RSA-056, RSA-139, RSA-057, RSA-095, RSA-250, and RSA-145 through RSA-157 the remedy is protective of human health and the environment. For sites RSA-058, RSA-060, RSA-142, RSA-183, RSA-204, and RSA-247 the remedy is expected to be protective of human health and the environment upon completion. |