

# **ROCKY MOUNTAIN ARSENAL**

Army Cleanup Program

Installation Action Plan Final

June 2024

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## STATEMENT OF PURPOSE

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

## INSTALLATION OVERVIEW

**Installation Name:** ROCKY MOUNTAIN ARSENAL

**Installation City:** COMMERCE CITY (DENVER)

**Installation County:** ADAMS

**Installation State:** CO

**Regulatory Participation - Federal:** US ENVIRONMENTAL PROTECTION AGENCY (USEPA), REGION VIII

**Regulatory Participation - State:** Colorado Department of Public Health and Environment (CDPHE)

## ACRONYMS

Acronym	Definition
BANS	Basin A Neck System
CC	Compliance-Related Cleanup
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CRL	Cleanup Restoration & Liabilities
cy	Cubic Yards
DBCP	Dibromochloropropane
DD	Decision Document
DIMP	Diisopropylmethyl phosphonate
ELF	Enhanced Hazardous Waste Landfill
ENV	Environmental
FCTS	First Creek Treatment System
FS	Feasibility Study
FY	Fiscal Year
FYR	Five-Year Review
HWL	Hazardous Waste Landfill
IAP	Installation Action Plan
ICS	Integrated Cover System
ID	Identification
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LTMP	Long Term Monitoring Plan
LUC	Land Use Control
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
N/A	Not Applicable
NBCS	North Boundary Containment System
NDMA	N-nitrosodimethylamine
NEE	Northeast Extension
NPL	National Priorities List
NPTS	Northern Pathway Treatment System
NWBCS	Northwest Boundary Containment System
PA	Preliminary Assessment
PR	Periodic Review
PUD	Planned Unit Development

Acronym	Definition
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
RMA	Rocky Mountain Arsenal
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
SWP	Site-Wide Program
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank

## PHASE TRANSLATION TABLE

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

## **PROGRAM SUMMARY**

**Number of Open Sites with Response Complete/Total Open IR Sites: 5/10**

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

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



## SITE-LEVEL INFORMATION

## 08605.1001\_A-A\_BASIN A NECK SYSTEM

**Env Site ID:** A-A

**Cleanup Site:** BASIN A NECK SYSTEM

**Alias:** A-A

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	10/31/1984	6/30/1996
RD:	1/31/1989	12/31/1996
IRA:	1/31/1989	7/31/1990
RA(C):	6/30/1989	12/31/1996
RA(O):	12/31/1996	9/30/2054
LTM:	--	--

**Site Narrative:** The Basin A Neck System (BANS) is an interior groundwater treatment facility consisting primarily of a slurry wall extraction wells air stripping carbon adsorption treatment and recharge trenches. Total groundwater flow through this area is approximately 20 gallons per minute. The major contaminants detected in the Basin A Plume Group are chloroform organosulfur compounds related to mustard agent herbicides organophosphorus compounds related to pesticides methylene chloride diisopropylmethyl phosphonate (DIMP), trichloroethylene (TCE), dibromochloropropane (DBCP), arsenic mercury, and benzene. Granular Activated Carbon is the primary treatment process. Operation of the BANS includes groundwater flows from the Section 36 Bedrock Ridge Groundwater Plume Extraction area the Complex (Army) Disposal Trench-Extraction area and the Lime Basins dewatering area. Cleanup / Exit Strategy - Operations are monitored in accordance with the Final Long-Term Monitoring Plan (LTMP) for Groundwater and Surface Water which was issued in March 2010. The LTMP was updated in 2021. Groundwater treatment will continue until remedial objectives are met along with land use controls (LUC) and five-year reviews (FYR) which is currently anticipated to exceed 30 years.

## 08605.1049\_N-NP\_NORTH BOUNDARY CONTAINMENT SYSTEM

**Env Site ID:** N-NP

**MRSPP:** N/A

**Cleanup Site:** NORTH BOUNDARY CONTAINMENT SYSTEM

**Alias:** N-NP

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	1/31/1984	10/31/1995
RD:	1/31/1978	6/30/1996
IRA:	1/31/1978	1/31/1980
RA(C):	1/31/1980	12/31/1996
RA(O):	12/31/1996	9/30/2054
LTM:	--	--

**Site Narrative:** The North Boundary Containment System (NBCS) located in Sections 23 and 24 consists of extraction and recharge wells and trenches a soil-bentonite slurry wall and a carbon adsorption system for removal of organics. The NBCS was designed to intercept contaminated groundwater from the upgradient side of the soil-bentonite barrier treat it to remove the organic contaminants and inject the treated water back into the alluvial aquifer on the downgradient side of the barrier. The system also uses ultraviolet oxidation following the carbon adsorption treatment to treat for n-nitrosodimethylamine (NDMA). Other contaminants include: volatile organic compounds; organosulfur compounds related to mustard agent and herbicides; DIMP; organophosphorus compounds, related to pesticides; arsenic; and anions such as fluoride, chloride, and sulfates. The anions are not successfully treated by the NBCS treatment systems. Instead, the anions are expected to attenuate naturally. The system currently operates within effluent parameters at approximately 225 gallons per minute. Cleanup / Exit Strategy - Operations are monitored in accordance with the Final LTMP for Groundwater and Surface Water which was issued in March 2010. The LTMP was updated in 2021. Groundwater treatment will continue until remedial objectives are met along with LUCs and FYRs which is currently anticipated to exceed 30 years.

