

FY2016

ANNISTON ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Action Plan

Printed 29 August 2016

Table of Contents

| | |
|---|----|
| Statement Of Purpose..... | 1 |
| Acronyms..... | 2 |
| Acronym Translation Table..... | 6 |
| Site Alias List..... | 7 |
| Installation Information..... | 8 |
| 5-Year / Periodic Review Summary..... | 10 |
| Land Use Control (LUC) Summary..... | 11 |
| Cleanup Program Summary..... | 12 |
| Installation Restoration Program..... | 15 |
| IRP Summary..... | 16 |
| IRP Contamination Assessment..... | 18 |
| IRP Previous Studies..... | 22 |
| Installation Restoration Program Site Descriptions..... | 27 |
| ANAD-01 SITE Z-1 TRENCHES AREA..... | 28 |
| ANAD-05 SINKHOLE (NEAR EASTERN BOUNDARY)..... | 30 |
| ANAD-07 CHEMICAL WASTE DISPOSAL PIT..... | 31 |
| ANAD-08 ACID DISPOSAL PIT..... | 32 |
| ANAD-09 CALCIUM HYPOCHLORITE BURIAL PIT..... | 33 |
| ANAD-10 TNT WASHOUT FACILITY SEDIMENTATION TANK..... | 34 |
| ANAD-11 TNT LEACHING BEDS..... | 35 |
| ANAD-12 FACILITY 414 (OLD LAGOONS)..... | 36 |
| ANAD-13 ACID CHEMICAL WASTE PIT..... | 37 |
| ANAD-19 OLD STP (EAST AREA)..... | 38 |
| ANAD-20 NEW STP (EAST AREA)..... | 39 |
| ANAD-21 ABRASIVE DUST LANDFILL..... | 40 |
| ANAD-22 A-BLOCK LAGOON (FACILITY 514)..... | 41 |
| ANAD-23 ASBESTOS WASTE DISPOSAL TRENCH..... | 42 |
| ANAD-24 OLD SANITARY LANDFILL..... | 43 |
| ANAD-27 SOUTH TNT BURIAL PIT..... | 44 |
| ANAD-28 WASTE WOOD LANDFILL,NORTHEAST PART DEPOT..... | 45 |
| ANAD-29 OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573)..... | 46 |
| ANAD-30 NORTHEAST LAGOON AREA..... | 47 |

Table of Contents

| | |
|---|-----------|
| ANAD-31 METAL PLATING SHOP (BUILDING 114)..... | 48 |
| ANAD-35 DEACTIVATION FURNACE..... | 49 |
| ANAD-46 LEAKING UST AT BLDG 6..... | 50 |
| ANAD-48 WESTERN INDUSTRIAL AREA GROUNDWATER..... | 51 |
| Installation Restoration Program Site Closeout (No Further Action) Sites Summary..... | 52 |
| IRP Schedule..... | 53 |
| Installation Restoration Program Milestones..... | 53 |
| IRP Schedule Chart..... | 56 |
| Military Munitions Response Program..... | 58 |
| MMRP Summary..... | 59 |
| MMRP Contamination Assessment..... | 60 |
| MMRP Previous Studies..... | 61 |
| Military Munitions Response Program Site Descriptions..... | 62 |
| ANAD-001-R-01 RECOILLESS RIFLE RANGE..... | 63 |
| ANAD-002-R-01 PISTOL RANGE..... | 65 |
| ANAD-003-R-01 Burning Ground Buffer Area..... | 67 |
| ANAD-004-R-01 OD Historical Buffer Zone..... | 69 |
| Military Munitions Response Program Site Closeout (No Further Action) Sites Summary..... | 71 |
| MMRP Schedule..... | 72 |
| Military Munitions Response Program Milestones..... | 72 |
| MMRP Schedule Chart..... | 73 |
| Compliance Restoration..... | 74 |
| CR Summary..... | 75 |
| CR Contamination Assessment..... | 76 |
| CR Previous Studies..... | 79 |
| Compliance Restoration Site Descriptions..... | 80 |
| CC-ANAD-02 Building 504..... | 81 |
| CC-ANAD-04 Defense National Stockpile Sites..... | 83 |
| CC-ANAD-05 Building 409 | 84 |
| CC-ANAD-06 RCRA regulated 90 day site..... | 85 |
| CC-ANAD-07 Western Area Clean Fill Site..... | 86 |

Table of Contents

| | |
|---|----|
| CC-ANAD-08 Groundwater Lift Station Spill Site..... | 87 |
| CC-ANAD-09 Building 414 Washrack Release..... | 88 |
| CC-ANAD-10 General Waste Leak..... | 89 |
| CC-ANAD-11 Chrome Line Leak..... | 90 |
| CC-ANAD-12 General Waste Release Building 117..... | 91 |
| CC-ANAD-13 Building 414 Washrack..... | 92 |
| CC-ANAD-14 Compressor Blow Down Building 634..... | 93 |
| | |
| Compliance Restoration Site Closeout (No Further Action) Sites Summary..... | 94 |
| | |
| CR Schedule..... | 95 |
| Compliance Restoration Milestones..... | 95 |
| CR Schedule Chart..... | 96 |

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each operable unit (OU), solid waste management unit (SWMU), or area of concern (AOC) and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions.

In an effort to coordinate planning information between the Restoration Manager, the US Army Environmental Command (USAEC), Anniston Army Depot (ANAD), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

| | |
|---------|--|
| ADEM | Alabama Department of Environmental Management |
| AEDB-CC | Army Environmental Database - Compliance-related Cleanup |
| AEDB-R | Army Environmental Database - Restoration |
| AMC | Army Materiel Command |
| ANAD | Anniston Army Depot |
| AOC | Area of Concern |
| ARBCA | Alabama Risk-Based Corrective Action |
| ASA | Ammunition Storage Area |
| AST | Aboveground Storage Tank |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| AWWSB | Anniston Water Works and Sewer Board |
| bgs | below ground surface |
| Bldg | Building |
| C&D | Construction and Demolition |
| CAP | Corrective Action Plan |
| CC | Compliance-related Cleanup |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CGW | Combined Groundwater |
| CIP | Community Involvement Plan |
| CMI | Corrective Measures Implementation |
| CMI(C) | Corrective Measures Implementation (Construction) |
| CMI(O) | Corrective Measures Implementation (Operations) |
| CMIP | Corrective Measures Implementation Plan |
| CMS | Corrective Measures Study |
| COC | Contaminant of Concern |
| COPC | Contaminant of Potential Concern |
| CR | Compliance Restoration |
| CRP | Community Relations Plan |
| CS | Confirmation Sampling |
| CTC | Cost-to-Complete |
| CTT | Closed, Transferred, or Transferring |
| cy | cubic yards |
| DD | Decision Document |
| DERA | Defense Environmental Restoration Account |
| DERP | Defense Environmental Restoration Program |
| DES | Design |
| DLA | Defense Logistics Agency |
| DoD | Department of Defense |
| DRK | Directorate of Risk Management |
| EE/CA | Engineering Evaluation/Cost Analysis |
| ER,A | Environmental Restoration, Army |
| ERP | Emergency Response Plan |
| ESI | Expanded Site Inspection |
| FFA | Federal Facilities Agreement |
| FFS | Focused Feasibility Study |

Acronyms

| | |
|--------|--|
| FRA | Final Remedial Action |
| FS | Feasibility Study |
| ft | feet |
| FY | Fiscal Year |
| gpd | gallons per day |
| GWIS | Groundwater Interceptor System |
| HE | High Explosive |
| HHRA | Human Health Risk Assessment |
| HMX | Cyclotetramethylenetetranitramine |
| IAP | Installation Action Plan |
| IM | Interim Measures |
| IMP(C) | Implementation (Construction) |
| IMP(O) | Implementation (Operations) |
| INV | Investigation |
| IR | Installation Restoration |
| IRA | Interim Remedial Action |
| IROD | Interim Record of Decision |
| IRP | Installation Restoration Program |
| ISC | Initial Site Characterization |
| IWTP | Industrial Wastewater Treatment Plant |
| JEG | Jacobs Engineering Group |
| K | thousand |
| lb | pound |
| LLC | Limited Liability Company |
| LTM | Long-Term Management |
| LUC | Land Use Control |
| MC | Munitions Constituent |
| MCL | Maximum Contaminant Level |
| MD | Munitions Debris |
| MEC | Munitions and Explosives of Concern |
| mg/kg | milligram per kilogram |
| mg/L | milligram per liter |
| mm | millimeter |
| MMRP | Military Munitions Response Program |
| MNA | Monitored Natural Attenuation |
| MPPEH | Material Potentially Presenting an Explosive Hazard |
| MR | Munitions Response |
| MRS | Munitions Response Site |
| N/A | Not Applicable |
| NAPL | Non-Aqueous Phase Liquid |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NEW | Net Explosive Weight |
| NFA | No Further Action |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List |

Acronyms

| | |
|-------|--|
| NTCRA | Non-Time-Critical Removal Action |
| NTU | Nephelometric Turbidity Units |
| O&M | Operation and Maintenance |
| OB | Open Burning |
| OD | Open Detonation |
| OU | Operable Unit |
| OWS | Oil/Water Separator |
| PA | Preliminary Assessment |
| PCE | Tetrachloroethylene |
| PIRP | Public Involvement and Response Plan |
| POL | Petroleum, Oil and Lubricant |
| PP | Proposed Plan |
| PSV | Preliminary Screening Value |
| PVC | Polyvinyl Chloride |
| QAPP | Quality Assurance Project Plan |
| RA | Remedial Action |
| RA(C) | Remedial Action (Construction) |
| RA(O) | Remedial Action (Operations) |
| RAB | Restoration Advisory Board |
| RC | Response Complete |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RFA | RCRA Facility Assessment |
| RFI | RCRA Facility Investigation |
| RI | Remedial Investigation |
| RIP | Remedy-in-Place |
| ROD | Record of Decision |
| RRSE | Relative Risk Site Evaluation |
| RSL | Regional Screening Level |
| SAIC | Science Applications International Corporation |
| SAR | SWMU Assessment Report |
| SARA | Superfund Amendments & Reauthorization Act |
| SI | Site Inspection |
| SIA | Southeast Industrial Area |
| SOP | Standard Operating Procedure |
| sq ft | square feet |
| SSTL | Site-Specific Target Level |
| STP | Sewage Treatment Plant |
| SVOC | Semi-Volatile Organic Compound |
| SWMU | Solid Waste Management Unit |
| TAPP | Technical Assistance for Public Participation |
| TBD | To Be Determined |
| TCE | Trichloroethylene |
| TNT | 2,4,6-Trinitrotoluene |
| TOW® | Tube-Launched, Optically-Tracked Wireless-Guided |

Acronyms

| | |
|--------|--|
| TRC | Technical Review Committee |
| TXC | Toxic |
| UCL | Upper Confidence Limit |
| UE | Unrestricted Exposure |
| UFP | Uniform Federal Policy |
| US | United States |
| USACE | US Army Corps of Engineers |
| USAEC | US Army Environmental Command |
| USAEHA | US Army Environmental Hygiene Agency (currently called USACHPPM) |
| USEPA | US Environmental Protection Agency |
| UST | Underground Storage Tank |
| UU | Unlimited Use |
| VI | Vapor Intrusion |
| VOC | Volatile Organic Compound |
| WIA | Western Industrial Area |
| WMM | Waste Military Munitions |

Acronym Translation Table

CERCLA

Preliminary Assessment(PA)
Site Inspection(SI)
Remedial Investigation/Feasibility Study(RI/FS)
Remedial Design(RD)
Remedial Action (Construction)(RA(C))
Remedial Action (Operation)(RA(O))
Long Term Management(LTM)
Interim Remedial Action(IRA)

RCRA

= RCRA Facility Assessment(RFA)
= Confirmation Sampling(CS)
= RCRA Facility Investigation/Corrective Measures Study(RFI/CMS)
= Design(DES)
= Corrective Measures Implementation (Construction)(CMI(C))
= Corrective Measures Implementation (Operation)(CMI(O))
= Long Term Management(LTM)
= Interim Measure(IM)

CERCLA

Preliminary Assessment(PA)
Remedial Investigation(RI)
Feasibility Study(FS)
Remedial Design(RD)
Remedial Action (Construction)(RA(C))
Remedial Action (Operation)(RA(O))
Long Term Management(LTM)
Interim Remedial Action(IRA)

RCRA Underground Storage Tank (UST) Site Phase Terms

= Initial Site Characterization(ISC)
= Investigation(INV)
= Corrective Action Plan(CAP)
= Design(DES)
= Implementation (Construction)(IMP(C))
= Implementation (Operations)(IMP(O))
= Long Term Management(LTM)
= Interim Remedial Action(IRA)

Site Alias List

AEDB-R Site ID to Alias List

| AEDB-R # | Alias |
|-----------------|--------------|
| ANAD-001-R-01 | RIFLE RNG |
| ANAD-002-R-01 | PISTOL RNG |
| ANAD-003-R-01 | BURNING GD |
| ANAD-004-R-01 | OD Buffer |
| ANAD-01 | SWMU-01 |
| ANAD-05 | SWMU-05 |
| ANAD-07 | SWMU-07 |
| ANAD-08 | SWMU-08 |
| ANAD-09 | SWMU-09 |
| ANAD-10 | SWMU-10 |
| ANAD-11 | SWMU-11 |
| ANAD-12 | SWMU-12 |
| ANAD-13 | SWMU-13 |
| ANAD-19 | SWMU-19 |
| ANAD-20 | SWMU-20 |
| ANAD-21 | SWMU-21 |
| ANAD-22 | SWMU-22 |
| ANAD-23 | SWMU-23 |
| ANAD-24 | SWMU-24 |
| ANAD-27 | SWMU-27 |
| ANAD-28 | SWMU-28 |
| ANAD-29 | SWMU-29 |
| ANAD-30 | SWMU-30 |
| ANAD-31 | SWMU-31 |
| ANAD-35 | SWMU-35 |
| ANAD-46 | SWMU-46 |
| ANAD-48 | AOC-A |
| CC-ANAD-02 | Bldg 504 |
| CC-ANAD-04 | CC-ANAD-04 |
| CC-ANAD-05 | CC-ANAD-05 |
| CC-ANAD-06 | Bldg 432 |
| CC-ANAD-07 | Clean Fill |
| CC-ANAD-08 | LS Spill |
| CC-ANAD-09 | Bldg 634 |
| CC-ANAD-10 | Bldg 114 |
| CC-ANAD-11 | Bldg 136 |
| CC-ANAD-12 | Bldg 117 |
| CC-ANAD-13 | Bldg 524 |
| CC-ANAD-14 | Bldg 634 |

Installation Information

Installation Locale

Installation Size (Acreage): 15357

City: Anniston

County: Calhoun

State: Alabama

Other Locale Information

ANAD is located in Calhoun County in northeastern Alabama. It is 110 miles west of Atlanta, Georgia and 50 miles east of Birmingham, Alabama. The city of Anniston is located 10 miles east of the depot. The depot is surrounded by a series of small communities clustered primarily along the southern and eastern boundaries and is bordered on the north by the Pelham Range portion of the former Fort McClellan Military Reservation.

Installation Mission

ANAD is the only Army depot capable of performing maintenance and overhaul on both heavy and light-tracked combat vehicles and their components. The depot is designated as the center for technical excellence for several families of combat vehicles (M1 Abrams battle tank, M88 tank recovery vehicle, M113 armored personnel carrier, M109 Paladin, assault breacher vehicle, M9 ACE combat engineer vehicle, assault bridging vehicle, and Stryker vehicle). The depot also maintains and repairs the Department of Defense (DoD) inventory of towed howitzers and small arms.

ANAD stores, maintains and demilitarizes munitions through a tenant organization: the Anniston Defense Munitions Center. Another tenant, the Defense Logistics Agency (DLA), receives, stores, and ships military equipment and materials. The DLA is also responsible for demilitarization and disposal of excess government equipment and materials. The Anniston Chemical Activity and the Anniston Chemical Agent Disposal Facility have completed their missions of storing, maintaining, and demilitarizing chemical munitions and surety material.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE) - Engineering and Support Center, Huntsville Ordinance and Explosive Design

US Army Corps of Engineers (USACE), Mobile District

Regulator Participation

| | |
|----------------|---|
| Federal | US Environmental Protection Agency (USEPA), Region IV |
| State | Alabama Department of Environmental Management (ADEM) |

National Priorities List (NPL) Status

A score of 52 was recorded on 01-MAR-89.

Date for RA(C) Completion: 202009

Date for NPL Deletion: TBD

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 199805

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Explosives, Metals, Munitions constituents (MC), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

MMRP

Primary Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Groundwater, Soil

CR

Primary Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

| Status | Start Date | End Date | End FY |
|----------|------------|----------|--------|
| Complete | 200904 | 201009 | 2010 |
| Complete | 200309 | 200412 | 2005 |
| Complete | 201408 | 201509 | 2015 |
| Complete | 199810 | 199810 | 1999 |

Last Completed 5-Year / Periodic Review Details

| Associated ROD/DD Name | Sites |
|---------------------------|---|
| Ammunition Storage Area | ANAD-05, ANAD-08, ANAD-10, ANAD-11, ANAD-14, ANAD-15, ANAD-18, ANAD-26, ANAD-27, ANAD-35, ANAD-37 |
| GROUNDWATER OPERABLE UNIT | ANAD-01, ANAD-07, ANAD-12, ANAD-22, ANAD-25, ANAD-30, ANAD-31 |
| SIA Soils Operable Unit | ANAD-02, ANAD-03, ANAD-04, ANAD-06, ANAD-07, ANAD-09, ANAD-12, ANAD-13, ANAD-19, ANAD-20, ANAD-21, ANAD-22, ANAD-23, ANAD-24, ANAD-28, ANAD-29, ANAD-30, ANAD-31, ANAD-38, ANAD-40, ANAD-41, ANAD-43, ANAD-44 |

Results OU-1 A protectiveness determination cannot be made at this time.
 OU-2 The remedy is protective.
 OU-3 Currently protective.

Actions OU-1 Interim remedy needs further actions.
 OU-2 Contaminated soils were removed/contained. LUCs in place.
 OU-3 Active remediation at SWMU 35 completed. LUCs in place for groundwater. Additional actions required for longterm protectiveness.

Plans OU-1 Establishment of NOEL for TCE exposure to Pygmy Sculpin and eco risk assessment underway.
 OU-3 Potential source from Building 172 being addressed, evaluation of MNA remedy and COCs underway, ROD Amendment will be considered.

Recommendations and Implementation Plans:

| |
|--|
| |
|--|

Land Use Control (LUC) Summary

LUC Title: OU-2 LUCs

Site(s): ANAD-07, ANAD-09, ANAD-12, ANAD-13, ANAD-19, ANAD-20, ANAD-21, ANAD-22, ANAD-23, ANAD-24, ANAD-28, ANAD-29, ANAD-30

ROD/DD Title: SIA Soils Operable Unit

Location of LUC

ANAD-7, ANAD-9/12, ANAD-13, ANAD-19, ANAD-20, ANAD-21, ANAD-22, ANAD-23 ANAD-24, ANAD-28 and ANAD-29/30

Land Use Restriction: Media specific - Prohibit activities that results in contact with contaminated sediments, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Dig Permits, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 200604

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200604

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS, VOC

Additional Information

N/A

LUC Title: OU-3 LUC

Site(s): ANAD-05, ANAD-08, ANAD-10, ANAD-11, ANAD-27, ANAD-35

ROD/DD Title: Ammunition Storage Area

Location of LUC

Ammunition Storage Area

Land Use Restriction: Media specific restriction - restrict drinking water well installation, Media specific restriction - restrict withdrawal or use of groundwater for agricultural/irrigation purposes, Media specific restriction - restrict withdrawal or use of groundwater w/out treatment

Types of Engineering Controls: Signs

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 200604

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: INORGANICS, METALS

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

The roughly square-shaped configuration of ANAD encompasses 15,357 acres. Ammunition storage bunkers within the ammunition storage area (ASA) occupy the majority of the depot. The Southeast Industrial Area (SIA) contains the depot's industrial facilities. Additional areas, primarily along the depot's southern boundary, are allocated for warehouse storage, fuel storage, administrative services, and recreation. ANAD is one of the major employers in the Anniston area. The ANAD workforce consists of approximately 2,900 depot employees, 450 tenant employees, and 600 contract personnel. Land use around ANAD is primarily rural, residential, cropland/pasture, and mixed forest. Some industrial land use has begun on the southern boundary with Kronospan Limited Liability Company (LLC) and Bridgewater Interiors LLC. Kronospan LLC is a manufacturer of wood panel products and laminate flooring. Bridgewater is a manufacturer of automobile seats. Their presence significantly changes the environmental setting for the west area.

The US Army began operations at the depot in 1941. Since then, the depot mission has included the storage of munitions and the refurbishment, testing, and decommissioning of combat vehicles and various types of ordnance.

The initial mission for the depot was defined as munitions storage. Construction operations for the depot were formally initiated on Feb. 17, 1941, and the first ammunition storage magazines were completed on Oct. 3, 1941. During World War II, the mission of the depot was expanded to include a combat equipment storage area, where over 1,230,000 tons of equipment were handled.

