FY2010

RAVENNA ARMY AMMUNITION PLANT

Installation Action Plan

Printed 24 September 2010

Table of Contents

Table of Contents

Table of Contents

Table of Contents

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 site 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 (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the US Army Corps of Engineers (USACE) - Louisville District, the Ravenna Army Ammunition Plant (RVAAP), the Ohio Environmental Protection Agency (Ohio EPA), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative 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

ACM	Asbestos Containing Material
AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
AST	Aboveground Storage Tank
bgs	below ground surface
BRAC	Base Realignment and Closure
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
COC	Contaminants of Concern
COPC	Contaminants of Potential Concern
CR	Compliance Restoration
CTC	Cost-to-Complete
CTT	Closed, Transferred, and Transferring
CWM	Chemical Weapon Munitions
CY	calendar year
DD	Decision Document
DFFO	Director's Final Findings and Orders
DLA	Defense Logistics Agency
DNSC	Defense National Stockpile Center
DPDO	Defense Property Disposal Organization
DQO	Data Quality Objective
DRMO	Defense Reutilization and Marketing Office
EE/CA	Engineering Evaluation/Cost Analysis
EPA	Environmental Protection Agency
ER,A	Environmental Restoration, Army
ESS	Explosive Safety Submittal
FBQ	Fuze and Booster Quarry
FFS	Focused Feasibility Study
FRA	Final Remedial Action
FS	Feasibility Study
ft	feet
FWGWMP	Facility-wide Groundwater Monitoring Program
FY	Fiscal Year
GIS	Geographic Information System
GO/CO	Government-Owned/Contractor-Operated
GPS	Global Positioning System
GSA	Government Services Administration
HMX	Cyclotetramethylenetetranitramine
HRR	Historical Records Review
IAP	Installation Action Plan
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	thousand

LAP	Load, Assemble, and Pack
lb	pound
LES	Lakeshore Engineering Services, Inc.
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituent
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
mm	millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MR	munitions Response
MRS	Munitions Response Site
MRSPP	Munition Response Site Prioritization Protocol
N/A	Not Applicable
NACA	National Advisory Committee on Aeronautics
NFA	No Further Action
NGB	National Guard Bureau
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OB	Open Burning
OD	Open Detonation
ODA	Open Demolition Area
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
ORIS	Operational Range Inventory System
OSC	Operations Support Command
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
PCB	Polychlorinated Biphenyl
PMP	Project Management Plan
POL	Petroleum, Oil, and Lubricants
PP	Proposed Plan
QCP	Quality Control Plan
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Cyclotrimethylenetrinitramine

RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RTLS	Ravenna Training and Logistics Site
RVAAP	Ravenna Army Ammunition Plant
S&A/R	Supervision and Administration/Review
SAIC	Science Application International Corporation
SI	Site Inspection
SRC	Site-Related Constituent
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte LIst
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCRA	Time-Critical Response Action
TD	Transferred
TNT	Trinitrotoluene
TOW	Tube-launched, Optically-tracked, Wire-guided
TPH	Total Petroleum Hydrocarbons
TPP	Technical Project Planning
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
USACHPPM	US Army Center for Health Promotion and Preventive Medicine
USAEC	US Army Environmental Command
USATCES	US Army Technical Center for Explosives Safety
USEPA	US Environmental Protection Agency
USP&FO	United States Property and Fiscal Officer
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds
WWII	World War II

Installation Information

Installation Locale

Installation Size (Acreage): 21,683.28
City: Ravenna
County: Portage and Trumbull
State: Ohio
Other Locale Information

Prior to 2002, the RVAAP was a 21,419 acre installation. In 2003 the property boundary was resurveyed by the Ohio Army National Guard (OHARNG) and the actual acreage was found to be 21,683.289. As of February 2006, a total of 20,403 acres has been transferred to the United States Property and Fiscal Officer (USP&FO) for Ohio and licensed to the OHARNG as a military training site.

The current RVAAP consists of approximately 1,280 acres in several distinct parcels scattered throughout the OHARNG Ravenna Training and Logistics Site (RTLS). The RVAAP and the RTLS are collocated on contiguous parcels of property. The RTLS is in northeastern Ohio within Portage and Trumbull counties, approximately three miles east-northeast of the city of Ravenna and approximately one mile northwest of the city of Newton Falls. The RVAAP portions of the property are solely located within Portage County. The RTLS (inclusive of the RVAAP) is approximately 11 miles long and 3.5 miles wide and is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east.

The RTLS is surrounded by several communities. Windham is to the north, Garrettsville is six miles to the northwest, Newton Falls is one mile to the southeast, Charlestown is to the immediate southwest, and Wayland is three miles to the south. When the RVAAP was operational the RTLS did not exist and the entire 21,683 acre parcel was a government owned/contractor-operated (GO/CO) industrial facility. Because the RVAAP Installation Restoration Program (IRP) encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP, unless otherwise specifically stated, references to the RVAAP in this document are considered to be inclusive of the historical extent of the RVAAP, which is inclusive of the combined acreages of the current RTLS and RVAAP.

Installation Mission

In fiscal year (FY)93, the mission of RVAAP was changed from inactive-maintained to modified caretaker status (limited mission). PIKA International of Stafford, Texas is the current operating contractor.

Lead Organization

Base Realignment and Closure Division

Lead Executing Agencies for Installation

USACE, Louisville District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA)
State	Ohio Environmental Protection Agency (Ohio EPA)

National Priorities List (NPL) Status

RAVENNA ARMY AMMUNITION PLANT is not on the NPL

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

RAB established 1996

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Asbestos, Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Nitrate/Nitrite, Other (Propellants), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

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

MMRP

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

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

CR

Primary Contaminants of Concern: Asbestos, Explosives, Herbicides, Metals, Other (Propellants), Other (Solid Waste), Other (potassium dichromate), Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

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

Cleanup Program Summary

Installation Historic Activity

RVAAP is a GO/CO US Army Excess facility. In 1992 RVAAP was declared excess to the Army's needs. Bulk explosives were stored at the facility until 2004. In August 1940 the US government purchased approximately 25,000 acres in the northeastern part of Ohio in Portage and Trumbull counties and in September 1940 construction of the load, assemble, and pack (LAP) facility started. In August 1941, munitions production started. The primary missions of the facility included loading, assembling and packaging of large caliber ammunition and depot storage. The facility changed names several times during its history before being designated the RVAAP in 1961.

From September 1940 until the end of World War II (WWII), when plant operations were turned over to the ordnance department, the Atlas Powder Company operated the facility. From 1946 to 1949, the ammonium nitrate line was operated by the Silas Mason Company for the production of ammonium nitrate fertilizer. In 1950 the facility was placed in standby status and was reactivated during the Korean War for loading and packing major caliber projectiles and components. In August 1957 all production ended. In October 1957, the installation was again placed in a standby condition.

From January 1961 to July 1961, Load Line 12 was used to melt-out and recover explosives from bombs; it was the first operation of this type in the ammunition industry. In May 1968 the RVAAP was once again reactivated to produce munitions on three load lines and two component lines in support of the Vietnam War. These facilities were subsequently deactivated in August 1972. A mission for the demilitarization of various munitions continued on a periodic basis through 1992.

In 1980 RVAAP received a Resource Conservation and Recovery Act (RCRA) Part A permit for the storage and treatment of off-specification munitions and munitions-related waste. In 1992, RVAAP submitted a RCRA Part B permit application for the installation's open burning/open detonation (OB/OD) grounds and a hazardous waste storage building. Open demolition area (ODA) No. 2 (RVAAP-04) is now the only active RCRA unit at the RVAAP. All others have been closed.

In May 1999 the Operations Support Command (OSC) transferred control and operation of 16,164 acres to the National Guard Bureau (NGB). In March 2002 an agreement was signed to transfer an additional 3,774 uncontaminated acres to the NGB with the remaining acreage to be transferred as restoration of the sites is completed. As of February 2006 a total of 20,403 acres of the former RVAAP had been transferred to the NGB for use by the OHARNG.

Completion of the IRP, the Military Munitions Response Program (MMRP), the Compliance Restoration (CR) program, and decontamination and demolition of excess buildings for transfer of all property to NGB, with subsequent transfer of accountability to OHARNG, is expected by 2018.

In June 2004, the Army and the Ohio EPA signed the Director's Final Findings and Orders (DFFO) to authorize continued use of ODA No. 2 to support environmental restoration activities (blow in place and emergency demolition actions are authorized without the need to obtain emergency permits). The orders also authorized the investigation of deactivation furnace soils under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and groundwater monitoring at RVAAP-01 and RVAAP-04. The RVAAP will close the ODA No. 2 RCRA unit when it is no longer needed to support restoration.

In 2006, a decision was made to abandon plans for the thermal decomposition of the explosive-contaminated buildings and use conventional demolition methods with special precautions.

Continued support of all of the stakeholders at RVAAP (including the public) will be needed if schedules, objectives, and cost estimates identified in this IAP are to be met. Completion of the IRP, MMRP, and CR projects at some sites may be delayed due to lack of funding for removal of large concrete structures and investigation of sewer systems.

RVAAP is not on the USEPA NPL, although it is in the USEPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database. Management of the IRP sites follows CERCLA requirements. There are a number of other regulatory programs addressing other non-IRP sites.

Installation Program Cleanup Progress

IRP

Prior Year Progress: RI work plans were completed for PBA08 and RVAAP-66. A PP, ROD, and RD were completed for RVAAP-12. RAs were completed at RVAAP-01, 05, and 16. A DQO report and PMP were completed for RVAAP-05. QCPs were completed for RVAAP-05 and 66. Reports on cleanup goals, an ESS, deep well monitoring, and Load Lines 1-4 were completed. RVAAP-66 quarterly monitoring

continued and a final report was issued. A review of the 243 wells under RVAAP-66 was completed that resulted in a revised FWGWMP plan.

Future Plan of Action: Remedial fieldwork will be completed for RVAAP-01, RVAAP-12, and RVAAP-16 under performance-based acquisition (PBA)05. Remedial investigations (RIs) will be completed and feasibility studies (FSs) will be initiated for the 17 medium and low relative risk sites under PBA08. RVAAP-66 quarterly monitoring will continue and another final report will be produced.

MMRP

Prior Year Progress: Seven options under PBA09 were awarded in FY10 to include RIs for all sites and RC for two sites. Final explosive sites plans, a community relations plan, and a groundwater plan were completed. Two TPP meetings were held and a PMP and work plan were completed for the FY09 sites. A PMP and draft work plan were prepared for the FY10 sites. TCRA was initiated for RVAAP-004-R-01. Phase 4 of Rocket Ridge (removal of several hundred drums of white phosphorus containing sediment) was initiated.

Future Plan of Action: RIs for the PBA09 base award sites will be completed in 2012 and the RAs for two of these sites will be initiated. RIs for the optional PBA09 sites will continue. The Rocket Ridge phase 3 RA and phase 4 will be completed.

CR

Prior Year Progress: Contracts were awarded to develop Phase 1 RIs [preliminary assessment (PA) level information] for CR sites approved in FY09 and five new CR sites approved in FY10 (noted with *). The currently approved CR sites are: CC RVAAP-68, -69, -70, -72, -73, -74, -75, -76, -77, -78*, -79*, -80*, and -83*. The contractors initiated the development of planning documents associated with 11 of the above listed sites.

Future Plan of Action: Reports for the phase 1 RIs (PA level studies) awarded in FY10 will be completed and phase 2 RIs will be initiated for the CR sites as needed. The phase 1 RIs will be implemented for CC RVAAP-79, and CC RVAAP-83 in FY11.

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Begin Date	End Date	End FY
Planned	201206	201206	2012

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Erie Burning Grounds	RVAAP-02
Fuze and Booster Quarry Landfill / Ponds	RVAAP-16
Interim ROD	RVAAP-12
Load Line 1-4	RVAAP-08, RVAAP-09, RVAAP-10, RVAAP-11
Load Line 12	RVAAP-12
Open Demolition Area #2	RVAAP-04
Ramsdell Quarry Landfill	RVAAP-01
Winklepeck Burning Ground	RVAAP-05

Land Use Control (LUC) Summary

LUC title: Load Lines 1-4

Site(s): RVAAP-08

ROD/DD title: Load Line 1-4

Location of LUC

Load Lines 1-4 (RVAAP-08, RVAAP-09, RVAAP-10, and RVAAP-11). Only RVAAP-08 is selected in AEDB-R because AEDB-R will not allow the selection of other sites since the costs are not carried under the individual sites.

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation below a specified depth, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Guards

Types of Institutional Controls: None

Date in Place: 200707

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Other Army Entity

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: INORGANICS, METALS, NITROAROMATICS, ORGANICS, PAH, PCBs, PESTICIDES, VOC

Additional Information

N/A

LUC title: Winklepeck Burning Ground

Site(s): RVAAP-05

ROD/DD title: Winklepeck Burning Ground

Location of LUC

Winklepeck Burning Ground

Land Use Restriction: Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Restrict land use - No daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Guards, Markers, Signs

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

Date in Place: 200808

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Other Army Entity

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS, NITROAROMATICS, ORGANICS, PAH, PCBs, Unexploded Ordnance(UXO), VOC

Additional Information

N/A

Parcel Summary

Summary of Parcel Prioritization and Transfer Strategy

Parcel Name: 40MM Test Range/Waterworks Ponds
Parcel Size: 58.00
Associated Sites: RVAAP-016-R-01, RVAAP-032-R-01
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Anchor Test Area
Parcel Size: 2.00
Associated Sites: RVAAP-48
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Building 1039
Parcel Size: .40
Associated Sites:
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: NGB requires a letter from Ohio EPA indicating property acceptable for planned reuse.

Parcel Summary

Parcel Name: Buildings 1026, 1034, 1034A, 1037, 1037A, 1038 etc
Parcel Size: 8.60
Associated Sites:
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: NGB requires a letter from Ohio EPA indicating property acceptable for planned reuse.

Parcel Name: Cobbs Ponds
Parcel Size: 9.00
Associated Sites: RVAAP-29
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Landfill North of Winklepeck
Parcel Size: 5.00
Associated Sites: RVAAP-19, RVAAP-019-R-01
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: Load Line 1
Parcel Size: 160.00
Associated Sites: RVAAP-08
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: NGB declines property aboveground walkways and foundations are removed in order to facilitate military training needs.
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 10
Parcel Size: 36.00
Associated Sites: RVAAP-43
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 11
Parcel Size: 47.00
Associated Sites: RVAAP-44
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Summary

Parcel Name: Load Line 12
Parcel Size: 75.00
Associated Sites: RVAAP-12
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 2
Parcel Size: 212.00
Associated Sites: RVAAP-09
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: NGB declines property until aboveground walkways are removed. Ohio EPA will not sign final ROD for this site without environmental investigations conducted post-slab removal. Slabs and foundations were removed in 2008.
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 3
Parcel Size: 174.00
Associated Sites: RVAAP-10
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: NGB declines property until aboveground walkways are removed. Ohio EPA will not sign final ROD for this site without environmental investigations conducted post-slab removal. Slabs and foundations were removed in 2008.
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Summary

Parcel Name: Load Line 4
Parcel Size: 129.00
Associated Sites: RVAAP-11
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: NGB declines property until aboveground walkways are removed. Ohio EPA will not sign final ROD for this site without environmental investigations conducted post-slab removal. Slabs and foundations were removed in 2008.
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 5
Parcel Size: 39.00
Associated Sites: RVAAP-39
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 6
Parcel Size: 43.00
Associated Sites: RVAAP-33, RVAAP-033-R-01
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Summary

Parcel Name: Load Line 7
Parcel Size: 37.00
Associated Sites: RVAAP-40
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 8
Parcel Size: 44.00
Associated Sites: RVAAP-41
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Name: Load Line 9
Parcel Size: 106.00
Associated Sites: RVAAP-42
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: Sewer issues are being addressed as an option in the FY08 PBC.

Parcel Summary

Parcel Name: Open Demolition Area No. 2
Parcel Size: 25.00
Associated Sites: RVAAP-004-R-01
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Pistol Range
Parcel Size: 20.00
Associated Sites:
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: 20060224
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Ramsdell Quarry Landfill
Parcel Size: 15.00
Associated Sites: RVAAP-01, RVAAP-001-R-01
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Summary

Parcel Name: Wet Storage
Parcel Size: 36.00
Associated Sites: RVAAP-45
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

Parcel Name: Winklepeck Burning Grounds
Parcel Size: 20.00
Associated Sites: RVAAP-05
Transfer Date: N/A
Current Land Use: Other (BRAC Non-Excess, Army Ammunition Plant)
Future Land Use: Other (Military Training)
Encumbrances: N/A
Leases/Permits/Licenses: N/A
Transfer Strategy: Army Retained
Recipient Organization: National Guard Bureau / Ohio Army National Guard
Other Issues Affecting Transfer: N/A

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 54/24

Installation Site Types with Future and/or Underway Phases

1 Burn Area
(RVAAP-05)
1 Chemical Disposal
(RVAAP-28)
7 Contaminated Buildings
(RVAAP-33, RVAAP-39, RVAAP-40, RVAAP-41, RVAAP-42, RVAAP-43, RVAAP-44)
1 Contaminated Ground Water
(RVAAP-66)
1 Contaminated Soil Piles
(RVAAP-48)
1 Explosive Ordnance Disposal Area
(RVAAP-03)
7 Industrial Discharge
(RVAAP-08, RVAAP-09, RVAAP-10, RVAAP-11, RVAAP-12, RVAAP-13, RVAAP-46)
3 Landfill
(RVAAP-01, RVAAP-19, RVAAP-34)
1 Spill Site Area
(PBC at Ravenna)
2 Storage Area
(RVAAP-45, RVAAP-50)
3 Surface Disposal Area
(RVAAP-06, RVAAP-38, RVAAP-51)
1 Surface Impoundment/Lagoon
(RVAAP-29)
1 Waste Lines
(RVAAP-67)

Most Widespread Contaminants of Concern

Asbestos, Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Nitrate/Nitrite, Other (Propellants), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY	Cost
RVAAP-23	UNIT TRAINING EQUIPMENT SITE UST	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1990	TBD
RVAAP-47	BUILDING T-5301	FRA	REMOVAL	2001	TBD
RVAAP-03	OPEN DEMOLITION AREA #1	IRA	EX SITU SOIL TREATMENT	2003	TBD
RVAAP-34	SAND CREEK DISPOSAL ROAD LANDFILL	IRA	WASTE REMOVAL - SOLIDS (NON-SOILS)	2004	TBD
RVAAP-51	DUMP ALONG PARIS-WINDHAM ROAD	IRA	WASTE REMOVAL - SOILS	2004	TBD
RVAAP-08	LOAD LINE 1	IRA	WASTE REMOVAL - SOILS	2008	TBD
RVAAP-09	LOAD LINE 2	IRA	REMOVAL	2008	TBD
RVAAP-10	LOAD LINE 3	IRA	REMOVAL	2008	TBD
RVAAP-11	LOAD LINE 4	IRA	REMOVAL	2008	TBD
RVAAP-49	CENTRAL BURN PITS	IRA	WASTE REMOVAL - SOILS	2009	TBD
RVAAP-16	FUZE &BOOSTER QUARRY LANDFILL/PONDS	FRA	REMOVAL	2010	TBD

IRP Summary

Duration of IRP

Year of IRP Inception: 198802

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201409/202409

Date of IRP completion including Long Term Management (LTM): 202409

IRP Contamination Assessment

Contamination Assessment Overview

The contamination at RVAAP originated from past industrial activities associated with the assembly and demilitarization of large caliber projectiles, general-purpose bombs, and parts for these munitions. RVAAP produced munitions during WWII, and the Korean and Vietnam Wars. The industrial operations at RVAAP consisted of 12 production areas known as load lines. Load Lines 1 through 4 (melt-pour lines) were the primary sources of secondary explosives contamination such as trinitrotolouene (TNT), Cyclotetramethylenetetranitramine (HMX), and Cyclotrimethylenetrinitramine (RDX), which were melted and poured into projectiles and bombs. Load Line 1 and 12 were used for demilitarization of projectiles. Load Line 1 was used to produce and recondition anti-tank mines. Workers would periodically use steam and hot water to hose down equipment, plus the floors and walls of buildings contaminated with explosive dust, spills, and vapors. The explosive-contaminated water from the cleaning, known as pink water, then drained out doorways and through floor drains onto the soils surrounding the buildings or was discharged into open ditches or ponds after being filtered through sawdust to remove suspended explosives. Waste explosives from the melt pour lines were routinely disposed of by OB/OD at other sites on the installation.