## 08605.1062\_NCSA-3\_SECONDARY BASINS - FORMER BASIN F

**Env Site ID:** NCSA-3

**Cleanup Site:** SECONDARY BASINS - FORMER BASIN F

**Alias:** NCSA-3

**Regulatory Driver:** CERCLA

**RIP Date:** 1/31/2011

**RC Date:** 1/31/2011

**RC Reason:** All Required Cleanup(s) Completed

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	1/31/1984	6/30/1996
RD:	6/30/1996	12/31/1996
IRA:	1/31/1993	7/31/1995
RA(C):	1/31/2002	1/31/2011
RA(O):	--	--
LTM:	1/31/2011	9/30/2054

**Site Narrative:** This project originally addressed principal threat soil within the surficial soils of the former Basin F area. The Basin F interim remedial action (IRA) was conducted between 1988 and 1995 to remove Basin F liquid and sludge the asphalt liner of the basin and highly contaminated soil from beneath the liner. The soil sludge and liner material were placed in a containment area that became known as the Basin F Wastepile. A soil cover and up to 10 feet of grade fill were placed over the Former Basin F area following construction of the wastepile. The soil cover was revegetated at the conclusion of the IRA. In October 2005, a record of decision (ROD) amendment changed the remedial action for the most contaminated soils at this site from solidification to excavation and placement in the Enhanced Hazardous Waste Landfill (ELF). Excavation of the soils began in the summer of 2007 and was completed in November of the same year. A total of 212,204 cubic yards (cy) of soil was removed from Basin F and disposed of in the ELF (site ID 08605.1211). Residual contamination at the site was covered with a Resource Conservation and Recovery Act (RCRA)-equivalent cover system. The cover system was completed in March 2010 and this site is currently in the long-term management (LTM) phase. Cleanup / Exit Strategy - LTM activities consist of cover inspection and maintenance which is inclusive of engineering and access controls and post-closure operational activities that include groundwater monitoring periodic evaluation of vegetation and reporting. As required by the Basin F Post-Closure Plan, the post-closure period began following the completion of the RCRA-equivalent cover system in March 2010 and will continue indefinitely. Inspection and maintenance activities as required by the Basin F Post Closure Plan will continue indefinitely beyond the post-closure period along with LUCs and FYRs.

## 08605.1113\_NW-A\_NORTHWEST BOUNDARY CONTAINMENT SYST

**Env Site ID:** NW-A

**MRSPP:** N/A

**Cleanup Site:** NORTHWEST BOUNDARY CONTAINMENT  
SYST

**Alias:** NW-A

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	1/31/1984	10/31/1995
RD:	1/31/1982	6/30/1996
IRA:	5/31/1987	7/31/1993
RA(C):	1/31/1983	12/31/1996
RA(O):	12/31/1996	9/30/2054
LTM:	--	--

**Site Narrative:** The Northwest Boundary Containment System (NWBCS) treatment facility consists of extraction and recharge wells and trenches, a soil-bentonite slurry wall, and a carbon adsorption system for removal of organics. The NWBCS was designed to intercept contaminated groundwater from the upgradient side of the soil-bentonite barrier treat it to remove the organic contaminants and inject the treated water back into the alluvial aquifer on the downgradient side of the barrier. Contaminants include volatile organic compounds, organosulfur compounds related to mustard agent and herbicides DIMP and organophosphorus compounds related to pesticides. The NWBCS continues to operate with an average flow rate of approximately 950 gallons per minute. Cleanup / Exit Strategy - Operations are monitored in accordance with the Final LTMP for Groundwater and Surface Water which was issued in March 2010. The LTMP was updated in 2021. Groundwater treatment will continue until remedial objectives are met along with LUCs and FYRs which is currently anticipated to exceed 30 years.

## 08605.1115\_OU-N\_NORTHERN PATHWAY

**Env Site ID:** OU-N

**Cleanup Site:** NORTHERN PATHWAY

**Alias:** OU-N

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	1/31/1984	12/31/1995
RD:	1/31/1989	6/30/1996
IRA:	5/31/1987	10/31/1993
RA(C):	10/31/1993	12/31/1996
RA(O):	12/31/1996	9/30/2054
LTM:	--	--

**Site Narrative:** The Northern Pathway Treatment System (NPTS) was designed to extract and treat contaminated alluvial groundwater from the Northern Pathway site (site ID 08605.1115). The system consists of a network of upgradient extraction wells, an activated carbon adsorption treatment system for removal of organics, and a network of recharge trenches for the return of treated water to the alluvial aquifer. Contaminants include volatile halogenated organics, volatile hydrocarbon compounds, volatile aromatic organics, organosulfur compounds, DIMP, organophosphorus pesticides, organochlorine pesticides, DBCP, arsenic, and the anions; fluoride, chloride, and sulfate. The NPTS continues to operate with an average flow rate of approximately 200 gallons per minute. Cleanup / Exit Strategy - Operations are monitored in accordance with the Final LTMP for Groundwater and Surface Water which was issued in March 2010. The LTMP was updated in 2021. Groundwater treatment will continue until remedial objectives are met along with LUCs and FYRs which is currently anticipated to exceed 30 years.