Over the years, ANAD's mission was further expanded to include the following:

- overhaul and repair of ordnance vehicles;
- fire control and small arms rebuild (gained from the Augusta Arsenal which was closed in 1954);
- modification of M48A1 tanks and M67 flame throwers;
- calibration support for the southeastern states; and
- logistics support for the Lance missile, Tube-launched, Optically-tracked Wireless-guided (TOW®) weapon systems, and the Dragon missile.

The bulk of this work was conducted in the SIA.

The present mission of ANAD includes maintaining combat vehicles such as the M1 Abrams tank, M60 and M113 series, and towed and self-propelled artillery. The operation to store and demilitarize chemical weapons and surety material is complete, and closure operations are under way.

The ANAD mission has required the use of a variety of industrial processes, such as plating, painting, degreasing, sand blasting, paint stripping and steam cleaning. The various activities at ANAD since 1941 contributed to the contaminants of concern (COC). The most widespread COCs are industrial wastes, including spent solvents, heavy metals and POLs, as well as explosives contamination.

Construction of a large chemical weapons destruction facility was completed in 2003. It is located in the north-central portion of the ASA. The operation was completed in 2012. Closure of this facility is ongoing.

On March 31, 1989, the USEPA placed the ANAD SIA on the National Priorities List (NPL) because of a hazard ranking system score of 51.91. On June 13, 1990 a federal facilities agreement (FFA) between the USEPA Region IV, the ADEM, and the US Army was signed into effect for ANAD. The FFA identifies 44 SWMUs within ANAD: 15 in the ASA and 29 in the SIA.

Four SWMUs were added as sites in the Army Environmental Database - Restoration (AEDB-R) but these sites have not been added to the FFA. Three of these additional sites are underground storage tank (UST) sites for which ADEM issued notices of violation (NOV) under their UST regulations. The fourth site (ANAD-48) incorporates the Western Industrial Area (WIA) groundwater. The FFA integrates the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)/Superfund Amendments and Reauthorization Act (SARA) requirements for the entire depot. The scope of the FFA requires the Army to conduct a remedial investigation (RI)/feasibility study (FS) for all applicable SWMUs within ANAD, followed by the development and implementation of an RD and RA.

The ASA is not on the NPL, but is addressed in the FFA.

ANAD discharges wastewater under a National Pollutant Discharge Elimination System (NPDES) permit that was originally granted in 1986 and was last renewed in 2007. The NPDES permit includes discharges from an industrial wastewater treatment plant (IWTP), a sewage treatment plant (STP), and two groundwater treatment units. In 1997, a RCRA permit was issued to

Cleanup Program Summary

Installation Historic Activity

ANAD.

In April 1997, a partnering team was formed at ANAD. The team includes representatives from ANAD, ADEM, and USEPA. USAEC, USACE, and contractors provide support for this partnership. This is not a legally binding relationship but a commitment and agreement to work together as a team to achieve mutually beneficial goals.

In fiscal year (FY)05, SWMUs addressed under the Installation Restoration Program (IRP) were grouped into five OUs. Prior to FY05 there were three OUs at ANAD, which did not include all of the SWMUs in the IRP. The current OU designations are: the SIA groundwater OU (OU-1), the SIA soils OU (OU-2), the ASA OU (OU-3), the Military Munitions Response Program (MMRP) OU (OU-4), and the WIA OU (OU-5). ANAD implemented an RA which includes soil excavation, capping, and LUCs associated with the ASA and soils OUs.

In January 2008, the final SIA comprehensive RI Phase III [Science Applications International Corporation (SAIC)] was completed. A record of decision (ROD) for OU-3 had been completed and signed. The first eight years of RA(O) at OU-3 were completed. Work was completed on a focused feasibility study (FFS) and proposed plan (PP) during 2012 for OU-1. The interim record of decision (IROD) is underway and expected to be completed in 2015. An expanded site inspection (ESI) for OU-5 was completed in 2010, and an RI/FS began in 2014.

The SI for three MMRP sites (OU-4) was completed in 2005. An RI was initiated in 2010. The fourth MMRP SI was initiated in 2012.

Twelve Compliance Restoration (CR) sites were added in the cleanup program in the last few years, and they are undergoing an RFI and a CMS.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Semiannual groundwater sampling was completed for OU-1. Sole source private drinking water wells were sampled. The LUC inspections for OU-2 and the necessary repairs were completed. Ten years of RA(O) were completed for OU-3. The LUC inspections for OU-3 and the necessary repairs were completed. An RI for OU-5 continued. RFIs for several CR sites were initiated.

Future Plan of Action: ANAD will continue with semiannual groundwater monitoring for OU-1. Sole source private drinking water wells will be sampled. The RD for the IROD amendment will be completed and RA(C) will be initiated. LUC monitoring for OU-2 will continue. The RA(O) for OU-3 will continue and path forward for OU-3 will be determined. LUC monitoring for OU-3 will continue. An RI/FS for OU-5 will be completed.

MMRP

Prior Year Progress: The draft RI and FS reports for ANAD-001-R-01, ANAD-002-R-01, and ANAD-003-R-01 sites were submitted for regulatory review and approval. An SI for ANAD-004-R-01 was submitted for regulators review and approval.

Future Plan of Action: The RI/FS, PP and ROD are scheduled to be completed for ANAD-001-R-01, ANAD-002-R-01, and ANAD-003-R-01. An SI for ANAD-004-R-01 will be completed and an RI/FS will be initiated.

CR

Prior Year Progress: Compliance monitoring continued under the Alabama Risk-Based Corrective Action (ARBCA) Program for CC-ANAD-02. The RFIs were initiated and continued for CC-ANAD-04, CC-ANAD-05, CC-ANAD-06, CC-ANAD-07 and CC-ANAD-08.

Two new sites, CC-ANAD-08 and CC-ANAD-09, were added to AEDB-R.

Future Plan of Action: Free-product removal and groundwater monitoring will continue for Site CC-ANAD-02 as recommended in the ARBCA report.

The RFIs will be completed for CC-ANAD-04, CC-ANAD-05, CC-ANAD-06, CC-ANAD-07 and CC- ANAD-08.

Cleanup Program Summary

RFIs and CMS for CC-ANAD-10, CC-ANAD-11, CC-ANAD-12, ANAD-13 and CC-ANAD-14 will be initiated and completed.

ANNISTON ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 48/25

Installation Site Types with Future and/or Underway Phases

| | |
|---|--|
| 1 | Above Ground Storage Tank (ANAD-10) |
| 1 | Burn Area (ANAD-29) |
| 2 | Contaminated Ground Water (ANAD-31, ANAD-48) |
| 1 | Contaminated Sediments (ANAD-05) |
| 5 | Disposal Pit/Dry Well (ANAD-07, ANAD-08, ANAD-09, ANAD-13, ANAD-27) |
| 1 | Explosive Ordnance Disposal Area (ANAD-35) |
| 5 | Landfill (ANAD-01, ANAD-21, ANAD-23, ANAD-24, ANAD-28) |
| 4 | Surface Impoundment/Lagoon (ANAD-11, ANAD-12, ANAD-22, ANAD-30) |
| 1 | Underground Storage Tank (ANAD-46) |
| 2 | Waste Treatment Plant (ANAD-19, ANAD-20) |

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions constituents (MC), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|---------|----------------------------------|--------|--------------------------------------|------|
| ANAD-22 | A-BLOCK LAGOON (FACILITY 514) | IRA | WASTE REMOVAL - SOILS | 1982 |
| ANAD-01 | SITE Z-1 TRENCHES AREA | IRA | WASTE REMOVAL - SOILS | 1983 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | IRA | WASTE REMOVAL - SOILS | 1983 |
| ANAD-25 | BUILDING 130 SUMP | IRA | WASTE REMOVAL - SOILS | 1983 |
| ANAD-02 | SITE Z-2 SANITARY LANDFILL | IRA | CAPPING | 1994 |
| ANAD-45 | LEAKING UST AT BLDG 410 | FRA | FREE PRODUCT RECOVERY | 1996 |
| ANAD-45 | LEAKING UST AT BLDG 410 | FRA | BIOREMEDIATION - IN SITU GROUNDWATER | 1996 |
| ANAD-45 | LEAKING UST AT BLDG 410 | FRA | NATURAL ATTENUATION | 1996 |
| ANAD-46 | LEAKING UST AT BLDG 6 | FRA | FREE PRODUCT RECOVERY | 1997 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | IRA | IN-SITU SOIL TREATMENT | 2001 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | IRA | CHEMICAL REDUCTION/OXIDATION | 2001 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | IRA | GROUND WATER TREATMENT | 2003 |
| ANAD-05 | SINKHOLE (NEAR EASTERN BOUNDARY) | FRA | OTHER | 2005 |

IRP Summary

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|---------|--|--------|------------------------|------|
| ANAD-07 | CHEMICAL WASTE DISPOSAL PIT | FRA | CAPPING | 2005 |
| ANAD-08 | ACID DISPOSAL PIT | FRA | OTHER | 2005 |
| ANAD-09 | CALCIUM HYPOCHLORITE BURIAL PIT | FRA | CAPPING | 2005 |
| ANAD-09 | CALCIUM HYPOCHLORITE BURIAL PIT | FRA | REMOVAL | 2005 |
| ANAD-10 | TNT WASHOUT FACILITY SEDIMENTATION TANK | FRA | NATURAL ATTENUATION | 2005 |
| ANAD-19 | OLD STP (EAST AREA) | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-20 | NEW STP (EAST AREA) | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-21 | ABRASIVE DUST LANDFILL | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-22 | A-BLOCK LAGOON (FACILITY 514) | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-23 | ASBESTOS WASTE DISPOSAL TRENCH | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-24 | OLD SANITARY LANDFILL | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-27 | SOUTH TNT BURIAL PIT | FRA | OTHER | 2005 |
| ANAD-28 | WASTE WOOD LANDFILL,NORTHEAST PART DEPOT | FRA | INSTITUTIONAL CONTROLS | 2005 |
| ANAD-29 | OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573) | FRA | CAPPING | 2005 |
| ANAD-30 | NORTHEAST LAGOON AREA | FRA | CAPPING | 2005 |
| ANAD-35 | DEACTIVATION FURNACE | FRA | REMOVAL | 2005 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | FRA | WASTE REMOVAL - SOILS | 2006 |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | FRA | CAPPING | 2006 |

Duration of IRP

Date of IRP Inception: 197804

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201910/204905

Date of IRP completion including Long Term Management (LTM): 204901

IRP Contamination Assessment

Contamination Assessment Overview

ANAD has a total of 48 AEDB-R sites including lagoons, storage areas, disposal pits, USTs, landfills, open burning/open detonation (OB/OD) areas, and waste treatment areas.

A number of studies have been conducted at ANAD to support the IRP, as well as other environmental management programs. These studies, which are listed in the previous studies section, have yielded a significant amount of information on the extent of contamination on-depot and the potential for contamination off-site.

A Comprehensive Groundwater RI, Phase III (SAIC 2008d) was completed for OU-1. This RI assessed the nature and extent of groundwater contamination in the area of ANAD's southeast boundary and the extent and potential for migration of contaminants from the SIA, particularly in the deeper groundwater regime. That study filled in a number of data needs involving the nature of geologic formations, groundwater flow, and groundwater chemistry in the area upgradient of the SIA, the connectivity of the deep groundwater system in the SIA to off-post springs, the connectivity of the shallow-to-deeper groundwater system, and the degree of attenuation and degradation of contaminants. The results of this study were used to establish the objectives and extent of groundwater cleanup required, which was detailed in an FS that was completed in April 2008. An FFS was completed in April 2012 for OU-1 to determine the source specific alternatives. A PP was completed in October 2012 to address the groundwater contamination in OU-1 including source areas. Due to a long cleanup time and uncertainty, it was decided to complete an IROD, which was signed in June 2015.

ANAD's monitoring program includes sampling wells within and downgradient of the SIA. Locations off-post of ANAD are monitored for VOCs and bis(2-ethylhexyl)phthalate groundwater contamination. Trichloroethylene (TCE) is the most frequently detected VOC and is the primary COC. The off-post locations are monitored in accordance with the requirements of ANAD's FFA with the USEPA Region IV, ADEM, and CERCLA. Anniston Water Works and Sewer Board (AWWSB) and ANAD also analyze samples from Coldwater Spring monthly, which is more frequent than the required quarterly sampling specified in the Safe Drinking Water Act and ADEM regulations.

A total of 123 wells and springs are used by residents for drinking water, agriculture, or recreation along the southern and western boundaries of ANAD. Wells and springs identified as the sole source drinking water supply have been sampled annually since 2000. The results indicate that there are no VOC contaminants above maximum contaminant levels (MCL).

Measures are in place to protect current and potential receptors (on- and off-post) from exposure to contaminants exceeding MCLs. These measures include cleanup of sites where contamination is present, operation of the interim groundwater treatment system at ANAD, and an emergency response plan (ERP), which will be implemented in the event that private or public water supplies exceed applicable drinking water standards. Due to increases in TCE concentration in some off-post monitoring wells and at Coldwater Spring, the 1996 ERP was revised. As a result, the Army funded additional treatment at the AWWSB's Krebs Water Treatment Plant. Since the installation of the air strippers at the plant, TCE is at nondetectable levels in the finished drinking water.

Sites within ANAD were identified where use restrictions and controls were selected as part of the remedy to address risk and exposure to contaminants and to manage the current and future use of the property. These elements of the remedy are identified in the final soil SIA OU (OU-2) ROD and the final ASA OU (OU-3) ROD.

SIA (OU-1)

The investigations completed in the SIA to date have focused on both soils and groundwater, with on- and off-site groundwater receiving the primary focus since 1997. The initial investigations focused on characterizing the shallow groundwater, determining what information needed to be obtained to assess off-site groundwater contamination, and the factors controlling movement of deep groundwater. As the complexity of the site became more apparent, a phased approach to the site investigations was taken.

As additional site information was gained and a progression to the next phase was required, the SIA groundwater investigation strategy evolved. In September 1991, an IRA ROD established the on- and off-post groundwater OUs at the SIA (ANAD 1991). Per the IROD, the boundaries of the on- and off-post groundwater OUs are defined vertically and horizontally as follows:

On-post Groundwater

The on-post groundwater component was strictly defined as the on-post (just within the boundaries of ANAD), shallow groundwater encountered within the residuum and the upper several feet of bedrock. This represents the limits of the Phase I and Phase II RI Groundwater Investigations and Groundwater Remedial Activities (Jacobs Engineering Group [JEG] 1992; SAIC 1998a).

IRP Contamination Assessment

Contamination Assessment Overview

Off-post Groundwater

The definition of off-post groundwater in the IROD is a misnomer since it not only includes the shallow and deep groundwater beyond the physical boundaries of the ANAD, but it also includes groundwater within the boundaries of the ANAD property that is beneath the vertical limits of the SIA Phase I and Phase II investigations (conducted approximately 1992 to 1995). The off-post groundwater was the focus of the Off-Post Phase I Groundwater RI (SAIC 2001d).

Combined Groundwater (CGW):

The CGW designation was established to include both the on- and off-site groundwater of all depths. The results of the first RI with this focus are reported in the CGW RI Report (SAIC 2004d). Since the late-1970s, a number of environmental investigation activities have been conducted by ANAD at, and in the immediate vicinity of, the SIA facility. The majority of these investigations have focused on the shallow groundwater beneath the ANAD facility. The Final SIA Phase II RI (SAIC 1998a), which was completed in 1997, was the most comprehensive on-site groundwater investigation completed at ANAD. It concentrated on the soils and groundwater within the SIA. The hydrogeological component of this investigation included groundwater and surface water elevation measurements, precipitation, stream flow and static water level monitoring, and pump testing. The Phase I off-post RI focused on hydrogeologic characterization of the Jacksonville fault zone to the south of the SIA (SAIC 2001d). The Phase I off-post RI data collection activities included remote sensing along the three transects (X-2, X-3, and X-4) using geophysical methods and drilling boreholes for lithological and hydrogeological data.

Following evaluation of the geophysical data and borehole results, monitoring wells were installed at recommended intervals. This RI did not include groundwater sampling. The CGW RI assessed the controls on the migration of groundwater contaminants whose source is the SIA, particularly the deeper flow of groundwater. This RI was a continuation of the Phase I Off-post RI (SAIC 2001d) and included activities to assess the movement of deep groundwater and the extent of groundwater contamination in the area of the ANAD southwestern boundary. The CGW data collection activities included geophysical surveying, borehole drilling and well installation, and groundwater sampling. These new wells were located within the SIA and off-site. During 2002, a biennial groundwater sampling program was initiated that consisted of a wet season sampling event (e.g., March and April) and a dry season sampling event (e.g., October and November).

Sample locations included on- and off-site monitoring wells, springs, and private wells. This sampling was supplemented by the monthly sampling of selected locations and continued through 2004. These investigations, along with previous investigations, have led to a greater understanding of the processes by which groundwater moves through the area and the development of a hydrogeological conceptual model. The hydrogeological conceptual model for the ANAD site, which includes the shallow and deep groundwater, is presented in the June 2004 report titled CGW RI at ANAD, Anniston, Alabama (SAIC 2004d).

As part of a Phase II FSS, the path forward includes further evaluation of specific remedial technologies applied in source-specific areas. The technologies and alternatives were evaluated with respect to the geological limitations identified in the conceptual site model.

SIA (OU-2)

The investigations completed in the SIA to date have focused on both soils and groundwater, with on- and off-site groundwater receiving the primary focus since 1997. The initial investigations focused on characterizing the shallow groundwater, determining what information needed to be obtained to assess off-site groundwater contamination, and determining the factors controlling movement of deep groundwater. As the complexity of the site became more apparent, a phased approach to the site investigations was taken.

The SIA cleanup strategy includes designation of OUs, which are targeted for discrete RAs. Two OUs have been defined to date in the SIA: the soil OU-2 and on-post/off-post groundwater OU-1. The OU-2 areas within the SIA where soil, sediment, and surface water media have been impacted by historic site operations and where potential risks are present is the subject of this ROD.

The storage, maintenance, and industrial functions of ANAD historically have resulted in the generation of hazardous wastes. Typical waste-generating processes at ANAD have included vapor degreasing, metal cleaning, sandblasting, electroplating, and painting. Generated solid and liquid wastes have included metals, cyanide, phenols, pesticides, herbicides, chlorinated hydrocarbons, petroleum hydrocarbons, solvents, acids, alkali chelating agents, asbestos, and creosote. Wastes generated at ANAD were disposed of on post in trenches, lagoons, landfills, or other holding vessels from the 1940s through the late-1970s. The majority of the waste generated and disposed of has occurred within the SIA. Based on previous investigations, 29 locations

IRP Contamination Assessment

Contamination Assessment Overview

within the SIA are known or are suspected to contain wastes and have been designated as SWMUs.

Environmental studies and investigations on the ANAD SIA have been conducted since the first quantitative assessment of industrial wastewater was completed in 1966. Recent studies in the 1990s include the Phase I and II RI (JEG 1994 and SAIC 1998a), SWMU 12 supplemental investigation, and FSs for the soil and on-post groundwater OUs (SAIC 1999 and 1998b). These studies identified the presence and the nature and extent of contaminated soil and groundwater within the SIA and identified approaches to site cleanup. As a result of these investigations and assessments, waste management practices have been changed, and RAs at some of the SWMUs have been completed. From 1981 to 1983, disposal areas at SWMU 1 (Chemical Sludge Waste Pits), SWMU 12 (Facility 414 Old Lagoons), SWMU 22 (A-Block Lagoon), and SWMU 23 (asbestos waste disposal trench) were excavated and wastes removed with contaminated soil. Additional excavation and waste removal was performed in 2005 through 2006 at SWMU 9 (calcium hypochlorite pit) and SWMU 12 (Facility 414 Old Lagoons) as part of the approved PP.

The OU-2 ROD was finalized in July 2008. The RA Post-construction Report and Operations and Maintenance (O&M) plan were finalized in September 2008.

ASA INVESTIGATION (OU-3)

In 1991, JEG initiated an ESI in the ASA (15 SWMUs total). The ESI report was approved by USEPA/ADEM in December 1994. Contamination from VOCs and semi-volatile organic compounds (SVOC) was determined not to be a problem at the ASA; however, heavy metals, explosives, nitrate/nitrite, total organic carbon and petroleum hydrocarbons were detected in samples of groundwater, soil and sediment from a number of sites. During the ESI, four SWMUs were identified as NFA sites. Further investigation to confirm and evaluate the potential contamination was recommended at 11 SWMUs. High concentrations of explosives were thought to be present in subsurface soils at ANAD-11.

In September 1993, SAIC initiated preparation of RI/FS work plans for the 11 remaining ASA SWMUs. The plans were finalized by USEPA/ADEM in December 1994.

In FY97 due to unconfirmed reports that 2,4,6-trinitrotoluene (TNT) levels in the soil at this site were in excess of 60 percent, a preliminary investigation was conducted at ANAD-11. USACE conducted this investigation to confirm the high explosives levels in order to perform the investigation in a safe manner. (Soil concentrations in excess of 10 percent are considered explosive). This investigation concluded that the concentrations were less than 10 percent.

In 1997, SAIC began the ASA RI fieldwork and completed it in 1998. A draft RI report was delivered in May 1999. An additional ecological risk assessment was determined necessary to adequately characterize nine of the sites, in accordance with USEPA, Region IV guidance. In August 2001, the final ASA RI was delivered, and the final FS and PP were delivered in March 2002. The ROD was signed by each stakeholder in 2006.