Load Lines 5 through 11 (fuze and booster) were used to assemble fuzes, primers, and boosters while Load Line 12 housed the ammonium nitrate plant. Potential contaminants in Lines 5 through 11 include lead azide, mercury fulminate, lead styphnate, black powder, heavy metals, TNT, and Composition B. The amount of explosives used at the fuze and booster lines was much less than that used at the melt-pour lines because of the types of small munitions components made there. Also, the operations did not create as much waste and were cleaner due to the special handling procedures needed when working with the shock and heat sensitive primary explosives. Load Line 12 recrystalized ammonium nitrate for explosives, fertilizers, and aluminum chloride. It also was periodically used for demilitarization projects involving the melt-out of TNT and other secondary explosives from the bombs and projectiles. As in the other melt pour lines, these activities resulted in pink water being released to the soils, ditches, and ponds in and around the line. Other types of contaminated sites associated with past industrial activities at RVAAP include landfills, testing facilities, dumps, munitions burial sites, a pistol range, storage facilities, a scrap yard, and decontamination buildings. Although not present at every one of these sites, the contaminants of potential concern (COPC) include primary and secondary explosives, propellants, heavy metals, VOCs and SVOCs, PAHs, and asbestos. Industrial activities ceased in 1992 when RVAAP was declared excess.

A phase I RI examined 11 high priority sites identified as RVAAP-03, RVAAP-04, RVAAP-08, RVAAP-09, RVAAP-10, RVAAP-11, RVAAP-12, RVAAP-13, RVAAP-18, RVAAP-19, and RVAAP-29. A final RI report was issued in 1997. The study concluded that Load Lines 1 through 4 and 12 appeared to be the most contaminated, and contaminants were probably not migrating far from the sources in significant concentrations. The report recommended further study.

For the most part, results from more recent studies have confirmed that explosives and heavy metals are the most common contaminants and are generally located immediately around buildings in the load lines and in the ditches and ponds draining the sites. Less common contaminants include PAHs, SVOCs, and propellants. These same contaminants have been detected in the water and sediment within the storm and sanitary sewers. Installation monitoring wells located to the southeast of Load Line 2 near the perimeter have shown trace amounts of explosives. Surface water and sediment samples do not indicate that significant levels of contaminants are migrating from the installation.

Cleanup Exit Strategy

The Army will complete restoration of the sites at RVAAP under the performance-based contracts (PBCs) (which are now known as PBA contracts). In March 2005 all high relative risk sites were placed under contract. The PBA contract awarded in FY08 is intended to achieve remedy-in-place (RIP)/response complete (RC) at the remaining medium relative risk and low relative risk sites. Long-term management (LTM) will be performed on both a facility-wide and a site-by-site basis. No further action (NFA) at all the sites will be achieved by ensuring there will not be any unacceptable risk for the proposed future use by the OHARNG.

See individual sites for specific strategies.

	Title	Author	Date
1978			
	Installation Assessment of Ravenna Army Ammunition Plant. Report No. 132	United States Army Toxic and Hazardous Materials Agency	NOV-1978
1989			
	Hazardous Waste Management Study No. 37-26-0442-84: Phase 2 of AMC Open Burning/Open Detonation Groundwater Evaluation	United States Army Environmental Hygiene Agency	OCT-1989
	Ravenna Army Ammunition Plant RCRA Facility Assessment Draft RR/VSI Report	Jacobs Engineering Group, Inc	OCT-1989
1995			
	Installation Action Plan RVAAP- FY 1995	Mason and Hanger Corp.	JAN-1995
1996			
	Preliminary Assessment for the Ravenna Army Ammunition Plant	SAIC	FEB-1996
	Facility-Wide Safety and Health Plan	SAIC	FEB-1996
	Preliminary Assessment for the Characterization of Areas of Contamination	SAIC	FEB-1996
	Installation Action Plan RVAAP- FY 1996	Mason and Hanger Corp.	MAR-1996
	Action Plan for the Ravenna Army Ammunition Plant	SAIC	MAR-1996
	Facility-Wide Sampling and Analysis Plan for the Ravenna Army Ammunition Plant	SAIC	APR-1996
	Phase 1 Remedial Investigation Site Safety and Health Plan Addendum for High Priority Areas of Concern for RVAAP	SAIC	JUL-1996
	Phase 1 Remedial Investigation Sampling and Analysis Plan Addendum for High Priority Areas of Concern for RVAAP	SAIC	JUL-1996
	Final Facility-Wide Sampling and Analysis Plan Amendment No., SAIC, 8-Jul	SAIC	AUG-1996
	Interim Measures Plan for the Open Detonation (OD) Grounds Hazardous Waste Treatment Unit	SAIC	AUG-1996
	Installation Restoration Program Management Plan	USAEC	DEC-1996
1997			
	Public Meeting Briefing - Phase I RI of High Priority Sites at the RVAAP	USACE	SEP-1997
1998			
	Quality Control Plan for the Phase II RI for Winklepeck Burning Grounds at RVAAP	USACE	JAN-1998
	Installation Action Plan RVAAP- FY 1998	Mason and Hanger Corp.	FEB-1998
	Sampling and Analysis Plan Addendum for the Phase II Remedial Investigation of the Winklepeck Burning Grounds (AOC-05) and Determination of Facility-Wide Background at RVAAP	SAIC	APR-1998
	Sampling and Analysis Plan Addendum for the Phase II Remedial Investigation of the Winklepeck Burning Grounds (AOC-05) and Determination of Facility-Wide Background at RVAAP	SAIC	APR-1998
	Site Safety and Health Plan Addendum for the Phase II Remedial Investigation of the Winklepeck Burning Grounds (AOC-05) and Determination of Facility -Wide	SAIC	APR-1998

	Title	Author	Date
1998			
	Background at RVAAP		
	Sampling and Analysis Plan Addendum for the Groundwater Investigation of the Former Ramsdell Quarry Landfill (AOC-01)	SAIC	JUN-1998
	Site Safety and Health Plan Addendum for the Groundwater Investigation of the Former Ramsdell Quarry Landfill (AOC-01) at RVAAP	SAIC	JUN-1998
1999			
	Installation Action Plan RVAAP- FY 1999	Mark Patterson	MAR-1999
	Sampling and Analysis Plan Addendum No. 1 for the Phase I Remedial Investigation of the Erie Burning Grounds (AOC-02) at RVAAP	SAIC	JUL-1999
	Sampling and Analysis Plan Addendum No. 1 for the Phase II Remedial Investigation of Load Line 1 (AOC-08) at the Ravenna Army Ammunition Plant	SAIC	AUG-1999
	Site Safety and Health Plan Addendum No. 1 for the Phase II Remedial Investigation of Load Line 1 (AOC-08) at the Ravenna Army Ammunition Plant	SAIC	AUG-1999
	Environmental Information Management Needs Assessment at RVAAP	SAIC	SEP-1999
	Sampling and Analysis Plan Addendum No. 1 for the Phase I Remedial Investigation of Demolition Area 1 (RVAAP-03)	SAIC	OCT-1999
	Site Safety and Health Plan Addendum No. 1 for the Phase I Remedial Investigation of Demolition Area #1 (AOC-03) at RVAAP	SAIC	OCT-1999
	Sampling and Analysis Plan Addendum No. 1 for the Phase 1 Remedial Investigation of the NACA Test Area (AOC-38) at the Ravenna Army Ammunition Plant	SAIC	OCT-1999
	Site Safety and Health Plan Addendum No. 1 for the Phase I Remedial Investigation of the NACA Test Area (AOC-38) at the Ravenna Army Ammunition Plant	SAIC	OCT-1999
	Scope of Work for the Interim Removal Action and Decontamination & Demolition of Building T-5301 (RVAAP-47)	MKM Engineers, Inc.	DEC-1999
2000			
	Installation Action Plan RVAAP- FY 2000	USACE	MAR-2000
	Installation Action Plan RVAAP- FY 2001	USACE	MAR-2000
	Final Report on the Groundwater Investigation of the Ramsdell Quarry Landfill (AOC-01) at RVAAP	SAIC	AUG-2000
	Site Safety and Health Plan Addendum No. 1 for the Phase II Remedial Investigation of Load Line 1 (AOC-08) at the Ravenna Army Ammunition Plant	SAIC	AUG-2000
	Installation Action Plan RVAAP- FY 2001	USACE	AUG-2000
	Sampling and Analysis Plan Addendum No. 2 for the Phase II Remedial Investigation of Load Line 1 (AOC-08) at the Ravenna Army Ammunition Plant	SAIC	SEP-2000
	Sampling and Analysis Plan Addendum No. 1 for the Winklepeck Burning Grounds (AOC-05) Feasibility Study at RVAAP	SAIC	OCT-2000
	Site Safety and Health Plan Addendum No. 1 for the	SAIC	OCT-2000

IRP Previous Studies

	Title	Author	Date
2000			
	Winklepeck Burning Grounds (AOC-05) Feasibility Study at RVAAP		
	Installation Action Plan RVAAP- FY 2001	USACE	DEC-2000
2001			
	Sampling and Analysis Plan Addendum for the Remedial Investigation of Load Line 11 (RVAAP-44)	MKM Engineers, Inc.	JAN-2001
	Facility-Wide Sampling and Analysis Plan for Environmental Investigations	SAIC	MAR-2001
	Technical Memorandum Human Health and Ecological Risk Assessment Approach for the Load Line 1 (AOC-08) and Load Line 12 (AOC-12) Phase II Remedial Investigations at RVAAP	SAIC	MAR-2001
	Summary and Technical Assumptions for Area, Volume, and Cost Estimations for the Winklepeck Burning Grounds (AOC-05) Strategic Plan Ravenna Army Ammunition Plant	SAIC	MAR-2001
	Phase II Remedial Investigation Report for the Winklepeck Burning Ground (AOC-05) at RVAAP	SAIC	APR-2001
	Final Sampling & Analysis Plan Addendum for the Remedial Landfill Design/Removal Action at the Sand Creek Disposal Road Landfill (AOC-34)	MKM Engineers, Inc.	APR-2001
	Final Site-specific Safety and Health Plan for the Remedial Design/Removal Action at the Sand Creek Disposal Road Landfill (AOC-34)	MKM Engineers, Inc.	APR-2001
	Final Workplan for the Remedial Design/Removal Action at Sand Creek Disposal Road Landfill (AOC-34)	MKM Engineers, Inc.	APR-2001
	Final Sampling & Analysis Plan Addendum for the Remedial Design/Removal Action at the Paris-Windham Road Dump (AOC-51)	MKM Engineers, Inc.	APR-2001
	Final Site-Specific Safety and Health Plan for the Remedial Design/Removal Action at the Paris Windham Road Dump (AOC-51)	MKM Engineers, Inc.	APR-2001
	Final Work Plan for the Remedial Design/Removal Action at the Paris-Windham Road Dump (AOC-51)	MKM Engineers, Inc.	APR-2001
	Final Work Plan for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC 29)	MKM Engineers, Inc.	JUN-2001
	Final Sampling and Analysis Plan Addendum for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC-29)	MKM Engineers, Inc.	JUL-2001
	Final Site-Specific Safety and Health Plan for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC-29)	MKM Engineers, Inc.	JUL-2001
	Final Site-Specific Safety and Health Plan for the Remedial Investigation at Central Burn Pits (AOC-49) at the Ravenna	MKM Engineers, Inc.	AUG-2001
	Final Work Plan for the Remedial Investigation at Central Burn Pits (AOC-49) at the Ravenna Army Ammunition Plant	MKM Engineers, Inc.	AUG-2001
	Groundwater Assessment Plan for the Ramsdell Quarry Landfill (AOC-01)	MKM Engineers, Inc.	SEP-2001
	Geophysical Survey Results Suspected Mustard Agent Burial Site RVAAP	SAIC	OCT-2001
	Phase I Remedial Investigation Report for the Erie	SAIC	DEC-2001

IRP Previous Studies

	Title	Author	Date
2001			
	Burning Grounds (AOC-02) at RVAAP		
	Phase I Remedial Investigation Report for the Demolition Area #1 (AOC-03) at RVAAP	SAIC	DEC-2001
	Final Work Plan for the Remedial Design/Removal Action at the Sand Creek Disposal Road Landfill (AOC-34)	SAIC	DEC-2001
	Phase 1 Remedial Investigation Report for NACA Test Area (AOC-38) at the Ravenna Army Ammunition Plant	SAIC	DEC-2001
2002			
	Installation Action Plan RVAAP- FY 2002	Mark Patterson	FEB-2002
	Sampling and Analysis Plan Addendum No. 3 for the Biological Measurements at Winklepeck Burning Grounds (AOC-05) at the Ravenna Army Ammunition Plant	SAIC	MAY-2002
	Work Plan and Sampling and Analysis Plan Addenda for the Phase II Remedial Investigation of Demolition Area 2	SpecPro	JUN-2002
	Work Plan and Sampling and Analysis Plan Addenda for the Phase II Remedial Investigation of Demolition Area 2	SpecPro	JUN-2002
	Investigation-Derived Waste Characterization and Disposal Plan	SpecPro	NOV-2002
	Installation Action Plan RVAAP- FY 2003	Mark Patterson	DEC-2002
	Phase II Remedial Investigation Report for the Load Line 1 (RVAAP-08) at RVAAP	SAIC	DEC-2002
	Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (RVAAP-28)	SpecPro	DEC-2002
2003			
	Final Compliance Monitoring Program for the Open Demolition Area #2 (RVAAP-04)	MKM Engineers, Inc.	JAN-2003
	Report on the Biological Field-Truthing Effort at Winklepeck Burning Grounds (AOC-05)	SAIC	MAR-2003
	RVAAP Applied Dried Paints at Load Lines 6 (AOC-33) and 9 (AOC-42) GCMS PCB Results	MKM Engineers, Inc.	APR-2003
	RVAAP Facility Wide Ecological Risk Work Plan	USACE	APR-2003
	Phase II Remedial Investigation Report for the Load Line 1(RVAAP-08) at RVAAP	SAIC	APR-2003
	Installation Action Plan RVAAP- FY 2004	Mark Patterson	JUN-2003
	Phase II Remedial Investigation Report for the Load Line 1 (RVAAP-08) at RVAAP	SAIC	JUN-2003
	Phase II Remedial Investigation Report for the Load Line 1 (RVAAP-08) at RVAAP	SAIC	JUN-2003
	Safety and Health Plan for the Remedial Investigation of Load Lines 6 (RVAAP-33) and 9 (RVAAP-42)	MKM Engineers, Inc.	JUL-2003
	Community Relations Plan	USACE	SEP-2003
	Safety and Health Plan for the Remedial Investigation of Load Lines 6 (RVAAP-33) and 9 (RVAAP-42)	MKM Engineers, Inc.	SEP-2003
	Sampling and Analysis Plan Addendum for the Remedial Investigation of Load Line #6 (RVAAP-33)	MKM Engineers, Inc.	SEP-2003
	Sampling and Analysis Plan Addendum for the Remedial Investigation of Load Line #9 (RVAAP-42)	MKM Engineers, Inc.	SEP-2003
	Sampling and Analysis Plan Addendum No. 1 for the Phase I Remedial Investigation of Ramsdell Quarry	SAIC	OCT-2003

	Title	Author	Date
2003			
	Landfill (AOC-01) at RVAAP		
	Site Safety and Health Plan Addendum No. 1 for the Phase I Remedial Investigation of Ramsdell Quarry Landfill	SAIC	OCT-2003
	Sampling and Analysis Plan Addendum No 1 for the Phase II Remedial Investigation of the Erie Burning Grounds (RVAAP-02)	SAIC	OCT-2003
	Sampling and Analysis Plan Addendum No. 1 for the Phase II Remedial Investigation of the Erie Burning Grounds (AOC-02) at RVAAP	SAIC	OCT-2003
	Final Work Plan and Sampling and Analysis Plan Addenda for the Phase I/Phase II Remedial Investigation of the Fuze and Booster Quarry Landfill/Ponds at RVAAP	SpecPro	OCT-2003
	Sand Creek Dump (AOC-34) Cleanup Project Weekly Reports August - October 2003	MKM Engineers, Inc.	OCT-2003
	Paris-Windham Dump (AOC-51) Clean Up Project Weekly Reports, Photos, Misc Data April-October 2003	MKM Engineers, Inc.	OCT-2003
	Decon-Demo Load Lines 6 (AOC-33) and 9 (AOC-42) Misc Corres, Reports, Photos at RVAAP	Unknown	DEC-2003
2004			
	OE/UXO Removal & Interim Removal Action Report For The Open Demolition Area #1 (RVAAP-03)	MKM Engineers, Inc.	MAR-2004
	Remedial Design/Removal Action Plan for Sand Creek Dump (AOC-34)	MKM Engineers, Inc.	MAR-2004
	Final Report Interim Removal Action at Load Line 11 (AOC-44)	MKM Engineers, Inc.	MAR-2004
	Interim Removal Action Report for Load Line #11 (AOC-44) Vol 1 Main Text - Appendices A-G	MKM Engineers, Inc.	MAR-2004
	Interim Removal Action Report for Load Line #11 (AOC-44) Vol 2 Appendices H-I	MKM Engineers, Inc.	MAR-2004
	Final Report for Remedial Design/Removal Action at Paris-Windham Road Dump (AOC-51) at Ravenna Army Ammunition Plant	MKM Engineers, Inc.	MAR-2004
	Installation Action Plan RVAAP- FY 2005	Mark Patterson	MAY-2004
	Facility-Wide Biological and Water Quality Study 2003	USACE	JUN-2004
	Supplemental Baseline Human Health Risk Assessment	Shaw/SAIC	JUL-2004
	Phase II Remedial Investigation Report for the Load Line 2 (AOC-09) at the Ravenna Army Ammunition Plant, Volume 1 - Main Text	Shaw/SAIC	JUL-2004
	Phase II Remedial Investigation Report for Load Line 3 (AOC-10) at the Ravenna Army Ammunition Plant Volume 1 - Main Text	Shaw/SAIC	JUL-2004
	Phase II Remedial Investigation Report for Load Line 3 (AOC-10) at the Ravenna Army Ammunition Plant Volume 2 - Appendices A-S	Shaw/SAIC	JUL-2004
	Work Plan for the Phase I MEC Density Survey of Winklepeck Burning Grounds (AOC-05)	USATCES/MK	AUG-2004
	Phase II Remedial Investigation Report for Load Line 4 (AOC-11) at the Ravenna Army Ammunition Plant Volume 1 - Main Text	Shaw/SAIC	SEP-2004
	Phase II Remedial Investigation Report for Load Line 4 (AOC-11) at the Ravenna Army Ammunition Plant	Shaw/SAIC	SEP-2004