## 08605.1116\_OU-NW\_FIRST CREEK

**Env Site ID:** OU-NW

**Cleanup Site:** FIRST CREEK

**Alias:** OU-NW

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	1/31/1976	10/31/1984
SI:	1/31/1976	10/31/1984
RI/FS:	1/31/1984	12/31/1995
RD:	1/31/1989	6/30/1996
IRA:	--	--
RA(C):	1/31/1991	12/31/1996
RA(O):	12/31/1996	9/30/2054
LTM:	--	--

**Site Narrative:** The First Creek Treatment System (FCTS) was designed to extract and treat contaminated alluvial groundwater from the First Creek site (site ID 08605.1116). The system consists of a network of upgradient extraction wells, an activated carbon adsorption treatment system for removal of organics, and a network of recharge trenches for the return of treated water to the alluvial aquifer. Contaminants include volatile halogenated organics, volatile hydrocarbon compounds, volatile aromatic organics, organosulfur compounds, DIMP, organophosphorus pesticides, organochlorine pesticides, DBCP, arsenic, and the anions; fluoride, chloride, and sulfate. The FCTS continues to operate with an average flow rate of approximately 100 gallons per minute. Cleanup / Exit Strategy - Operations are monitored in accordance with the Final LTMP for Groundwater and Surface Water issued in March 2010. The LTMP was updated in 2021. Groundwater treatment will continue until remedial objectives are met along with LUCs and FYRs which is currently anticipated to exceed 30 years.

## 08605.1210\_HWL\_HAZARDOUS WASTE LANDFILL

**Env Site ID:** HWL

**Cleanup Site:** HAZARDOUS WASTE LANDFILL

**Alias:** #

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 12/31/1996

**RC Reason:** Other

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 50

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	12/31/1996	12/31/1996
SI:	--	--
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	11/15/2009	9/30/2054

**Site Narrative:** The Hazardous Waste Landfill (HWL) is located in the western portion of Section 25 just north of the ELF. The facility permanently stores waste from a majority of the remediation projects that were performed at the Rocky Mountain Arsenal (RMA). This site (site ID 08605.1210) was created to address the need for LTM once the landfill had been closed. The total designed capacity of the HWL is approximately 1.8 million bank cy. The landfill reached maximum capacity in late fiscal year (FY) 2006. The closure plan was completed and approved by the regulators in September 2006, and construction of the RCRA cover is complete. The cover footprint is approximately 60 acres, and the site is currently in the LTM phase. Cleanup / Exit Strategy - LTM activities consist of cover inspection and maintenance which is inclusive of engineering and access controls and post-closure operational activities that include groundwater monitoring, leachate collection, disposal leak detection monitoring, and periodic evaluation of vegetation and reporting. Post-closure activities began following the completion of construction of the RCRA cover in May 2009 and will indefinitely. Inspection and maintenance activities required by the HWL post-closure plan are expected to continue indefinitely beyond the post-closure period along with LUCs and FYRs.



**08605.1211\_ELF\_ENHANCED HAZARDOUS WASTE LANDFILL**

**Env Site ID:** ELF

**MRSPP:** N/A

**Cleanup Site:** ENHANCED HAZARDOUS WASTE LANDFILL

**Alias:** #

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 12/31/1996

**RC Reason:** Other

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 50

**RRSE:**

Phase	Start	End
PA:	12/31/1996	12/31/1996
SI:	--	--
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	6/15/2010	9/30/2054

**Site Narrative:** The ELF is located in the western portion of Section 25 just south of the HWL site. The facility permanently stores waste from the Basin F Wastepile (site FWASTEPILE) and the Basin F Principal Threat Soils (site NCSA-3) projects. This site (site ID 08605.1211) was created to address the need for LTM once the Enhanced Landfill had been closed. The total designed capacity of the ELF is approximately 1.1 million bank cy. At the conclusion of FY2008, a total of 1,100,930 compacted cy of material had been placed in the ELF and all waste placement operations were complete. Cover construction activities began immediately following the completion of operations activity. The ELF cap construction project was completed in May 2010, and the ELF Post-Closure Plan received CDPHE approval in August 2010. The cover footprint is approximately 50 acres, and the site is currently in the LTM phase. Cleanup / Exit Strategy - LTM activities consist of cover inspection and maintenance which is inclusive of engineering and access controls and post-closure operational activities that include groundwater monitoring, leachate collection, disposal leak detection monitoring, and periodic evaluation of vegetation and reporting. Post-closure activities began following the completion of the ELF cap in May 2010 and will continue indefinitely. The inspection and maintenance activities required by the ELF post-closure plan are expected to continue indefinitely beyond the post-closure period along with LUCs and FYRs.