UST INVESTIGATIONS

In July 1991, February 1992 and June 1993, ANAD received NOV's from ADEM for UST releases at three buildings (Buildings 385, 410, and 6). These three sites required secondary investigations due to leaking petroleum products. The tanks at these sites were removed. In FY95, the SI conducted for Building 385 determined that no further investigative or corrective actions were required. A CAP was written for Building 410 and Building 6 in FY96. These CAPs called for free-product removal and natural attenuation for soil and groundwater. The free-product removal began in FY96 for Building 410 and in FY97 for Building 6.

In 1999, alternate corrective actions were performed based on the new ADEM ARBCA guidance for USTs. This action was completed in January 2002. In 2005, the concentrations in groundwater beneath Building 410 were determined to have met the ARBCA levels, and NFA was recommended for the site. Groundwater monitoring continues at Building 6. Due to increasing benzene levels in selected wells, an investigation was initiated in 2012 to determine the source.

WIA (OU-5)

Concentrations of TCE above the MCL were detected in groundwater within the WIA. The source of contaminants has not been identified. TCE was detected in groundwater while implementing other groundwater monitoring programs. An SI and ESI were implemented to identify the potential source of the TCE and to determine if an RI is warranted. The SI was completed in February 2008, and the ESI was completed in December 2010. Additional investigation was initiated to define the nature and extent of contamination.

IRP Contamination Assessment

Cleanup Exit Strategy

Over the course of previous studies, the ANAD OU strategy has evolved based on an increased understanding of the site and probable response actions. Most notably, the segregation of the on- and off-post groundwater OUs (as presented in the September 1991 IROD) was determined to be unnecessary and a potential impediment to the implementation of response actions. On May 20, 2004, the current OU strategy was approved by consensus of the ANAD partnering team. It was revised and incorporated in the site management plan (2005) and includes the OUs listed below. The basis for differentiating each OU is also provided.

OU-1: SIA groundwater

Response actions require longer implementation time compared to SIA soils (OU-2) and technologies are distinct and separate from soils. As a portion of the NPL site, the SIA has higher priority and is geographically separate from the ASA (OU-3).

OU-2: SIA soil

Response actions are implemented more rapidly and are dissimilar to the SIA groundwater (OU-1) response actions. As a portion of the SIA NPL site, this OU has higher priority and is geographically separate from the ASA (OU-3).

OU-3: ASA (all media)

This OU has a lower priority than SIA NPL (OU-1 and OU-2) responses and is geographically separate from the SIA NPL site.

OU-5: WIA sites

This OU has a lower priority than SIA NPL (OU-1 and OU-2) responses and currently is proceeding to the RI phase. It is geographically separate from the SIA NPL site.

In 1991, a public involvement and response plan (PIRP) was drafted by JEG. This PIRP outlined efforts to include the public in the IRP. In FY97, an update of this plan [the community relations plan (CRP) update], was initiated by QST Environmental (formerly Environmental Science & Engineering) to include environmental justice issues, as well as information concerning Restoration Advisory Boards (RAB) and Technical Assistance for Public Participation (TAPP). In May 1998, the CRP was finalized. As an additional document to the CRP, the Final ANAD Community Involvement Plan (CIP) Addendum was prepared by SAIC to reflect current community interest. The CIP was released to the public in 2004. The CIP was updated in 2012.

ANAD's cleanup strategy includes implementing the 2015 IROD amendment at OU-1 and completing an RI/FS at OU-5. All sites in OU-2 and OU-3 are in the RA(O)/LTM phase. The path forward for OU-3 will be determined based on the 10-year summary report completed in 2016.

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|--|----------|
| 1979 | Installation Assessment of Anniston Army Depot, Report No. 119 | US Army Toxic and Hazardous Materials Agency | APR-1979 |
| 1981 | Anniston Army Depot RCRA Studies | Environmental Science and Engineering, Inc. | MAR-1981 |
| | Geophysical and Geohydrologic Investigation of Anniston Army Depot | Technos, Inc. | SEP-1981 |
| 1982 | Groundwater Assessment of the Southeast Industrial Area | Battelle Pacific Northwest Laboratories | OCT-1982 |
| 1984 | Remedial Action of Hazardous Waste Sites | Roy F. Weston | JAN-1984 |
| | Source Identification, Contaminant Transport Simulation and RA Analysis | Battelle Pacific Northwest Laboratories | JUN-1984 |
| 1985 | SWMUs at Anniston Army Depot | Office of Commander | JAN-1985 |
| 1986 | Off-Post Investigation at Anniston Army Depot, Summary of Preliminary Results | Environmental Science and Engineering, Inc. | DEC-1986 |
| 1987 | RFA | NUS Corporation | FEB-1987 |
| 1988 | FS for Anniston Army Depot, Endangerment Assessment - ATSDR Submittal | Environmental Science and Engineering, Inc. | FEB-1988 |
| | FS for Anniston Army, Endangerment Assessment | Environmental Science and Engineering, Inc. | FEB-1988 |
| 1989 | RI Anniston Army Depot, Volumes 1-4, | Environmental Science and Engineering, Inc. | JAN-1989 |
| | FS for Anniston Army Depot | Environmental Science and Engineering, Inc. | JAN-1989 |
| | Groundwater Extraction Optimization, Anniston Army Depot | E.C. Jordan | APR-1989 |
| 1990 | Groundwater Extraction Optimization, Anniston Army Depot | E.C. Jordan | APR-1990 |
| | FFA Between USEPA Region IV, ADEM and the US Army | Department of Army for the Anniston Army Depot | JUN-1990 |
| 1991 | Superfund Interim Record of Decision, Anniston Army Depot, Alabama Groundwater Operable Unit | US Army Installation Restoration Program | SEP-1991 |
| 1993 | Groundwater Extraction System Optimization Study, Final Report | Jacobs Engineering Group | MAY-1993 |
| 1994 | Dye Tracing Study, SIA | Ewers Water Consultants | JUN-1994 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|---|----------|
| 1994 | SWMU #12 Supplemental Investigation | Jacobs Engineering Group | OCT-1994 |
| | Expanded SI Report, Ammunition Storage Area | Jacobs Engineering Group | NOV-1994 |
| 1995 | RI Report | Jacobs Engineering Group | JAN-1995 |
| | Revised Final Chemical Data Report No. 1 - First Quarter, Off-Post Groundwater Monitoring and ERP | Science Applications International Corp. | JUN-1995 |
| | Final Chemical Data Report No. 2 - First Quarter, Off-Post Groundwater Monitoring and ERP | Science Applications International Corp. | JUN-1995 |
| | Revised Final Chemical Data Report No. 3 - First Quarter, Off-Post Groundwater Monitoring and ERP | Science Applications International Corp. | SEP-1995 |
| | Corrective Action Plan, Building 410 | Ecology and Environment, Inc. | NOV-1995 |
| | Revised Final Chemical Data Report No.4 - First Quarter, Off-Post Groundwater Monitoring and Emergency Response Plan | Science Applications International Corp. | DEC-1995 |
| 1996 | CAP, Building 6, Site 1 and 2 | Ecology and Environment, Inc. | MAR-1996 |
| | Revised Final ERP, Off-Post Groundwater Monitoring and ERP | Science Applications International Corp. | OCT-1996 |
| 1997 | Final Monitoring Well Inventory Well Assessment Report Vista Technologies, Inc. January 1997 | Vista Technologies, Inc. | JAN-1997 |
| | Industrial Sewer Line System Upgrade Plan | Science Applications International Corp. | FEB-1997 |
| | Monitoring Well Rehabilitation Report | US Army Corps of Engineers, Mobile District | SEP-1997 |
| | Expanded Site Inspection for TNT Washout Facility Leaching Beds (SWMU 11) | US Army Corps of Engineers, Mobile District | SEP-1997 |
| 1998 | Report of Findings for the Groundwater Tracer Test SIA | Science Applications International Corp. | MAY-1998 |
| | Final CRP Update | QST Environmental, Inc | MAY-1998 |
| | Final SIA Phase 2 Remedial Investigation | Science Applications International Corp. | MAY-1998 |
| | Final SIA Groundwater Operable Unit FS | Science Applications International Corp. | NOV-1998 |
| 1999 | Geophysical Investigation, SIA Argonne National Laboratory | Argonne National Laboratory | MAY-1999 |
| | Final SIA FS of Seven SWMUs | Science Applications International Corp. | JUL-1999 |
| | Final Proposed Plan for the Clean-Up of Groundwater within the SIA | Science Applications International Corp. | SEP-1999 |
| 2000 | Final Anniston AD RA On-Post Soil Operation Unit Proposed Plan | Science Applications International Corp. | JUL-2000 |
| 2002 | Final Anniston AD ASA Proposed Plan | Science Applications International Corp. | MAR-2002 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|---|--|----------|
| 2002 | Final Anniston AD ASA Proposed Plan | Science Applications International Corp. | MAR-2002 |
| | Final Ammunition Storage Area Remedial Investigation Report | Science Applications International Corp. | AUG-2002 |
| | Final Phase I of the Off-Post RI | Science Applications International Corp. | DEC-2002 |
| 2004 | CGW RI at Anniston Army Depot, Anniston, Alabama | Science Applications International Corp. | JUN-2004 |
| | Final ERP for Coldwater Spring Public Water Supply | Science Application International Corp. | AUG-2004 |
| | Final ERP for Private Wells | Science Application International Corp. | AUG-2004 |
| | Final ANAD CIP Addendum | Science Application International Corp. | AUG-2004 |
| 2005 | Site Management Plan | Anniston Army Depot | DEC-2005 |
| 2006 | Final ROD for ASA | Anniston Army Depot | JUL-2006 |
| | Historical Records Review Report for WIA | Science Applications International Corp. | SEP-2006 |
| | Draft Final ASA Natural Attenuation Monitoring Plan | STEP, Inc. | DEC-2006 |
| 2007 | Draft Final RD Addendum/Baseline Sampling Analysis Report ASA | SpecPro Environmental Services, LLC | FEB-2007 |
| 2008 | Final SIA Comprehensive RI Phase III | Science Applications International Corp. | JAN-2008 |
| | Comprehensive Groundwater FS for Operable Unit 1 | Science Applications International Corp. | APR-2008 |
| | Final SI Report for the Western Industrial Area (OU-5) | Science Applications International Corp. | APR-2008 |
| | Final ROD for SIA Soil (OU-2) | Anniston Army Depot | JUL-2008 |
| | Final Southeast Industrial Area Remedial Action Post-Construction Report and Maintenance Plan | SpecPro Environmental Services LLC | SEP-2008 |
| | Final ASA RA Post-Construction Report | STEP, Inc. | SEP-2008 |
| 2009 | Final Operable Unit 3 Groundwater Monitoring Report at the Ammunition Storage Area | SpecPro Environmental Services LLC | MAR-2009 |
| | Annual Monitored Natural Attenuation Report Year 3 for Operable Unit 3 | Black & Veatch Special Projects Corp. | MAR-2009 |
| | Final Work Plan Addendum to ASA Long-Term Groundwater Monitoring Plan | Black & Veatch Special Projects Corp. | JUN-2009 |
| | Expanded Site Investigation Work Plan for Western Industrial Area (OU-5) | Tetra Tech, Inc. | AUG-2009 |
| 2010 | Work Plan Addendum, ASA Long-Term Groundwater Monitoring Plan | Black & Veatch Special Projects Corp. | APR-2010 |

IRP Previous Studies

2010

| Title | Author | Date |
|--|---|----------|
| Final Work Plan Addendum to ASA Long-Term GW Monitoring Plan | Black & Veatch Special Projects Corp. | APR-2010 |
| Coldwater Spring Monthly Sampling Summary Report for 2008 | Science Application International Corp. | APR-2010 |
| Operable Unit-1 Groundwater Sampling Data Summary For calendar Year 2008 | Science Application International Corp. | APR-2010 |
| Monitoring Well Inventory Work Plan | Science Applications International Corp. | AUG-2010 |
| Five-Year Review Report for OU-1, OU-2 and OU-3 | U.S. Army Corps of Engineers, Mobile District | SEP-2010 |
| Final Expanded Site Investigation Report | Tetra Tech, Inc. | NOV-2010 |
| Vapor Intrusion Monitoring Work Plan | Science Application International Corp. | DEC-2010 |
| Vapor Intrusion Assessment UFP-QAPP | Science Application International Corp. | DEC-2010 |
| Final Technical Memorandum for SIA (OU-1) | Tetra Tech, Inc. | DEC-2010 |

2011

| | | |
|---|--|----------|
| Final Annual Monitored Natural Attenuation Report Year 4 for OU-3 | Black & Veatch Special Projects Corp. | JAN-2011 |
| Final Well Redevelopment Work Plan for OU-1 | Science Applications International Corp. | MAR-2011 |
| Final OU-1 GW Sampling Data Summary for 2009, SIA | Science Applications International Corp. | MAY-2011 |
| Final Coldwater Spring and Cooper Well Monthly Sampling Summary Report for 2009 | Science Application International Corp. | JUN-2011 |
| Final Work Plan Addendum to ASA Long-Term Groundwater Monitoring Plan | Black & Veatch Special Projects Corp. | JUN-2011 |
| Final Coldwater Spring and Cooper Well Monthly Sampling Summary Report for 2010 | Science Applications International Corporation | OCT-2011 |
| Explosive Site Plan Remedial Investigation/Characterization Action MRS ANAD-001-R-01 Recoilless Rifle Range | HydroGeoLogic, Inc. | DEC-2011 |
| Letter Work Plan Addendum for Calendar Year 2010 Operable Unit 1 Groundwater Sampling | Science Applications International Corporation | DEC-2011 |

2012

| | | |
|--|--|----------|
| Final Remedial Investigation/Characterization Action Work Plan Operable Unit 4 | HydroGeoLogic, Inc. | FEB-2012 |
| Quality Control Plan Design Build: Refurbish And Provide Spill Prevention, Control and Countermeasures For Groundwater Intercept Treatment Plant | SpecPro Environmental Services LLC | FEB-2012 |
| Final Engineering Evaluation/Cost Analysis (EE/CA) | URS Group, Inc. | FEB-2012 |
| Vapor Intrusion Assessment Report | Tetra Tech, Inc. | FEB-2012 |
| Final Annual Monitored Natural Attenuation Report Year 5 | Black & Veatch Special Projects Corp. | FEB-2012 |
| Operable Unit-1 Groundwater Sampling Data Summary For 2010 | Science Applications International Corporation | APR-2012 |
| Community Involvement Plan for Anniston Army Depot | Science Applications International Corporation | APR-2012 |
| Final Focused Feasibility Study for Southeast Industrial Area (OU-1) | Tetra Tech, Inc. | APR-2012 |
| Final Work Plan Addendum to ASA Long-Term Groundwater Monitoring Plan | Black & Veatch | MAY-2012 |

IRP Previous Studies

| 2012 | Title | Author | Date |
|------|--|--|----------|
| | Addendum to the Monitoring Well Inventory Work Plan | Science Applications International Corporation | JUN-2012 |
| | Revised Final Operable Unit-1 Groundwater Sampling Data Summary For 2010 | Science Applications International Corporation | JUL-2012 |
| | Technical Memorandum for Refinement of Chemicals of Concern of Operable Unit 1 | Tetra Tech, Inc. | SEP-2012 |
| | Final Annual Monitored Natural Attenuation Report Year 6 | Black & Veatch Special Projects Corp. | SEP-2012 |
| | Historical Data Evaluation Summary and Database For Anniston Army Depot OU-1 | Science Applications International Corporation | SEP-2012 |
| | Final Proposed Plan Southeast Industrial Area (OU-1) | Tetra Tech, Inc. | OCT-2012 |
| 2013 | | | |
| | Final Coldwater Spring and Cooper Well Monthly Sampling Summary Report for 2011 | Science Applications International Corporation | JAN-2013 |
| | Operable Unit-1 Groundwater Sampling Data Summary For 2011 | Science Applications International Corporation | APR-2013 |
| | Final Annual Monitored Natural Attenuation Report Year 7 | Black & Veatch Special Projects Corp. | APR-2013 |
| 2014 | | | |
| | Final Coldwater Spring and Cooper Well Monthly Sampling Summary Report for 2012 | Leidos, Inc. | MAY-2014 |
| | Final Annual Monitored Natural Attenuation Report Year 8 | Black & Veatch Special Projects Corp. | JUN-2014 |
| | PLA Remedial Action Operations Work Plan, Operable Unit No. 3 | EMR, Inc. | SEP-2014 |
| | Final Interim Record of Decision For Southeast Industrial Area (Operable Unit 1) | Tetra Tech, Inc. | OCT-2014 |
| 2015 | | | |
| | Coldwater Spring and Cooper Well Monthly Sampling Summary Report for 2013 | Leidos, Inc. | JAN-2015 |
| | Final Annual Monitored Natural Attenuation Report Year 9 | EMR, Inc. | FEB-2015 |
| | OU-1 Groundwater Sampling Data Summary and Plume Refinement for 2013 | Leidos, Inc. | APR-2015 |
| | Fourth Five-Year Review Report | U.S. Army Corps of Engineers | SEP-2015 |
| 2016 | | | |
| | Annual Monitored Natural Attenuation Report (Year 10) Operable Unit 3 | EMR, Inc. | FEB-2016 |
| | Draft-Final Evaluation of Banded Sculpin TCE Toxicity Testing Results | Tetra Tech, Inc. | FEB-2016 |

ANNISTON ARMY DEPOT
Installation Restoration Program
Site Descriptions

Site ID: ANAD-01
Site Name: SITE Z-1 TRENCHES AREA
Alias: SWMU-01

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 198608..... | 198704 |
| RI/FS..... | 198110..... | 201506 |
| RD..... | 201406..... | 201809 |
| IRA..... | 198211..... | 201905 |
| RA(C)..... | 201505..... | 201905 |
| RA(O)..... | 201902..... | 204901 |

RIP Date: 201905

RC Date: 204905

SITE DESCRIPTION

This site is part of OU-1. July 2008 ROD for OU-2 approved NFA for soils associated with this site. LUCs for soils are included in ANAD-07.

In 2003 a decision was made to address all groundwater actions for OU-1 under this site. The comprehensive groundwater OU includes previously studied (on-post and off-post) groundwater OUs. The SWMUs that are considered source areas for groundwater contamination are ANAD-01, -12, -25, -29 and -30. Investigations have shown that chlorinated solvents have migrated off-post and impacted the municipal drinking water source (Coldwater Spring) for the Anniston/Calhoun County system. Air strippers installed at the water treatment plant began operation in FY05. These air strippers are operated and maintained by the AWWWSB.

The Z-1 Trenches Area consisted of a series of seven excavated trenches approximately 10 to 15 feet in depth, located within a 2--acre area north of the vehicle test track. The waste pits were used from 1971 to 1981 for the disposal of various liquids and containerized chemical wastes. As a result of a 1979 RCRA corrective/removal action, the trenches were excavated and contaminated soils and wastes were transported off-depot for disposal. Confirmatory soil sample analysis indicated a maximum concentration of 25 milligrams/kilogram (mg/kg) total organics remaining in the trenches after excavation. Based upon the soil analyses, ADEM granted approval for closure.

The Phase I RI showed that a 1983 removal action was successful in removing soil as a contaminant source. Contamination reached groundwater before the 1983 removal. In 1990 a pump-and-treat system began operation under an IROD. In groundwater samples collected in 1995, solvents were detected at concentrations that indicated a high probability of non-aqueous phase liquid (NAPL).

A remedial action (RA) was conducted at SWMU-12 (Fenton's reagent) for TCE contaminated soil and groundwater. The process was effective in removing VOC contaminants in the soil but ineffective for the groundwater. The objective of the RA was to treat or reduce chemical concentrations believed to be contributing to exceedances of the health-based concentration limits in the groundwater.

In FY08 the comprehensive RI was finalized. The FS was also completed in FY08. In FY12 a FFS and PP were completed focusing on the source areas. The IROD amendment was completed in June 2015.

The PP and IROD amendment included point-of-use treatment at Coldwater Spring, overhaul of the current groundwater interceptor system (GWIS), long-term monitoring of the groundwater, implementation of land use controls (LUC), and partial source mass removal (PSMR) using aggressive bioremediation for five years in three source areas exceeding 10 milligrams/liter (mg/L) TCE.

ANAD-31 groundwater is also part of OU-1, and cost associated with ANAD-31 is included in this site. Cost for abandonment of

Site ID: ANAD-01
Site Name: SITE Z-1 TRENCHES AREA
Alias: SWMU-01

all wells associated with OU-1 including off-site wells is included in ANAD-01.

Installation-wide five-year reviews are included in ANAD-01. The fourth five-year review was completed in September 2015, and the fifth five-year review is scheduled for September 2020.

CLEANUP/EXIT STRATEGY

Due to mission essential operations, access is not available in industrial area at this time, and bioremediation will be done when access is available in the future if mission changes. Modified GWIS and Building 114 treatment plant will be operated for five years with PS MR and without PS MR thereafter. Path forward for PS MR will be determined after five-year review period.