IRP Previous Studies

	Title	Author	Date
2004			
	Volume 2 - Appendices A-S		
	Facility-Wide Groundwater Monitoring Program Plan, Portage	Shaw	SEP-2004
	Proposed Remedial Goal Options for Soil at Load Lines 1 (AOC-08), 2 (AOC-09), 3 (AOC-10), and 4 (AOC-11) at RVAAP	Shaw	SEP-2004
	Sampling and Analysis Plan for the Data Gap Analysis and Additional Sampling and Security, Emergency Response and Contingency Plan and Safety, Health and Emergency Response Plan for the Remediation of Soils at Load Lines 1 (AOC-08), 2 (AOC-09), 3 (AOC-10), and 4 (AOC-11) at RVAAP	Shaw	OCT-2004
	Final Sampling and Analysis Plan Addendum for the Characterization of 14 RVAAP AOCs at RVAAP	MKM Engineers, Inc.	OCT-2004
	Sampling and Analysis Plan for the Data Gap Analysis and Additional Sampling in Support of the Remediation of Soils at Load Lines 1 (AOC-08), 2 (AOC-09), 3 (AOC-10), and 4 (AOC-11) at RVAAP	Shaw	OCT-2004
	Final Site Safety and Health Plan Addendum for the Characterization of 14 RVAAP AOCs	MKM Engineers, Inc.	OCT-2004
2005			
	Final November 2004 Sampling Completion Report for Load Lines 1 - 4	Shaw	FEB-2005
	Focused Feasibility Study for the Winklepeck Burning Grounds (AOC-05) at RVAAP	SAIC	FEB-2005
	Phase I MEC Density Survey After Action Report At Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	MAR-2005
	Phase III Remedial Investigation Report for the Winklepeck Burning Grounds (AOC-05) at RVAAP	SAIC	MAR-2005
	Phase III Remedial Investigation Report for the Winklepeck Burning Grounds (AOC-05) at RVAAP	USACE	MAR-2005
	Final Work Plan for Phase II MEC Clearance and Munitions Response at Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	MAR-2005
	Final Site Safety and Health Plan for the Phase II MEC Clearance and Munitions Response at Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	MAR-2005
	Winklepeck Burning Grounds AutoCAD Figures for Phase I After Action Report	MKM Engineers, Inc.	MAR-2005
	Focused Feasibility Study for the Remediation of Soils at Load Lines 1 through 4 (AOC-08) (AOC-09) (AOC-10) (AOC-11) at the RVAAP	Shaw	MAY-2005
	Final Focused Feasibility Study for the Remediation of Soils at LLs 1-4, RVAAP	Shaw	MAY-2005
	Focused Feasibility Study for the Remediation of Soils at Load Lines 1 through 4 (AOC-08) (AOC-09) (AOC-10) (AOC-11) at the RVAAP	Shaw	MAY-2005
	Phase I Remedial Investigation December 2004 Follow-On Groundwater Sampling at the Ramsdell Quarry Landfill (AOC-01)	SAIC	JUN-2005
	Final Report on the Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (RVAAP AOC-28) - Main	SpecPro	JUL-2005

2005

Title	Author	Date
Report and Appendices A-H		
Installation Action Plan RVAAP- FY 2006-Non Public Version	Mark Patterson	JUL-2005
Final Report on the Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (RVAAP AOC-28)	SpecPro	JUL-2005
Report on the Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (RVAAP AOC-28)	SpecPro	JUL-2005
Final Proposed Plan for the Remediation of Soils at LL1-4 (RVAAP-08, RVAAP-09, RVAAP-10, RVAAP-11)	Shaw	JUL-2005
Proposed Plan for the Remediation of Soils at LL1-4 (RVAAP-08, RVAAP-09, RVAAP-10, RVAAP-11)	Shaw	JUL-2005
Final Report on the Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (RVAAP AOC-28)	SpecPro	JUL-2005
Final Report Facility Wide Groundwater Monitoring Program April 2005 Sampling Event Report - Main Report and Appendices A-D	SpecPro	AUG-2005
Final Report Facility Wide Groundwater Monitoring Program Sampling Event Report - Main Report and Appendices A-D	SpecPro	AUG-2005
Site Safety and Health Plan for the Phase I MEC Density Survey of Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	AUG-2005
Final Facility Wide Groundwater Monitoring Program Report on the July 2005 Sampling Event -Vol 1- Main Report	SpecPro Inc.	AUG-2005
Final Facility Wide Groundwater Monitoring Program Report on the July 2005 Sampling Event-Vol 2- Appendices A-C	SpecPro Inc.	AUG-2005
RVAAP/Ohio EPA Cooperative Agreement (CA) Work Plans	Various	AUG-2005
Installation Action Plan RVAAP- FY 2006	Mark Patterson	SEP-2005
Final Work Plan Containing Addendums(SAP,QAPP,SSHP,UXO) for Groundwater Monitoring Well Installation and Groundwater Sampling at the Suspected Mustard Agent Burial Site (AOC-28)	SpecPro, Inc.	SEP-2005
Final Remedial Investigation Report Central Burn Pits (RVAAP-49)	SAIC/MKM	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44)	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 2	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 3	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 4	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 5	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 1	MKM Engineers, Inc.	SEP-2005
Final for the Remedial Investigation at Load Line 11 (AOC-44) VOL 2	MKM Engineers, Inc.	SEP-2005

IRP Previous Studies

2005

Title	Author	Date
Phase I Remedial Investigation Report for the Ramsdell Quarry Landfill at RVAAP	SAIC	SEP-2005
Phase I Remedial Investigation Report for the Ramsdell Quarry Landfill (AOC-01) at RVAAP	SAIC	SEP-2005
Final for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC 29) Vol 1	MKM Engineers, Inc.	SEP-2005
Final for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC 29) Vol 2	MKM Engineers, Inc.	SEP-2005
Final for the Phase II Remedial Investigation at the Upper and Lower Cobbs Pond (AOC 29) Vol 3	MKM Engineers, Inc.	SEP-2005
Final Phase II Remedial Investigation Report for the Erie Burning Grounds (AOC-02) at RVAAP	SAIC	SEP-2005
Final Phase II Remedial Investigation Report for the Open Demolition Area #2 (AOC-4) Vol 2	SpecPro/SAIC	SEP-2005
Final Proposed Plan for the Winklepeck Burning Grounds	SAIC	OCT-2005
Facility-Wide Biological and Water Quality Study 2003, Part 1-Streams, Part 2-Ponds	USACE	NOV-2005
Final Phase II Remedial Investigation Supplemental Report for Load Line 12 (AOC-12)	SAIC	NOV-2005
Final Phase II Remedial Investigation Supplemental Report for Load Line 12 at RVAAP	SAIC	NOV-2005
Final Sampling and Analysis Plan Addendum No. 1 Supplemental Phase II Remedial Investigations (RVAAP-04) ODA#2, (RVAAP-16) F&BQL/P, and (RVAAP-49) CBPs	SAIC	NOV-2005
Final Report Phase I/II Remedial Investigation of the Fuze & Booster Quarry Landfill/Ponds (RVAAP-16) Volume One - Main Report	SpecPro/SAIC	NOV-2005
Final Report Phase I/II Remedial Investigation of the Fuze & Booster Quarry Landfill/Ponds (RVAAP-16) Volume Two - Appendices A-K	SpecPro/SAIC	NOV-2005
Final Facility Wide Groundwater Monitoring Program Report on the July 2005 Sampling Event-Main Report and Appendices A-C	SpecPro	NOV-2005
Final Proposed Plan for the Winklepeck Burning Grounds	SAIC	DEC-2005
Phase II MEC Clearance and Munitions Response at Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	DEC-2005
Phase II MEC Clearance and Munitions Response at Winklepeck Burning Grounds (AOC-05)	MKM Engineers, Inc.	DEC-2005

2006

Sampling and Analysis Plan Addendum No. 2 for the Winklepeck Burning Grounds Feasibility Study at RVAAP	SAIC	FEB-2006
Final FS for Ramsdell Quarry Landfill	SAIC	JUL-2006
Final FS for Load Line 12	SAIC	JUL-2006
Final FS for Fuze-Booster Quarry Pond Landfill	SAIC	JUL-2006
Facility-Wide Ground Water Sampling Event #1	SpecPro	AUG-2006
Revised Eco Field Truthing Report	SAIC	SEP-2006
Final RI Addendum for ODA#2	SAIC	SEP-2006
Final RI Addendum for Erie Burning Grounds	SAIC	SEP-2006
Final P&A After Action Report for Ramsdell Quarry	SAIC	SEP-2006

	Title	Author	Date
2006			
	Landfill		
	Facility-Wide Ground Water Sampling Event #2	SpecPro	OCT-2006
2007			
	Final EE/CA for Central Burn Pits	SAIC	JAN-2007
	Final Structural Analysis report for Load Lines 1 through 4	Shaw	JAN-2007
	Final Proposed Plan for Soil and Dry Sediment at RVAAP--2 Erie Burning Grounds	SAIC	FEB-2007
	Facility-Wide Ground Water Sampling Event #3	SpecPro	MAR-2007
	Final Proposed Plan for Soil and Dry Sediment at RVAAP-12 Load Line 12	SAIC	MAR-2007
	Final Proposed Plan for Soil and Dry Sediment at RVAAP-16 Fuze and Booster Quarry Landfill/Ponds	SAIC	MAR-2007
	Final Proposed Plan for Soil and Dry Sediment at RVAAP-01 Ramsdell Quarry Landfill	SAIC	MAR-2007
	Final Facility Wide Groundwater Monitoring Program Report on the October 2006 Sample Event	SpecPro, Inc.	MAR-2007
	Final Report of the Characterization of 14 Areasof Concern	MKM Engineers, Inc.	MAR-2007
	Final Facility Wide Groundwater Monitoring Program Report on the July 2006 Sampling Event No. 3	SpecPro, Inc.	MAR-2007
	Final Remedial Action Work Plan Remediation of Soils at RVAAP- 08, 09, 10, and 11 Load Lines 1- 4	Shaw Environmental	APR-2007
	Final Work Plan for the DLA Storage Area Reclamation-Route 80 Tank Farm and East Ore Yard Culvert Replacement	SpecPro, Inc.	APR-2007
	Final Facility Wide Groundwater Monitoring Program Annual Report for 2006	SpecPro, Inc.	MAY-2007
	Final Interim Record of Decision for Load Lines 1-4	Shaw	JUN-2007
	Final Action Memorandum for RVAAP-49 Central Burn Pits	SAIC	JUN-2007
	Final Facility-Wide Groundwater Monitoring Program Report on the January 2007 Sampling Event (#1)	SpecPro, Inc.	JUL-2007
	Final Stormwater Pollution Prevention Plan for the Remediation of Soils at RVAAP- 08, 09, 10, and 11 Load Lines 1- 4	Shaw Environmental	JUL-2007
	Final Sampling and Analysis Plan and the Site Safety and Health Plan for the Exposed Soil Sampling and Characterization After Slab and Foundation Removals at RVAAP-39 Load Line 5, RVAAP-40 Load Line 7, RVAAP-41 Load Line 8, and RVAAP-43 Load Line 10	United States Army Corps of Engineers	AUG-2007
	Final Construction Completion Report on the Munitions Response for the Demolition of RVAAP-41 and RVAAP-43, Load Lines 8 and 10	PIKA International, Inc.	AUG-2007
	Final Report for the Phase I Remedial Investigation of RVAAP-33 Load Line 6	MKM Engineers, Inc.	AUG-2007
	Final Removal Action Work Plan for RVAAP-49 Central Burn Pits	SAIC	AUG-2007
	Final Record of Decision for Soil and Dry Sediment at the RVAAP-16 Fuze and Booster Quarry Landfill/Ponds	SAIC	SEP-2007
	Final Record of Decision for Soil and Dry Sediment at the RVAAP-02 Erie Burning Grounds	SAIC	SEP-2007

IRP Previous Studies

	Title	Author	Date
2007			
	Final Record of Decision for Soil and Dry Sediment at the RVAAP-02 Open Demolition Area #2	SAIC	SEP-2007
	Final Report for the Phase I Remedial Investigation at RVAAP-42 Load Line 9, Volume 1	MKM Engineers, Inc.	OCT-2007
	Draft Proposal to Update the Facility-Wide Groundwater Monitoring Program	United States Army Corp of Engineers	OCT-2007
	Preliminary Draft Remedial Investigation Addendum No. 1 for the RVAAP-49 Central Burn Pits	SAIC	NOV-2007
	Draft Project Completion Report for the DLA Storage Reclamation-Route 80 Tank Farm and East Ore Yard Culvert Replacement	SpecPro Inc.	NOV-2007
	Final Report on the Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Constituents (MC)	PIKA International, Inc.	NOV-2007
	Final Work Plan for the Geophysical Investigation of the suspected RVAAP-28 Mustard Agent Burial Site	Environmental Quality Management/John M. Miller, John Vanderlaan	NOV-2007
	Final Facility-Wide Groundwater Monitoring Program April 2007 Sampling Event	Environmental Quality Management, Inc.	NOV-2007
	Final Project Completion Report for the Munitions Response for Demolition of Load Lines 5, 7, Building 1039, and Transite Removal at Building T-1604	Lakeshore Engineering Services, Inc.	DEC-2007
	Draft Facility-Wide Groundwater Monitoring Program Annual Report for 2007	Environmental Quality Management, Inc.	DEC-2007
2008			
	Installation Action Plan RVAAP - FY2007	Mark Patterson	JAN-2008
	Final Propellant Removal Summary Report for MEC Support for RVAAP- 08 Load Line 1	Shaw Environmental, Inc.	JAN-2008
	Final Remedial Investigation Report Addendum No. 1 for the RVAAP-49 Central Burn Pits	SAIC	JUN-2008
	Final ROD for Soil and Dry Sediment at RVAAP-05, Winklepeck Burning Grounds	SAIC	AUG-2008
	Final Proposed Plan for Soil and Dry Sediment at the RVAAP-49 Central Burn Pits	SAIC	OCT-2008
2009			
	Draft Remedial Design for RVAAP-16, Fuze and Booster Quarry Landfill Ponds	SAIC	FEB-2009
	Final ROD for Soil and Dry Sediment at RVAAP-49, Central Burn Pits	SAIC	FEB-2009
	Final ROD for Soil and Dry Sediment at RVAAP-01, Ramsdell Quarry Landfill	SAIC	MAR-2009
	Final ROD for Soil and Dry Sediment at RVAAP-12, Load Line 12	SAIC	MAR-2009
	Final Facility Wide Groundwater Monitoring Program Annual Report 2008	EQM	MAR-2009
	Preliminary Draft Remedial Design for RVAAP-12, Load Line 12	SAIC	MAR-2009
	Final ROD for Soil and Dry Sediment at RVAAP-49 Central Burn Pits	SAIC	APR-2009
	Final DQO Report for RVAAP-28 Mustard Agent Burial Site	Shaw	JUN-2009
	Final Facility Wide Groundwater Monitoring Program October 2008 Sampling Event	EQM	JUN-2009

IRP Previous Studies

2009

Title	Author	Date
Final Remedial Design for RVAAP-16 Fuze and Booster Quarry Landfill	SAIC	JUN-2009
Final Remedial Design for RVAAP-12 Load Line 12	SAIC	JUL-2009
Final Facility Wide Groundwater Monitoring Program January 2009 Sampling Event	EQM	JUL-2009
Final DQO Report for RVAAP-34 Sand Creek Disposal Landfill	Shaw	JUL-2009
Final PBA 08 LL 1-4 Sub Slab Sampling Short Report	URS	SEP-2009
Final Remedial Design Approval for RVAAP-12 Load Line 12	SAIC	OCT-2009
Final DQO Report for RVAAP-03 Open Demo Area 1	Shaw	OCT-2009
Final ROD Signoff for Soil and Dry Sediment at RVAAP-12 Load Line 12	SAIC	OCT-2009
Final ROD Signoff for Soil and Dry Sediment at RVAAP-01 Ramsdell Querry Landfill	SAIC	OCT-2009
Final Remedial Action Closeout Report for RVAAP-05 Winklepeck Burning Grounds	MKM	NOV-2009
Final Facility Wide Groundwater Monitoring Program April 2009 Sampling Event	EQM	NOV-2009
Final TCRA Closeout Report for RVAAP-04 ODA 2 Rocket Ridge	PIKA	DEC-2009

2010

Final Facility Wide Groundwater Monitoring Program July 2009 Sampling Event	EQM	JAN-2010
Final Remedial Design Approval for RVAAP-01 Ramsdell Quarry Landfill	SAIC	JAN-2010
Draft Geophysical Proveout Report for RVAAP-34 Sand Creek Disposal Landfill	Shaw	FEB-2010
Draft Geophysical Proveout Report for RVAAP-28 Mustard Agent Burial Site	Shaw	FEB-2010
Draft Facility Wide Groundwater Monitoring Program October 2009 Sampling Event	EQM	FEB-2010
Pre-Draft Six Sharon Conglomerate Wells Monitoring Report	SAIC	MAR-2010
Draft Geophysical Proveout Report for RVAAP-03 Open Demo Area 1	Shaw	MAR-2010
Final Remedial Action Closeout Report for RVAAP-16 Fuze and Booster Quarry Landfill	SAIC	MAR-2010
Final Facility Wide Groundwater Monitoring Program Annual Report 2009	EQM	MAR-2010
Draft Facility Wide Groundwater Monitoring Program Metals Report 2010	EQM	MAR-2010
Draft ESS Report for RVAAP-01 Ramsdell Quarry Landfill	SAIC	MAR-2010

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess

Installation Restoration Program

Site Descriptions

Site ID: PBC at Ravenna
Site Name: PBA 2008

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Sediment, Soil

Phases	Start	End
PA	200308	200308
RI/FS	200807	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site no longer carries funding requirements (all requirements were funded) for USACE oversight of the 2005 PBC. PBC 2005 was awarded to Science Applications International Corporation and will expire in September 2010. The involved sites include RVAAP-01, 02, 04, 12, 16 and 49.

A PBA 2008 was awarded in July 2008 (projected expiration September 2013). This PBA includes portions or all of RVAAP-06, 12, 13, 19, 29, 33, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50, and 67. All tasks (1 through 5) have been awarded. USACE oversight costs for PBA 2008 are carried in this site.

CLEANUP/EXIT STRATEGY

Cost-to-complete (CTC) assumptions include USACE oversight of the PBA 2008 contract in FY11 through FY13.

Site ID: RVAAP-01
Site Name: RAMSDELL QUARRY LANDFILL

STATUS

Parcel: Ramsdell Quarry Landfill (15 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	200306	200704
RD	200707	201010
RA(C)	200909	201010

RIP Date: N/A

RC Date: 201010

SITE DESCRIPTION

RVAAP-01 (Ramsdell Quarry Landfill) is located in the eastern section of the RVAAP facility and is a four-hectare (10-acre) unlined landfill, with a 5.5 to 6.1 meters- [18 to 20 feet (ft)] depth, in part of an abandoned quarry. The quarry is excavated to the underlying Sharon Sandstone/Conglomerate. The depth of the soil in the remaining portion of the quarry varies from zero to several feet. A pool of water is intermittently present at the bottom of the quarry at approximately 10.7 meters (35 ft) below ground surface (bgs).