## 08605.1212\_SWP\_SITE-WIDE PROGRAM

**Env Site ID:** SWP

**Cleanup Site:** SITE-WIDE PROGRAM

**Alias:** SWP

**Regulatory Driver:** CERCLA

**RIP Date:** 3/15/2005

**RC Date:** 3/15/2005

**RC Reason:** Other

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	2/28/2005	3/15/2005
SI:	--	--
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	3/15/2005	9/30/2054

**Site Narrative:** This site addresses all remedy and operations support activities that are not specifically identifiable to one of the other RMA sites. Activities under Site-Wide Program (SWP) will continue as long as other sites at RMA remain active. Activities for this site are grouped into the following areas: Operations and Maintenance Contract Site-Wide Programs, (including site-wide well maintenance land use, control monitoring and reporting facility operations, maintenance operations waste management facility based individual job orders, five-year reviews, and contract management.), regulatory oversight and compliance fees (including Adams County Health Department oversight costs, hazardous waste activity, and hazardous waste generator fees); records management and communication services (including telephone systems and maintenance, long distance RMA website hosting and data management systems support, and administrative records contract activities.) Site utilities include: water, natural gas, and electricity for all RMA facilities. Contracting support at RMA is obtained through a support agreement between RMA and the Army Contracting Command Aberdeen Proving Ground. Cleanup / Exit Strategy – The duration of LTM at this site is defined by the durations of all other active sites at RMA.

## 08605.1213\_ICS\_INTEGRATED COVER SYSTEM

**Env Site ID:** ICS

**Cleanup Site:** INTEGRATED COVER SYSTEM

**Alias:** ICS

**Regulatory Driver:** CERCLA

**RIP Date:** 12/31/1996

**RC Date:** 12/31/1996

**RC Reason:** Other

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** Yes

**Hazardous Ranking Score:** 58

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	12/31/1996	12/31/1996
SI:	--	--
RI/FS:	--	--
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	1/15/2010	9/30/2054

**Site Narrative:** The current phase of this site addresses the LTM of the RCRA-equivalent covers for the five implementation projects identified within the Integrated Cover System (ICS) design as well as maintenance of the two- and three-foot soil covers in the same area. Projects that were consolidated into site ICS are: Basin A Consolidation and Remediation (Site NCSA-1a); South Plants Balance of Areas and Central Processing Area (Site SPSA-1a); Complex (Army) Disposal Trenches Remediation (Site CSA-1c); Shell Disposal Trenches Remediation (Site CSA-1a); Section 36 Lime Basins Soil Remediation (Site NCSA-1b). ICS cover construction was completed in April 2010. The Final ICS Certified Quality Assurance Certification Report and Final ICS Cover Construction Reports were transmitted to the regulatory agencies in September 2010. Cleanup / Exit Strategy - Long term maintenance of RCRA-equivalent two- and three-foot covers includes the inspection of three cover elements (soil cover surface drainage system and engineering and access controls); the monitoring of vegetation percolation and groundwater; and routine maintenance and repairs. The purpose of LTM is to ensure the integrity of the cover systems, as indicated in the RCRA-equivalent two- and three-Foot Covers Long-Term Care Plan. LTM activities which include LUCs and FYRs are currently planned to continue indefinitely.

## **SITE SUMMARY**

## SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
08605.1002	A-PE_AGENT PROCESS EQUIPT REMOVAL	12/31/1997
08605.1003	A-S36BR_BASIN A/SEC 36 BEDROCK RIDGE PLU	9/30/2006
08605.1004	A-SPN_BASIN A/SOUTH PLANTS NO. PLUME	9/30/2006
08605.1005	AS_ASBESTOS REMOVAL	12/31/1997
08605.1006	AT_ABOVE GROUND STORAGE TANKS IRA	6/30/1996
08605.1007	AW_ABANDONED WELLS CLOSURE IRA	6/30/1996
08605.1008	B1727_B1727 SUMP IRA-WASTEWATER	6/30/1996
08605.1009	CERCLA-LW_CERCLA LIQUID WWT PLANT	8/31/2010
08605.1010	CSA-1A_DISPOSAL TRENCHES-SHELL TRENCHES	9/30/2010
08605.1011	CSA-1B_UNDIFFERENTIATED-SEC. 36 BALANCE	9/30/2002
08605.1012	CSA-1C_DISPOSAL TRENCHES - COMPLEX TRENC	9/30/2010
08605.1013	CSA-1D_SANITARY LANDFILLS-SAN LANDFILL/I	7/31/2003
08605.1014	CSA-2A_UNDIFFERENTIATED-SEC. 36 BALANCE	9/30/2002
08605.1015	CSA-2B_DITCHES/DRAINAGE-SEC 36 METAL DEB	9/30/2002
08605.1016	CSA-2C_MUNITIONS TESTING-INCEND MUNITION	9/30/2000
08605.1017	CSA-2D_MUNITIONS TESTING-NN3601 INCINERA	7/31/2003
08605.1018	CSA-3_SEWER SYSTEMS - CHEM/BASINS A TO F	9/30/2002
08605.1019	CSA-4_UNDIFFERENTIATED-SEC. 36 BALANCE	9/30/2002
08605.1020	ESA-1A_MUNITIONS TESTING-SURFACE BURN 1	9/30/2000
08605.1021	ESA-1B_MUNITIONS TESTING-SURFACE BURN 2	9/30/2000
08605.1022	ESA-1C_MUNITIONS TESTING-SURFACE BURN 3	9/30/2000
08605.1023	ESA-1D_MUNITIONS TESTING - SURFACE BURN	9/30/2000
08605.1024	ESA-2A_UNDIFFERENTIATED-BURIAL TRENCHES/	9/30/2000
08605.1025	ESA-2B_SANITARY LANDFILLS-SANIT. LANDFIL	8/31/2004
08605.1026	ESA-2C_UNDIFFERETIATED-UXO OPEN TRENCHES	9/30/2000
08605.1027	ESA-3A_AGENT TESTING-STORAGE YD.	9/30/1999
08605.1028	ESA-3B_AGENT TESTING-OLD TSY	9/30/1999
08605.1029	ESA-3C_AGENT TESTING-NEW TSY	10/31/1995
08605.1030	ESA-3D_AGENT TESTING-TOXIC YARD PLOTS	10/31/1995
08605.1031	ESA-3E_AGENT TESTING-DEMIL PAD	10/31/1995
08605.1032	ESA-3F_AGENT TESTING - RR/DOCK SPILL SIT	10/31/1995
08605.1033	ESA-3G_AGENT TESTING - DRUM STORAGE/SPIL	9/30/1999
08605.1034	ESA-3H_AGENT TESTING - STORAGE AREA/SPIL	10/31/1995
08605.1035	ESA-3I_AGENT TESTING - TOXIC STORAGE PLO	10/31/1995
08605.1036	ESA-3J_TOXIC STORAGE YD. - FENCE SPRAYIN	10/31/1995
08605.1037	ESA-3K_TRASH PIT - SO. OF PLOT 8	10/31/1995
08605.1038	ESA-4A_MUNITIONS TESTING - IMPACT/UXO	9/30/2000
08605.1039	ESA-4B_MUNITIONS TESTING - DRMO AREA	9/30/2000
08605.1040	ESA-4C_TRENCH/MOVED-UNKNOWN USE/SCRAP ME	10/31/1995
08605.1041	ESA-5_UNDIFFERENTIATED - FUZE REMOVAL AR	10/31/1995
08605.1042	ESA-6A_TC STORAGE AREA - HEAVY METALS DE	10/31/1995
08605.1043	ESA-6B_UNDIFFERENTIATED-TRENCH/DETECTION	10/31/1995