In the interim, operation of the Groundwater Interceptor System (GWIS), groundwater monitoring, annual potable well sampling, and monthly sampling of Coldwater Spring will continue. It is assumed that O&M of the GWIS will be required for 3 additional years until the RD and RA(C) phases are completed. After construction is completed, RA(O) including PS MR will be done for five years and without PS MR for an additional 25 years. Total RA(O) time frame is 30 years.

Site ID: ANAD-05

Site Name: SINKHOLE (NEAR EASTERN BOUNDARY)

Alias: SWMU-05

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200510..... | 201910 |
| RIP Date: | 200510 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3). The ROD was finalized in July 2006. ROD approved No Further Action for the soils, surface water and sediment at this site.

The sinkhole is located in a remote area along the ASA's eastern boundary. This feature is a depression, approximately 0.6 of an acre, and contains water. The area was used periodically between 1942 and 1978 to dispose of various construction debris and miscellaneous wastes. Over the years most of the debris has been removed from the sinkhole. VOCs, SVOCs and lead have been detected in the groundwater.

The ROD required 10 years of sampling with a review at the 10th year to determine effectiveness of the remedy.

This site includes all the cost associated with all OU-5 sites. Cost for abandonment of all wells associated with OU-3 is included in ANAD-05. The costs for the five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual monitored natural attenuation (MNA) will continue for an additional two years and three year of LUC maintenance will be required while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted as required.

Site ID: ANAD-07
Site Name: CHEMICAL WASTE DISPOSAL PIT
Alias: SWMU-07

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200509 | |

SITE DESCRIPTION

ANAD-07 soils are part of OU-2, and site groundwater is included in OU-1.

The chemical waste disposal pit, also known as SWMU-7, is located in the northeast area of the SIA across from Building 512. A variety of chemical wastes were reportedly dumped into a small pit in this area during a six-month period in 1960. The exact location and dimensions of the pit are unknown. The area is also reported to be the site of three separate spills of paint stripper from a 1,000-gallon tank car. The RI identifies lead in soil at this site as posing a human health risk (industrial use). The RI states that soil contamination does not provide a significant source for the groundwater contamination.

Part of the area has been capped with concrete for installation use with non-IRP funds. The remainder of the SWMU was capped with gravel in 2005. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD LUC standard operating procedures (SOP). Excavation and off-site transport of soil must be coordinated with the Directorate of Risk Management (DRK) to ensure regulatory compliance. LUCs are in place, and LTM (monitoring/management of LUCs) is underway. Since hazardous substances, pollutants or contamination remains at the site above levels that allow for unlimited use (UU) and unrestricted exposure (UE), LUCs will be required indefinitely. Per Army guidance, LUC costs are estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-08
Site Name: ACID DISPOSAL PIT
Alias: SWMU-08

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Explosives, Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200510..... | 201910 |
| RIP Date: | 200510 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3). The ROD for OU-3 (ASA) was finalized in July 2006. The ROD approved No Further Action for the soils at this site.

The acid disposal pit is located in the ASA. It is believed to have been used from 1959 to 1961 for the disposal of various chemicals, possibly in drums, before the Facility 414 Old Lagoons (ANAD-12) were constructed. The pit was concrete and has been filled in with sand that was previously used for cleaning metal parts. Elevated levels of VOCs, SVOCs, metals and explosives were detected in the groundwater.

The ROD required 10 years of sampling with a review at the 10th year to determine effectiveness of the remedy. While the final path forward for all the SWMUs in OU-3 are being decided based on results of 10 years of monitoring, it is anticipated that two more years of additional monitoring and three years of LUC maintenance will be required before NFA is approved.

All cost associated with this site is included in ANAD-05. Cost for abandonment of all wells associated with OU-3 is also included in ANAD-05. Costs for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual MNA will continue for an additional two years while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted as required.

Site ID: ANAD-09

Site Name: CALCIUM HYPOCHLORITE BURIAL PIT

Alias: SWMU-09

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200509 | |

SITE DESCRIPTION

The site's soils are part of OU-2, and groundwater is addressed under OU-1.

The calcium hypochlorite pit, also known as SWMU-9, was used in 1974 to dispose of 400 containers of calcium hypochlorite, each containing approximately 100 pounds. The pit is located approximately 500 feet southwest of the vehicle test track, between the Facility 414 Old Lagoons (ANAD-12) and the A-Block Lagoon (ANAD-22). A US Army Environmental Hygiene Agency (USAEHA) report noted that several containers had ruptured during burial and caused a fire when the hypochlorite came into contact with scrap dunnage. During trenching operations conducted during the RI, no evidence of the disposal was identified. The 1998 Phase II RI identified lead contamination in soil as posing a human health (industrial use) and ecological risk.

The Final ROD for SIA Soil (OU-2, 2008) required excavation, transportation and disposal of approximately 100 cubic yards (cy) of soil and the capping of about 2,500 square feet (sq ft) of this site. These requirements were completed in FY05. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with the DRK to ensure regulatory compliance. LUCs are in place, and LTM is underway. Since hazardous substances, pollutants or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-10

Site Name: TNT WASHOUT FACILITY SEDIMENTATION TANK

Alias: SWMU-10

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Munitions constituents (MC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200510..... | 201910 |
| RIP Date: | 200510 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3). The ROD approved No Further Action for the soils at this site.

The sedimentation tank is part of the TNT Washout Facility located in a restricted area of the central portion of the ASA. The facility consists of a large metal building (Building 172) and a wastewater sedimentation tank. The facility was used from 1948 until the mid-1950s for washing explosives from demilitarized munitions. The slurry from washout operations was discharged from the building to the sedimentation tank. The overflow from this tank then discharged through a pipe under the road and into the TNT Leaching Beds (ANAD-11). The unit closed in the mid-1950s except for occasional use through the late-1960s. Metals and explosives were detected in the groundwater.

The ROD required 10 years of sampling with a review at the tenth year to determine effectiveness of the remedy. While the final path forward for all the SWMUs in OU-3 are being decided based on results of 10 years of monitoring, it is anticipated that two more years of additional monitoring and three years of LUC maintenance will be required before NFA is approved.

All cost associated with this site is included in ANAD-05. Cost for abandonment of all wells associated with OU-3 is also included in ANAD-05. Costs for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual MNA will continue for an additional two years while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted as required.

Site ID: ANAD-11
Site Name: TNT LEACHING BEDS
Alias: SWMU-11

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Munitions constituents (MC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200510..... | 201910 |

RIP Date: 200510

RC Date: 201910

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3).

The TNT Leaching Beds (SWMU-11) are located across the road from ANAD-10. The overflow from the sedimentation tank of ANAD-10 discharged through a clay pipe into the leaching beds. The beds occupied an area of about 0.75 acre. From 1948 until the mid-1950s, the leaching beds treated explosives and washout wastewater. From the mid-1950s through the late-1960s, the beds were apparently used occasionally to dispose of wash water from pelletizing system filters. In April 1978, an unknown quantity of octal pink water was discharged to the beds. The beds have not been used since April 1978. In 1985, the area was graded and capped with 2 to 5 feet of native clay. Metals and explosives were detected in the groundwater.

The ROD for OU-3 ASA was finalized in July 2006. The ROD approved NFA for the soils at this site. The ROD required 10 years of sampling with a review at the tenth year to determine effectiveness of the remedy. While the final path forward for all the SWMUs in OU-3 are being decided based on results of 10 years of monitoring, it is anticipated that two more years of additional monitoring and three years of LUC maintenance will be required before NFA is approved.

All costs associated with this site is included in ANAD-05. Cost for abandonment of all wells associated with OU-3 is also included in ANAD-05. Costs for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual MNA will continue for an additional two years while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted as required.

Site ID: ANAD-12
Site Name: FACILITY 414 (OLD LAGOONS)
Alias: SWMU-12

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200206 |
| RD..... | 200408..... | 200508 |
| IRA..... | 198211..... | 200308 |
| RA(C)..... | 200508..... | 200602 |
| LTM..... | 200603..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200602 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

This facility consists of a series of three unlined industrial waste lagoons. These lagoons were used from about 1960 until 1978 to store abrasive dust waste and a variety of concentrated liquid chemical wastes generated in the shop area. In August 1978, the lagoons were emptied by pumping the liquid wastes to the A-Block Lagoon (ANAD-22). Approximately 1,100 to 1,300 cy of sludge were removed from the lagoons and stockpiled onsite. The lagoons were then backfilled with clay. As a result of a 1979 RCRA corrective/removal action, the waste sludge was removed for off-depot disposal, along with the waste from the Z-1 Trenches Area (ANAD-01). In 1990, a pump-and-treat system began operations to treat source areas.

A RA was conducted using Fenton's reagent for TCE contaminated soil and groundwater. The process effectively removed VOCs in the soil, but it was ineffective for the groundwater. The objective of the action was to treat or reduce chemical concentrations believed to be contributing to health-based concentration limits that were exceeded in the groundwater. The metals-contaminated soil at the site is considered an ecological risk, and some lead-contaminated soil poses a risk to industrial workers. Concentrations of solvents detected in groundwater samples in 2002 indicated a high probability of NAPL.

In FY05, in accordance with the OU-2 ROD, about 209 cy of soil was excavated from ANAD-09/12 and properly disposed. The area was capped with gravel. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with the DRK to ensure regulatory compliance. LUCs are in place, and LTM is underway. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-13
Site Name: ACID CHEMICAL WASTE PIT
Alias: SWMU-13

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200206 |
| RD..... | 200408..... | 200509 |
| RA(C)..... | 200508..... | 200512 |
| LTM..... | 200512..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200512 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

The SIA Acid Chemical Waste Pit is located in a sandy cut in a hillside near the SIA and the old STP. The pit was reportedly used to dispose of tank-truck quantities of unspecified chemical wastes of unknown origin from either the late-1940s to the late-1960s or from 1957 to 1972.

The 1998 Phase II RI showed that soil contamination at this site poses an unacceptable risk to industrial workers; however, the site is not considered an ecological risk. There is no complete exposure pathway to groundwater.

The Final ROD for SIA Soil (OU-2, 2008) required capping of 2,168 sq ft of this site. The cap was installed in 2005. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with the DRK to ensure regulatory compliance. LUCs are in place, and LTM is underway. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-19
Site Name: OLD STP (EAST AREA)
Alias: SWMU-19

STATUS

Regulatory Driver: CERCLA
RRSE: MEDIUM
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|--------------------|---------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RD..... | 200506..... | 200509 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200510 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

The Old STP was used from 1948 to 1982, when it was replaced by the New STP, ANAD-20. Approximately 435,000 gallons per day (gpd) of domestic sewage and pre-treated industrial wastewaters were processed at this unit. Effluent from this plant was discharged to Dry Creek. The soil does not pose a risk to industrial workers; the site land use must remain industrial.

LUCs are in place, and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, will be implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-20
Site Name: NEW STP (EAST AREA)
Alias: SWMU-20

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals

Media of Concern: Soil

| Phases | Start | End |
|---------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |

RIP Date: N/A

RC Date: 200510

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

This new sewage treatment system uses an activated biofilter design which uses some of the Old STP (ANAD-19) units. Capacity of the New STP is 520,000 gpd, consisting of domestic sewage wastes and pre-treated industrial wastewater. The system discharged to Coldwater Creek until December 1987, when effluent discharge was changed to Choccolocco Creek. The soil does not pose a risk to industrial workers. Site land use must remain industrial.

LUCs are in place, and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-21
Site Name: ABRASIVE DUST LANDFILL
Alias: SWMU-21

STATUS

Regulatory Driver: CERCLA
RRSE: MEDIUM
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200510 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

From 1977 to 1981, 2.9 acres of this site were used to dispose of abrasive dust waste from sandblasting operations. The dust consisted of sand, steel shot, glass, walnut hulls, paint flakes and metallic chips. The site cleanup is based on industrial worker risk; site land use must remain industrial. The soil does not pose a risk to industrial workers; the site land use must remain industrial.

LUCs are in place, and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-22
Site Name: A-BLOCK LAGOON (FACILITY 514)
Alias: SWMU-22

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|--------------------|---------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| IRA..... | 198106..... | 198112 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200510 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

A-Block Lagoon is a 1.7-acre lined surface impoundment. The lagoon was built in 1978 for the temporary storage of liquid wastes pumped from ANAD-12. The site was closed in 1982. Site cleanup is based on industrial worker risk.. The soil does not pose a risk to industrial workers; the site land use must remain industrial.

LUCs are in place and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-23

Site Name: ASBESTOS WASTE DISPOSAL TRENCH

Alias: SWMU-23

STATUS

Regulatory Driver: CERCLA
RRSE: MEDIUM
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200510 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

From 1980 to 1981, this shallow trench was used to dispose of insulation containing asbestos. The wastes were wrapped in double bags and disposed of in accordance with existing environmental regulations. In 1981, the trench was backfilled with area soils. The Phase II RI showed there is risk under the construction land use scenario from subsurface soils. Site cleanup is based on industrial worker risk; site land use must remain industrial.

LUCs are in place and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being. Periodic inspections will be conducted, as required.

Site ID: ANAD-24
Site Name: OLD SANITARY LANDFILL
Alias: SWMU-24

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals
 Media of Concern: Soil

| Phases | Start | End |
|------------------|--------------------|---------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200510 | |

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

This landfill operated from 1942 until 1970 when ANAD-02 was constructed. Wastes were disposed of in trenches, which were then backfilled with soil. Waste type and quantities were not documented, but reportedly consisted of typical municipal wastes such as paper, household items, garbage and, possibly, chemical wastes. The ROD for SIA soil OU-2 states that soil is not a risk to industrial workers; site land use must remain industrial. Site groundwater is addressed under the comprehensive groundwater OU-1.

LUCs are in place, and LTM is underway. Unauthorized excavation is prohibited through ANAD LUC SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE LUCs will be required indefinitely. Per Army Guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-27
Site Name: SOUTH TNT BURIAL PIT
Alias: SWMU-27

STATUS

Regulatory Driver: CERCLA
RRSE: LOW
 Contaminants of Concern: Explosives
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200212 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200510..... | 201910 |
| RIP Date: | 200510 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3).

Wastes containing TNT from SWMU-27 may have been buried in a small burial pit located in the north central section of ANAD near the installation boundary. The pit area is well vegetated and shows no evidence that a site existed, except for a few posted signs indicating a closed landfill.

Metals above risk-based screening levels were detected in the groundwater. Low concentrations of metals, VOCs, and SVOCs below risk-based screening levels were detected in subsurface soils.

The ROD for OU-3 ASA was finalized in July 2006. The ROD approved NFA for soils at this site. The ROD required 10 years of sampling with a review at the tenth year to determine effectiveness of the remedy. While the final path forward for all the SWMUs in OU-3 isare being decided based on results of 10 years of monitoring, it is anticipated that two more years of additional monitoring and three years of LUC maintenance will be required before NFA is approved.

All cost associated with this site is included in ANAD-05. Cost for abandonment of all wells associated with OU-3 is also included in ANAD-05. Costs for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual MNA will continue for an additional two years while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted, as required.

Site ID: ANAD-28

Site Name: WASTE WOOD LANDFILL, NORTHEAST PART DEPOT

Alias: SWMU-28

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals

Media of Concern: Soil

| Phases | Start | End |
|---------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200109 |
| RA(C)..... | 200509..... | 200509 |
| LTM..... | 200510..... | 204610 |

RIP Date: N/A

RC Date: 200510

SITE DESCRIPTION

This site's soils are part of OU-2, and groundwater is addressed under OU-1.

This 3.7-acre closed landfill was used beginning in 1976 for the disposal of various waste wood products, including railroad ties, telephone poles, and wooden pallets. There are no records indicating that wood treated with copper, chromium, or arsenic was deposited at this site.

The landfill was reported to be about 15 feet thick and was built by filling in a low-lying area. The landfill was covered and graded with 2 to 3 feet of clean fill. There is no soil risk to industrial workers; site land use must remain industrial.

LUCs are in place, and LTM is underway. Unauthorized excavation is prohibited through ANAD SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs, which include prohibiting excavation, are being implemented. Periodic inspections will be conducted, as required.

Site ID: ANAD-29

Site Name: OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573)

Alias: SWMU-29

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals

Media of Concern: Soil

| Phases | Start | End |
|---------------|--------------|------------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200308 |
| RD..... | 200408..... | 200505 |
| RA(C)..... | 200506..... | 200509 |
| LTM..... | 200510..... | 204610 |

RIP Date: N/A

RC Date: 200509

SITE DESCRIPTION

The site's soils are part of OU-2, and groundwater is addressed under OU-1.

The Old Lumber Disposal Yard (SWMU-29) was located immediately south of the Eulaton gate of the SIA, north of what is now Building 513. It was used for disposal of wood by burning with waste oil and as a stockpile of wood available for the public. The area covered less than 1 acre and was in use from the mid-1940s through the mid-1970s. In 1997, the site was excavated using non-IRP funds in order to construct a warehouse. Waste wood removed in the excavation was disposed of offsite. Most of the area is now covered with concrete and a metal structure.

In accordance with the OU-2 ROD, areas posing a human health risk due to lead in soil were capped in late FY05. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. LUCs are in place, and LTM is underway. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

LUCs were implemented as part of the final remedy. The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-30
Site Name: NORTHEAST LAGOON AREA
Alias: SWMU-30

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
 Contaminants of Concern: Metals, Volatiles (VOC)
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200308 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200506..... | 200509 |
| LTM..... | 200510..... | 204610 |
| RIP Date: | N/A | |
| RC Date: | 200509 | |

SITE DESCRIPTION

The site's soils are part of OU-2, and groundwater is addressed under OU-1.

Until the early-1960s the various surface impoundments and liquid disposal pits at the Northeast Lagoon Area (SWMU-30) were used for waste disposal. It is approximately 1 acre and is located adjacent to Building 513 in the northeastern section of the SIA. The northeast lagoon area is believed to have been used as a primary disposal area for chlorinated solvents from the early-1950s to the early-1960s. The area has since been filled in and is now used as a gravel parking lot.

The Phase II RI states that there are human health risks associated with lead in the soils and that the subsurface soil is not presently contributing to groundwater contamination . VOC contamination reached groundwater in the past and has persisted. Groundwater samples collected in 2002 contained solvents at levels that indicated a high probability of NAPL. A pump-and-treat system began operation in 1990.

In late FY05, in accordance with the OU-2 ROD, areas posing a human health risk were capped. LUCs were implemented as part of the final remedy.

Unauthorized excavation is prohibited through ANAD SOPs. Excavation and off-site transport of soil must be coordinated with DRK to ensure regulatory compliance. LUCs are in place, and LTM is underway. Since hazardous substances, pollutants, or contamination remains at the site above levels that allow for UU/UE, LUCs will be required indefinitely. Per Army guidance, LUC cost is estimated for 30 years.

Cost associated with LTM for all OU-2 sites are included in ANAD-07. Five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The cover and signs will be monitored under LTM and repaired, as necessary.

Site ID: ANAD-31
Site Name: METAL PLATING SHOP (BUILDING 114)
Alias: SWMU-31

STATUS

Regulatory Driver: CERCLA
RRSE: MEDIUM
 Contaminants of Concern: Metals, Volatiles (VOC)
 Media of Concern: Groundwater

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 198608 |
| RI/FS..... | 198110..... | 200203 |
| RD..... | 201110..... | 201209 |
| IRA..... | 198304..... | 201910 |
| RA(C)..... | 201209..... | 201910 |
| RA(O)..... | 201207..... | 201910 |
| RIP Date: | 201910 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

ANAD-31 groundwater is also part of OU-1. An IROD was completed in 1991 for IRA for this site along with ANAD-01.

Operations in Building 114 (SWMU-31) include cleaning, treating and metal plating. A french drain system surrounds the building and drains into an adjacent collection sump. The water is collected and pumped to a treatment site. As a result of past activities, there is extensive chromium and VOC contamination in soil and groundwater in the vicinity of Building 114. Consequently, it is necessary to treat the sump water using an air stripping system to remove VOCs and sulfur impregnated granulated activated carbon to remove hexavalent chromium. These air strippers were installed in 1990 as part of an IROD. This treatment system will be operated under IRA for three years until RD and RA(C) for the groundwater in OU-1 is completed. At that point ANAD-31 treatment system will be incorporated into the overall strategy for OU-1. Cost for this system is accounted for in ANAD-01 cost estimate.

The surface soil is not a human health or ecological risk because the site is covered with pavement. The subsurface soil is not a significant source of groundwater contamination. The July 2008 ROD for OU-2 approved NFA for soils at this site.

Cost for abandonment of all wells associated with OU-1 including off-site wells is included in ANAD-01. Installation-wide five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

The IROD for OU-1 addresses groundwater contamination at this site.

The cleanup strategy is to continue operation of the groundwater sump and air strippers with associated carbon vessels to treat groundwater from beneath the building. The system will be integrated into ANAD-01 when the OU-1 IROD amendment is implemented.

Site ID: ANAD-35
Site Name: DEACTIVATION FURNACE
Alias: SWMU-35

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals

Media of Concern: Groundwater

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 197804..... | 198608 |
| SI..... | 197804..... | 199410 |
| RI/FS..... | 199310..... | 200206 |
| RD..... | 200408..... | 200508 |
| RA(C)..... | 200508..... | 200509 |
| RA(O)..... | 200509..... | 201910 |
| RIP Date: | 200509 | |
| RC Date: | 201910 | |

SITE DESCRIPTION

This site is part of OU-3 and is included in the ASA (OU-3). The ROD for OU-3 (ASA) was finalized in July 2006.