This landfill was used from 1941 to 1989. During the period of 1946 to 1950 the site was used as a land-surface burning site to thermally destroy waste explosives from Load Line 1 and napalm bombs. From 1976 to 1989, a portion of the site was used strictly as a nonhazardous solid waste landfill. No historical information has been located for 1950 to 1976. The landfill ceased operation in September 1989. Closure of the landfill was completed in May 1990 under state of Ohio solid waste regulations. Because this unit is unlined, there is potential for releases from the landfill to surrounding soils and groundwater.

Landfilled material consists of variable domestic, commercial, industrial, and solid wastes including but not limited to explosives (TNT, Composition B), napalm, gasoline, acid dip liquor, annealing residue (sulfuric acid, shell casings, sodium ortho silicate, chromic acid and alkali), aluminum chloride, and inert material. The volume of landfilled material is unknown (Jacobs Engineering 1989).

Five groundwater monitoring wells were installed around the landfill perimeter in 1988. These wells were regulatorily decommissioned in 2006. New wells were installed in 1998 to further investigate the nature and extent of groundwater contamination at the landfill. A report of findings was published in October 1998.

Installation of additional wells and the acquisition of soil, sediment, and surface water samples taken in fall 2003 further determined the nature and extent of the contamination of the CERCLA portion of the quarry. The new wells are monitored on a regular basis as part of the facility-wide groundwater-monitoring program (FWGWMP). Low levels of explosives and metals have been detected in groundwater. The groundwater unit transferred from the RCRA solid waste program to CERCLA in June 2004. A final RI/FS was completed and approved April 2007. The final record of decision (ROD) was signed by the Army and Ohio EPA in October 2009. The remedial design (RD) and property management plan will contain appropriate land use control (LUC) language and will be implemented in the second quarter of FY10 with the RA programmed to begin in the third quarter of FY10.

Access will be restricted at the site. A PBC was awarded in 2005 to complete the investigation and any required remediation in accordance with the Defense Planning Guidance. MEC is present at the site and will be addressed under the MMRP site RVAAP-001-R-01.

Site ID: RVAAP-01
Site Name: RAMSDELL QUARRY LANDFILL

CLEANUP/EXIT STRATEGY

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-03
Site Name: OPEN DEMOLITION AREA #1

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Explosives, Metals

Media of Concern: Soil

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199910	201309
IRA	199910	200309

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

RVAAP-03 (Open Demolition Area 1), consisting of approximately six acres, was used to thermally treat munitions by OB/OD. The site now consists of a circular one-ft berm surrounding a grassed area of approximately 1.5 acres. The entire AOC is located within the National Advisory Committee on Aeronautics (NACA) Test Area. Contaminants of concern (COCs) include explosive compounds and metals. The 1989 report from Jacobs Engineering indicates that munition fragments including scrap metal, small arms primers, and fuzes were found outside the bermed area and that the area was operational from 1941 through 1949.

In December 2001 a final phase I RI report was completed. In July 2001 a BRAC-funded interim remedial action (IRA) involving removal of approximately five acres of surface hot spots containing high levels of metals and explosives was completed. Site closeout documentation was initiated in FY03. Concern remained over potential MEC kick-outs and push-out material beyond the IRA area. Because this site is located on the Operational Range Inventory System (ORIS), the area is considered an active range, and therefore ineligible for MMRP.

A geophysical investigation will be conducted in FY10 to investigate the potential MEC kick-outs/push-outs outside the IRA AOC. Results of the geophysical investigation are expected by the third quarter of FY10. Site closeout documentation will not be finalized until the geophysical investigation report is published and a proposed action is determined by the stakeholders.

The AOC has been used as a training area since the 1960s. In May 1999 this site was officially assigned to the NGB and transferred to the OHARNG. Groundwater monitoring is being conducted under the NACA Test Area (RVAAP-38).

CLEANUP/EXIT STRATEGY

No funding is required.

Site ID: RVAAP-05
Site Name: WINKLEPECK BURNING GROUNDS

STATUS

Parcel: Winklepeck Burning Grounds (20 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199410	201309
IRA	200608	201209

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

The Winklepeck Burning Grounds consisting of approximately 200 acres, operated from 1948 to 1998. Prior to 1980, there were open-burning activities performed in unlined pits, pads, and sometimes on the roads within the 200-acre area. Materials that were burned included: RDX, antimony sulfide, Composition B, lead azide, TNT, propellants, black powder, waste oils, sludge from the load lines, domestic wastes, explosive contaminated wastes (e.g. rags, papers, cardboard) and small amounts of laboratory chemicals. The pre-1980 burning was conducted on bare ground and resulting ash was abandoned in-place. Munitions, munitions debris (MD -primarily scrap metal) and explosive constituents are present at the site. From 1980-1998, burning of scrap explosives, propellants, and explosive-contaminated materials was conducted within raised refractory-lined trays located within a 1.5-acre area.

The Army notified Ohio EPA in 1994 of their intent to withdraw the part B permit application. The burn trays along with the 90-day storage unit, Building 1601, were closed in accordance with Ohio EPA guidance in 1998.

The deactivation furnace soils were transferred from the RCRA to the CERCLA program under the DFFO in June 2004. The management of groundwater monitoring is under the FWGWMP.

A limited MEC clean-up took place within various portions of the site during 2004, 2005, 2008, and 2009. A proposed plan (PP) was finalized in 2006.

The Army transferred approximately 180 acres to the NGB in 2006 for the construction of a Mark 19 grenade machine gun range. The remaining 20 acres containing four burn-pad locations were remediated based on a ROD dated August 2008 and signed by the Army and Ohio EPA. The additional remediation was completed in the summer of 2009. Ohio EPA approved the final completion report during the first quarter of FY10. The 20 acres can now be transferred and combined with the current NGB 180 acre parcel.

A September 2008 contract was awarded to conduct a Data Quality Objectives (DQO) study for MEC and chemical contaminants remaining within the Winklepeck Burning Grounds 200 acres. This DQO is scheduled as an RI/FS phase in Army Environmental Database-Restoration (AEDB-R). This work is anticipated to result in additional cleanup to support construction of a multi-purpose machine gun range which will partially overlap with the existing Mark 19 range.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include USACE Prior Year Supervision and Administration/Review (S&AR) for three years. Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66.

Site ID: RVAAP-06
Site Name: C BLOCK QUARRY

STATUS

Parcel: NONE

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	198802	198804
SI	198906	198906
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site is an abandoned quarry, approximately 0.3 acres in size. It was used as a disposal area for annealing process wastes (chromic acid) for a short time during the 1950s. Liquid wastes were reported to have been dumped in the pit bottom. The site is now heavily forested with trees of one-ft diameter or larger. IRP constituents of concern include metals, SVOCs, VOCs and propellants.

In May 1999 the Army transferred this site to the NGB.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-08
Site Name: LOAD LINE 1

STATUS

Parcel: Load Line 1 (160 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

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

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199410	200707
RD	200510	201010
IRA	200309	200807
RA(C)	200309	201209

RIP Date: N/A

RC Date: 201209

SITE DESCRIPTION

Load Line 1 was used between 1941 and 1971 to melt and load TNT and Composition B into large-caliber projectiles. The load line also was used for the demilitarization of projectiles and the production and reconditioning of anti-tank mines. Workers would periodically use steam and hot water to hose down equipment and the floors and walls of buildings contaminated with explosive dust, spills, and vapors. Wash-down water and wastewater from the load line operations was collected in concrete sumps, pumped through sawdust filtration units, and then discharged to a settling pond. Wash-down water from the melt-pour buildings would, in some instances, be swept out through doorways onto the ground surrounding the buildings. The settling pond was an unlined triangular-shaped pond approximately two acres in size and six to eight ft deep. Water from the impoundment discharged to a stream that ultimately exited the installation

Structures underwent demolition between FY00 and FY09. Environmental controls were implemented during all demolition activities to prevent /mitigate potential migration of contaminants from the buildings to the ground surface. Elevated walkways (between buildings) remain in place.

COCs at this site are explosive compounds, SVOCs and heavy metals. The media of concern include soils, surface water, sediment, and groundwater. A PBC was awarded in September 2003 to complete an interim soil and dry sediment removal action at Load Lines 1, 2, 3 and 4 (which paralleled a BRAC Division building demolition project). The final Interim ROD addressing only soil and dry sediment was signed by the Army and Ohio EPA in July 2007. At the end of the first quarter of FY08, contaminated soils were removed and transported off-site for disposal at an EPA approved/permitted landfill, and the project close-out report was approved by September 2008, prior to contract expiration. Subsequent to this date, an additional contract action was initiated to sample the soils within the former building slab footprints, and an USACE-led sampling event was conducted in December 2009 to sample areas outside of the former building footprints to determine whether or not soil contamination occurred during the building/slab demolition. Underslab sampling reports were finalized in March 2010 and the report summarizing the post-demo sampling led by the USACE is pending. Surface water and wet sediments are being evaluated for further action.

A January 2008 change memorandum to the interim ROD was prepared by the Army and submitted to the Ohio EPA describing additional removal actions. Contaminated soil, as determined by the underslab sampling and the post-demolition sampling led by USACE, will be removed and transported off-site for final disposal at an EPA approved/permitted landfill. The RA will be complete by September 2012. This work affects RVAAP-08, 09, 10, and 11. The cost was carried under RVAAP-08 for award in FY10. A final ROD will be developed to address LUCs [also detailed in the project management plan (PMP)], surface water, and wet sediment.

RVAAP-008-R-01 is collocated within a portion of this AOC.

Site ID: RVAAP-08
Site Name: LOAD LINE 1

CLEANUP/EXIT STRATEGY

No additional funding is required at the present time. Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66

Site ID: RVAAP-09
Site Name: LOAD LINE 2

STATUS

Parcel: Load Line 2 (212 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

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

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199410	200707
RD	200510	201010
IRA	200309	200807
RA(C)	200309	201209

RIP Date: N/A

RC Date: 201209

SITE DESCRIPTION

Load Line 2 was used between 1941 and 1971 to melt and load TNT and Composition B into large-caliber projectiles. Workers would periodically use steam and hot water to hose down equipment and the floors and walls of buildings contaminated with explosive dust, spills, and vapors. Wash-down water and wastewater from the load line operations was collected in concrete sumps, pumped through sawdust filtration units, and then discharged to a settling pond. Wash-down water from the melt-pour buildings would, in some instances, be swept out through doorways onto the ground surrounding the buildings. The settling pond was an unlined triangular-shaped pond approximately two acres in size and six to eight ft deep. Water from the impoundment discharged to a stream that ultimately exited the installation

Structures underwent demolition between FY03 and FY09. Environmental controls were implemented during all demolition activities to prevent /mitigate potential migration of contaminants from the buildings to the ground surface. Elevated walkways (between buildings) remain in place.

COCs at this site are explosive compounds, SVOCs and heavy metals. The media of concern include soils, surface water, sediment, and groundwater. A PBC was awarded in September 2003 to complete an interim soil and dry sediment removal action at Load Lines 1, 2, 3 and 4 (which paralleled a BRAC Division building demolition project). The final interim ROD addressing only soil and dry sediment was signed by the Army and Ohio EPA in July 2007. At the end of the first quarter of FY08, contaminated soils were removed and transported off-site for disposal at an EPA approved/permitted landfill, and the project close-out report was approved by September 2008, prior to contract expiration. Subsequent to this date, an additional contract action was initiated to sample the soils within the former building slab footprints, and an USACE-led sampling event was conducted in December 2009 to sample areas outside of the former building footprints to determine whether or not soil contamination occurred during the building/slab demolition. Underslab sampling reports were finalized in March 2010 and the report summarizing the post-demo sampling led by the USACE is pending. Surface water and wet sediments are being evaluated for further action.

A January 2008 change memorandum to the interim ROD was prepared by the Army and submitted to the Ohio EPA describing additional removal actions. Contaminated soil, as determined by the underslab sampling and the post-demolition sampling led by USACE, will be removed and transported off-site for final disposal at an EPA approved/permitted landfill. The RA will be complete by September 2012. This work affects RVAAP-08, 09, 10, and 11. The cost was carried under RVAAP-08 for award in FY10. A final ROD will be developed to address LUCs (also detailed in the PMP), surface water, and wet sediment.

Site ID: RVAAP-09
Site Name: LOAD LINE 2

CLEANUP/EXIT STRATEGY

Confirmatory soil sampling and soil remediation costs were carried under RVAAP-08 and are scheduled for award in FY10.

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66

Site ID: RVAAP-10
Site Name: LOAD LINE 3

STATUS

Parcel: Load Line 3 (174 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

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

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199410	200707
RD	200510	201010
IRA	200309	200807
RA(C)	200309	201209

RIP Date: N/A

RC Date: 201209

SITE DESCRIPTION

Load Line 3 was used between 1941 and 1971 to melt and load TNT and Composition B into large-caliber projectiles. Workers would periodically use steam and hot water to hose down equipment and the floors and walls of buildings contaminated with explosive dust, spills, and vapors. Wash-down water and wastewater from the load line operations was collected in concrete sumps, pumped through sawdust filtration units, and then discharged to a settling pond. Wash-down water from the melt-pour buildings would, in some instances, be swept out through doorways onto the ground surrounding the buildings. Water from the impoundment discharged to a stream that flowed in a northerly direction and ultimately discharged into RVAAP-29 Cobbs Pond.

Structures underwent demolition between FY03 and FY09. Environmental controls were implemented during all demolition activities to prevent /mitigate potential migration of contaminants from the buildings to the ground surface. Elevated walkways (between buildings) remain in place.

COCs at this site are explosive compounds, SVOCs and heavy metals. The media of concern include soils, surface water, sediment, and groundwater. A PBC was awarded in September 2003 to complete an interim soil and dry sediment removal action at Load Lines 1, 2, 3 and 4 (which paralleled a BRAC Division building demolition project). The final interim ROD addressing only soil and dry sediment was signed by the Army and Ohio EPA in July 2007. At the end of the first quarter of FY08, contaminated soils were removed and transported off-site for disposal at an EPA approved/permitted landfill, and the project close-out report was approved by September 2008, prior to contract expiration. Subsequent to this date, an additional contract action was initiated to sample the soils within the former building slab footprints, and an USACE-led sampling event was conducted in December 2009 to sample areas outside of the former building footprints to determine whether or not soil contamination occurred during the building/slab demolition. Underslab sampling reports were finalized in March 2010 and the report summarizing the post-demo sampling led by the USACE is pending. Surface water and wet sediments are being evaluated for further action.

A January 2008 change memorandum to the interim ROD was prepared by the Army and submitted to the Ohio EPA describing additional removal actions. Contaminated soil, as determined by the underslab sampling and the post-demolition sampling led by USACE, will be removed and transported off-site for final disposal at an EPA approved/permitted landfill. The RA will be complete by September 2012. This work affects RVAAP-08, 09, 10, and 11. The cost was carried under RVAAP-08 for award in FY10. A final ROD will be developed to address LUCs (also detailed in the PMP), surface water, and wet sediment.

CLEANUP/EXIT STRATEGY

Site ID: RVAAP-10
Site Name: LOAD LINE 3

Confirmatory soil sampling and soil remediation costs were carried under RVAAP-08 and are scheduled for award in FY10.

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66

Site ID: RVAAP-11
Site Name: LOAD LINE 4

STATUS

Parcel: Load Line 4 (129 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199410	200707
RD	200510	201010
IRA	200309	200807
RA(C)	200309	201209

RIP Date: N/A

RC Date: 201209

SITE DESCRIPTION

Load Line 4 was used between 1941 and 1971 to melt and load TNT and Composition B into large-caliber projectiles. Workers would periodically use steam and hot water to hose down equipment and the floors and walls of buildings contaminated with explosive dust, spills, and vapors. Wash-down water and wastewater from the load line operations was collected in concrete sumps, pumped through sawdust filtration units, and then discharged to a settling pond. Wash-down water from the melt-pour buildings would, in some instances, be swept out through doorways onto the ground surrounding the buildings. The on-site settling pond was an unlined earthen impoundment approximately two acres in size and six to eight ft deep. Water from the impoundment discharged to a stream that ultimately exited through the southern side of the installation.

Structures underwent demolition between FY03 and FY09. Environmental controls were implemented during all demolition activities to prevent /mitigate potential migration of contaminants from the buildings to the ground surface. Elevated walkways (between buildings) remain in place.

COCs at this site are explosive compounds, SVOCs and heavy metals. The media of concern include soils, surface water, sediment, and groundwater. A PBC was awarded in September 2003 to complete an interim soil and dry sediment removal action at Load Lines 1, 2, 3 and 4 (which paralleled a BRAC Division building demolition project). The final interim ROD addressing only soil and dry sediment was signed by the Army and Ohio EPA in July 2007. At the end of the first quarter of FY08, contaminated soils were removed and transported off-site for disposal at an EPA approved/permitted landfill, and the project close-out report was approved by September 2008, prior to contract expiration. Subsequent to this date, an additional contract action was initiated to sample the soils within the former building slab footprints, and an USACE-led sampling event was conducted in December 2009 to sample areas outside of the former building footprints to determine whether or not soil contamination occurred during the building/slab demolition. Underslab sampling reports were finalized in March 2010 and the report summarizing the post-demo sampling led by the USACE is pending. Surface water and wet sediments are being evaluated for further action.

A January 2008 change memorandum to the interim ROD was prepared by the Army and submitted to the Ohio EPA describing additional removal actions. Contaminated soil, as determined by the underslab sampling and the post-demolition sampling led by USACE, will be removed and transported off-site for final disposal at an EPA approved/permitted landfill. The RA will be complete by September 2012. This work affects RVAAP-08, 09, 10, and 11. The cost was carried under RVAAP-08 for award in FY10. A final ROD will be developed to address LUCs (also detailed in the PMP), surface water, and wet sediment.

Site ID: RVAAP-11
Site Name: LOAD LINE 4

CLEANUP/EXIT STRATEGY

Confirmatory soil sampling and soil remediation costs were carried under RVAAP-08 and are scheduled for award in FY10.

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66

Site ID: RVAAP-12
Site Name: LOAD LINE 12

STATUS

Parcel: Load Line 12 (75 acres)

Regulatory Driver: CERCLA
RRSE: HIGH

Contaminants of Concern: Explosives, Metals, Nitrate/Nitrite

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	199910	201009
RD	200707	201009
IRA	200807	201010
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

From 1941-1943 and 1946-1950, ammonium nitrate was produced at this site. From 1949 to 1993, munitions were periodically demilitarized at this AOC. Building wash-down water and wastewater from the bomb melt out facility operations was collected in a house gutter system, and flowed through a piping system to two stainless steel tanks. The first tank was used for settling, and the second tank was used for filtration. Prior to the 1980s, the water leaked under the building and ponded there. Building wash-down water from Building F-904 was also swept out through doorways onto the ground surrounding the building. After 1981, the water was treated in the Load Line 12 wastewater treatment system, which discharged to an on-site pond then discharged to a receiving stream that ultimately entered into RVAAP-29, Cobbs Ponds.

COCs at this site include explosive compounds, nitrates and heavy metals. Media of concern include soil, surface water, sediment and groundwater. The National Pollutant Discharge Elimination System (NPDES) permit for the original pink water treatment plant located at Building F-904 was terminated May 1, 2000. The treatment plant is considered formally closed under the NPDES permit.