CRL ID	Site Name	Site Closeout Date
08605.1044	ESA-6C_BURIED SEDIMENTS/DITCHES - AS DET	10/31/1995
08605.1045	ESA-6D_HEXACHLORO BENZENE DETECTION	10/31/1995
08605.1046	FD-DUST_FUGITIVE DUST IRA	6/30/1996
08605.1047	FWASTEPILE_BASIN F WASTEPILE	8/31/2010
08605.1048	N-CF_NORTH/BASINS C & F PLUME	9/30/2006
08605.1050	NA-PE_NON-AGENT PROCESS EQUIPT REMOVAL	6/30/1996
08605.1051	NCSA-1A_BASIN A	9/30/2010
08605.1052	NCSA-1B_LIME BASINS-SETTLING BASINS	9/30/2010
08605.1053	NCSA-1C_BURIED SEDIMENTS/DITCHES-NO.PLAN	9/30/2002
08605.1054	NCSA-1D_DITCHES/DRAINAGE - RUNOFF STORAG	9/30/2002
08605.1055	NCSA-1E_BURN SITE-SO. PLTS. OPERATIONS	9/30/2002
08605.1056	NCSA-1F_BURIED SEDIMENT/DITCHES-SO. PLTS	9/30/2002
08605.1057	NCSA-1G_SECTION 36 BAL. OF AREAS SOIL RE	6/30/2006
08605.1058	NCSA-2A_SECONDARY BASINS-BASIN C	3/31/2003
08605.1059	NCSA-2B_SECONDARY BASINS-BASIN D	9/30/2002
08605.1060	NCSA-2C_SECONDARY BASINS-BASIN E	10/31/1995
08605.1061	NCSA-2D_DITCHES/DRAINAGE-B TO D/B TO C D	9/30/2002
08605.1063	NCSA-4A_SECONDARY BASINS-DEEP WELL	9/30/2002
08605.1064	NCSA-4B_SECONDARY BASINS-BASIN F EXTERIO	9/30/2010
08605.1065	NCSA-5A_SECONDARY BASINS-BASIN B	3/31/2003
08605.1066	NCSA-5B_BURIED SEDIMENTS/DITCHES-A,B,C,D	9/30/2002
08605.1067	NCSA-5C_BURIED SEDIMENTS/DITCHES-SAND CK	9/30/2002
08605.1068	NCSA-5D_DITCHES/DRAINAGE-SURFACE CANAL/B	9/30/2002
08605.1069	NCSA-6A_SEWER SYSTEMS-SO. PLTS/BASIN F (	11/30/2000
08605.1070	NCSA-6B_SEWER SYSTEMS-NO. PLTS/BASIN F(C	9/30/2002
08605.1071	NCSA-7_LAKE SEDIMENTS-NORTH BDRY BOG	10/31/1995
08605.1072	NCSA-8A_SEWER SYSTEMS-SAN. SEWER TO STP	1/31/2009
08605.1073	NCSA-8B_DITCHES/DRAINAGE-STP AREA	10/31/1999
08605.1074	NCSA-8C_DITCHES/DRAINAGE-HG DETECTION/LI	10/31/1995
08605.1075	NCSA-9A_INVESTIGATED AREA-DIMP DETECTION	10/31/1995
08605.1076	NCSA-9B_INVESTIGATED AREA-CD DETECTION	10/31/1995
08605.1077	NCSA-9C_INVESTIGATED AREA-CD DETECTION	10/31/1995
08605.1078	NCSA-9D_INVESTIGATED AREA-CD DETECTION	10/31/1995
08605.1079	NCSA-9E_INVESTIGATED AREA-ZINC DETECTION	10/31/1995
08605.1080	NCSA-9F_INVESTIGATED AREA,ZN/CU DETECTIO	10/31/1995
08605.1081	NCSA-9G_INVESTIGATED AREA-METHYLENE CHLO	10/31/1995
08605.1082	NCSA-9H_INVESTIGATED AREA-CD DETECTION	10/31/1995
08605.1083	NCSA-9I_INVESTIGATED AREA - BUTOXYETHANO	10/31/1995
08605.1084	NCSA-9J_INVESTIGATED AREA-HG DETECTION	10/31/1995
08605.1085	NCSA-9K_INVESTIGATED-TRICHLOROPROPENE DE	10/31/1995
08605.1086	NCSA-9L_INVESTIGATED AREA-AS DETECTION	10/31/1995
08605.1087	NCSA-9M_INVESTIGATED AREA-ZN DETECTION	10/31/1995
08605.1088	NCSA-9N_INVESTIGATED AREA-TRICHLOROPROPE	10/31/1995
08605.1089	NCSA-9O_INVESTIGATED AREA-AS DETECTION	10/31/1995
08605.1090	NCSA-9P_INVESTIGATED AREA-AS,HG,CU,ZN DE	10/31/1995