The Deactivation Furnace (SMWU-35) was located in the northwest corner of the ASA. The furnace was used to deactivate small munitions. Particulate emissions from the furnace were collected in a bag house where the dust was drummed and stored as a hazardous waste. A leaking, 1,000-gallon underground diesel fuel tank located adjacent to the furnace building was removed and the surrounding contaminated soils remediated. An air emission permit application was submitted to ADEM and then withdrawn. The site was never granted a RCRA permit or operated as a RCRA unit.

In 1999, the equipment was removed and the building received RCRA closure. In 2000, the building was removed. The groundwater, surface and subsurface soils are being investigated as a CERLCA site. Lead in the surface soil posed a human health risk for industrial workers. Metals above risk-based screening levels were detected in the groundwater.

In FY05, soils posing a risk were excavated to residential standards and disposed of properly.

The ROD required 10 years of sampling with a review at the 10th year to determine effectiveness of the remedy. While the final path forward for all the SWMUs in OU-3 are being decided based on results of 10 years of monitoring, it is anticipated that two more years of additional monitoring and three years of LUC maintenance will be required before NFA is approved.

All cost associated with this site is included in ANAD-05. Cost for abandonment of all wells associated with OU-3 is also included in ANAD-05. Costs for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is assumed based on current conditions that annual monitored natural attenuation will continue for an additional two years while the path forward for the OU-3 sites is being determined based on the 10-year summary report submitted to the regulators.

LUCs prohibiting groundwater use and soil excavation are included in the final remedy. Periodic inspections will be conducted as required.

Site ID: ANAD-46
Site Name: LEAKING UST AT BLDG 6
Alias: SWMU-46

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

| Phases | Start | End |
|-------------|-------------|--------|
| ISC..... | 199201..... | 199301 |
| INV..... | 199301..... | 199501 |
| CAP..... | 199501..... | 199702 |
| IMP(C)..... | 199702..... | 201910 |
| IMP(O)..... | 199702..... | 201910 |

RIP Date: 201910

RC Date: 201910

SITE DESCRIPTION

Building 6 is located in the Western Industrial Area (WIA) of ANAD and encompasses approximately 1.5 acres. The facility operates as a service station for the depot vehicles. In 1989, two gasoline USTs were suspected of leaking, which initiated the investigation process at the site. These investigations indicated that petroleum contaminants had been released to the subsurface. In 1994, the tanks were removed. Subsequently, three new USTs were installed and are currently in use at the site. A 1990 preliminary investigation discovered the presence of free-phase gasoline and dissolved contaminants in the groundwater. A CAP presented the results of further secondary investigation activities. The CAP identified benzene as the primary COC in the shallow and intermediate groundwater zones only. The CAP recommended remediation of the soil and groundwater through the installation of absorbent socks placed in select monitoring wells and installation of a pump-and-treat system to remove contaminants from the groundwater. No free-product has been observed since 1997. Following implementation of the groundwater remedial activities, a 10-year monitoring program began in 1998 and was scheduled to conclude in 2008.

Based on previous monitoring data, groundwater is analyzed for VOCs only. At the request of ADEM, an ARBCA assessment was completed in 2005 to establish site-specific target levels (SSTL). Results of the ARBCA indicated that groundwater concentrations at the source were not protective of groundwater at a point of exposure. Natural attenuation with groundwater compliance monitoring results being compared to SSTLs was recommended and approved as the form of remediation for the site with the condition that the site remains designated as commercial use only. Results from groundwater sampling events have demonstrated that the benzene plume has remained stable throughout the years. Currently, two monitoring wells have benzene concentrations exceeding their respective SSTLs. Historical trends at one of the monitoring wells have shown increasing benzene concentrations. In addition, benzene concentrations have increased at another monitoring well, but concentrations remain below the SSTL. The observed increases in benzene concentrations prompted a site-wide groundwater investigation in 2014. The results of the groundwater investigations identified two small benzene hotspot areas, one to the north and another to the west of Building 6. The groundwater investigation report recommended that the CAP for Building 6 be updated.

Cost for the abandonment of all wells associated with OU-5 is included in ANAD-48.

CLEANUP/EXIT STRATEGY

MNA for groundwater is being implemented and will continue until cleanup standards have been met. Based on current conditions, it is anticipated that two more years of monitoring will be required.

Depending on the outcome of the ongoing investigations due to increasing benzene concentration in selected wells, additional investigations and remediation may be required in the future.

Site ID: ANAD-48

Site Name: WESTERN INDUSTRIAL AREA GROUNDWATER

Alias: AOC-A

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200402..... | 200502 |
| SI..... | 200502..... | 201009 |
| RI/FS..... | 201309..... | 201906 |

RIP Date: N/A

RC Date: 201906

SITE DESCRIPTION

ANAD-48, known as the WIA, is located in western part of the installation. This site is part of OU-5. ANAD-18 and ANAD-37 are also included in OU-5.

The WIA contains ANAD's support facilities for the industrial operation including equipment maintenance, rail service and automotive facilities. Additional areas are allocated for warehouse storage, fuel storage, administrative services, and recreation. During the investigation of leaking USTs at ANAD-46, TCE was detected in concentrations above the MCLs. Originally, ANAD-48 was intended to address groundwater beneath the WIA; however, based on the nature of that contaminant and the historical use of the industrial area, ANAD-48 now includes groundwater for all of OU-5.

In April 2008, ANAD completed a Site Investigation (SI) to determine the source of the TCE. In 2010, ANAD completed an ESI. An RI was funded and initiated in 2013 and is anticipated to be completed in FY16. The current performance based contract has as options for the completion of a FS, PP, and ROD. Extent of cleanup and associated cost is unknown until the RI/FS is completed. At this point, it is assumed that no further action will be required for cost-to-complete (CTC).

Cost for abandonment of all wells associated with OU-5 is included in this CTC. Cost for five-year reviews are included in ANAD-01.

CLEANUP/EXIT STRATEGY

It is anticipated that NFA will be required upon completion of the RI/FS, and wells will be abandoned.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|---------|--|----------|---|
| ANAD-02 | SITE Z-2 SANITARY LANDFILL | 200602 | Not IRP eligible, permitted landfill addressed under installation environmental budget |
| ANAD-03 | OLD IWTP (BUILDING 505) | 200206 | NFA, OU-2 ROD July 2008 |
| ANAD-04 | NEW IWTP (BUILDING 505) | 200206 | NFA, OU-2 ROD July 2008 |
| ANAD-06 | NA FILLED VALVE DISPOSAL PIT | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-14 | LAUNDRY WASTE LEACHING FACILITY | 200205 | NFA, OU-3 ROD June 2006 |
| ANAD-15 | PROPELLENT DISPOSAL FACILITY | 200212 | NFA, OU-3 ROD June 2006 |
| ANAD-16 | BURNING GROUND (NW SIDE OF DEPOT) | 199410 | Not IRP eligible, Active site with RCRA Permit |
| ANAD-17 | DEMOLITION PIT (NORTHWEST SIDE OF DEPOT) | 199410 | Not IRP eligible, Active site with RCRA Permit |
| ANAD-18 | OLD STP (WEST AREA) | 200206 | NFA recommended in the ASA RI, site included in OU-5 (SI phase), a letter approving RI was received from ADEM and USEPA |
| ANAD-25 | BUILDING 130 SUMP | 200308 | NFA, OU-2 ROD July 2008 |
| ANAD-26 | NORTH TNT BURIAL PIT | 200212 | NFA, OU-3 ROD June 2006 |
| ANAD-32 | HAZARDOUS WASTE STORAGE BLDG (BLDG 512) | 199709 | NFA, OU-2 ROD July 2008 |
| ANAD-33 | OLD HAZARDOUS WASTE STORAGE BLDG (512) | 199709 | NFA, OU-2 ROD July 2008 |
| ANAD-34 | CHEMICAL STORAGE IGLOOS(TOTAL 41) | 199410 | Not IRP eligible, active site with RCRA permit |
| ANAD-36 | DRILL&TRANSFER SYS SITE(TXC DEMIL SITE) | 199410 | NFA, OU-3 ROD June 2006 |
| ANAD-37 | VEHICLE WASH RACK (BLDG 45) | 200206 | NFA recommended in the ASA RI, site included in OU-5 (SI phase), a letter approving RI was received from ADEM and USEPA |
| ANAD-38 | ABRASIVE DUST COLLECTORS | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-39 | DYNAMOMETER WASTEWATER TRT SYS(BLDG 410) | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-40 | OIL-WATER SEPARATOR (BLDG 501) | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-41 | STM CLNG BLDGS(BLDG 129,130,409,421,503) | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-42 | PAINT BOOTHS(BLDG 129,130,143,409,433) | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-43 | CYANIDE PRETREATMENT SYS (BLDG 506) | 200109 | NFA, OU-2 ROD July 2008 |
| ANAD-44 | DRY CREEK | 200206 | Not IRP eligible, active site with NPDES permit |
| ANAD-45 | LEAKING UST AT BLDG 410 | 200506 | NFA Letter from ADEM, July 2006 (ARBCA) |
| ANAD-47 | LEAKING UST AT BLDG 385 | 199603 | UST Closure, Site Assessment, Building 385 |

IRP Schedule

Date of IRP Inception: 197804

Past Phase Completion Milestones

1982

IRA (ANAD-22 - A-BLOCK LAGOON (FACILITY 514))

1983

IRA (ANAD-25 - BUILDING 130 SUMP)

1986

SI (ANAD-02 - SITE Z-2 SANITARY LANDFILL, ANAD-03 - OLD IWTP (BUILDING 505), ANAD-04 - NEW IWTP (BUILDING 505), ANAD-06 - NA FILLED VALVE DISPOSAL PIT, ANAD-07 - CHEMICAL WASTE DISPOSAL PIT, ANAD-09 - CALCIUM HYPOCHLORITE BURIAL PIT, ANAD-12 - FACILITY 414 (OLD LAGOONS), ANAD-13 - ACID CHEMICAL WASTE PIT, ANAD-14 - LAUNDRY WASTE LEACHING FACILITY, ANAD-15 - PROPELLENT DISPOSAL FACILITY, ANAD-19 - OLD STP (EAST AREA), ANAD-20 - NEW STP (EAST AREA), ANAD-21 - ABRASIVE DUST LANDFILL, ANAD-22 - A-BLOCK LAGOON (FACILITY 514), ANAD-23 - ASBESTOS WASTE DISPOSAL TRENCH, ANAD-24 - OLD SANITARY LANDFILL, ANAD-25 - BUILDING 130 SUMP, ANAD-28 - WASTE WOOD LANDFILL, NORTHEAST PART DEPOT, ANAD-29 - OLD LUMBER DISPOSAL YARD, (NEAR BLDG 573), ANAD-30 - NORTHEAST LAGOON AREA, ANAD-31 - METAL PLATING SHOP (BUILDING 114), ANAD-32 - HAZARDOUS WASTE STORAGE BLDG (BLDG 512), ANAD-33 - OLD HAZARDOUS WASTE STORAGE BLDG (512), ANAD-38 - ABRASIVE DUST COLLECTORS, ANAD-39 - DYNAMOMETER WASTEWATER TRT SYS (BLDG 410), ANAD-40 - OIL-WATER SEPARATOR (BLDG 501), ANAD-41 - STM CLNG BLDGS (BLDG 129,130,409,421,503), ANAD-42 - PAINT BOOTHS (BLDG 129,130,143,409,433), ANAD-43 - CYANIDE PRETREATMENT SYS (BLDG 506), ANAD-44 - DRY CREEK)

RFA (ANAD-16 - BURNING GROUND (NW SIDE OF DEPOT), ANAD-17 - DEMOLITION PIT (NORTHWEST SIDE OF DEPOT))

PA (ANAD-01 - SITE Z-1 TRENCHES AREA, ANAD-02 - SITE Z-2 SANITARY LANDFILL, ANAD-03 - OLD IWTP (BUILDING 505), ANAD-04 - NEW IWTP (BUILDING 505), ANAD-05 - SINKHOLE (NEAR EASTERN BOUNDARY), ANAD-06 - NA FILLED VALVE DISPOSAL PIT, ANAD-07 - CHEMICAL WASTE DISPOSAL PIT, ANAD-08 - ACID DISPOSAL PIT, ANAD-09 - CALCIUM HYPOCHLORITE BURIAL PIT, ANAD-10 - TNT WASHOUT FACILITY SEDIMENTATION TANK, ANAD-11 - TNT LEACHING BEDS, ANAD-12 - FACILITY 414 (OLD LAGOONS), ANAD-13 - ACID CHEMICAL WASTE PIT, ANAD-14 - LAUNDRY WASTE LEACHING FACILITY, ANAD-15 - PROPELLENT DISPOSAL FACILITY, ANAD-18 - OLD STP (WEST AREA), ANAD-19 - OLD STP (EAST AREA), ANAD-20 - NEW STP (EAST AREA), ANAD-21 - ABRASIVE DUST LANDFILL, ANAD-22 - A-BLOCK LAGOON (FACILITY 514), ANAD-23 - ASBESTOS WASTE DISPOSAL TRENCH, ANAD-24 - OLD SANITARY LANDFILL, ANAD-25 - BUILDING 130 SUMP, ANAD-26 - NORTH TNT BURIAL PIT, ANAD-27 - SOUTH TNT BURIAL PIT, ANAD-28 - WASTE WOOD LANDFILL, NORTHEAST PART DEPOT, ANAD-29 - OLD LUMBER DISPOSAL YARD, (NEAR BLDG 573), ANAD-30 - NORTHEAST LAGOON AREA, ANAD-31 - METAL PLATING SHOP (BUILDING 114), ANAD-32 - HAZARDOUS WASTE STORAGE BLDG (BLDG 512), ANAD-33 - OLD HAZARDOUS WASTE STORAGE BLDG (512), ANAD-34 - CHEMICAL STORAGE IGLOOS (TOTAL 41), ANAD-35 - DEACTIVATION FURNACE, ANAD-36 - DRILL & TRANSFER SYS SITE (TXC DEMIL SITE), ANAD-37 - VEHICLE WASH RACK (BLDG 45), ANAD-38 - ABRASIVE DUST COLLECTORS, ANAD-39 - DYNAMOMETER WASTEWATER TRT SYS (BLDG 410), ANAD-40 - OIL-WATER SEPARATOR (BLDG 501), ANAD-41 - STM CLNG BLDGS (BLDG 129,130,409,421,503), ANAD-42 - PAINT BOOTHS (BLDG 129,130,143,409,433), ANAD-43 - CYANIDE PRETREATMENT SYS (BLDG 506), ANAD-44 - DRY CREEK)

1987

SI (ANAD-01 - SITE Z-1 TRENCHES AREA)

1993

ISC (ANAD-46 - LEAKING UST AT BLDG 6)

1994

ISC (ANAD-45 - LEAKING UST AT BLDG 410, ANAD-47 - LEAKING UST AT BLDG 385)

IRA

(ANAD-02 - SITE Z-2 SANITARY LANDFILL)

1995

SI (ANAD-05 - SINKHOLE (NEAR EASTERN BOUNDARY), ANAD-08 - ACID DISPOSAL PIT, ANAD-10 - TNT WASHOUT FACILITY SEDIMENTATION TANK, ANAD-11 - TNT LEACHING BEDS, ANAD-18 - OLD STP)

IRP Schedule

| | |
|-------------|---|
| | (WEST AREA), ANAD-26 - NORTH TNT BURIAL PIT, ANAD-27 - SOUTH TNT BURIAL PIT, ANAD-34 - CHEMICAL STORAGE IGLOOS(TOTAL 41), ANAD-35 - DEACTIVATION FURNACE, ANAD-36 - DRILL&TRANSFER SYS SITE(TXC DEMIL SITE), ANAD-37 - VEHICLE WASH RACK (BLDG 45)) |
| CS | (ANAD-16 - BURNING GROUND (NW SIDE OF DEPOT), ANAD-17 - DEMOLITION PIT (NORTHWEST SIDE OF DEPOT)) |
| INV | (ANAD-45 - LEAKING UST AT BLDG 410, ANAD-46 - LEAKING UST AT BLDG 6) |
| 1996 | |
| CAP | (ANAD-45 - LEAKING UST AT BLDG 410) |
| IMP(C) | (ANAD-45 - LEAKING UST AT BLDG 410) |
| INV | (ANAD-47 - LEAKING UST AT BLDG 385) |
| 1997 | |
| CAP | (ANAD-46 - LEAKING UST AT BLDG 6) |
| RI/FS | (ANAD-32 - HAZARDOUS WASTE STORAGE BLDG (BLDG 512), ANAD-33 - OLD HAZARDOUS WASTE STORAGE BLDG (512)) |
| 2001 | |
| RI/FS | (ANAD-06 - NA FILLED VALVE DISPOSAL PIT, ANAD-19 - OLD STP (EAST AREA), ANAD-20 - NEW STP (EAST AREA), ANAD-21 - ABRASIVE DUST LANDFILL, ANAD-22 - A-BLOCK LAGOON (FACILITY 514), ANAD-23 - ASBESTOS WASTE DISPOSAL TRENCH, ANAD-24 - OLD SANITARY LANDFILL, ANAD-28 - WASTE WOOD LANDFILL,NORTHEAST PART DEPOT, ANAD-38 - ABRASIVE DUST COLLECTORS, ANAD-39 - DYNAMOMETER WASTEWATER TRT SYS(BLDG 410), ANAD-40 - OIL-WATER SEPARATOR (BLDG 501), ANAD-41 - STM CLNG BLDGS(BLDG 129,130,409,421,503), ANAD-42 - PAINT BOOTHS(BLDG 129,130,143,409,433), ANAD-43 - CYANIDE PRETREATMENT SYS (BLDG 506)) |
| 2002 | |
| RI/FS | (ANAD-02 - SITE Z-2 SANITARY LANDFILL, ANAD-03 - OLD IWTP (BUILDING 505), ANAD-04 - NEW IWTP (BUILDING 505), ANAD-05 - SINKHOLE (NEAR EASTERN BOUNDARY), ANAD-07 - CHEMICAL WASTE DISPOSAL PIT, ANAD-08 - ACID DISPOSAL PIT, ANAD-09 - CALCIUM HYPOCHLORITE BURIAL PIT, ANAD-10 - TNT WASHOUT FACILITY SEDIMENTATION TANK, ANAD-11 - TNT LEACHING BEDS, ANAD-12 - FACILITY 414 (OLD LAGOONS), ANAD-13 - ACID CHEMICAL WASTE PIT, ANAD-14 - LAUNDRY WASTE LEACHING FACILITY, ANAD-18 - OLD STP (WEST AREA), ANAD-31 - METAL PLATING SHOP (BUILDING 114), ANAD-35 - DEACTIVATION FURNACE, ANAD-37 - VEHICLE WASH RACK (BLDG 45), ANAD-44 - DRY CREEK) |
| 2003 | |
| RI/FS | (ANAD-15 - PROPELLENT DISPOSAL FACILITY, ANAD-25 - BUILDING 130 SUMP, ANAD-26 - NORTH TNT BURIAL PIT, ANAD-27 - SOUTH TNT BURIAL PIT, ANAD-29 - OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573), ANAD-30 - NORTHEAST LAGOON AREA) |
| IRA | (ANAD-12 - FACILITY 414 (OLD LAGOONS)) |
| 2005 | |
| PA | (ANAD-48 - WESTERN INDUSTRIAL AREA GROUNDWATER) |
| RD | (ANAD-05 - SINKHOLE (NEAR EASTERN BOUNDARY), ANAD-07 - CHEMICAL WASTE DISPOSAL PIT, ANAD-08 - ACID DISPOSAL PIT, ANAD-09 - CALCIUM HYPOCHLORITE BURIAL PIT, ANAD-10 - TNT WASHOUT FACILITY SEDIMENTATION TANK, ANAD-11 - TNT LEACHING BEDS, ANAD-12 - FACILITY 414 (OLD LAGOONS), ANAD-13 - ACID CHEMICAL WASTE PIT, ANAD-19 - OLD STP (EAST AREA), ANAD-27 - SOUTH TNT BURIAL PIT, ANAD-29 - OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573), ANAD-30 - NORTHEAST LAGOON AREA, ANAD-35 - DEACTIVATION FURNACE) |
| RA(C) | (ANAD-05 - SINKHOLE (NEAR EASTERN BOUNDARY), ANAD-07 - CHEMICAL WASTE DISPOSAL PIT, ANAD-08 - ACID DISPOSAL PIT, ANAD-09 - CALCIUM HYPOCHLORITE BURIAL PIT, ANAD-10 - TNT WASHOUT FACILITY SEDIMENTATION TANK, ANAD-11 - TNT LEACHING BEDS, ANAD-19 - OLD STP (EAST AREA), ANAD-20 - NEW STP (EAST AREA), ANAD-21 - ABRASIVE DUST LANDFILL, ANAD-22 - A-BLOCK LAGOON (FACILITY 514), ANAD-23 - ASBESTOS WASTE DISPOSAL TRENCH, ANAD-24 - OLD SANITARY LANDFILL, ANAD-27 - SOUTH TNT BURIAL PIT, ANAD-28 - WASTE WOOD |

| | |
|-------------|--|
| IMP(O) | LANDFILL,NORTHEAST PART DEPOT, ANAD-29 - OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573), ANAD-30 - NORTHEAST LAGOON AREA, ANAD-35 - DEACTIVATION FURNACE) (ANAD-45 - LEAKING UST AT BLDG 410) |
| 2006 | |
| LTM | (ANAD-02 - SITE Z-2 SANITARY LANDFILL) |
| RA(C) | (ANAD-12 - FACILITY 414 (OLD LAGOONS), ANAD-13 - ACID CHEMICAL WASTE PIT) |
| 2010 | |
| SI | (ANAD-48 - WESTERN INDUSTRIAL AREA GROUNDWATER) |
| 2012 | |
| RD | (ANAD-31 - METAL PLATING SHOP (BUILDING 114)) |
| 2015 | |
| RI/FS | (ANAD-01 - SITE Z-1 TRENCHES AREA) |