In 2000, a composting pilot study was conducted using soils contaminated with explosives from the area of Building F-904. This pilot project was successful for the bioremediation of explosives.

Under PBC05 an RI/FS was completed in 2006 for soil and dry sediment. A PP was completed in May 2007. The PP recommended soil and dry sediment removal. Public review of the PP was completed in January 2009, The ROD was signed by Ohio EPA and US Army in October 2009, and the RD was finalized in the first quarter of FY10. A removal action is to be completed in the third quarter of FY10.

A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. RAs, including monitored natural attenuation (MNA) for groundwater, are being evaluated for the site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10. MEC will be addressed under MMRP site RVAAP-012-R-01.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66.

Site ID: RVAAP-13
Site Name: BLDG 1200-DILUTION\SETTLING POND

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Contaminants of Concern: Explosives, Metals

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

From approximately 1941 to 1971, ammunition was demilitarized by steaming out munitions rounds at this building. The steam decontamination generated pink water, which drained to a man-made ditch. The ditch discharged into a 0.5-acre sedimentation pond, and the overflow from this pond discharged into Sand Creek.

Potential COCs at this site are explosive compounds, propellants and metals. Media of concern include soil, surface water, sediment and groundwater.

This site was transferred to NGB in May 1999. The buildings were demolished, and all foundations and footings were removed.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-19
Site Name: LANDFILL NORTH OF WINKLEPECK BURN GRND

STATUS

Parcel: Landfill North of Winklepeck (5 acres)

Regulatory Driver: CERCLA
RRSE: LOW

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

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

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This approximately 2.5-acre unlined, unpermitted landfill, which operated from 1969 to 1976, is located upgradient of a wetland. The general appearance of the site suggests that a trench and fill method type of operation was used for waste disposal. Waste types possibly associated with this landfill include booster cups, aluminum liners, municipal waste, explosive and munitions waste and ash, and scrap metal from the Winklepeck Burning Grounds (RVAAP-05).

Potential COCs at this site include metals, explosives, and SVOCs.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10. RVAAP-019-R-001 will address MEC concerns.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-28
Site Name: MUSTARD AGENT BURIAL SITE

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	200306	201309

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

This unit is a possible mustard agent burial site approximately 15 by 18 ft. In 1969, records indicate that an Explosive Ordnance Disposal Unit excavated a suspected mustard agent burial site near the west end of the NACA crash strip. Recovered from the site in 1969 were one 190-liter (50 gallon) drum and seven rusty canisters. All recovered items were empty, and no contamination discovered.

Another suspected area, located to the southwest across Hinckley Creek, is presently marked by reflective Seibert stakes. Surface soil samples collected in 1996 as part of the relative risk site evaluation (RRSE) conducted by US Army Center for Health Promotion and Preventive Medicine (USACHPPM) contained no thiodiglycol (mustard agent breakdown product). There were two non-intrusive geophysical surveys (EM-31, and EM-61) completed in 1998. The two surveys identified the demarcated area with positive metallic responses. Some, if not all responses, are most likely related to artificial features (i.e. rusted fencing) at or near the ground surface.

Groundwater samples were collected in 2004 and no mustard agent or mustard agent breakdown products were found. Groundwater monitoring is ongoing. The site was transferred to NGB in May 1999.

In 2006, additional wells were installed and sampled for mustard agent and associated breakdown products. The chemical analysis reported no detections of mustard agent or breakdown products.

An additional potential burial area located at the west end of the NACA crash strip was suggested by a member of the public and investigated in FY08. The geophysical investigation detected unidentified anomalies. A follow-on FY08 contract was awarded to perform a DQO study and an additional geophysical survey that will include areas on the north and south sides of the test crash strip. The additional geophysical survey work will be completed in the third quarter of FY10 with a final report to be generated in the fourth quarter of FY10.

CLEANUP/EXIT STRATEGY

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66.

Site ID: RVAAP-29
Site Name: UPPER AND LOWER COBBS PONDS

STATUS

Parcel: Cobbs Ponds (9 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

Media of Concern: Groundwater, Sediment, Surface Water

Phases	Start	End
PA	198802	198804
SI	198906	198906
RI/FS	200101	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The site is comprised of approximately five acres (Upper Cobbs Pond) and four acres (Lower Cobbs Pond). The Upper and Lower Cobbs Ponds are unlined ponds that contain abundant fish and wildlife. A ponded area known as "a backwater area" is located south of Upper Cobbs Pond. This area, approximately one acre in size, was created by beaver activity and was not present during facility operations.

The Upper and Lower Cobbs Ponds were used as sedimentation basins for Load Line 12 (RVAAP-12) and 3 (RVAAP-10) wastewater effluent from 1941 to 1971 and storm water runoff. Waste types associated with this site include TNT, RDX, HMX, Composition B, lead, chromium, mercury, and aluminum chloride.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-33
Site Name: LOAD LINE 6

STATUS

Parcel: Load Line 6 (43 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

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

Phases	Start	End
PA	199407	199602
SI	199407	199901
RI/FS	200207	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

Load Line 6, approximately 45 acres in size, operated primarily as a fuze assembly line from 1941 to 1945. The area was re-activated in 1950 when the Firestone Defense Products Division became a tenant which lasted until the late-1980s. During that latter time frame Firestone sold its Defense Products Division to Physics International (PI). Three years later, PI became a subsidiary of Olin Corporation and Olin remained as a tenant until early-1993. Throughout the history of the tenant's occupancy the work regimen remained the same. As reported by former workers at RVAAP, Load Line 6 was a classified experimental test facility for munitions. Shaped charges were constructed and tested under contract for the Department of Defense. The site consisted of a pond (underwater test chamber), two above ground test-firing chambers, and several buildings. No original file documentation exists for this site.

The COPCs are explosives and metals.

Demolition of all Load Line 6 buildings was completed July 2006. The test chamber foundation and the concrete blocks around the test pond remain at the site.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10. MMRP issues will be addressed separately under RVAAP-033-R-01.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-34
Site Name: SAND CREEK DISPOSAL ROAD LANDFILL

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

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

Media of Concern: Sediment, Soil, Surface Water

Phases	Start	End
PA	199407	199602
SI	199407	199906
RI/FS	200409	200810
IRA	200209	200409
LTM	200810	202109

RIP Date: N/A

RC Date: 200810

SITE DESCRIPTION

This site was reported by former workers at RVAAP to have been an open dump for concrete, wood, asbestos debris, lab bottles, 55-gallon drums and fluorescent light tubes. Debris was disposed at the surface, but became covered by vegetation. The site is approximately 2.7 acres and located adjacent to Sand Creek. The dates of operation of this site are unknown, but believed to be around the 1950s.

Sediment and surface water samples indicated metals and SVOCs were leaching into Sand Creek, a state resource water.

This site was transferred to the NGB in May 1999. Surface soil and debris removal (IRA) was completed in summer 2003. The IRA was documented in a report submitted in April 2004. An FY08 DQO study was awarded to determine data gaps for the FY03 IRA. Following the DQO study, a recommended geophysical magnetometer study and soil sampling will begin in the third quarter of FY10 that will provide the basis for additional IRP actions.

This site also carries the facility-wide non-groundwater LTM and programmatic support requirements. These requirements are common to all other installation restoration (IR) sites and are carried here to streamline the associated funding, contracting, and scheduling. This facility-wide approach was reviewed and approved by USAEC in FY10. RVAAP-34 was selected because it was already in the LTM phase at the time and was best suited for carrying these requirements.

CLEANUP/EXIT STRATEGY

CTC assumptions include the following programmatic items in LTM (facility-wide):
1) Ravenna Environmental Information Management System (five years),
2) Property management plan (five years),
3) Project scheduling (five years),
4) USACE support (five years),
5) Project management support (four years),
6) Facilitator support (five years), and
7) USACE prior year S&A/R.

CTC assumptions include the following items in LTM for all sites (including RVAAP-34):
1) Five-year reviews for 31 IR sites (two reviews per site)
2) Ten years of Geographic Information System (GIS), Global Positioning System (GPS), and LUCs for 31 IR sites
3) Site closeouts for 31 IR sites

4) Cap maintenance (RVAAP-19 and RVAAP-38) for three acres for 10 years.

Groundwater monitoring requirements are carried in RVAAP-66.

Site ID: RVAAP-38
Site Name: NACA TEST AREA

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	199508	199602
SI	199508	199812
RI/FS	199909	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This is an approximately 69-acre site previously used as an aircraft test area by NACA. Surplus military aircraft crashed into constructed barriers, using a fixed rail attached to the aircraft landing gear, in an attempt to develop crash-worthy fuel tanks and/or high flashpoint aviation fuel. Burial of some demolished aircraft occurred at the site after the tests. Open Demolition Area 1, RVAAP-03, is surrounded by RVAAP-38.

This site was transferred to the NGB in May 1999. In the late-1990s, soil analyses detected low levels of metals and organics and dry sediment analyses detected nitrocellulose. As such, it was determined that additional study was needed of the area, and a SI/phase 1 RI, for the site was completed in 2002.

Twelve groundwater monitoring wells were installed and sampled in 2004. Analytical results indicated metals and low levels of SVOCs.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-39
Site Name: LOAD LINE 5

STATUS

Parcel: Load Line 5 (39 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site operated from 1941 to 1945 to produce fuzes for artillery projectiles. Load Line 5 was deactivated and its equipment was removed in 1945.

Metals and SVOCs above screening criteria were detected in soil, sediment, and surface water samples. Nitrates above screening criteria were also detected in surface water.

Removal of buildings, including slabs and foundations, was completed in FY07. An FY08 USACE underslab soil and dry sediment survey was completed with findings reported to the RVAAP stakeholders the second quarter of FY09.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-40
Site Name: LOAD LINE 7

STATUS

Parcel: Load Line 7 (37 acres)

Regulatory Driver: CERCLA
RRSE: LOW

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

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200803	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The site was used to assemble booster charges for artillery projectiles between 1941 and 1945. Load Line 7 was deactivated and the equipment was removed in 1945. Load Line 7 was used again in 1969 and 1970 to produce 40 millimeter (mm) projectiles. The site was reactivated between 1989 and 1993 under a tenant contract operated by an Olin Corporation subsidiary, PI, for the manufacture of large caliber conventional weaponry. The PI Load Line 7 munitions process constructed and utilized a carbon-adsorption filtration plant to treat process wastewaters contaminated with explosives. The NPDES permit for the filtration plant was terminated in May 2000 that formally closed the plant.

An earlier site investigation indicated the presence of metals, VOCs, SVOCs and explosives in soil, sediment, surface water and groundwater above agreed upon screening levels.

Removal of buildings, including slabs and foundations, was completed in FY07. An FY08 USACE underslab soil and dry sediment survey was completed with findings reported to the RVAAP stakeholders in the second quarter of FY09.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-41
Site Name: LOAD LINE 8

STATUS

Parcel: Load Line 8 (44 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The site was used to assemble booster charges for artillery projectiles between 1941 and 1945. Load Line 8 was deactivated and the equipment was removed in 1945.

An earlier site investigation indicated the presence of metals, VOCs, SVOCs and explosives in soil, sediment, surface water and groundwater above agreed upon screening levels.

Removal of buildings, including slabs and foundations, was completed in FY07. An FY08 USACE underslab soil and dry sediment survey was completed with findings reported to the RVAAP stakeholders in the second quarter of FY09.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-42
Site Name: LOAD LINE 9

STATUS

Parcel: Load Line 9 (106 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200208	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site operated from 1941 to 1945 to produce detonators. Load Line 9 was deactivated and its equipment removed in 1945.

Limited samples collected and analyzed in 2000 indicated low levels (below two percent) of lead azide in sediment and surface water in the sumps. The removal of buildings, including slabs and foundations, was completed in FY07.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-43
Site Name: LOAD LINE 10

STATUS

Parcel: Load Line 10 (36 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site operated from 1941 to 1945 to produce percussion elements. Load Line 10 went on standby status in 1945. From 1951 to 1957, Load Line 10 produced primers and percussion elements. From 1969 to 1971, Load Line 10 was reactivated, and produced munitions primers. The load line has been inactive since that time frame.

An earlier site investigation indicated the presence of metals, VOCs, SVOCs and explosives in soil, sediment, surface water and groundwater above screening levels.

Removal of buildings, including slabs and foundations, was completed in FY07. An FY08 USACE underslab soil and dry sediment survey was completed with findings reported to the RVAAP stakeholders in the second quarter of FY09.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-44
Site Name: LOAD LINE 11

STATUS

Parcel: Load Line 11 (47 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	199910	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site operated from 1941 to 1945 to produce primers for artillery projectiles. Load Line 11 was placed on standby in 1945. From 1951 to 1957, Load Line 11 was used to produce primers and fuzes.

The removal of lead/asbestos-lined sumps, lead-contaminated sediments, and solvent-contaminated soils occurred during an IRA in 2001. The final IRA report was completed in April 2004. Several of the sewer lines were intentionally plugged with grout to prevent migration of contaminants.

The SI/phase I RI was completed in FY05 prior to demolition of the buildings. The complete removal of buildings, including slabs and foundations, occurred in FY05.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-45
Site Name: WET STORAGE AREA

STATUS

Parcel: Wet Storage (36 acres)

Regulatory Driver: CERCLA
RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200409	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The site was used from 1941 to 1945 to store primary explosives in water-filled tanks and metal carboys. There is no documentation concerning any spills in the area.

The COCs at this site include metals and explosives. Four of the six igloos were demolished in spring 2003-2004.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-46
Site Name: BUILDING F-15 AND F-16

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

Media of Concern: Soil, Surface Water

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200312	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

These buildings were used during WWII, the Korean Conflict and Vietnam War to test disassembly processes and munitions surveillance. Quantities and types of materials as well as exact dates of testing are unknown.

The site was transferred to NGB in May 1999. An SI/phase I RI [calendar year (CY) 2005-2006] found metals, explosives, SVOCs in soil and surface water above the agreed upon screening criteria. The phase I RI did not investigate groundwater.

All buildings, foundations, and slabs were removed from both sites in the fourth quarter of FY09. Following removal, confirmation sampling within and outside the buildings' footprint was completed in the first quarter of FY10. Analytical results will be evaluated in FY10 to determine any cleanup strategy (e.g. soil removal, clean closure, NFA).

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-48
Site Name: ANCHOR TEST AREA

STATUS

Parcel: Anchor Test Area (2 acres)

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The Anchor Test Area is located in the central part of the installation. Limited information is known about this research and development area, including dates of operation. It is believed that the site was used for testing explosively driven soil anchoring devices. It currently consists of several dirt mounds with a nearby sand pit (approximately six ft by 30 ft). There is metal debris in the area.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. Metals were found in soil above agreed upon screening levels. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-50
Site Name: ATLAS SCRAP YARD

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

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

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

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200408	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

In the 1940s, the site contained a complex of buildings that supported the principal construction and engineering company staff and included barracks type housing. After WWII, a majority of the Atlas building complex was demolished leaving the remaining portion of structures to support the installation's roads and grounds maintenance staff and equipment as well as a large contingent of railroad maintenance personnel. The post WWII structures stood until after the Vietnam War at which point all remaining buildings were demolished and the site became a storage/stockpile yard for various types of bulk materials used in the day-to-day installation operations such as gravel, railroad ballast, sand, culvert pipe, railroad ties, and telephone poles. In the mid to late-1980s, the southeastern portion of the old Atlas area became a staging area for salvaged ammunition boxes from the demilitarization of defunct Vietnam War era munitions.

This site was transferred to NGB in May 1999.

This is one of 14 sites investigated in FY04-FY05 to provide data for a future contract. Under an earlier SI/phase I RI, analyses found explosives, SVOCs, and metals present in soils, sediment, surface water and groundwater above agreed upon screening levels. A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

MEC issues are covered under RVAAP-050-R-01.

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBA (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

Site ID: RVAAP-51
Site Name: DUMP ALONG PARIS-WINDHAM ROAD

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Contaminants of Concern: Asbestos, Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Sediment, Soil

Phases	Start	End
PA	199802	199806
SI	199807	199807
RI/FS	200109	201209
IRA	200209	200409

RIP Date: N/A

RC Date: 201209

SITE DESCRIPTION

This AOC is adjacent to the Sand Creek flood plain and was used as an open dump for miscellaneous materials, including transite siding. The dates of operation for the landfill are unknown.

Collection and analyses of surface water, sediment and biological samples occurred in Sand Creek adjacent to the site. There were no detections above background levels identified in the surface water and sediment. Biological samples reflected excellent stream quality.

Debris removal was completed in January 2004. Confirmation sampling detected PAHs and asbestos close to the road within the embankment. No attempt was made to remove remaining debris within the roadbed embankment as it would have compromised the stability of Paris-Windham Road.

A focused feasibility study (FFS) was awarded in the fourth quarter of FY09 to address remaining Ohio EPA concerns. The draft FFS work plan has been reviewed by stakeholders and the final FFS work plan, fieldwork and FS report are to be completed by FY11.

CLEANUP/EXIT STRATEGY

Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66.

Site ID: RVAAP-66
Site Name: Facility-wide Groundwater

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: MEDIUM

Contaminants of Concern: Explosives, Metals, Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	198802	198804
SI	198805	198906
RI/FS	199910	201309
RA(C)	201310	201409
RA(O)	201310	202409

RIP Date: 201409

RC Date: 202409

SITE DESCRIPTION

Groundwater issues at RVAAP are managed through a facility-wide approach called the FWGWMP under RVAAP-66. The FWGWMP is a component of the DFFO, June 2004. Soil issues are addressed at the individual sites. The FWGWMP at RVAAP now consists of 237 wells and includes all IR sites and munitions response sites (MRs) at RVAAP (CR sites are excluded). The FWGWMP was approved in 2004 and monitoring was initiated in 2005 with 36 wells. A review of the FWGWMP was completed in 2007 and the program has been expanded to include all 237 monitoring wells at RVAAP.

All of the sites will remain in the RI stage for characterization of groundwater in RVAAP-66 until 2012, followed by an FS in 2013. The 2013 FS will address those sites not otherwise addressed in the PBA08, which will produce an FS for 17 of the IR sites based on data collected under RVAAP-66. Once the FS for the other sites is complete (along with the PBA08 FS, also planned for 2013), some sites may require remediation for groundwater and others may not. MNA is assumed for all of the sites as reflected in the remedial action (operation) [RA(O)] phase starting in 2014 for RVAAP-66.

Groundwater costs for the new CR sites at RVAAP are currently carried under the individual sites and may be transferred into the FWGWMP (RVAPP-66) once more data are available.

CLEANUP/EXIT STRATEGY

CTC assumptions include the following items in RI/FS:

1) Quarterly monitoring of 13 shallow wells for one year.
2) Annual monitoring of 165 shallow wells for three years.
3) Semiannual monitoring of six shallow wells for three years
4) Annual monitoring of six deep wells for three years.
5) Abandonment of 120 shallow wells in FY13.
6) FS (high complexity, moderate study detail, broad documentation for all other sites)
7) 20 replacement wells in FY13.

CTC assumptions include ten replacement wells in remedial action (construction) [RA(C)] in FY14.

CTC assumptions include the following items in RA(O):

1) Annual monitoring of 54 shallow wells for ten years

Site ID: RVAAP-66
Site Name: Facility-wide Groundwater

2) Annual monitoring of six deep wells for ten years
3) Abandonment of 120 shallow wells in FY18.