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08605.1091	NCSA-9Q_INVESTIGATED AREA-HQ DETECTION	10/31/1995
08605.1092	NCSA-9R_INVESTIGATED AREA-CD DETECTION	10/31/1995
08605.1093	NCSA-9S_INVESTIGATED AREA-HG DETECTION	10/31/1995
08605.1094	NFU-A_STRUCTURES - NO FUTURE USE, AGENT	9/30/2002
08605.1095	NFU-MNP_STRUCTURES-NO FUTURE USE,MFG,NON	5/31/2011
08605.1096	NFU-MP_STRUCTURES - NO FUTURE USE,MFG,PR	9/30/2002
08605.1097	NPSA-1_SEWER SYSTEMS - CHEMICAL SEWERS	9/30/2002
08605.1098	NPSA-2_TANK FARM 1403 AREA	10/31/1995
08605.1099	NPSA-3_AGENT TESTING-GB MANUFACTURING AR	9/30/2002
08605.1100	NPSA-4_BURIED SED/DITCHES-FUZE & DETONAT	10/31/1999
08605.1101	NPSA-5_AGENT TESTING-SPECIAL WEAPONS PLA	9/30/2002
08605.1102	NPSA-6_NORTH PLANT SOIL REMEDIATION	8/31/2008
08605.1103	NPSA-7_SURFACE SPILL AREA	6/30/1996
08605.1104	NPSA-8A_SURFACE DRAINAGE AREA	10/31/1995
08605.1105	NPSA-8B_SURFACE DRAINAGE AREA	6/30/1996
08605.1106	NPSA-8C_SURFACE DRAINAGE AREA	9/30/2002
08605.1107	NPSA-9A_INVESTIGATED AREA-AROMATIC DETEC	10/31/1995
08605.1108	NPSA-9B_INVESTIGATED AREA-CHROMIUM DETEC	10/31/1995
08605.1109	NPSA-9C_INVESTIGATED AREA-ZINC DETECTION	10/31/1995
08605.1110	NPSA-9D_INVESTIGATED AREA-BENZENE/ZN DET	10/31/1995
08605.1111	NPSA-9E_INVESTIGATED AREA-DETECTION ALON	10/31/1995
08605.1112	NPSA-9F_INVESTIGATED AREA-ARSENIC DETECT	9/30/2002
08605.1114	NW-SC_NORTHWEST/SAND CREEK LATERAL PLUME	9/30/2006
08605.1117	PCB-STRUC._PCB REMOVAL	6/30/1996
08605.1118	S-SPN_SOUTH PLANTS/SO. PLANTS NORTH PLUM	10/31/1995
08605.1119	S-SPSE_SOUTH PLANTS/SO. PLANTS SE PLUME	10/31/1995
08605.1120	SANSEWER_SANITARY SEWER IRA	10/31/1995
08605.1121	SP-SPSW_SOUTH PLANTS/SO. PLANTS SW PLUME	10/31/1995
08605.1122	SP-STF_SOUTH PLANTS/SO. TANK FARM PLUME	10/31/1995
08605.1123	SPSA-10_SEWER SYSTEMS-CHEM. SEWER	9/30/2001
08605.1124	SPSA-11_SEWER SYSTEMS-SANITARY	2/28/1998
08605.1125	SPSA-12A_SOUTH TANKS BALANCE-AERATION BA	9/30/2002
08605.1126	SPSA-12B_SOUTH PLANTS BALANCE-SEDIMENT P	9/30/2002
08605.1127	SPSA-12C_SEWER SYSTEMS-PROCESS WATER	2/28/1998
08605.1128	SPSA-1A_SOUTH PLANTS BALANCE CENTRAL PRO	9/30/2010
08605.1129	SPSA-1B_SOUTH PLANTS BALANCE UNKNOWN MOU	9/30/2002
08605.1130	SPSA-1C_SOUTH PLANTS BALANCE-LIME PITS	9/30/2002
08605.1131	SPSA-1D_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2002
08605.1132	SPSA-1E_LIME BASINS - M1 PITS	9/30/2001
08605.1133	SPSA-1F_DISPOSAL TRENCHES-HEXA BARRELS	6/30/2004
08605.1134	SPSA-1G_SOUTH PLANTS BALANCE-MISCELLANEO	9/30/2001
08605.1135	SPSA-2A_SOUTH PLANTS-SO. TANK FARM	9/30/2002
08605.1136	SPSA-2B_SOUTH PLANTS-OPEN STORAGE AREA	9/30/2002
08605.1137	SPSA-2C_SOUTH PLANTS BALANCE-SALVAGE YAR	9/30/2002
08605.1138	SPSA-2D_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2002