Additional Past Phase Completion Milestones

2007 FS for OU-1 completed.
2008 SI for OU-5 completed.

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

| Site ID | Site Name | ROD/DD Title | ROD/DD Date |
|---------|-----------|--------------|-------------|
|---------|-----------|--------------|-------------|

Final RA(C) Completion Date: 201910

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of IRP at Installation (including LTM phase): 204901

ANNISTON ARMY DEPOT IRP Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|---------|--|-------|------|------|------|------|------|-------|
| ANAD-01 | SITE Z-1 TRENCHES AREA | RD | | | | | | |
| | | IRA | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-05 | SINKHOLE (NEAR EASTERN BOUNDARY) | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-07 | CHEMICAL WASTE DISPOSAL PIT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-08 | ACID DISPOSAL PIT | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-09 | CALCIUM HYPOCHLORITE BURIAL PIT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-10 | TNT WASHOUT FACILITY SEDIMENTATION TANK | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-11 | TNT LEACHING BEDS | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-12 | FACILITY 414 (OLD LAGOONS) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-13 | ACID CHEMICAL WASTE PIT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-19 | OLD STP (EAST AREA) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-20 | NEW STP (EAST AREA) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-21 | ABRASIVE DUST LANDFILL | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-22 | A-BLOCK LAGOON (FACILITY 514) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-23 | ASBESTOS WASTE DISPOSAL TRENCH | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-24 | OLD SANITARY LANDFILL | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-27 | SOUTH TNT BURIAL PIT | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-28 | WASTE WOOD LANDFILL,NORTHEAST PART DEPOT | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-29 | OLD LUMBER DISPOSAL YARD,(NEAR BLDG 573) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-30 | NORTHEAST LAGOON AREA | LTM | | | | | | |

ANNISTON ARMY DEPOT IRP Schedule

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|---------|-------------------------------------|--------|------|------|------|------|------|-------|
| ANAD-31 | METAL PLATING SHOP (BUILDING 114) | IRA | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-35 | DEACTIVATION FURNACE | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-46 | LEAKING UST AT BLDG 6 | IMP(C) | | | | | | |
| | | IMP(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-48 | WESTERN INDUSTRIAL AREA GROUNDWATER | RI/FS | | | | | | |

ANNISTON ARMY DEPOT
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 4/0

Installation Site Types with Future and/or Underway Phases

- 1 Firing Range
(ANAD-001-R-01)
- 1 Open Burn
(ANAD-003-R-01)
- 1 Open Burning/Open Detonation (OB/OD)
(ANAD-004-R-01)
- 1 Pistol Range
(ANAD-002-R-01)

Most Widespread Contaminants of Concern

Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|---------|-----------|--------|--------|----|
| N/A | | | | |

Duration of MMRP

Date of MMRP Inception 200203

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201904/204803

Date of MMRP completion including Long Term Management (LTM): 204803

MMRP Contamination Assessment

Contamination Assessment Overview

The DoD's environmental cleanup activities began in 1975 under IRP before any formal federal requirements or programs were established. The DoD instituted its IRP to address past practices that often did not take long-term environmental effects into account. The environmental law driving the present Defense Environmental Restoration Program (DERP) is CERCLA, commonly known as the Superfund. The DERP was formally established by Section 211 of the SARA and is codified in Sections 2710-2710 of Title 10 of the US Code SARA. SARA set requirements for the DERP and its funding mechanism, the Defense Environmental Restoration Account (DERA), which is now called Environmental Restoration, Army (ER,A). DERA funding was available in 1984 before the formal establishment of the DERP.

The SI for three Anniston MMRP sites was completed in 2005. MEC and MC were suspected of occurring at each site. An RI was initiated in FY10 and continued through FY15. Based on the RI field results, it was determined that an FS was required. An FS was initiated in FY15 and is anticipated to be completed in FY16.

The OD Buffer Zone (ANAD-004-R-01) was qualified as new MMRP site in FY12. An SI is ongoing since FY13 and anticipated to be completed in FY16. Based on preliminary SI findings, the site will progress into RI/FS.

Cleanup Exit Strategy

Currently, four sites are listed under the ANAD MMRP program. The RI/FS for three sites was initiated in FY10 and continued through FY13. Based on the RI field results it is determined that a FS will be required. An FS was initiated in FY13.

The OD Buffer Area site (ANAD-004-R-01) was qualified as a new MMRP site in FY12. An SI was initiated in FY13.

No off-post contamination associated with the sites in the MMRP has been reported, and no responses have been issued. No complicating factors or uncertainties have been identified.

A non-time critical removal action (NTCRA) is scheduled in FY16, and a LUC plan is being proposed for these sites as a protective IM.

MMRP Previous Studies

| Year | Title | Author | Date |
|------|---|----------------------|----------|
| 2002 | Closed, Transferred, or Transferring (CTT) Range Inventory | Malcolm Pirnie, Inc. | JAN-2002 |
| 2004 | Final Historical Records Review | Malcolm Pirnie, Inc. | NOV-2004 |
| 2005 | Final Site Inspection Report | Malcolm Pirnie, Inc. | JUL-2005 |
| 2011 | Explosives Site Plan Remedial Investigation/Characterization Action MRS ANAD-001-R-01, Recoilless Rifle Range | HydroGeoLogic, Inc. | DEC-2011 |
| 2012 | Final Remedial Investigation/Characterization Action Work Plan | HydroGeoLogic, Inc. | FEB-2012 |
| | Final Engineering Evaluation/Cost Analysis (EE/CA) Land Use Controls | URS Group, Inc. | FEB-2012 |
| | Final Action Memorandum Land Use Controls | URS Group, Inc. | SEP-2012 |
| 2013 | Final Non-Time Critical Removal Action Land Use Control Plan | URS Group, Inc. | JAN-2013 |
| 2014 | Final Addendum To Final Engineering Evaluation/Cost Analysis (EE/CA) Land Use Controls (February 2012) | URS Group, Inc | JUN-2014 |
| | Final Historical Records Review Former Open Detonation | HydroGeoLogic, Inc. | JUL-2014 |
| | Final Remedial Investigation/Characterization Action Work Plan OU-4 | HydroGeoLogic, Inc. | JUL-2014 |
| | Final Addendum To Final Non-Time-Critical Removal Action | URS Group, Inc | AUG-2014 |
| | Final Addendum To Final Action Memorandum Land Use | URS Group, Inc | SEP-2014 |
| | Interim Land Use Control Work Plan For Four Munitions Response Sites | Leidos, Inc. | DEC-2014 |
| | Final Site Inspection Work Plan for Open Detonation Buffer Area | HydroGeoLogic Inc. | APR-2015 |
| 2015 | Final Remedial Investigation Report for Munitions Response Sites: Recoilless Rifle Range, Burning Ground Buffer Area and Pistol Range | HydroGeoLogic Inc. | AUG-2015 |

ANNISTON ARMY DEPOT
Military Munitions Response Program
Site Descriptions

Site ID: ANAD-001-R-01
Site Name: RECOILLESS RIFLE RANGE
Alias: RIFLE RNG

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 04
 Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 200203..... | 200305 |
| SI..... | 200309..... | 200507 |
| RI/FS..... | 201007..... | 201710 |
| RD..... | 201007..... | 201711 |
| RA(C)..... | 201810..... | 201904 |
| RA(O)..... | 201904..... | 204803 |
| RIP Date: | 201904 | |
| RC Date: | 204803 | |

SITE DESCRIPTION

The Recoilless Rifle Range is located in the northeastern corner of the installation within the restricted area, which is enclosed by a locked chain-link fence. This munitions response site (MRS) is a 56-acre site constructed in 1963 for testing the recoil of various rifles. According to the information gathered during the SI completed in 2005, various munitions including high explosives and anti-tank weapons systems were tested at the site; however, due to the types of testing that occurred and the size of the actual range, it is likely that only practice munitions were used. The site is mostly wooded, and the firing point is in the easternmost portion of the site. The Recoilless Rifle Range includes a 54-acre firing fan and a 2-acre area north of the target bunker that was added to the MRS based on munitions debris (MD) items discoveries during the SI. Testing at the site continued through 1987.

Based on the MEC and MD found during the SI, a RI/FS was recommended to further investigate MEC at the MRS. RI for the site began in FY10. An FS, PP and DD were funded in 2012 and initiated in FY13 and are expected to continue into FY17. During the RI, no MEC or indicators of MEC, such as MD fragments indicative of high explosive (HE) munitions, were identified. The close proximity of the impact bunker to the firing point at the MRS indicates that live munitions were not used at this range. The firing point is located within the horizontal maximum fragment distances for 57 millimeter (mm), 75mm, 105mm, and 106mm HE projectiles, if these items were fired at the target bunker. The MC investigation results of the RI indicated that contamination requiring remedial action existed within the MRS. Contamination at the sites was associated with soil.

Groundwater samples were not collected, though contaminant transport to groundwater was evaluated.

Within the MRS, MC contamination was identified and shown to be located within surface soil at the firing fan, firing point, and an expanded area around the firing point. In the firing fan, nitroglycerin in surface soil exceeded regional screening levels (RSL) at a single location. Nitroglycerin, copper and zinc concentrations above RSLs were identified in surface soil around the firing point.

Within the detonation locations, nitroglycerin, 3-nitrotoluene, and copper contamination above RSLs was identified. Nitroglycerin and 3-nitrotoluene exceeded RSLs in pre-detonation samples. Nitroglycerin and copper exceeded RSLs in post-detonation samples. Nitroglycerin and zinc contamination at the firing point were bounded by samples collected for the 2005 SI and the RI. Concentrations of nitroglycerin and zinc at the Recoilless Rifle Range MRS are sufficient to indicate potential unacceptable risks to human receptors, and concentrations of copper, zinc, and nitroglycerin are sufficient to indicate a potentially unacceptable risk to ecological receptors, particularly plants, soil invertebrates, and small mammals. MC contamination identified within the MRS constitutes an unacceptable risk to human and/or ecological receptors. The presence of MC contamination makes the NFA alternative infeasible and, therefore, a FS was recommended to evaluate possible remedial actions that may be implemented. Based on pre-detonation sampling results at the detonation locations, it is recommended that the MRS boundary be extended beyond the firing point.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the Fiscal Year (FY) 2010 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. Interim LUCs were installed in 2015. Annual interim LUC inspections and maintenance will be required until the

Site ID: ANAD-001-R-01
Site Name: RECOILLESS RIFLE RANGE
Alias: RIFLE RNG

final ROD is signed and the final remedy is in place.

This site includes all the cost associated with all MMRP (OU-4) sites.

CLEANUP/EXIT STRATEGY

An RI/FS was initiated in FY10 and is expected to continue through FY16. Based on the draft FS and discussions with the regulators, the most likely alternative is LUCs including fencing and signage with five-year reviews. Digging permits, fencing, and signage are the selected LUCs to limit exposure to MC. Digging permits would limit human exposure by requiring authorization for digging in the contaminated area. Fencing would limit access to the contaminated area. Signage would warn authorized personnel of contaminated areas and hazards posed by MC. Costs would include those for the initial installation of fencing and signs (reused from the interim LUC measures) and for annual maintenance to replace and repair damaged fencing and signs. Five-year reviews, as required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), would be conducted. Data gathered during the review process would be used to determine if further action needs to be taken to protect human health and the environment. If no changes have taken place and the remedy continues to be protective of human health and the environment, the site would continue to be monitored at five-year intervals. At the completion of each review, a report would be prepared and a public notice would be placed in the local newspaper concerning the continued effectiveness of the remedy.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the FY10 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. LUCs are considered an NTCRA that are required because the conditions at the site support a NTCRA according to the NCP, 40 CFR 300.415(b)(2)(vi), including, but not necessarily limited to "threat of fire or explosion. As a part of LUCs, 33 signs were installed at the Recoilless Rifle Range. Annual interim LUCs inspections and maintenance will be required.

Site ID: ANAD-002-R-01
Site Name: PISTOL RANGE
Alias: PISTOL RNG

STATUS

Regulatory Driver: CERCLA
MRSP Score: 05
 Contaminants of Concern: Munitions constituents (MC)
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 200203..... | 200305 |
| SI..... | 200309..... | 200507 |
| RI/FS..... | 201007..... | 201710 |
| RIP Date: | N/A | |
| RC Date: | 201710 | |

SITE DESCRIPTION

The Pistol Range MRS is a 1.2-acre site located within the cantonment area of the installation. The Pistol Range was constructed in 1981 and was used until 1983 by installation security personnel for training. A natural hill along the northern edge of the site was used as the backstop, which is known as the Pistol Range berm. Small arms weapons used at the Pistol Range included .38 caliber, .45 caliber, and 9mm weapons. Nine targets were identified during the SI fieldwork effort. SI field activities in 2004 confirmed that small arms ammunition or discarded military munitions (DMM) were present on the range. The primary MC of concern associated with the Pistol Range was lead. Lead was detected at levels above USEPA Region 9 preliminary remediation goals in 9 out of 10 soil samples collected at the Pistol Range during the SI.

The RI for the site began in FY10. An FS, PP and DD were funded in 2012 and initiated in FY13, and will continue into FY17. The results of the RI and the assessments of MEC hazards indicate that no MEC contamination is anticipated at the MRS. No additional investigation for MEC was completed at the MRS because the site was used for small arms training only. Based on historical evidence and the findings of the RI fieldwork, no explosive hazards are expected to be present at the MRS, and there is no expected risk to current or future workers and site visitors from MEC. The MC investigation results of this RI indicate that contamination requiring remedial action exists within the MRS. Contamination at the site was associated with soil. Groundwater samples were not collected, though contaminant transport to groundwater was evaluated.

Within the Pistol Range MRS, MC sampling activities were limited to the floor and berm of the area. Arsenic was detected at levels above RSLs in soil samples collected from the Pistol Range floor, but levels were shown to be consistent with soil background concentrations. Lead was also identified as a constituent of potential concern (COPC), but blood lead modeling results indicated that the lead concentrations do not pose a threat to human health. Within the berm, antimony, arsenic, lead, and zinc were identified in surface soil above RSLs, and lead was identified in subsurface soil at levels above RSLs and background values. Lead slugs were found between horizontal grid locations. Concentrations of antimony, arsenic, copper, lead, and zinc at the Pistol Range are sufficient to present potential unacceptable risks to human health receptors. Antimony, copper, and lead were found at levels posing potential unacceptable risks to several types of ecological receptors including plants, soil invertebrates, herbivorous and insectivorous small mammals, and insectivorous birds.

The presence of MC contamination makes the NFA alternative infeasible; therefore, an FS for the MRSs was recommended to evaluate possible remedial actions that may be implemented. Based on sampling results, it is recommended that the Pistol Range MRS boundary be extended north and eastward to include the extent of MC contamination at the Pistol Range berm.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the Fiscal Year (FY) 2010 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. Interim LUCs were installed in 2015. Annual interim LUCs inspections and maintenance will be required until the final ROD is signed and the final remedy is in place.

Costs associated with this and all MMRP sites (OU-4) is included in ANAD-001-R-01.

Site ID: ANAD-002-R-01
Site Name: PISTOL RANGE
Alias: PISTOL RNG

CLEANUP/EXIT STRATEGY

An RI/FS was initiated in FY10 and will continue through FY16. Based on the draft FS and discussions with the regulators, the most likely alternative is excavation and disposal. The soil removal action would be conducted over the 8,084-sq ft area of MC contamination in the Pistol Range MRS to assumed depth of 1 foot (ft) below ground surface (bgs). Soil would be excavated and disposed of as hazardous or nonhazardous waste depending on the waste characterization data, and the site would be regraded.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the FY10 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. LUCs are considered a NTCRA that are required because the conditions at the site support a NTCRA according to the NCP, 40 CFR 300.415(b)(2)(vi), including, but not necessarily limited to "threat of fire or explosion. As a part of the interim LUC, seven signs were installed at the Pistol Range. Annual interim LUCs inspections and maintenance will be required.

Site ID: ANAD-003-R-01
Site Name: Burning Ground Buffer Area
Alias: BURNING GD

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 05
 Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 200203..... | 200305 |
| SI..... | 200309..... | 200507 |
| RI/FS..... | 201002..... | 201710 |
| RIP Date: | N/A | |
| RC Date: | 201710 | |

SITE DESCRIPTION

The Burning Ground Buffer Area is a 351-acre site located in the northwestern section of the installation. The MRS is a horseshoe-shaped area surrounding the operational burning ground that extends from the boundary of the current 1,250-foot-radius buffer area of the burning ground to the extent of the 2,400-foot-radius of the historical buffer zone. The Burning Ground Buffer Area is unlikely to contain MEC or MC because of the distance a kick out would have had to travel to land in the MRS. In addition, a heavily wooded buffer area lies between the burning ground and the MRS. The MRS surrounds the operational burning ground that is currently used by installation personnel. There are no plans to develop the Burning Ground Buffer Area, and future land use is expected to remain the same as current land use.

RI for the site began in FY10. An FS, PP and DD were funded in 2012 and initiated in FY13, and will continue into FY17. The results of this RI and the assessments of MEC hazards indicate that no MEC contamination is anticipated at the MRS. During the RI, no MEC or indicators of MEC, such as MD fragments indicative of HE munitions, were identified at the Burning Ground Buffer Area. MD was only observed in two grids. Both locations are near roads making intentional discard a possibility.

Based on historical evidence and the findings of the RI fieldwork, no explosive hazards are expected to be present at the MRS, and there is no expected risk to current or future workers and site visitors from MEC.

All samples collected from within the Burning Ground Buffer Area MRS resulted in detections of MC below RSLs with the exception of lead. Blood lead modeling demonstrated that the lead concentrations do not pose a threat to human health. Sample results did not identify MC contamination within this MRS, indicating that no further investigation activities for MC are needed.

No MC or MEC contamination was identified within the Burning Ground Buffer Area MRS. The collected data and associated characterization described in the RI report are considered sufficient to characterize the MRS, to identify and evaluate any associated potential risks posed by munitions, and to support the recommended FS.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the Fiscal Year (FY) 2010 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. Interim LUCs were installed in 2015. Annual interim LUCs inspections and maintenance will be required until final ROD is signed and the final remedy is in place.

Costs associated with this and all MMRP sites (OU-4) is included in ANAD-001-R-01.

CLEANUP/EXIT STRATEGY

An RI/FS was initiated in FY10 and is expected to continue through FY16. Based on the RI and discussions with the regulators, there is no cleanup required at the Burning Ground Buffer Area and NFA is recommended.

To address explosive hazards and risks from MEC and MC at active installations and to meet the requirements in the FY10 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy.

Site ID: ANAD-003-R-01
Site Name: Burning Ground Buffer Area
Alias: BURNING GD

LUCs are considered a NTCRA that are required because the conditions at the site support a NTCRA according to the NCP, 40 CFR 300.415(b)(2)(vi), including, but not necessarily limited to "threat of fire or explosion." As a part of the interim LUC, 86 signs were installed at the Burning Ground Buffer Area. Annual interim LUCs inspections and maintenance will be required.

Site ID: ANAD-004-R-01
Site Name: OD Historical Buffer Zone
Alias: OD Buffer

STATUS

Regulatory Driver: CERCLA
MRSPP Score: Evaluation pending
 Contaminants of Concern: Explosives, Munitions and explosives of concern (MEC), Munitions constituents (MC)
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 201105..... | 201208 |
| SI..... | 201301..... | 201606 |
| RI/FS..... | 201301..... | 201810 |
| RIP Date: | N/A | |
| RC Date: | 201810 | |

SITE DESCRIPTION

The Open Detonation Historical Buffer Zone wraps around an operational OD unit and has not been used as a buffer area for approximately 20 years. The MRS consists of approximately 50 acres located in the northwestern section of the installation. The MRS is in an area that encircles the operational OD unit, previously referred to as the demolition pit, which is classified as a RCRA permitted munitions disposal site. This OD unit has been used since approximately 1946 for the treatment and disposal of conventional waste military munitions and associated energetics wastes. Historical operations at the OD unit included disposal of: small arms ammunitions; smokeless powder; powder propellant; 2.25-in, 2.36-in, 3.5-in, and 4.5-in practice and HE rockets; 100-lb, 250-lb, and 500-lb general purpose bombs; inert practice bombs; 20mm, 37mm, 57mm, 105mm, and 155mm projectiles; 40mm cartridges; rifle grenades; aircraft flares; anti-tank mines; and fuzes.