Site ID: RVAAP-67
Site Name: Facility-wide Sewers

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
RRSE: LOW

Contaminants of Concern: Explosives

Media of Concern: Soil

Phases	Start	End
PA	198802	198804
SI	198805	198906
RI/FS	199910	201309
RD	200807	201309
RA(C)	200807	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The Ravenna Army Ammunition Plant started operations in 1941 and continued intermittently until the late-1970s either loading or demilitarizing ammunition. Plant operations required processing large quantities of secondary explosives. Periodic cleaning of the process areas resulted in explosive residues in the sanitary and storm sewers and settling ponds.

Sewers thought to have transported explosive residues during plant operations are believed to be limited to the 12 process areas, Buildings 1037 (laundry) and 1039 (laboratory) in the administrative area of the plant. The sanitary sewers (approximately 28,500-ft) are assembled from either vitreous clay tile that has been lined with resin or cast iron. Storm sewers (estimated at 30,000-ft) are fabricated from either vitreous clay or corrugated galvanized steel.

Sewers were installed in trenches lined with washed gravel then covered by about six inches of gravel and backfilled with the removed soil, generally heavy clay. If the sewers leaked contaminants they should be in the gravel fill, trapped by the clay backfill. The main sources of explosives in sanitary sewers are change houses within the various load lines where coveralls were removed and people showered prior to leaving the facility, the laundry where the clothes were washed and the laboratory where small quantities of explosives were tested.

Storm sewers within the load lines were subject to contamination by virtue of wash-down procedures where explosive residue and dusts were scrubbed from the floors and washed through doorways onto the surrounding grounds and which could then migrate to the storm water drain system. Explosives could also enter the storm system from explosive filter effluent traveling to settling ponds.

Lakeshore Engineering was contracted to determine the explosive residues in sewers and make recommendations as recorded in its report, Explosive Evaluation of Sewers, dated November 2007. The Lakeshore Engineering study was done under safety qualification parameters; not quantifying the presence of any explosive deposits. The Corps of Engineers Research Laboratory performed a similar investigation of explosive contamination in the sewer system in a letter report dated June 15, 2007 which has been included in Lakeshore's report as an appendix.

Following an Ohio EPA approved work plan, Tier I (sediment and liquids) surveys/investigation were completed in the second quarter of FY10 with Tier II video analyses of critical area LAP production area sewers to be completed with final analyses report expected by late FY10.

A PBA was awarded in FY08 and will address all investigation and cleanup through RC for this site. Tasks 1 through 4 (investigations) have been awarded and task 5 (remediation) will be awarded in FY10.

Site ID: RVAAP-67
Site Name: Facility-wide Sewers

CLEANUP/EXIT STRATEGY

Cleanup will be addressed by the FY08 PBC (costs are in the PBC at Ravenna site). Non-groundwater LTM requirements are carried in RVAAP-34. Groundwater monitoring requirements are carried in RVAAP-66. No other funding requirements are anticipated.

IRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RVAAP-02	ERIE BURNING GROUNDS	200809	An NFA ROD for soil and dry sediment was signed by Ohio EPA in January 2008. Any MEC issues at the site are being covered under RVAAP-002-R-01.
RVAAP-04	OPEN DEMOLITION AREA #2	200801	An NFA ROD for soil and dry sediment was signed by Ohio EPA in January 2008. Any MEC issues at the site are being covered under RVAAP-004-R-01.
RVAAP-07	BLD 1601 HAZ WST STG	198906	Closure plan approval letter from Director of Ohio EPA, dated 02/12/1998 (with modifications). Letter from RVAAP responded with modified pages 06/26/2000. Closed under RCRA.
RVAAP-14	LOAD LINE 6 EVAPORATION UNIT	198906	Operational from 1987-1993. Not eligible for ER,A funding. Closure letter from Ohio EPA dated 20 Jan 2003
RVAAP-15	LOAD LINE 6 TREATMENT PLANT	200001	Operational from 1987-1993. Not eligible for ER,A funding.
RVAAP-16	FUZE &BOOSTER QUARRY LANDFILL/PONDS	201009	All soil and dry sediment issues are resolved with the state. Any additional issues will be addressed by the MR site RVAAP-016-R-01.
RVAAP-17	DEACTIVATION FURNACE	198906	The DFA building was closed under RCRA. Soils and groundwater were moved over to the CERCLA side of the house under the June 10, 2004 Directors Findings and Orders (see section VI (9) (c). RCRA closure plan submitted 23 Feb 2001. Soils and GW are covered under Winklepeck (RVAAP-05)
RVAAP-18	LOAD LINE 12 WWT PLANT	199703	Operational until 1983. Termination of NPDES permit effective May 1, 2000.
RVAAP-20	SAND CREEK STP	198906	Operational until 1993. Letter from Director of Ohio EPA. NPDES permit terminated May 1, 2000.
RVAAP-21	DEPOT STP	198906	Operational until 1983. NPDES was terminated May 1, 2000.
RVAAP-22	GEORGE RD STP	198906	Activities for this site are carried under CC RVAAP-75.
RVAAP-23	UNIT TRAINING EQUIPMENT SITE UST	198911	Closeout Letter from OSFM BUSTR dated 02/05/2003.
RVAAP-24	DEPOT AREA	198906	Activities for this site are carried under CC RVAAP-76.
RVAAP-25	BLD 1034 MOTOR POOL AST	198906	Not eligible for ER,A funding.
RVAAP-26	FUZE BOOSTER AREA SETTLING TANKS	200001	15 tanks scattered among LL 5 (1 tank), 7 (1 removed in 1988), 9 (2 tanks), 10 (9 tanks-1 AST, 8 USTs), 11 (3 tanks); all tanks emptied, cleaned and covered in 1971. Soils

IRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			are being investigated in conjunction with site-specific media investigation/cleanup. (RVAAP-39, -40, -42, -43, & -44)
RVAAP-27	BUILDING 854, PCB STORAGE	198906	Letter from Ohio EPA dated September 1, 1999 stating NFA.
RVAAP-30	LL 7 TREATMENT PLANT	200001	Operational until 1983. Termination of NPDES permit effective May 1, 2000.
RVAAP-31	ORE PILE RETENTION POND	200001	Termination of NPDES permit effective May 1, 2000.
RVAAP-32	40 MM FIRING RANGE	200709	All concerns are being addressed under MMRP.
RVAAP-35	1037 BUILDING-LAUNDRY WASTEWATER SUMP	199809	Activities for this site are carried under CC RVAAP-77.
RVAAP-36	PISTOL RANGE	200509	Letter from Ohio EPA regarding the delay of clean-up until range no longer used, dated February 14, 2006. Range being used by OHARNG.
RVAAP-37	PESTICIDE BUILDING S-4452	199602	Closure letter from Ohio EPA dated September 19, 2000.
RVAAP-47	BUILDING T-5301	200109	Statement of Basis - signed by RVAAP and Ohio EPA on December 07, 2000. Clean up to background/bedrock. IRA in FY00 left no contaminants in place.
RVAAP-49	CENTRAL BURN PITS	200907	NFA ROD for soil and dry sediment was submitted to and signed by the Army and Director of the Ohio EPA in July 2009.

IRP Schedule

Date of IRP Inception: 198802

Past Phase Completion Milestones

1988	
PA	(RVAAP-66 - Facility-wide Groundwater, RVAAP-67 - Facility-wide Sewers, RVAAP-01 - RAMSDELL QUARRY LANDFILL, RVAAP-02 - ERIE BURNING GROUNDS, RVAAP-03 - OPEN DEMOLITION AREA #1, RVAAP-04 - OPEN DEMOLITION AREA #2, RVAAP-05 - WINKLEPECK BURNING GROUNDS, RVAAP-06 - C BLOCK QUARRY , RVAAP-08 - LOAD LINE 1 , RVAAP-09 - LOAD LINE 2, RVAAP-10 - LOAD LINE 3, RVAAP-11 - LOAD LINE 4, RVAAP-12 - LOAD LINE 12, RVAAP-13 - BLDG 1200-DILUTION\SETTLING POND, RVAAP-15 - LOAD LINE 6 TREATMENT PLANT, RVAAP-16 - FUZE &BOOSTER QUARRY LANDFILL/PONDS, RVAAP-18 - LOAD LINE 12 WWT PLANT, RVAAP-19 - LANDFILL NORTH OF WINKLEPECK BURN GRND, RVAAP-20 - SAND CREEK STP, RVAAP-21 - DEPOT STP, RVAAP-22 - GEORGE RD STP, RVAAP-24 - DEPOT AREA, RVAAP-25 - BLD 1034 MOTOR POOL AST, RVAAP-26 - FUZE BOOSTER AREA SETTLING TANKS, RVAAP-28 - MUSTARD AGENT BURIAL SITE, RVAAP-29 - UPPER AND LOWER COBBS PONDS, RVAAP-30 - LL 7 TREATMENT PLANT, RVAAP-31 - ORE PILE RETENTION POND)
ISC	(RVAAP-23 - UNIT TRAINING EQUIPMENT SITE UST)
RFA	(RVAAP-07 - BLD 1601 HAZ WST STG, RVAAP-14 - LOAD LINE 6 EVAPORATION UNIT, RVAAP-17 - DEACTIVATION FURNACE, RVAAP-27 - BUILDING 854, PCB STORAGE)
1989	
INV	(RVAAP-23 - UNIT TRAINING EQUIPMENT SITE UST)
SI	(RVAAP-66 - Facility-wide Groundwater, RVAAP-67 - Facility-wide Sewers, RVAAP-01 - RAMSDELL QUARRY LANDFILL, RVAAP-02 - ERIE BURNING GROUNDS, RVAAP-03 - OPEN DEMOLITION AREA #1, RVAAP-04 - OPEN DEMOLITION AREA #2, RVAAP-05 - WINKLEPECK BURNING GROUNDS, RVAAP-06 - C BLOCK QUARRY , RVAAP-08 - LOAD LINE 1 , RVAAP-09 - LOAD LINE 2, RVAAP-10 - LOAD LINE 3, RVAAP-11 - LOAD LINE 4, RVAAP-12 - LOAD LINE 12, RVAAP-13 - BLDG 1200-DILUTION\SETTLING POND, RVAAP-15 - LOAD LINE 6 TREATMENT PLANT, RVAAP-16 - FUZE &BOOSTER QUARRY LANDFILL/PONDS, RVAAP-18 - LOAD LINE 12 WWT PLANT, RVAAP-19 - LANDFILL NORTH OF WINKLEPECK BURN GRND, RVAAP-20 - SAND CREEK STP, RVAAP-21 - DEPOT STP, RVAAP-22 - GEORGE RD STP, RVAAP-24 - DEPOT AREA, RVAAP-25 - BLD 1034 MOTOR POOL AST, RVAAP-26 - FUZE BOOSTER AREA SETTLING TANKS, RVAAP-28 - MUSTARD AGENT BURIAL SITE, RVAAP-29 - UPPER AND LOWER COBBS PONDS, RVAAP-30 - LL 7 TREATMENT PLANT, RVAAP-31 - ORE PILE RETENTION POND)
CS	(RVAAP-07 - BLD 1601 HAZ WST STG, RVAAP-14 - LOAD LINE 6 EVAPORATION UNIT, RVAAP-17 - DEACTIVATION FURNACE, RVAAP-27 - BUILDING 854, PCB STORAGE)
1990	
IMP(C)	(RVAAP-23 - UNIT TRAINING EQUIPMENT SITE UST)
1996	
SI	(RVAAP-37 - PESTICIDE BUILDING S-4452)
PA	(RVAAP-32 - 40 MM FIRING RANGE, RVAAP-33 - LOAD LINE 6 , RVAAP-34 - SAND CREEK DISPOSAL ROAD LANDFILL, RVAAP-35 - 1037 BUILDING-LAUNDRY WASTEWATER SUMP, RVAAP-36 - PISTOL RANGE, RVAAP-37 - PESTICIDE BUILDING S-4452, RVAAP-38 - NACA TEST AREA)
1997	
SI	(RVAAP-32 - 40 MM FIRING RANGE)
RI/FS	(RVAAP-18 - LOAD LINE 12 WWT PLANT)
1998	

1998	
SI	(RVAAP-35 - 1037 BUILDING-LAUNDRY WASTEWATER SUMP, RVAAP-39 - LOAD LINE 5 , RVAAP-40 - LOAD LINE 7 , RVAAP-41 - LOAD LINE 8 , RVAAP-42 - LOAD LINE 9, RVAAP-43 - LOAD LINE 10, RVAAP-44 - LOAD LINE 11, RVAAP-45 - WET STORAGE AREA, RVAAP-46 - BUILDING F-15 AND F-16, RVAAP-47 - BUILDING T-5301, RVAAP-48 - ANCHOR TEST AREA, RVAAP-49 - CENTRAL BURN PITS, RVAAP-50 - ATLAS SCRAP YARD, RVAAP-51 - DUMP ALONG PARIS-WINDHAM ROAD)
PA	(RVAAP-39 - LOAD LINE 5 , RVAAP-40 - LOAD LINE 7 , RVAAP-41 - LOAD LINE 8 , RVAAP-42 - LOAD LINE 9, RVAAP-43 - LOAD LINE 10, RVAAP-44 - LOAD LINE 11, RVAAP-45 - WET STORAGE AREA, RVAAP-46 - BUILDING F-15 AND F-16, RVAAP-47 - BUILDING T-5301, RVAAP-48 - ANCHOR TEST AREA, RVAAP-49 - CENTRAL BURN PITS, RVAAP-50 - ATLAS SCRAP YARD, RVAAP-51 - DUMP ALONG PARIS-WINDHAM ROAD)
1999	
SI	(RVAAP-33 - LOAD LINE 6 , RVAAP-34 - SAND CREEK DISPOSAL ROAD LANDFILL, RVAAP-36 - PISTOL RANGE, RVAAP-38 - NACA TEST AREA)
2000	
RD	(RVAAP-47 - BUILDING T-5301)
2001	
RA(C)	(RVAAP-47 - BUILDING T-5301)
2003	
IRA	(RVAAP-03 - OPEN DEMOLITION AREA #1)
PA	(PBC at Ravenna - PBA 2008)
2004	
IRA	(RVAAP-34 - SAND CREEK DISPOSAL ROAD LANDFILL, RVAAP-51 - DUMP ALONG PARIS-WINDHAM ROAD)
2005	
RI/FS	(RVAAP-36 - PISTOL RANGE)
2007	
RI/FS	(RVAAP-01 - RAMSDELL QUARRY LANDFILL, RVAAP-08 - LOAD LINE 1 , RVAAP-09 - LOAD LINE 2, RVAAP-10 - LOAD LINE 3, RVAAP-11 - LOAD LINE 4, RVAAP-32 - 40 MM FIRING RANGE)
2008	
IRA	(RVAAP-08 - LOAD LINE 1 , RVAAP-09 - LOAD LINE 2, RVAAP-10 - LOAD LINE 3, RVAAP-11 - LOAD LINE 4)
RI/FS	(RVAAP-02 - ERIE BURNING GROUNDS, RVAAP-04 - OPEN DEMOLITION AREA #2, RVAAP-16 - FUZE &BOOSTER QUARRY LANDFILL/PONDS)
2009	
RD	(RVAAP-16 - FUZE &BOOSTER QUARRY LANDFILL/PONDS)
RI/FS	(RVAAP-34 - SAND CREEK DISPOSAL ROAD LANDFILL, RVAAP-49 - CENTRAL BURN PITS)
IRA	(RVAAP-49 - CENTRAL BURN PITS)

Projected Phase Completion Milestones

See attached schedule

IRP 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: 201409

Schedule for Next Five-Year Review: 2012

Estimated Completion Date of IRP at Installation (including LTM phase): 202409

RAVENNA ARMY AMMUNITION PLANT IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
PBC at Ravenna	PBA 2008	RI/FS	■	■	■			
		RD	■	■	■			
		RA(C)	■	■	■	■		
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-01	RAMSDELL QUARRY LANDFILL	RD	■					
		RA(C)	■					
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-03	OPEN DEMOLITION AREA #1	RI/FS	■	■	■			
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-05	WINKLEPECK BURNING GROUNDS	RI/FS	■	■	■			
		IRA	■	■				
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-06	C BLOCK QUARRY	RI/FS	■	■	■			
		RD	■	■	■			
		RA(C)	■	■	■	■		
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-08	LOAD LINE 1	RD	■					
		RA(C)	■	■				
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-09	LOAD LINE 2	RD	■					
		RA(C)	■	■				
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-10	LOAD LINE 3	RD	■					
		RA(C)	■	■				
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-11	LOAD LINE 4	RD	■					
		RA(C)	■	■				
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-12	LOAD LINE 12	IRA	■					
		RA(C)	■	■	■	■		
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-13	BLDG 1200-DILUTION\SETTLING POND	RI/FS	■	■	■			
		RD	■	■	■			
		RA(C)	■	■	■	■		
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-19	LANDFILL NORTH OF WINKLEPECK BURN GRND	RI/FS	■	■	■			
		RD	■	■	■			
		RA(C)	■	■	■	■		
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-28	MUSTARD AGENT BURIAL SITE	RI/FS	■	■	■			

RAVENNA ARMY AMMUNITION PLANT IRP Schedule

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-29	UPPER AND LOWER COBBS PONDS	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-33	LOAD LINE 6	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-34	SAND CREEK DISPOSAL ROAD LANDFILL	LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-38	NACA TEST AREA	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-39	LOAD LINE 5	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-40	LOAD LINE 7	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-41	LOAD LINE 8	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-42	LOAD LINE 9	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-43	LOAD LINE 10	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-44	LOAD LINE 11	RI/FS						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-45	WET STORAGE AREA	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-46	BUILDING F-15 AND F-16	RI/FS						
		RD						
		RA(C)						

RAVENNA ARMY AMMUNITION PLANT IRP Schedule

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-48	ANCHOR TEST AREA	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-50	ATLAS SCRAP YARD	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-51	DUMP ALONG PARIS-WINDHAM ROAD	RI/FS						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-66	Facility-wide Groundwater	RI/FS						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-67	Facility-wide Sewers	RI/FS						
		RD						
		RA(C)						

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 20/5

Installation Site Types with Future and/or Underway Phases

2 Disposal Pit/Dry Well
(RVAAP-019-R-01, RVAAP-032-R-01)

2 Explosive Ordnance Disposal Area
(PBA@MR Ravenna, RVAAP-034-R-01)

4 Open Burn
(RVAAP-001-R-01, RVAAP-002-R-01, RVAAP-004-R-01, RVAAP-016-R-01)

7 Unexploded Munitions/Ordnance
(RVAAP-008-R-01, RVAAP-033-R-01, RVAAP-050-R-01, RVAAP-060-R-01, RVAAP-061-R-01, RVAAP-062-R-01, RVAAP-063-R-01)

Most Widespread Contaminants of Concern

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

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY	Cost
RVAAP-004-R-01	OPEN DEMOLITION AREA #2	IRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	2008	$264.0 K
RVAAP-004-R-01	OPEN DEMOLITION AREA #2	IRA	UXO CLEARANCE	2010	TBD

Duration of MMRP

Year of MMRP Inception: 200209

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201909/201909

Date of MMRP completion including Long Term Management (LTM): 202709

MMRP Contamination Assessment

Contamination Assessment Overview

In October 2007 a CERCLA SI was completed at RVAAP to initially assess the MRSs at the facility. The MRSs were addressed by the US Army. The MMRP SI activities included historical records reviews (HRRs), magnetometer assisted unexploded ordnance (UXO) surveys, and sampling and laboratory analysis of surface soils. The results of these activities are presented in Engineering-Environmental Management, Inc. (e2M) Final SI report, dated May 2008.