CRL ID	Site Name	Site Closeout Date
08605.1139	SPSA-2E_SOUTH PLANTS BALANCE-SURFACE DEP	9/30/2002
08605.1140	SPSA-3A_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2001
08605.1141	SPSA-3B_SOUTH PLANTS BALANCE-STORAGE PAD	9/30/2002
08605.1142	SPSA-3C_SOUTH PLANTS BALANCE-TANK STORAG	9/30/2002
08605.1143	SPSA-3D_SOUTH PLANTS BALANCE-TANK STORAG	9/30/2002
08605.1144	SPSA-3E_SOUTH PLANTS BALANCE-MISCELLANEO	9/30/2001
08605.1145	SPSA-4A_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2002
08605.1146	SPSA-4B_SOUTH PLANTS BALANCE-MISCELLANEO	9/30/2001
08605.1147	SPSA-5A_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2002
08605.1148	SPSA-5B_SOUTH TANKS BALANCE-MISCELLANEOU	9/30/2001
08605.1149	SPSA-6_HYDRAZINE FUEL BLENDING/STORAGE F	9/30/2002
08605.1150	SPSA-7A_BALANCE SPSA/SURFACE CONTAMINATI	9/30/2002
08605.1151	SPSA-7B_SOUTH PLANTS BALANCE-DEPRESSION	9/30/2002
08605.1152	SPSA-7C_SOUTH PLANTS BALANCE-MISCELL/SUR	9/30/2002
08605.1153	SPSA-8A_SOUTH PLANTS BALANCE-SANITARY LA	9/30/2001
08605.1154	SPSA-8B_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2001
08605.1155	SPSA-8C_SPSA8 BALANCE/SURFACE CONTAMINAT	9/30/2002
08605.1156	SPSA-9A_SOUTH PLANTS-DRAINAGE DITCHES	9/30/2001
08605.1157	SPSA-9B_SOUTH PLANTS BALANCE-MISCELL/SUR	9/30/2001
08605.1158	SSA-1A_E. UPPER DERBY LAKE	10/31/1995
08605.1159	SSA-1B_LAKE SEDIMENTS - UPPER DERBY LAKE	9/30/1999
08605.1160	SSA-1C_LAKE SEDIMENTS - LOWER DERBY LAKE	9/30/1999
08605.1161	SSA-1D_ROD/GUN CLUB POND	10/31/1995
08605.1162	SSA-1E_LAKE SEDIMENTS - LAKE LADORA	10/31/1995
08605.1163	SSA-1F_LAKE MARY	10/31/1995
08605.1164	SSA-2A_DITCHES/DRAINAGE - PROCESS DITCH	12/31/1999
08605.1165	SSA-2B_BURIED SEDIMENTS/DITCHES-SAND CK.	12/31/1999
08605.1166	SSA-2C_DITCHES/DRAINAGE-LAKES OVERFLOW B	12/31/1999
08605.1167	SSA-3A_BURIED SEDIMENTS/DITCHES-LAKE LAD	10/31/1995
08605.1168	SSA-3B_BURIED SEDIMENTS/DITCHES-DERBY LA	12/31/1999
08605.1169	SSA-4_SANITARY LANDFILLS-TRASH DUMP	2/29/2000
08605.1170	SSA-5A_INVESTIGATED AREA - DBCP DETECTIO	10/31/1995
08605.1171	SSA-5B_LAKE SEDIMENTS-HAVANA/PEORIA POND	10/31/1995
08605.1172	SSA-5C_INVESTIGATED AREA - PB DETECTION	10/31/1995
08605.1173	SSA-5D_INVESTIGATED AREA - PB DETECTION	10/31/1995
08605.1174	SSA-5E_INVESTIGATED AREA - UVALDA DITCH	10/31/1995
08605.1175	UT-TANKS_UNDERGROUND STORAGE TANKS	12/31/1997
08605.1176	W-MP_WESTERN/MOTOR POOL PLUME	4/6/2022
08605.1177	W-R_WESTERN/RAILYARD PLUME	8/31/2003
08605.1178	W-W_WESTERN/WESTERN PLUME	10/31/1995
08605.1179	WSA-1A_RAILYARD-PYRENE/FLUOSANTHENE DETE	10/31/1995
08605.1180	WSA-1B_RAILYARD-WOOD PRESERVATIVE	10/31/1995
08605.1181	WSA-1C_RAILYARD-WOOD PRESERVATIVE	10/31/1995
08605.1182	WSA-1D_RAILYARD-ZINC DETECTION	10/31/1995
08605.1183	WSA-1E_RAILYARD-DBCP AREA	10/31/1995