A 1964 installation map indicates that the former OD Historical Buffer Zone MRS could have extended up to 2,400 feet beyond the validation area boundary for the operational OD unit and could cover a 936-acre area. While the MRS has not been used as a buffer area for approximately 20 years, MEC could have been deposited there from kick out during munitions disposal until as recently as April 19, 2013, when the OD unit was approved under a RCRA permit modification. A performance-based contract for an SI, RI, FS, PP and DD was awarded and funded in 2013 and will continue into FY18. Under the SI, qualitative reconnaissance was performed on 5.6 acres at the site. One MEC item, a 75-mm projectile, was observed 95 feet south of the 50-acre MRS during the March 2013 pre-proposal site visit. Several other munitions-related items and MD were observed during the SI.

Explosives were detected at trace amounts in surface soil. Trace amounts of cyclotrimethylenetetranitramine (HMX), nitroglycerin, 2,4,6-trinitrophenyl-n-methylnitramine (tetryl), and 2,4-dinitrotoluene were detected but were at concentrations below human health and ecological screening values. The background dataset for metals consisted of incremental soil samples collected at the Burning Ground Buffer Area, 2,700 feet south of the site. Detected metals were compared to the 95 percent upper confidence limit (UCL) of background samples. In site surface soil, cadmium, chromium, copper, and zinc exceeded the 95 percent UCL background value and ecological screening values. Detected metals concentrations exceeded ecological benchmarks for cadmium, copper, lead and zinc. Hazard quotients calculated for cadmium, copper, lead, and zinc were each above one; therefore, these four metals were determined to have the potential to adversely impact ecological receptors. Due to the presence of MEC, material potentially presenting an explosive hazard (MPPEH), and MD at this site and the potential ecological risk from cadmium, copper, lead, and zinc in surface soil, the SI recommended that the site be further investigated as part of an RI. It was also recommended that the area of investigation be expanded to the 1964 historical buffer area boundary.

Since cleanup requirements will not be determined until RI/FS is completed, phase schedule and CTC for this site is limited to RI/FS at this time.

To address the explosive hazards and the risks from MEC and MC at active installations and to meet the requirements in the Fiscal Year (FY) 2010 Program Management Plan, the Army has established LUCs as an interim action while the MRSs progress to a final remedy. Interim LUCs were installed in 2015. Annual interim LUC inspections and maintenance will be required until the final ROD is signed and the final remedy is in place.

Costs associated with this and all MMRP sites (OU-4) is included in ANAD-001-R-01.

Site ID: ANAD-004-R-01
Site Name: OD Historical Buffer Zone
Alias: OD Buffer

CLEANUP/EXIT STRATEGY

An SI is underway and anticipated to be completed in FY16. Due to the presence of MEC, MPPEH, and MD at this site and the potential ecological risk from cadmium, copper, lead, and zinc in surface soil, the draft SI recommended that the site be further investigated as part of a RI. It was also recommended that the area of investigation be expanded to the 1964 historical buffer area boundary. Extent of cleanup will not be determined until completion of RI/FS.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|------------------------|-----------|----------|---------------|
| There are no NFA sites | | | |

MMRP Schedule

Date of MMRP Inception 200203

Past Phase Completion Milestones

2003

PA (ANAD-001-R-01 - RECOILLESS RIFLE RANGE, ANAD-002-R-01 - PISTOL RANGE, ANAD-003-R-01 - Burning Ground Buffer Area)

2005

SI (ANAD-001-R-01 - RECOILLESS RIFLE RANGE, ANAD-002-R-01 - PISTOL RANGE, ANAD-003-R-01 - Burning Ground Buffer Area)

2012

PA (ANAD-004-R-01 - OD Historical Buffer Zone)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

Final RA(C) Completion Date: 201904

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of MMRP at Installation (including LTM phase): 204803

ANNISTON ARMY DEPOT MMRP Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|---------------|----------------------------|-------|------|------|------|------|------|-------|
| ANAD-001-R-01 | RECOILLESS RIFLE RANGE | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-002-R-01 | PISTOL RANGE | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-003-R-01 | Burning Ground Buffer Area | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| ANAD-004-R-01 | OD Historical Buffer Zone | RI/FS | | | | | | |

ANNISTON ARMY DEPOT
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 12/0

Installation Site Types with Future and/or Underway Phases

| | |
|---|--|
| 1 | Contaminated Ground Water (CC-ANAD-02) |
| 6 | Industrial Discharge (CC-ANAD-05, CC-ANAD-10, CC-ANAD-11, CC-ANAD-12, CC-ANAD-13, CC-ANAD-14) |
| 1 | Landfill (CC-ANAD-07) |
| 2 | Spill Site Area (CC-ANAD-06, CC-ANAD-08) |
| 1 | Storage Area (CC-ANAD-04) |
| 1 | Washrack (CC-ANAD-09) |

Most Widespread Contaminants of Concern

Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

| Site ID | Site Name | Action | Remedy | FY |
|------------|--------------|--------|---|------|
| CC-ANAD-02 | Building 504 | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 2008 |

Duration of CR

Date of CR Inception: 199011

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 202009/202009

Date of CR completion including Long Term Management (LTM): 202009

CR Contamination Assessment

Contamination Assessment Overview

Environmental restoration activities include the IRP and MMRP. On Dec. 29, 2008, the Office of the Deputy Under Secretary of Defense for Installations and Environment issued an interim policy for DERP eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's Compliance-related Cleanup (CC) program eligible for the DERP. Sites that are now eligible for the MMRP have been migrated from Army Environmental Database-Compliance-related Cleanup (AEDB-CC) and given the naming convention of other Munitions Response (MR) sites. The newly eligible non-MR type sites are considered to be Installation Restoration (IR) sites; however, the newly eligible sites are being coded as CR in AEDB-R to distinguish them from the original IR sites and IR metrics. ANAD has 12 CR sites.

CC-ANAD-02 (Building 504) lies within ANAD's southeast industrial complex. It is where tracked vehicles are refurbished for the Army. Fluids are drained from the vehicles into containment buckets. Overspills from the buckets are fed to floor drains that are routed to a storage tank. The floor of the building is concrete, and over a period of time, the floor has cracked because of the activities associated with refurbishing large tracked vehicles. Occasional overspills from the containment that seeped through the cracked concrete are believed to be the source of contaminants to the subsurface.

CC-ANAD-04 (Defense National Stockpile Areas) are located in the northeastern portion of the ASA. They were used to store strategic materials for national defense. The materials include bauxite and manganese ore which are predominantly mined for the metals aluminum and manganese. The stockpile areas consisted of piles of bauxite and manganese ore stored in the open on the ground. The piles were sold off and removed sometime in 2001. A thin layer of ore remains on the surface at each of the stockpile areas.

CC-ANAD-05 (Building 409) is located within the east area of ANAD in the Nichols Industrial Complex and covers an area of approximately 1.5 acres. It is an industrial building designated for abrasive and chemical cleaning operations for parts, painting, container repair, and testing.

In February 2009, wastewater was observed seeping to the ground surface near one of the industrial sewer outlets, which was later discovered to be related to ruptured underground sewer piping, located approximately 3 ft bgs. A field investigation was conducted and a RCRA facility investigation (RFI) report was submitted to ADEM in June 2009. In February 2010, ANAD personnel discovered a second release at Building 409 while upgrading sumps adjacent to Building 409. In April 2010 a cavity was discovered below one of the concrete vats inside Building 409 that allowed discharges of wastewater to the environment. In October 2012, a leaking general waste line was discovered, repaired, and reported to ADEM for inclusion in future RFI work.

CC-ANAD-06 (Building 432) is located adjacent to the installation boundary. Building 432 is used to blast hulls and turrets of combat vehicles using stainless steel pellets as part of the refurbishing process. The steel pellets have been found on the concrete and in a nearby storm water drain during an ADEM Resource Conservation and Recovery (RCRA) compliance inspection. The concrete around Building 432 is approximately 10 inches thick and has cracks and expansion joints that have been routinely filled in. Before filling these cracks, ANAD did not verify if the expansion joints were open or the cracks extended to the soil.

CC-ANAD-07 (Western Area Clean Fill Site) construction and demolition (C&D) site is located on a hilltop in the WIA of ANAD and comprises an approximate area of 9.19 acres. The site is estimated to contain approximately 230,000 cubic meters of concrete, dirt, wood, asphalt, and rock with approximate composition of 60 percent concrete and 35 percent soil with the remaining materials made of wood, asphalt, and rock. An SI as a result of an executive order resulted in the discovery of concrete with exposed rebar, scrap metal, and wood that appeared to be from railroad ties at the site, and ADEM was subsequently notified. The burial site is no longer active.

CC-ANAD-08 (Groundwater Lift Station Spill Site) is located just to the northwest of the ANAD IWTP. The Groundwater Lift Station is used to store and convey contaminated groundwater from 26 various groundwater extraction wells to the groundwater treatment plant. In 2010 and 2011, the lift station pumps malfunctioned and releases of untreated groundwater occurred. Approximately 1,000 gallons were released in 2010 and 25,000 gallons in 2011. The untreated groundwater drained to outfall DSN001 and was transported across the ground for approximately 10 to 20 ft before entering storm water piping. The lift station serves as a contaminated groundwater conveyance for OU-1 (ANAD-01), which includes the following COCs: aluminum, arsenic, beryllium, chromium, iron, lead, manganese, carbon tetrachloride, chloroform, methylene chloride, TCE, bis(2-ethylhexyl)phthalate and tetrachloroethylene (PCE).

CC-ANAD-09 (Building 414 Wash Rack) is in the SIA of ANAD. An in-line oil/water separator (OWS) and lift station move

CR Contamination Assessment

Contamination Assessment Overview

wastewater from the wash-rack at Building 414 to the IWTP. The wash rack utilizes the OWS and lift station as a wastewater conveyance for wastewater containing oil and grease from the washing of the exterior and engine components of combat vehicles. In February 2013, an oily sheen was noted in a tributary to the Dry Creek. The lift station pump malfunctioned, and untreated water was released to the immediate area. The OWS, installed in 2011, was exposed by excavation and found to be not completely sealed, and potentially leaking, since installation in 2011.

CC-ANAD-10 (Building 114) is located within the SIA, also known as Nichols Industrial Complex. According to the SWMU Assessment Report (SAR) dated December 2014, a release occurred in a 4-inch underground pipe near the corner of Building 114 in September 2014. The pipe is part of a general wastewater conveyance system which transports fluids from Building 114 to the ANAD IWTP. According to the SAR, processes contributing to the general waste streams typically found in this piping system include electroless nickel and zinc plating, acid and alkaline cleaning and stripping, and chemical depainting.

CC-ANAD-11 (Building 117) is located within the SIA. According to the SAR dated May 2014, a release occurred in a 4-inch polyvinyl chloride (PVC) force main on the north side of Building 117 in February 2014. The piping serves as part of a general wastewater conveyance system which transports wastewater from Building 114 to the ANAD IWTP. According to the SAR, the processes contributing to the general waste streams typically found in this piping system include rinse waters from chemical cleaning containing acid and alkaline, chemical paint stripping, and nickel and zinc plating processes conducted in Building 114.

CC-ANAD-12 (Building 136) Site is located on the northern boundary of the Southeast Industrial Area (SIA). According to the Solid Waste Management Unit (SWMU) Assessment Report (SAR) dated June 2014, a release occurred in a 4-inch high density polyethylene underground force main located along the north side of Eulation Gate Road near the north corner of Building 136. The release occurred in February 2014 from piping installed in 2010. The piping serves as part of a wastewater conveyance system which transported chromium wastewater from chrome plating and stripping from the former ANAD Industrial Waste Water Treatment Plant (IWTP) to the new IWTP. The SAR detailed that these processes utilize chromic acid to plate or chemically clean metal parts.

CC-ANAD-13 (Building 524) Site is located on the northern boundary of the Southeast Industrial Area (SIA). According to the Solid Waste management Unit (SWMU) Assessment report (SAR) dated September 2014, a release occurred in a 3-inch PVC underground pipe on the southwest side of Building 524 in June 2014. The piping serves as a conveyance system which transported wastewater fluids from the Building 414 Wash Rack oil and water separator to the ANAD Industrial Waste Water Treatment Plant (IWTP). According to the SAR, the processes contributing to the general waste streams typically found in this piping system include oil and grease rinse waters from washing of exterior and engine components of combat vehicles. These wastewaters are known to contain petroleum hydrocarbons.

CC-ANAD-14 (Building 634) Site is located on the central northwest portion of ANAD. According to the Solid Waste Management Unit (SWMU) Assessment Report (SAR) dated September 2014, a release occurred from septic tank piping, which held oily compressor blow-down. The septic tank served as containment for compressor blow-down wastewater as well as a shop sink. According to the SAR, the septic tank was periodically vacuumed out and the fluids were transported to the ANAD Industrial Waste Water Treatment Plant (IWTP). These wastewaters are known to contain petroleum hydrocarbons.

CC-ANAD-09 Building 414 Wash Rack is in the SIA of ANAD. An in-line oil/water separator (OWS) and lift station move wastewater from the washrack at Building 414 to the IWTP. The washrack utilizes the OWS and lift station as a wastewater conveyance for wastewater containing oil and grease from the washing of the exterior and engine components of combat vehicles. In February 2013, an oily sheen was noted in a tributary to Dry Creek. The lift station pump malfunctioned and untreated water was released to the immediate area. The OWS, installed in 2011, was exposed by excavation and found to not be completely sealed, and potentially leaking, since installation in 2011. A SAR was performed and submitted to ADEM by ANAD in 2013. ANAD collected four samples from under the concrete covering the tank prior to concrete removal. The OWS was exposed and soils removed to allow inspection of the OWS. The OWS was replaced and the tank basin was over excavated to remove visually impacted soils. Soil samples of the post-excavation soils were collected. The post-excavation soil samples yielded several COPCs: PCE, 1,2,4- trimethylbenzene, 1,3,5-trimethylbenzene, 2- methyl-naphthalene, naphthalene, methylene chloride, cadmium, and zinc. In December 2013, ADEM issued a letter to ANAD identifying Building 414 Wash Rack as a SWMU and requesting a RFI.

CC-ANAD-10 On September 12, 2014, ANAD Directorate of Risk Management was notified that the previous night water was seen surfacing through the cracks in the concrete located near the northeast corner of Building 114.

CR Contamination Assessment

Contamination Assessment Overview

Upon investigation, it was found that the underground pipe coming from the sump, located in the northeast corner of Building 114 going to the lift station, was cracked and released general waste to the environment. The air pump associated with the system had been turned off the night before, when the water was first noticed, and the vacuum truck was brought in to vacuum then approximately 20 gallons of water had been released. The waste was released to the nearby general waste sump. Soil removed during the investigation was placed in a roll-off and moved to the hazardous waste storage and disposed as hazardous waste. In situ surface soils were taken and results were submitted in a SAR to ADEM in accordance with the ANAD RCRA permit.

In a letter dated Jan. 26, 2015, ADEM required ANAD to perform an RFI to investigate the release. Based on experience with similar sites. It is anticipated that a CMS will also be required.

Cleanup Exit Strategy

All CR sites are undergoing RCRA Facility Investigations (RFIs). Cleanup strategy will be determined after completion of RFIs and completion and approval of CMS(CMIP).

CR Previous Studies

| | Title | Author | Date |
|------|---|---------------------------------------|----------|
| 2011 | Groundwater Compliance Monitoring Report for Building 504 | Black & Veatch Special Projects Corp. | APR-2011 |

ANNISTON ARMY DEPOT
Compliance Restoration
Site Descriptions

Site ID: CC-ANAD-02
Site Name: Building 504
Alias: Bldg 504

STATUS

Regulatory Driver: RCRA
 Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)
 Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|-------------|--------|
| ISC..... | 199011..... | 199012 |
| INV..... | 199012..... | 199502 |
| CAP..... | 200801..... | 200806 |
| IMP(C)..... | 200801..... | 200806 |
| IMP(O)..... | 200907..... | 201909 |
| RIP Date: | 200907 | |
| RC Date: | 201909 | |

SITE DESCRIPTION

Building 504 lies within ANAD's southeast industrial complex. It is where tracked vehicles are refurbished for the Army. Fluids are drained from the vehicles into containment buckets. Overspills from the buckets are fed to floor drains that are routed to a storage tank. The floor of the building is concrete and over a period of time the floor has cracked because of the activities associated with refurbishing large tracked vehicles. Occasional overspills from the containment that seeped through the cracked concrete are believed to be the source of contaminants to the subsurface. The shallow zone consists primarily of clay, silt, and minor amounts of sand with numerous rock and chert fragments.

When employees of ANAD noticed a petroleum-like substance emerging from the base of the easternmost wall of Building 504, an investigation was launched to determine where the petroleum product was emanating from and the extent of the contamination. Initially, all drainage lines from Building 504 were pressure tested. The pipeline study indicated these drainage lines failed pressure tests conducted in 1996. International Technology Corporation performed a subsurface investigation of the building by installing soil borings which were advanced to a depth of 15 feet bgs in and around the building to determine the extent of contamination. Visual observations indicated that the concrete flooring was cracked at various locations. In addition, the floor, which consists of two layers of concrete, appears not to have been bonded at several boring locations. These locations coincide with the highest observed levels of contamination. Furthermore, diesel stains were found between two concrete layers at two boring locations. Free-product was also observed from 12 to 13 feet bgs. The medium of concern is groundwater. The COCs include acetone, and benzene, toluene, ethylbenzene, and xylenes (BTEX). Total petroleum hydrocarbons ranged from nondetect to 9,500 mg/kg. The vertical and horizontal extents of contamination are unknown at this point . Data available so far indicates that the petroleum may have leaked from drainage pipes or spills on the floor, entered the flooring through cracks, spread between the two concrete layers, and continued to migrate to the subsurface through the cracks in the lower concrete slab.

The occurrence of rock and chert fragments apparently increases with depth until a more resistant rock fragment/rubble zone is encountered at approximately 20 to 30 feet bgs. The depths to groundwater across the site range from 14 to 16 feet bgs. The floor of the building has been repaired, and plant operations continue. The current tenant has replaced the USTs and underground lines with aboveground storage tanks (AST) and aboveground lines. Underground lines have been grouted. The current tenant also has completed several free-product removals.

An ARBCA was completed for this site in 2010. Free-product removal and monitoring were initiated under the ARBCA program in FY09 and monitoring was expected to continue through FY13 . However, due to the continued presence of contaminant at the site, monitoring is expected to continue. ADEM requested corrective measures implementation (CMI) be performed at this site; therefore, in January 2013, a draft CMIP was submitted to ADEM for review. Per ADEM, ANAD will continue groundwater sampling and passive free-product removal in accordance with the draft CMIP plan to assess the effectiveness of MNA until the final CMIP plan is approved. ANAD awarded a contract in December 2014 which included IMP(O) until completion of CMIP and completion of corrective measures in accordance with the approved CMIP.

Site ID: CC-ANAD-02
Site Name: Building 504
Alias: Bldg 504

CLEANUP/EXIT STRATEGY

Per ADEM, ANAD will continue groundwater sampling and passive free product removal in accordance with the draft CMIP to assess the effectiveness of MNA until the final CMIP is approved. Additionally, ADEM has requested CMI(O) to be performed at this site. Due to the continued presence of contaminants at the site, monitoring is expected to continue for one additional year until CMI(O) is implemented.

Site ID: CC-ANAD-04
Site Name: Defense National Stockpile Sites
Alias: CC-ANAD-04

STATUS

Regulatory Driver: RCRA
Contaminants of Concern: Metals
Media of Concern: Soil

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 200701..... | 200701 |
| RFI/CMS..... | 200710..... | 201710 |
| CMI(C)..... | 201710..... | 201909 |
| RIP Date: | N/A | |
| RC Date: | 201909 | |

SITE DESCRIPTION

The Defense National Stockpile Sites are located in the northeastern portion of the ASA. They were used to store strategic materials for national defense. The materials include bauxite and manganese ore, which are predominantly mined for the metals aluminum and manganese. The stockpile areas consisted of piles of bauxite and manganese ore stored in the open, on the ground. The piles were sold off and removed sometime in 2001. A thin layer of ore remains on the surface at each of the stockpile areas. Three phases of a RFI have been completed at the site from 2008 to 2013 without achieving delineation to residential standards in accordance with ADEM's regulations. A Phase I RFI was conducted February through May 2008 to assess the presence or absence of contamination at six of the Defense National Stockpile Sites: AOC J-CLA, AOC J-1A, AOC J1-B, AOC J-2, AOC J-3, and AOC J-4 (Black & Veatch, 2009). As a result of the Phase I effort, a Phase II RFI was required by ADEM to determine the extent of metals contamination at four of the sites: Bauxite Stockpiles AOC J-CLA, AOC J-2, and AOC J-3/AOC J-4, and Manganese Dioxide Stockpiles AOC J- 1B and AOC J-1A. Phase II field activities were conducted in July 2010. In addition to the collection and analysis of soil samples, both a human health risk assessment (HHRA) and a screening-level ecological risk assessment were conducted during the Phase II effort. A Phase III RFI was initiated in 2012 and was completed in 2013. ADEM's review of the Phase III RFI is documented in their April 3, 2014 letter requiring delineation of the site to unrestricted use screening criteria. ANAD awarded a contract in December 2014, which included completion of an RFI and completion of a CMI in accordance with the approved CMIP.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that approximately 22 hot spots or 700 cy (980 tons) of arsenic and/or manganese impacted soil will require removal and offsite disposal. The expected soil removal depth is two ft bgs. The soil volume estimate is based on the extrapolation of the 2013 Phase III RFI incorporating the Phase I and Phase II RFI data completed for the National Defense Stockpile Sites.