Nineteen MRSs were originally identified at RVAAP. Two of the MRSs became ineligible for the MMRP because of their redevelopment as active operational ranges. As such, they were not investigated during the SI. The MRSs not eligible for the MMRP include: the Winklepeck Burning Grounds (RVAAP-005-R-01) and the Old Hayfield (RVAAP-064-R-01).

The Winklepeck Burning Ground MRS had also been formerly addressed with BRAC and IRP funding. Chemical contamination at this MRS was addressed under the IRP, whereas BRAC funding was used to address explosive safety.

Overall, only 14 sites were determined to require further investigation by the SI. In addition to the two sites removed from further consideration as describe above, three sites were recommended by the SI for NFA. These sites are: Anchor Test Area (RVAAP-048-R-01), LL12 (RVAAP-012-R-01), and Building F15/F16 (RVAAP-046-R-01).

Cleanup Exit Strategy

The 2009 PBA was awarded. The RIs will be completed at all MMRP sites by 2014, and RIP/RC will be completed at all MMRP sites by 2019.

MMRP Previous Studies

	Title	Author	Date
2003			
	Final US Army Closed, Transferring and Transferred Range/Site Inventory for Ravenna Army Ammunition Plant, Ohio	engineering-environmental Management, Inc.	NOV-2003
2004			
	Archives Search Report for the Ravenna Army Ammunition Plant	US Army Corps of Engineers	JUN-2004
2007			
	Military Munitions Response Program Historical Records Review, Ravenna Army Ammunition Plant, Ohio	e2M	JAN-2007
	Final Work Plan for the Military Munitions Response Program, Munitions Response Sites Site Inspection	Engineering-Environmental Management, Inc.	SEP-2007
	Final Work Plan for Sand Creek Survey Rocket Ridge Area of Open Demolition Area #2 Military Munitions Response Program Time Critical Response Action	Engineering-Environmental Management, Inc.	OCT-2007
2008			
	Final Site Inspection for the Military Munitions Response Program	Engineering-Environmental Management, Inc.	MAY-2008

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess

Military Munitions Response Program
Site Descriptions

Site ID: PBA@MR Ravenna
Site Name: PBA@MR Ravenna

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: No known or suspected hazard

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200905	201409
RD	200905	201909
RA(C)	200905	201909

RIP Date: N/A

RC Date: 201909

SITE DESCRIPTION

This site tracks funding requirements of a PBA that was awarded in FY09 (PBA09) and addresses 14 MR sites. Seven of the sites (RVAAP-001-R-01, 004-R-01, 008-R-01, 019-R-01, 033-R-01, 050-R-01, and 060-R-01) received base award funding in FY09 for all requirements through the ROD, except for RVAAP-008-R-01 and 033-R-01, which were funded through RIP.

The other seven sites (RVAAP-002-R-01, 016-R-01, 032-R-01, 034-R-01, 061-R-01, 062-R-01, and 063-R-01) have received option awards in FY10. All sites are funded through the ROD except for RVAAP-034-R-01 and 062-R-01, which is funded through RIP. Additional options are scheduled to address LTM for RVAAP-033-R-01 and 034-R-01 once RIP is achieved, currently scheduled for award in FY14.

Funding for the anticipated FY14 options and USACE oversight are carried in this site.

CLEANUP/EXIT STRATEGY

All 14 MR sites will undergo RI/FS activities under the PBA09 and will be funded through the ROD. Four of the MR sites will be funded through RIP. All 14 sites have been funded: RVAAP-001-R-01, 004-R-01, 008-R-01, 019-R-01, 033-R-01, 050-R-01, and 060-R-01 in FY09 and RVAAP-002-R-01, 016-R-01, 032-R-01, 034-R-01, 061-R-01, 062-R-01, and 063-R-01 in FY10. LTM options for RVAAP-033-R-01 and RVAAP-034-R-01 are carried here for award in FY14.

This site also carries USACE oversight funding for the PBA.

Site ID: RVAAP-001-R-01
Site Name: RAMSDELL QUARRY

STATUS

Parcel: Ramsdell Quarry Landfill (15 acres)

Regulatory Driver: CERCLA
MRSPP Score: 05

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200810	201209
RD	201210	201309
RA(C)	201310	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

During the period 1946 to 1950, Ramsdell Quarry was used to thermally treat waste explosives and napalm bombs. No historic information has been located for the period of 1950-1976. From 1976, the site was used as a nonhazardous solid waste landfill. The site was permitted as a sanitary landfill in 1978 by the state of Ohio until its closure in 1990.

The MRS is comprised of two separate areas: a northern area where OB/OD operations were conducted in a former quarry, and a southern area that contains a small inactive quarry and wooded area where installation personnel had found MD. The northern quarry area is collocated with an IRP AOC.

The final SI was completed in May of FY08. For the SI fieldwork, a magnetometer and metal detector assisted UXO survey was conducted in the northern quarry area and at the southern quarry area, where little historical data exists. Subsurface anomalies were detected at the northern quarry, specifically around the pond; however, no evidence of MEC was observed at the MRS. Large caliber MD was found at two locations in the southern quarry during the SI fieldwork. The potential presence of MEC in the pond in the northern quarry area (Area 1) and MC in the southern quarry area (Area 2) will require additional investigation under future CERCLA actions.

A PBA was awarded in July FY09 (as PBA09) for RVAAP-001-R-01 to address RI work for this site, with the objective of an RI report in three years. RVAAP-01 addressed IR concerns at this location. This site is 13.4 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 8,066 cubic yards of soil (expanded volume) and MEC clearance (four ft depth) of three acres. The LTM includes LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-002-R-01
Site Name: ERIE BURNING GROUNDS

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 03

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

Media of Concern: Sediment

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Erie Burning Grounds was used from 1941 to 1951 to thermally treat bulk, obsolete, off-spec propellants, conventional explosives, rags, and large explosive contaminated items (e.g., railcars) through open burning on the ground surface. The MRS is collocated with an IRP AOC.

The final SI was completed in May of FY08. During the SI, several subsurface anomalies were detected in the northwestern and central portions of the MRS; however, no MEC was observed. Further, several subsurface anomalies were detected in the southwestern portion of the MRS and one possible MEC item was found partially buried northwest of the wooded area. MEC is also expected in the flooded sections of the MRS and will require further investigation under future CERCLA actions.

A PBA was awarded July FY09 and contains an option for an RI at RVAAP-002-R-01 that is scheduled to begin in FY10 and be completed within three years. RVAAP-02 addressed soil and dry sediment IR concerns at this location. This site is 33.9 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 2,420 cubic yards of soil (expanded volume) and MEC clearance (four ft depth) of three acres. The LTM phase includes LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-004-R-01
Site Name: OPEN DEMOLITION AREA #2

STATUS

Parcel: Open Demolition Area No. 2 (25 acres)

Regulatory Driver: CERCLA
MRSPP Score: 03

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

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

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200810	201209
RD	201210	201309
IRA	200710	201009
RA(C)	201310	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

The Open Demolition Area #2 MRS was used from 1948 until 1991 to detonate large caliber munitions and off-specification bulk explosives and for burial of white phosphorus and bombs of unknown type. The MRS is collocated with an IRP AOC (RVAAP-04). The MRS consists of the former demolition area; Burial Sites 1 and 2; Rocket Ridge; the Bomb Disposal Area located adjacent to the northwestern section of the MRS; and all areas in between.

The final SI was completed in May of FY08. MEC was found at Rocket Ridge, the Bomb Disposal Area, Burial Site 2, and on the hill across Sand Creek from Rocket Ridge. At Rocket Ridge, observed MEC included T-bar fuzes, white phosphorus rifle grenades, and possibly 500-lb bombs. One partially buried fuze, considered MEC, was found at the Bomb Disposal Area. A partially buried fuze, considered MEC, was also found at Burial Site 2. On the hill directly across (i.e., north) from Rocket Ridge, two 40 mm cartridges (considered MEC) with intact primers were found. MD was found throughout the MRS and consisted of demilitarized 155mm projectiles, remnants of 40mm rounds, casing fragments from large caliber projectiles, and remnants of donor charge bags.

Rocket Ridge, where MEC items have been discarded on the ground surface and into Sand Creek, is located along a 70 ft embankment northeast of Building 1503 overlooking Sand Creek. In June 2007 a white phosphorous grenade detonated at Rocket Ridge. A first time-critical removal action (TCRA) was conducted in May 2008 for abating potential munitions migration during high stream storm events via the installation of steel mesh barrier screens within the main stream channel of Sand Creek. A second TCRA for four suspected conventional MEC items from Rocket Ridge was executed during the third quarter of FY09 and was completed in the fourth quarter of FY09. During this phase, the three suspected 500-pound (lb) bombs were determined to be MD and a 105 mm shell was determined to be live and was blown in place. Additionally, Rocket Ridge was divided into two sections. One is contaminated with white phosphorous rifle grenade rounds. The other is contaminated with miscellaneous MEC and MD. The maximum fragmentation distance is based on a 105 mm projectile. Additionally, this investigation provided volume estimates and types of materials that need to be removed during the third phase of the TCRA which is scheduled for the third quarter of FY10.

A PBA was awarded in July FY09 for RVAAP-004-R-01 to address RI work for this site, with the objective of a final RI report in three years. RVAAP-04 addressed IR concerns for soil and dry sediment at this location. This site is 35.4 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. CTC assumptions for the RA(C) include MEC clearance (four ft depth) of eight acres and excavation and off-site disposal of 6,454 cubic yards of soil (expanded volume). LTM includes LUCs for 10 years and

two five-year reviews.

Site ID: RVAAP-008-R-01
Site Name: LOAD LINE #1

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 05

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200810	201109
RD	200909	201209
RA(C)	200909	201509
LTM	201510	202409

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

Load Line 1 operated from approximately 1941 to 1971 for loading various types of projectiles. Additionally, ordnance was demilitarized at this site from 1973 to 1974. Load Line 1 was used to melt and load TNT and Composition B explosives into large-caliber shells during WWII and the Korean War. Workers, on a weekly basis during operations, would periodically use steam and hot water to hose down equipment and the floors and walls of buildings contaminated with explosive dust, spills, and vapors. Wash-down water from the melt-pour buildings was also swept out through doorways onto the ground surrounding the buildings. Wash-down water and wastewater from the load line operations that collected in concrete sumps was pumped through sawdust filtration units and then discharged to an off-AOC settling pond. The settling pond was an unlined rectangular-shaped pond approximately one acre in size and two to four ft deep. Water from the impoundment discharged to a stream that ultimately exited from the southern end of the installation.

The final SI was completed in May of FY08. The MRS consists of approximately one half acre of the Load Line 1 site and is composed of several areas associated with Buildings CB-13/CB-13B, and CB-14, and areas where triple base propellants still exist.

A PBA was awarded in FY09 to address work for this site through RC. The performance objective is to achieve RIP/RC in five years. RVAAP-08 addresses IR concerns at this location.

CLEANUP/EXIT STRATEGY

CTC assumptions for the LTM include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-016-R-01
Site Name: FUZE AND BOOSTER QUARRY

STATUS

Parcel: 40MM Test Range/Waterworks Ponds (58 acres)

Regulatory Driver: CERCLA
MRSPP Score: 05

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

Media of Concern: Sediment, Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Fuze and Booster Quarry (FBQ) MRS consists of three elongated ponds separated by berms which were constructed within an abandoned rock quarry. The ponds were used for open burning of various types of munitions from 1945 to 1975. The MRS is collocated with an IRP AOC (RVAAP-16).

The final SI was completed in May of FY08. No MEC was observed during the SI; however, MD was found on the southeastern side of the southern pond. It is suspected that subsurface anomalies identified during the MMRP SI represent buried MD and possibly MEC. Additionally, RVAAP personnel have indicated presence of potential MEC in the northern and southern ponds when water levels are low. The bottoms of the ponds have not been investigated

The PBA awarded in FY09 contains an option for an RI at RVAAP-016-R-01 that is scheduled to begin in FY10 and be completed within three years. RVAAP-16 addresses IR concerns at this location. This site is 4.9 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. CTC assumptions for the RA(C) include MEC clearance (four ft depth) of two acres and excavation and off-site transportation of 3,226 cubic yards of soil (expanded volume). The LTM phase will include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-019-R-01
Site Name: LANDFILL NORTH OF WINKLEPECK

STATUS

Parcel: Landfill North of Winklepeck (5 acres)

Regulatory Driver: CERCLA
MRSPP Score: 05

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

Media of Concern: Sediment, Soil, Surface Water

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200810	201209
RD	201210	201309
RA(C)	201310	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

The Landfill North of Winklepeck accepted general plant refuse, explosive wastes residue, and OB waste including flares and booster cups from Winklepeck Burning Grounds. The landfill was used from 1969 to 1976. The MRS consists of the landfill (RVAAP-19), the slope area, and an adjacent small stream where MEC was reportedly found.

The final SI was completed in May of FY08. No MEC was discovered during the SI, although MD was found.

A PBA was awarded in FY09 for RVAAP-019-R-01 to address RI work for this site, with the objective of an RI report in three years. RVAAP-19 addresses IR concerns at this location. This site is 2.3 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RIFS include an FS. The RA(C) includes excavation and off-site disposal of 3,226 cubic yards of soil (expanded volume) and MEC clearance (four ft depth) of two acres. The LTM phase will include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-032-R-01
Site Name: 40MM FIRING RANGE

STATUS

Parcel: 40MM Test Range/Waterworks Ponds (58 acres)

Regulatory Driver: CERCLA

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The 40mm Firing Range MRS is a former test range for the 40mm cartridge and is surrounded by forest. The MRS was used from 1969 to 1971. The MRS is collocated with an IRP site (RVAAP-32). The impact area was sited in the western portion of the MRS while the firing point was sited at the opposite end. UXO was reported to be present beyond the impact area, on the slope that leads down to the FBQ MRS.

The final SI was completed in May of FY08. MEC was not discovered during the SI; however, MD was found scattered from the target point to a point approximately 100 ft beyond the former impact area.

The PBA awarded in FY09 contains an option for an RI at RVAAP-032-R-01 that is scheduled to begin in FY10 and be completed within three years. This site is 1.3 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes MEC clearance (four ft depth) of one acre. The LTM phase will include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-033-R-01
Site Name: FIRESTONE TEST FACILITY

STATUS

Parcel: Load Line 6 (43 acres)

Regulatory Driver: CERCLA
MRSPP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200810	201109
RD	200909	201209
RA(C)	200909	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

The Firestone Test Facility MRS consisted of two buildings used as test chambers for tube-launched, optically-tracked, wire-guided (TOW) missiles and Dragon missiles, and a pond and two test chambers where shaped charges were tested under water. The site was used from the late-1960s to 1992. The former test chambers have been demolished and all of the debris removed. The test chamber foundations remain. Another suspect area was included in the SI fieldwork that consists of a small clearing and piles of dirt and large timbers. The MRS is collocated with an IRP AOC Load Line 6 (RVAAP-33).

The final SI was completed in May of FY08. Neither MEC nor MD were discovered during the SI of the two former missile test chambers locations and the small clearing. Only a few subsurface anomalies were recorded. Neither MEC nor MD were observed lying on the ground surface at the pond and associated location of the former shaped charge test chamber; however, multiple closely spaced subsurface anomalies were detected around the pond and the location of the test chamber. The submerged portion of the pond was not investigated under the SI.

A PBA was awarded in FY09 to address work for this site through RC. The performance objective is to achieve RIP/RC in five years. RVAAP-33 addresses IR concerns at this location. This site is 0.4 acres.

CLEANUP/EXIT STRATEGY

CTC assumptions for the LTM phase include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-034-R-01
Site Name: SAND CREEK DUMP

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 04

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Sediment, Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201309
RD	201004	201409
RA(C)	201004	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Sand Creek Dump MRS, which is collocated with an IRP AOC (RVAAP-34), is undeveloped land that stretches along the banks of Sand Creek for approximately 1,000 ft. The Sand Creek Dump was used as a disposal site (1950 to 1960) for concrete, wood, asbestos debris, lab bottles, 55-gallon drums and fluorescent light tubes. Debris remains at the site. RVAAP-34 addresses IR concerns at this location.

During a surface IRA performed in October 2003, two 75mm inert projectiles were discovered at this site. MEC was not discovered during the SI; however, one empty 105mm projectile was discovered in Sand Creek downstream of the former dump. The MMRP SI was completed in FY08 which recommended further investigation to address a potential MEC concern along a reach of Sand Creek. A last quarter FY08 contract for a full geophysical investigation of the affected stream bank area is scheduled for FY10.

The PBA awarded in FY09 contains an option for RIP/RC at RVAAP-034-R-01 that is scheduled to begin in FY10. The performance objective is to achieve RIP/RC in five years. This site is 0.9 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the LTM phase include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-050-R-01
Site Name: ATLAS SCRAP YARD

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: Evaluation pending

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200907	201209
RD	201210	201309
RA(C)	201310	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

The Atlas Scrap Yard MRS, which is collocated with IRP AOC RVAAP-50, consists of mostly open land that contains a network of roads. Originally used as a construction camp, the MRS was formerly used for scrap storage and currently consists of scattered piles of debris.

During the 2004 -2005 IRP RI, MEC was discovered in the southwest corner of the site. Most of the MEC and MEC scrap was removed under a separate contract. Accessible areas were later surveyed during the MMRP SI. The final MMRP SI was completed in May of FY08. No MEC or MD were found lying on the ground surface, and only a few scattered subsurface anomalies were detected. In the north-central section, no MEC or MD was observed lying on the ground surface around or on top of the debris piles. No MEC or MD was observed lying on the ground surface in the east-central section of the MRS. Areas known to have been previously used for storage of MEC and MD were calculated to be roughly two acres.

A PBA was awarded in FY09 for RVAAP-050-R-01 to address RI work for this site, with the objective of an RI report in three years. RVAAP-50 addresses IR concerns at this location. This site is 66 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes MEC clearance (four ft depth) of two acres and excavation and off-site disposal of 3,226 cubic yards of soil (expanded volume). The LTM phase includes LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-060-R-01
Site Name: BLOCK D IGLOO

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 05

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	200907	201209
RD	201210	201309
RA(C)	201310	201509
LTM	201510	202509

RIP Date: N/A

RC Date: 201509

SITE DESCRIPTION

The Block D Igloo MRS resulted when fuzed bombs in Igloo 7-D-15 (D Block) exploded on March 24, 1943. The initial 3,000-ft radial MRS boundary was established by the USACE, Huntsville District to capture the probable debris field resulting from the explosion and was based on the type of munitions stored in the bunker at the time of the explosion. In 1943 a response action was performed by USACE immediately after the explosion. As described below, the area of this MRS was adjusted based on the 2008 SI findings.

The final SI was completed in May of FY08. During the 2008 SI, a magnetometer/metal detector assisted UXO survey was conducted within and around the former igloo and at four documented locations where explosion-related debris was found. Neither MEC nor MD were found within the interior of the former igloo and within a circumference of approximately 100 feet surrounding this area. At the four documented debris locations, no visual evidence of MEC and/or MD was found, and very few subsurface anomalies were detected.