CRL ID	Site Name	Site Closeout Date
08605.1184	WSA-1F_DITCHES-RAILYARD/PESTICIDE DETECT	12/31/1999
08605.1185	WSA-1G_RAILYARD-MERCURY DETECTION	10/31/1995
08605.1186	WSA-2_SANITARY LANDFILLS-WEST LANDFILL	2/29/2000
08605.1187	WSA-3A_EAST LANDFILL-SOLVENT/METALS DETE	10/31/1995
08605.1188	WSA-3B_EAST LANDFILL-DISPOSAL PIT	10/31/1995
08605.1189	WSA-3C_SANITARY LANDFILLS-EAST LANDFILL/	2/29/2000
08605.1190	WSA-3D_EAST LANDFILL-METHYLISOBUTLY KETO	10/31/1995
08605.1191	WSA-4A_OPEN STORAGE YD.-METHYLCYCLOEXANE	10/31/1995
08605.1192	WSA-4B_OPEN STORAGE YARD-MAIN AREA	10/31/1995
08605.1193	WSA-5A_SANITARY LANDFILLS-N. LANDFILL TR	2/29/2000
08605.1194	WSA-5B_NORTH LANDFILL BURN PIT	10/31/1995
08605.1195	WSA-5C_SANITARY LANDFILLS-N. LANDFILL TR	2/29/2000
08605.1196	WSA-5D_SANITARY LANDFILLS-N. LANDFILL TR	2/29/2000
08605.1197	WSA-6A_BURIED SED/DITCHES-MOTOR POOL DIT	12/31/1999
08605.1198	WSA-6B_MOTOR POOL-TANKS AREA	10/31/1995
08605.1199	WSA-6C_MOTOR POOL-ROUNDHOUSE AREA (BLDG	10/31/1995
08605.1200	WSA-6D_MOTOR POOL-DRAINAGE AREA	10/31/1995
08605.1201	WSA-6E_MOTOR POOL-CULVERT OUTFALL	10/31/1995
08605.1202	WSA-7A_SEWER SYSTEM-SANITARY SEWER SEDIM	1/31/2009
08605.1203	WSA-7B_SANITARY SEWER-OVERFLOW AREA	10/31/1995
08605.1204	WSA-8A_INVESTIGATED AREA-COPPER DETECTIO	10/31/1995
08605.1205	WSA-8B_INVESTIGATED AREA-ZINC DETECTION	10/31/1995
08605.1206	WSA-8C_INVESTIGATED AREA-SALVAGE AREA TC	10/31/1995
08605.1207	WSA-8D_INVESTIGATED AREA-PHOSPHERIC ACID	10/31/1995
08605.1208	WSA-8E_INVESTIGATED AREA-PHOSPHERIC ACID	10/31/1995
08605.1209	WSA-8F_INVESTIGATED AREA-METHYNAPHTHALEN	10/31/1995

## COMMUNITY INVOLVEMENT

<b>Community Involvement Plan (Date Last Reviewed):</b>	January 2024
<b>Technical Review Committee Establishment Date:</b>	2/28/1989
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	10/31/1994
<b>RAB Adjournment Date:</b>	11/15/2011
<b>RAB Adjournment Reason:</b>	All environmental restoration remedies are in place and are operating properly and successfully.
<b>Reasons for Not Establishing RAB:</b>	N/A
<b>RAB Date of Solicitation from Community:</b>	N/A
<b>RAB Results of Solicitation:</b>	N/A
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A
<b>Administrative Record Location:</b>	ON-SITE ROCKY MOUNTAIN ARSENAL 7270 KINGSTON PARKWAY, BLDG. 129, COMMERCE CITY, COLORADO 80022
<b>Information Repository Location:</b>	ROCKY MOUNTAIN ARSENAL 7270 KINGSTON PARKWAY, BLDG. 129, COMMERCE CITY, COLORADO 80022

## FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Completed	FYR	3/30/2020	9/28/2021	N/A	N/A	The remedy is generally functioning as intended by the ROD and as modified by the ROD amendments, ESDs, and other administrative changes documented in Fact Sheets.
Planned	FYR	3/31/2025	4/30/2026	<p>1) Dieldrin is present above the practical quantitation limit in the NWBCS Northeast Extension (NEE) downgradient performance wells. System bypass could be a contributing factor for these exceedances. 2) Uses identified in the Prairie Gateway Planned Unit Development (PUD) are inconsistent with the land use restrictions.</p>	<p>1) Dieldrin in NEE Wells – Action – A pump test is scheduled to be completed in FY2024 to evaluate potential system improvements that could be implemented to mitigate this issue. 2) Prairie Gateway PUD – Action – RMA will continue to coordinate with Commerce City to ensure appropriate changes are made to the Prairie Gateway PUD to resolve apparent conflicts with the LUCs.</p>	N/A