Site ID: CC-ANAD-05
Site Name: Building 409
Alias: CC-ANAD-05

STATUS

Regulatory Driver: RCRA
Contaminants of Concern: Metals, Volatiles (VOC)
Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 200701..... | 200701 |
| CS..... | 200904..... | 200906 |
| RFI/CMS..... | 201011..... | 201610 |
| CMI(C)..... | 201709..... | 201909 |
| RIP Date: | N/A | |
| RC Date: | 201909 | |

SITE DESCRIPTION

Building 409 is located within the east area of ANAD in the Nichols Industrial Complex and covers an area of approximately 1.5 acres. It is an industrial building designated for abrasive and chemical cleaning operations for parts, painting, container repair, and testing.

In February 2009, wastewater was observed seeping to the ground surface near one of the industrial sewer outlets, which was later discovered to be related to ruptured underground sewer piping, located approximately 3 ft bgs. A field investigation was conducted, and an RFI report was submitted to ADEM in June 2009. In February 2010, ANAD personnel discovered a second release at Building 409 while upgrading sumps adjacent to Building 409. In April 2010 a cavity was discovered below one of the concrete vats inside Building 409 that allowed discharges of wastewater to the environment. In October 2012, a leaking general waste line was discovered, repaired, and reported to ADEM for inclusion in future RFI work.

Engineering measures were incorporated to repair the sources of all three releases shortly after they were discovered. The COPCs from all three releases are similar and related to current operations within Building 409.

ADEM requested that ANAD conduct leak tests, flow tests, mass balance evaluations, and other tests, as necessary, to determine which vats, pits, sumps, and pipes were leaking and the amount of wastewater and the constituents that have been released. This was to be done in addition to the RFI effort for the area around Building 409 affected by the earlier releases of wastewater.

In summary, there were some metals and VOC exceedances in the soil and groundwater samples. Metals detected in the unfiltered groundwater samples exceeding the ADEM screening criteria were attributed to suspended solids or turbidity. This correlation of metals exceeding the screening criteria and turbidity is supported by the results of filtered samples collected through 0.45-micron filters which were generally below the screening criteria. Turbidity readings from the unfiltered groundwater samples ranged from 18.3 nephelometric turbidity units (NTU) to greater than 1,000 NTUs. The lower concentration and/or lack of detection of metals in the filtered groundwater samples are an indication that turbidity may be a source of metals concentrations. TCE was the primary VOC detected in the groundwater. The concentrations were above screening levels, but they were not at levels that were indicative of a major release to the environment or a continuing source present in the subsurface media. A Phase II RFI completely delineating contamination to residential screening levels was ordered by ADEM in a letter dated Dec. 12, 2012. Due to the potential levels of contaminants and this sites location within the footprint of OU-1, the site is assumed to need a CMIP and CMI. ANAD awarded a contract in December 2014, which included completion of an RFI and completion of a CMI in accordance with the approved CMIP.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that semi-annual groundwater sampling of five wells, including the existing well M69 and LUCs, will constitute the corrective measures.

Site ID: CC-ANAD-06
Site Name: RCRA regulated 90 day site
Alias: Bldg 432

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 200805..... | 200912 |
| RFI/CMS..... | 201001..... | 201610 |
| CMI(C)..... | 201610..... | 201810 |
| RIP Date: | N/A | |
| RC Date: | 201810 | |

SITE DESCRIPTION

Building 432 is used to blast hulls and turrets of combat vehicles using stainless steel pellets as part of the refurbishing process. The steel pellets were found during an ADEM RCRA compliance inspection on the concrete and on the ground near a storm water outfall (ANAD Outfall DSN #36). As a result of this finding, ADEM ordered ANAD to perform an RFI. During the source characterization phase of the investigation conducted in May and June 2008, elevated levels of cadmium, chromium, lead and zinc were encountered in surface and subsurface soil samples collected from underneath expansion joints in the concrete near Building 432 and near Outfall #36. Also, elevated metals were encountered in sediment samples collected from Dry Creek near Outfall #36. Further sampling was conducted in the Building 432 Area in December 2009. Cadmium, chromium and zinc were the most frequently detected metals in surface soil in exceedance of their respective industrial preliminary screening levels and background values. The majority of these surface soil exceedances were in sample locations with potential surface runoff downgradient of the Building 432 area; however, most of the elevated metals were located under an approximately one foot thick concrete slab that extends across the entire site, thus preventing the horizontal mobility of these exceedances.

The site was sufficiently delineated in the horizontal and vertical directions via soil, sediment, and groundwater sampling, with screening to industrial standards. Exceedances of industrial exposure standards were noted nearest the source area: however, ANAD originally investigated and /delineated the site to industrial levels. During the course of this investigation, ADEM promulgated their Universal Environmental Covenant Act which requires all sites with contamination above unrestricted use but with no residential exposure concerns to enact an environmental covenant. This requires the site to be delineated using unrestricted use residential screening standards. ADEM ordered ANAD to further delineate the site to these standards by completing a Phase II RFI via letter documenting their comments on the ANAD RFI Report on Jan. 5, 2011. As a result of the noted release, the blasting operations in Building 432 were modified. Previously hulls/turrets had to travel outside of the building to get to the vacuum bay of the building. This process was enclosed to alleviate the need for the hulls/turrets to traverse outdoors. Also, it was discovered that the blast hangar and the building itself were releasing media to the environment. The building was sealed preventing the release of media to the environment.

A Phase II RFI was completed in 2013 but did not achieve delineation to unrestricted use screening levels and, thus, was not submitted to ADEM for review. A review of the Phase II RFI shows that delineation to unrestricted screening levels was not achieved to the southwest of Outfall #36, along the stream bank southwest of the outfall, and to the northeast of Building 432 along Roosevelt Avenue. Sediment was delineated to below unrestricted use screening criteria in both the upgradient and downgradient directions along Dry Creek from Outfall #36. ANAD awarded a contract in December 2014 which included completion of an RFI and completion of a CMI in accordance with the approved CMIP.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that approximately 100 cy (150 tons) of chromium impacted soil will require removal and offsite disposal. The expected soil removal depth is proposed at two ft bgs.

Site ID: CC-ANAD-07
Site Name: Western Area Clean Fill Site
Alias: Clean Fill

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|-------------|--------|
| RFA..... | 200910..... | 201001 |
| RFI/CMS..... | 201206..... | 201710 |
| CMI(C)..... | 201610..... | 201910 |
| RIP Date: | N/A | |
| RC Date: | 201910 | |

SITE DESCRIPTION

ANAD's Clean Fill C&D Site is located on a hilltop in the WIA of ANAD and comprises an approximate area of 9.19 acres. The site is estimated to contain approximately 230,000 cubic meters of concrete, dirt, wood, asphalt, and rock with approximate composition of 60 percent concrete, 35 percent soil, with the remaining materials made of wood, asphalt, and rock. An SI as a result of an executive order resulted in the discovery of concrete with exposed rebar, scrap metal, and wood that appeared to be from railroad ties at the site, and ADEM was subsequently notified. The burial site is no longer active. In 2009, ANAD performed a PA to determine the presence or absence of site-related COPCs total metals. Soil samples were collected below the landfill surface as part of the PA. Several metals (arsenic, beryllium, barium, cadmium, chromium, nickel, and zinc) exceeded the background values. A Phase I RFI was completed in October 2013. Additional soil samples were collected from the surface and from native soils at the bottom of an excavated trench through the landfill waste materials. Five COPCs (antimony, iron, manganese, vanadium, and benzo(a)pyrene) were retained for further analysis due to detected concentrations exceeding background values and ADEM preliminary screening values. A fate and transport model was run to evaluate if metals in surface or subsurface soil have the potential to leach to groundwater. The RFI concluded that leaching to groundwater was not a complete exposure pathway. Lastly, an HHRA was performed utilizing ADEM's required format and guidance. The HHRA concluded that no COCs were present at the site because both the total carcinogenic risk and noncarcinogenic hazard index were below ADEM's target cancer risk and hazard index benchmarks. ADEM considered the RFI to be incomplete and requested a Phase II RFI in May 2014.

ANAD awarded a contract in December 2014 which included completion of an RFI and completion of a CMI in accordance with the approved CMIP.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is anticipated by that NFA with LUCs to prevent residential land use at the site will be approved. The NFA request would be considered a risk-based closure as waste would be left in place at risk based target levels.

Site ID: CC-ANAD-08
Site Name: Groundwater Lift Station Spill Site
Alias: LS Spill

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|-------------|--------|
| RFA..... | 200610..... | 200709 |
| CS..... | 201011..... | 201102 |
| RFI/CMS..... | 201303..... | 201710 |
| CMI(C)..... | 201610..... | 201910 |
| RIP Date: | N/A | |
| RC Date: | 201910 | |

SITE DESCRIPTION

The Groundwater Lift Station Spill Site is located just to the northwest of the ANAD IWTP. The Groundwater Lift Station is used to store and convey contaminated groundwater from 26 various groundwater extraction wells to the groundwater treatment plant. In 2010 and 2011, the lift station pumps malfunctioned and releases of untreated groundwater occurred. Approximately 1,000 gallons were released in 2010 as compared to 25,000 gallons in 2011. The untreated groundwater drained to outfall DSN001 and was transported across the ground for approximately 10 to 20 ft before entering storm water piping. The lift station serves as a contaminated groundwater conveyance for OU-1, which includes the following COCs: aluminum, arsenic, beryllium, chromium, iron, lead, manganese, carbon tetrachloride, chloroform, methylene chloride, TCE, bis (2 ethylhexyl) phthalate and PCE. In June 2011, a SAR was prepared and submitted by ANAD. ADEM requested an RFI after review of the SAR. In 2013, an RFI was initiated, and a draft RFI was prepared. Ten soil sample locations were sampled at the surface and at 3 to 4 feet bgs. Soil data were screened against background values, and ADEM screening levels, with the resulting COPCs: aluminum, arsenic, chromium, manganese, and TCE. Sediment samples were all below the applicable screening levels. Five additional soil borings were advanced to complete the delineation in March 2014. Chromium and TCE were not delineated to unrestricted use screening levels in the southwest portion of the site and will require additional soil borings to complete the delineation.

ANAD awarded a contract in December 2014 which included completion of an RFI and completion of a CMI in accordance with the approved CMIP.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is anticipated that ADEM will approve NFA with LUCs to prevent residential land use at the site.

Site ID: CC-ANAD-09
Site Name: Building 414 Washrack Release
Alias: Bldg 634

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201302..... | 201312 |
| RFI/CMS..... | 201410..... | 201710 |
| CMI(C)..... | 201610..... | 201909 |
| RIP Date: | N/A | |
| RC Date: | 201909 | |

SITE DESCRIPTION

On Feb. 26, 2013, ANAD Directorate of Risk Management personnel were notified of a release of oily sheen to an unnamed tributary of Dry Creek. Upon investigation, it appeared that the lift station and OWS that conveyed steam cleaning wastewater from the Building 414 washrack to the ANAD IWTP had blown a fuse and was not effectively pumping, therefore, causing a release to the immediate area. At that time, the visible release was remediated, and the washrack was shut down pending further investigation of the extent of the release. ANAD took soil samples for oil and grease from beneath the concrete on April 3, 2013. ANAD then excavated concrete around the lift station on April 11, 2013 and took further soil samples. Visual examination upon excavation noted that the OWS installed approximately two years prior was not a completely sealed vessel. Further receipt of the analyses on April 12 and April 17, 2013, respectively, confirmed that this was an AOC.

As noted in the SAR, there were exceedances of several SVOCs above the preliminary screening values (PSV) and exceedances of several metals above PSVs and background values. ANAD then submitted a SAR to ADEM. ADEM reviewed the final SAR and instructed ANAD to perform an RFI via letter dated Dec. 23, 2013. A contract was awarded September 2014 to complete the RFI.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is anticipated that NFA with LUCs will be approved.

Site ID: CC-ANAD-10
Site Name: General Waste Leak
Alias: Bldg 114

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201409..... | 201412 |
| RFI/CMS..... | 201606..... | 201710 |
| CMI(C)..... | 201710..... | 202009 |
| RIP Date: | N/A | |
| RC Date: | 202009 | |

SITE DESCRIPTION

On Sept. 12, 2014, ANAD Directorate of Risk Management was notified that the previous night water was seen surfacing through the cracks in the concrete located near the northeast corner of Building 114.

Upon investigation, it was found that the underground pipe coming from the sump and going to the lift station located in the northeast corner of the building, was cracked and released general waste to the environment. The air pump associated with the system had been turned off the night before when the water was first noticed. A vacuum truck was brought in to vacuum approximately 20 gallons of water that had been released. The waste was released to the nearby general waste sump. Soil removed during the investigation was placed in a roll-off, moved to the hazardous waste storage, and disposed of as hazardous waste. In situ surface soil samples were taken and the results were submitted in a SAR to ADEM in accordance with the RCRA Permit. In a letter dated Jan. 26, 2015 ADEM required ANAD to perform an RFI to investigate the release.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that an impacted area of approximately 25 ft by 30 ft will require removal to approximately 4 ft bgs and disposal off-site. Approximate volume of soil is estimated at 125 cy (125 tons).

Site ID: CC-ANAD-11
Site Name: Chrome Line Leak
Alias: Bldg 136

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201402..... | 201406 |
| RFI/CMS..... | 201606..... | 201710 |
| CMI(C)..... | 201710..... | 202009 |
| RIP Date: | N/A | |
| RC Date: | 202009 | |

SITE DESCRIPTION

On Feb. 28, 2014, the ANAD Directorate of Risk Management was notified of a release of chrome wastewater from the force main that carries the wastewater from the location of the old ANAD IWTP to the new ANAD IWTP.

Upon discovery, the Directorate of Public Works personnel used a vacuum truck to contain free liquids at the site of the leak. The liquids removed by the vacuum truck were transported to the ANAD IWTP for treatment. Soil was excavated to locate the leak. Once located, the leak was repaired and the line placed back into service. Excavated soils were placed in a hazardous waste roll-off box and sent offsite for treatment due to chromium contamination. The actual amount of the release is unknown. Post-excavation samples were also taken and included in the SAR.

After the original release notification, ANAD performed a SAR per the ANAD RCRA Permit. Based on this submittal, in a letter dated Jan. 26, 2015, ADEM ordered ANAD to perform an RFI to investigate the release.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated by that LUCs will be required.

Site ID: CC-ANAD-12
Site Name: General Waste Release Building 117
Alias: Bldg 117

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201402..... | 201405 |
| RFI/CMS..... | 201606..... | 201710 |
| CMI(C)..... | 201710..... | 202009 |
| RIP Date: | N/A | |
| RC Date: | 202009 | |

SITE DESCRIPTION

On Feb. 6, 2014, the ANAD Directorate of Risk Management was notified of water seeping up through concrete. Once onsite, the pumps that service this portion of the wastewater sewer lines were shut down. Concrete and soil were excavated, and it was observed that a portion of the force main had a tee installed with rubber couplings that had failed, and the wastewater came aboveground through cracks in the concrete pavement flowing approximately 30 feet across the pavement and into a storm water system drop inlet. The failed rubber couplings at the tee were replaced with stainless steel band clamps. Excavated soils and concrete were placed into a hazardous waste roll-off and managed as D006 waste due to the presence of cadmium. Source soil samples were collected, and results were submitted to ADEM in a SAR in accordance with the RCRA Permit.

In a letter dated Jan. 26, 2015 ADEM required ANAD to perform an RFI to investigate the release.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that an area of approximately 300 cy of impacted soil will require removal and off-site disposal.

Site ID: CC-ANAD-13
Site Name: Building 414 Washrack
Alias: Bldg 524

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201406..... | 201409 |
| RFI/CMS..... | 201606..... | 201710 |
| CMI(C)..... | 201710..... | 202009 |
| RIP Date: | N/A | |
| RC Date: | 202009 | |

SITE DESCRIPTION

On June 26, 2014, ANAD Directorate of Risk Management personnel were notified of a potential underground water leak that was seen coming to the surface on the west side of Building 524.

Upon investigation, it was found that the pipe coming from the OWS located at the Building 414 washrack had ruptured and was releasing oily water to the environment. The system was shut down, and the pipeline was repaired.

Excavated soils were placed into a roll-off and relocated to the hazardous waste storage facility. Subsequent testing of the excavated dirt resulted in a nonhazardous determination, and the dirt was sent to a nonhazardous landfill. Source solid samples were collected. Analytical results were tabulated in the SAR.

After the original release, notification, ANAD performed a SAR in accordance with the ANAD RCRA Permit. In a letter dated Jan. 26, 2015, ADEM required ANAD to perform an RFI to investigate the release.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that NFA with LUCs will be approved.

Site ID: CC-ANAD-14
Site Name: Compressor Blow Down Building 634
Alias: Bldg 634

STATUS

Regulatory Driver: RCRA

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 201406..... | 201409 |
| RFI/CMS..... | 201606..... | 201710 |
| CMI(C)..... | 201710..... | 202009 |
| RIP Date: | N/A | |
| RC Date: | 202009 | |

SITE DESCRIPTION

On June 4, 2014, ANAD Directorate of Risk Management was notified of a release from Building 634.

Upon investigation it was noted that oily compressor blowdown had been released from piping and a septic tank that serviced the building. Contaminated soils were removed to the extent practical and containerized for off-site disposal. At the time of discovery, repairs were made to the piping to stop the release. In situ surface soil samples were taken, and the results were tabulated in the SAR.

After the original release notification, ANAD performed a SAR per the ANAD RCRA Permit. Based on this submittal, in a letter dated Jan. 26, 2015, ADEM required ANAD to perform an RFI to investigate the release.

CLEANUP/EXIT STRATEGY

An RFI is underway. After completion of the RFI, a CMIP and CMI in accordance with the approved CMIP are anticipated.

It is estimated that four groundwater monitoring wells will be installed and monitored semiannually, including well MW-69, and LUCs will be installed.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|------------------------|-----------|----------|---------------|
| There are no NFA sites | | | |

CR Schedule

Date of CR Inception: 199011

Past Phase Completion Milestones

1991

ISC (CC-ANAD-02 - Building 504)

1995

INV (CC-ANAD-02 - Building 504)

2007

RFA (CC-ANAD-04 - Defense National Stockpile Sites, CC-ANAD-05 - Building 409 , CC-ANAD-08 - Groundwater Lift Station Spill Site)

2008

CAP (CC-ANAD-02 - Building 504)

IMP(C) (CC-ANAD-02 - Building 504)

2009

CS (CC-ANAD-05 - Building 409)

2010

RFA (CC-ANAD-06 - RCRA regulated 90 day site, CC-ANAD-07 - Western Area Clean Fill Site)

2011

CS (CC-ANAD-08 - Groundwater Lift Station Spill Site)

2014

RFA (CC-ANAD-09 - Building 414 Washrack Release, CC-ANAD-11 - Chrome Line Leak, CC-ANAD-12 - General Waste Release Building 117, CC-ANAD-13 - Building 414 Washrack, CC-ANAD-14 - Compressor Blow Down Building 634)

2015

RFA (CC-ANAD-10 - General Waste Leak)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

Final RA(C) Completion Date: 202009

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of CR at Installation (including LTM phase): 202009

ANNISTON ARMY DEPOT CR Schedule

 = phase underway

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|------------|-------------------------------------|---------|------|------|------|------|------|-------|
| CC-ANAD-02 | Building 504 | IMP(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-04 | Defense National Stockpile Sites | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-05 | Building 409 | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-06 | RCRA regulated 90 day site | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-07 | Western Area Clean Fill Site | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-08 | Groundwater Lift Station Spill Site | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-09 | Building 414 Washrack Release | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-10 | General Waste Leak | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-11 | Chrome Line Leak | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-12 | General Waste Release Building 117 | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-13 | Building 414 Washrack | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-ANAD-14 | Compressor Blow Down Building 634 | RFI/CMS | | | | | | |
| | | CMI(C) | | | | | | |

Community Involvement

Technical Review Committee (TRC): 199310

Community Involvement Plan (Date Published): 201204

Restoration Advisory Board (RAB): RAB established 199805

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

In May 1998, the TRC was converted into a RAB. The RAB is made up of local officials, members of environmental groups, and members of the local community. The RAB meets quarterly and discusses ongoing work in the IRP. The RAB also has played an active role in public meetings for the CGW RI including the private well and spring inventory.

RAB members have expressed interest in reducing meeting frequency to less than quarterly until there is greater ER,A program activity. Members have also requested and been given information on how to apply for a TAPP grant. The CIP was updated in 2012.

Administrative Record is located at

Anniston Army Depot
Directorate of Risk Management, Bldg 199
7 Frankford Avenue
Anniston, Alabama 36201
(256)235-4854

Information Repository is located at

Jacksonville State University
Houston Cole Library
Jacksonville, Alabama 36265
(256)782-5255

Anniston Calhoun County Public Library
108 East 10th Street
Anniston, Alabama 36202
(256)237-8501

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: The RAB has decided not to take advantage of the TAPP opportunity at this time.