Based on the observations and findings of the UXO survey, MEC and/or MD are not present at these locations; however, no such declaration can be made for the remaining areas that were not included in the SI fieldwork.

A PBA was awarded in June FY09 for RVAAP-060-R-01 to address RI work for this site, with the objective of an RI report in three years. This site is 340 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes MEC clearance (four ft depth) of two acres and excavation and off-site disposal of 1,009 cubic yards of soil (expanded volume). The LTM phase includes LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-061-R-01
Site Name: BLOCK D IGLOO -TD

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 04

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Block D Igloo MRS resulted when fuzed bombs in Igloo 7-D-15 ("D" Block) exploded on March 24, 1943. The transferred (TD) in the site name indicates that this is land that is located outside of the installation property boundary. The initial 3,000-ft radial MRS boundary was established by the USACE, Huntsville District to capture the probable debris field resulting from the explosion and was based on the type of munitions stored in the bunker at the time of the explosion. The 2008 HRR identified an acreage of 19.25 for the off-site portion. This area was investigated during the 2008 MMRP SI and it was determined that NFA was required to address MEC or MC; however, the 2008 SI did identify a new area of land that may potentially contain debris. The new area consists of 14.13 acres and will require additional characterization work during the MMRP RI to address any potential MC and MEC issues.

The PBA (PBA09) was awarded in June FY09 and contains an option for an RI at RVAAP-061-R-01 that is scheduled to begin in FY10 and be completed within three years.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes MEC clearance (one ft depth) of five acres. The LTM includes LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-062-R-01
Site Name: WATER WORKS #4 DUMP

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 06

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201309
RD	201004	201409
RA(C)	201004	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Water Works #4 Dump MRS is an approximate 0.77 acre open area located immediately west of Water Works No.4 and Load Line 7, in the southwestern portion of RVAAP. The MRS boundary identified in the US Army closed, transferred, and transferring (CTT) range/site inventory was not accurate. The actual MRS is located approximately 400 ft to the east.

The final SI was completed in May of FY08. During the MMRP SI, no MEC or MC was identified, although further characterization is needed to confirm presence/absence. MD was found during the MMRP SI and several subsurface anomalies were also detected in the open field.

The PBA (PBA09) was awarded in June FY09 and contains an option for RIP/RC at RVAAP-062-R-01 that is scheduled to begin in FY10. The performance objective is to achieve RIP/RC in five years.

CLEANUP/EXIT STRATEGY

CTC assumptions for the LTM include LUCs for 10 years and two five-year reviews.

Site ID: RVAAP-063-R-01
Site Name: Group 8 MRS

STATUS

Parcel: NONE

Regulatory Driver: CERCLA
MRSPP Score: 04

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

Media of Concern: Soil

Phases	Start	End
PA	200209	200312
SI	200509	200805
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Group 8 MRS consists of most of the area between Buildings 846 and 849. This area is disturbed land that may have historically been used for debris and rubbish burning. In 1996, one loaded anti-personnel fragmentation bomb (referred to as a hammerhead anti-personnel bomb) was found at the MRS. MEC, MD and MC were identified during the MMRP SI.

The PBA (PBA09) was awarded in June FY09 and contains an option for an RI at RVAAP-063-R-01 that is scheduled to begin in FY10 and be completed within three years.

This site is 2.6 acres in size.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 1,614 cubic yards of soil (expanded volume) and MEC clearance (four ft depth) of one acre. LTM will include LUCs for 10 years and two five-year reviews.

MMRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RVAAP-005-R-01	WINKLEPECK BURNING GROUNDS	200603	Operational Range. Ineligible for ER,A funding.
RVAAP-012-R-01	LOAD LINE #12	200805	The May 2008 Final SI recommended NFA for the site.
RVAAP-046-R-01	BUILDING #F-15 AND F-16	200805	The May 2008 Final SI recommended NFA for the site.
RVAAP-048-R-01	ANCHOR TEST AREA	200805	The May 2008 Final SI recommended NFA for the site.
RVAAP-064-R-01	Old Hay Field MRS	200805	Operational Range. Ineligible for ER,A funding.

MMRP Schedule

Date of MMRP Inception: 200209

Past Phase Completion Milestones

2004

PA	(RVAAP-012-R-01 - LOAD LINE #12, RVAAP-064-R-01 - Old Hay Field MRS, RVAAP-046-R-01 - BUILDING #F-15 AND F-16, RVAAP-063-R-01 - Group 8 MRS, RVAAP-061-R-01 - BLOCK D IGLOO -TD, RVAAP-016-R-01 - FUZE AND BOOSTER QUARRY, RVAAP-002-R-01 - ERIE BURNING GROUNDS, RVAAP-004-R-01 - OPEN DEMOLITION AREA #2, RVAAP-060-R-01 - BLOCK D IGLOO, RVAAP-050-R-01 - ATLAS SCRAP YARD, RVAAP-048-R-01 - ANCHOR TEST AREA, RVAAP-032-R-01 - 40MM FIRING RANGE, RVAAP-008-R-01 - LOAD LINE #1, RVAAP-019-R-01 - LANDFILL NORTH OF WINKLEPECK, RVAAP-005-R-01 - WINKLEPECK BURNING GROUNDS, RVAAP-062-R-01 - WATER WORKS #4 DUMP, RVAAP-001-R-01 - RAMSDELL QUARRY , RVAAP-033-R-01 - FIRESTONE TEST FACILITY, PBA@MR Ravenna - PBA@MR Ravenna, RVAAP-034-R-01 - SAND CREEK DUMP)

2008

SI	(RVAAP-034-R-01 - SAND CREEK DUMP, RVAAP-012-R-01 - LOAD LINE #12, RVAAP-064-R-01 - Old Hay Field MRS, RVAAP-046-R-01 - BUILDING #F-15 AND F-16, RVAAP-063-R-01 - Group 8 MRS, RVAAP-061-R-01 - BLOCK D IGLOO -TD, RVAAP-016-R-01 - FUZE AND BOOSTER QUARRY, RVAAP-002-R-01 - ERIE BURNING GROUNDS, RVAAP-004-R-01 - OPEN DEMOLITION AREA #2, RVAAP-060-R-01 - BLOCK D IGLOO, RVAAP-050-R-01 - ATLAS SCRAP YARD, RVAAP-048-R-01 - ANCHOR TEST AREA, RVAAP-032-R-01 - 40MM FIRING RANGE, RVAAP-008-R-01 - LOAD LINE #1, RVAAP-019-R-01 - LANDFILL NORTH OF WINKLEPECK, RVAAP-062-R-01 - WATER WORKS #4 DUMP, RVAAP-001-R-01 - RAMSDELL QUARRY , RVAAP-033-R-01 - FIRESTONE TEST FACILITY, PBA@MR Ravenna - PBA@MR Ravenna)

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: 201909

Schedule for Next Five-Year Review: 2012

Estimated Completion Date of MMRP at Installation (including LTM phase): 202709

RAVENNA ARMY AMMUNITION PLANT MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
PBA@MR Ravenr	PBA@MR Ravenna	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-001-R-0	RAMSDELL QUARRY	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-002-R-0	ERIE BURNING GROUNDS	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-004-R-0	OPEN DEMOLITION AREA #2	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-008-R-0	LOAD LINE #1	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-016-R-0	FUZE AND BOOSTER QUARRY	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-019-R-0	LANDFILL NORTH OF WINKLEPECK	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-032-R-0	40MM FIRING RANGE	RI/FS						
		RD						
		RA(C)						
		LTM						

RAVENNA ARMY AMMUNITION PLANT MMRP Schedule

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-033-R-0	FIRESTONE TEST FACILITY	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-034-R-0	SAND CREEK DUMP	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-050-R-0	ATLAS SCRAP YARD	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-060-R-0	BLOCK D IGLOO	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-061-R-0	BLOCK D IGLOO -TD	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-062-R-0	WATER WORKS #4 DUMP	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
RVAAP-063-R-0	Group 8 MRS	RI/FS						
		RD						
		RA(C)						
		LTM						

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 13/0

Installation Site Types with Future and/or Underway Phases

1 Sewage Treatment Plant
(CC RVAAP-75)

7 Spill Site Area
(CC RVAAP-68, CC RVAAP-70, CC RVAAP-72, CC RVAAP-74, CC RVAAP-76, CC RVAAP-77, CC RVAAP-78)

3 Storage Area
(CC RVAAP-73, CC RVAAP-79, CC RVAAP-80)

2 Surface Disposal Area
(CC RVAAP-69, CC RVAAP-83)

Most Widespread Contaminants of Concern

Asbestos, Explosives, Herbicides, Metals, Other (Propellants), Other (Solid Waste), Other (potassium dichromate), Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY	Cost
N/A					

Duration of CR

Year of CR Inception: 200809

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201909/201909

Date of CR completion including Long Term Management (LTM): 202709

CR Contamination Assessment

Contamination Assessment Overview

Thirteen CR sites have been identified at the former RVAAP facility. The sites were identified during the time period FY09-FY10, and consist of new AOC's that qualify for environmental investigation and remediation under the Army's IRP expanded guidelines. The guidelines were expanded in December 2008 to extend the time period for eligible sites from Oct 17, 1986 to present day activities. The CR sites are now scheduled for initial investigation pursuant to the CERCLA process in FY10 and FY11. The RI/FS phases are scheduled for completion by 2013 and RA(C) phases are scheduled for completion by 2016. LTM may be required at several of the CR sites beginning in 2017. Site-specific details can be found under the individual site descriptions.

Cleanup Exit Strategy

Achievement of RC is expected by the beginning of FY17 for all CR sites. LTM requirements may be needed for some sites starting towards the end of FY17.

CR Previous Studies

Title	Author	Date
There are no Previous Studies		

RAVENNA ARMY AMMUNITION PLANT

Non-BRAC Excess

Compliance Restoration

Site Descriptions

Site ID: CC RVAAP-68
Site Name: ELECTRIC SUBSTATIONS (E,W,No. 3)

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

Electricity for the installation was purchased from the Ohio Edison Company. The electricity was supplied from Newton Falls and Garrettsville, Ohio. Distribution occurred through three substations, each having approximately 24,000 volts. Three of these substations are included in this site.

The east electrical substation is located in close proximity to the intersection of Remalia Road and Load Line No. 2 Road. The substation comprises an area of approximately 12,300 square ft, which includes the land surrounding Building 25-27. There are no documented releases; however, aerial photographs and visual observations demonstrate stressed vegetation and staining outside the building, and around the former transformers. VOCs, SVOCs, and PCBs are possible COCs for soil.

The west electrical substation is located west of Load Line 5 on Fuze & Booster Service Road. The substation comprises an area of approximately 3,000 square ft, which includes the land around Building 28-28 and the surrounding land formerly used as the transformer station. This AOC excludes building 28-28. One spill of approximately 500 gallons of transformer fluid occurred on the north side of the building. The impacted area was cleaned up by Emerald Environmental in 1997. Possible impacted soils may exist outside the building around the former transformers. VOCs, SVOCs, and PCBs are possible COCs for soil.

Substation No. 3 is located in the Fuze & Booster service area between Load Lines 10 and 11. The substation comprises an area of approximately 10,000 square ft. The substation and all transformer equipment have been removed from the site. There are no documented releases; however, aerial photographs and visual observations demonstrate stressed vegetation and staining outside the building, and around the former transformers. VOCs, SVOCs, and PCBs are possible COCs for soil.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a Site Inspection) to assess potential environmental impacts at the site.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 721 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-69
Site Name: Building 1048 - Fire Station

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Volatiles (VOC)

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609
LTM	201610	202409

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

The Building 1048- Fire Station was located in the plant administration area in the northwest quadrant of the intersection of George Road and South Service Road. In 1968, the fire station was referred to as the Fire and Guard Building, and consisted of 12,130 square ft. The fire station building was demolished in late 2008, and the site currently remains undeveloped.

Reportedly, it was common practice for the fire department to clean out fire extinguishers behind the west side of the fire building, and to allow the contents of the fire extinguishers (carbon tetrachloride) to spill onto the ground surface. The area of potential impact (ground surface behind building) is approximately 28,000 square ft. Based on the reported historical practices used at the site, it is anticipated that a release(s) of carbon tetrachloride has occurred at the site and further assessment is warranted to characterize the environmental quality of the soils and groundwater at this location.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a Site Inspection) to assess potential environmental impacts at the site.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an RI, FS, and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 148 cubic yards of soil (expanded volume). LTM includes annual monitoring of five wells for eight years and abandonment of the wells.

Site ID: CC RVAAP-70
Site Name: East Classification Yard

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Herbicides, Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609
LTM	201610	202609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

The Ravenna facility was originally equipped with east and west classification yards during its early operational years. The classification yards were used for the switching and maintenance of railroad cars. The East Classification Yard is located east of Load Line 1 in close proximity to the intersection of Ramsdell Road and Irons Road. The rail yard reportedly consisted of 18 tracks with a 750 car capacity, and 3 Hi-X tracks with a 120 car capacity, which also included the washrack south of the main track area. This yard was equipped with a locomotive repair building (Round House) and a herbicide storage shed. The area surrounding the locomotive Round House and herbicide storage area consists of approximately 20,000 square ft. The shed contained a mobile herbicide tank. No documented releases are available; however, it is thought the soils located in close proximity to the Round House and the former herbicide storage shed may have been impacted by historical operations in these areas. These operations may have included impacts from oily residue containing PCBs, and other lubricants and oils and the cleaning or degreasing operations using organic-based solvents.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the site.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an RI, FS, and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 593 cubic yards of soil (expanded volume). LTM includes annual monitoring of six wells for 10 years and abandonment of the wells.

Site ID: CC RVAAP-72
Site Name: Facility-wide USTs

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

Facility records document the former presence and use of 45 underground storage tanks (USTs) at the Ravenna facility. Approximately 34 of the USTs were installed in 1941, with the remaining USTs installed between 1941 and 1981. The USTs were used for the storage of gasoline, diesel fuel, No. 5 heating oil, and No. 6 fuel oil. When not in use, the USTs were reportedly filled with potassium dichromate to prevent corrosion. Readily available records suggest that nearly all of the USTs have been closed by removal, and the tanks have been scrapped.

Closure documents and official tank status records have not been obtained for most of the USTs. As such, additional records searches are required to further characterize the USTs. It is anticipated that a small percentage of the facility USTs may not have accomplished sufficient closure per State requirements, and that additional assessment may be warranted. Petroleum impacted soils and/or groundwater may exist at the former UST sites.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former UST sites.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an RI and FS. The RA(C) includes excavation and off-site disposal of 593 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-73
Site Name: Facility-wide Coal Storage

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

Facility records document the former presence of 17 coal storage locations at the Ravenna facility. Coal was historically used to fuel powerhouses and various other buildings at the site. Typically, coal storage consisted of placing the coal on the ground surface as surface piles or in railcars adjacent to the subject buildings. The total area of potentially impacted media associated with the coal consists of approximately 222,500 square ft (about 5 acres). Coal storage occurred at the following locations on the Ravenna property:

1) Load Line 1 Powerhouse
2) Load Line 2 Powerhouse
3) Load Line 4 Powerhouse
4) Load Line 12 Powerhouse
5) Building F-15
6) Building F-16
7) Atlas Scrap Yard
8) North Line Road Coal Tipple
9) Sand Creek Coal Tipple
10) East Classification Yard Round House
11) Administration Area
12) Depot Area Building U-5
13) Depot Area Building U-14
14) Fuze and Booster Road Powerhouse No. 5
15) Fuze and Booster Road Inert Storage No. 2F-N21
16) Fuze and Booster Service Road Powerhouse, and
17) Area 6 Inert Storage

Available historical aerial photographs and site observations indicate that coal residue may still remain on or at the ground surface at the above-described locations. As such, the surface soils may be impacted by typical coal contaminants (PAHs, metals).

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former coal storage sites.

Site ID: CC RVAAP-73
Site Name: Facility-wide Coal Storage

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 4,019 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-74
Site Name: BLDG 1034 Motor Pool Hydraulic Lift

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609
LTM	201610	202409

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

An in-ground hydraulic floor lift system located at Building 1034 has been identified. The hydraulic floor lift system is depicted in a 1969 drawing as a twin-post lift system constructed of metal. The below-grade system consists of a cast in concrete L-shaped pit measuring approximately 12 ft in length and four ft in length, three ft in width, and four ft in height. The pit is reportedly buried at depths ranging from four ft bsg to approximately eight ft bgs. The twin-post lift reportedly has a clearance of six ft between the floor surface and the bottom of the lift (height in the air). The floor lift system remains in place, and has reportedly exhibited a slow leak of hydraulic fluids for an extended period of time. The potential COCs associated with the floor lift system are total petroleum hydrocarbons (TPH), PAHs, and PCBs.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former hydraulic lift site.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 111 cubic yards of soil (expanded volume), a 100 square ft building demolition, and removal of a 500 gallon tank. LTM includes annual monitoring of four wells for eight years and abandonment of the wells.

Site ID: CC RVAAP-75
Site Name: George Road Sewage Treatment Plant

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Metals

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201309
RD	201310	201409
RA(C)	201410	201609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

CC RVAAP-75 is a sewage treatment plant that was closed in 1993. It was used to treat industrial and residential effluent, including pink water from the production lines. Mercury from equipment bearings in the treatment plant leaked into the sewage stream. At least a quart of mercury from a collection jar that was dropped onto the floor was also released through the floor drain of the plant. There is a high probability that mercury contamination still persists in the soils at the outfalls and possibly at other leak points in the system. Likely points of contamination will be located and sampled based upon existing drawings.

The plant maintained Ohio NPDES permit (#31000000BD), which allowed discharge to Outfall No. 002 (to the adjacent receiving stream). The plant was gravity fed and consisted of two Imhoff tanks, two trickling filters, and a clarifier. Sludge was dried in a greenhouse structure and spread over the ground surface at the old hay fields located at the corner of Slagle and Newton Falls Roads. The design capacity was 350,000 gallons per day. Reportedly, approximately 1,200 cubic ft of sludge was spread every three years.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA), and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former sewage treatment plant.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an FS. The RA(C) includes excavation and off-site disposal of 37 cubic yards of soil (expanded volume) and six weeks of a decontamination facility is assumed to reflect costs for pipe cleaning.

Site ID: CC RVAAP-76
Site Name: Depot Area

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202509

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

CC RVAAP-76 consists of buildings used for demilitarization in the 1950s and a waste oil storage tank located in the Depot Area of RVAAP. The steel 400 gallon above ground storage tank (AST) located between Depot Buildings U-5 and U-4 has been removed, but the soils beneath and around the former tank are stained. The tank sat on crushed slag next to the motor oil storage shed. Waste oil from the motor pool area was stored in the AST until it was removed by an oil reclaimer. The AST was in operation from 1983 through 1993. In 1993, the contents of the AST were removed and the tank remained inactive until its removal (after 1996).

According to a document found in the historical records in January 2009, demilitarization of a variety of munitions occurred in buildings at the Depot Area in the 1950s. Although the document only provided the dates and types of munitions that were demilitarized, it was common for such work at other locations on the installation to result in the release of explosives and propellants outside of the doors and at the outfalls of floor drains. These contamination points can be easily located at the existing buildings and from drawings of buildings that have been demolished.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA, and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former Depot Area.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an RI, an FS, five new wells, and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 1,150 cubic yards of soil (expanded volume). LTM includes annual monitoring of nine wells for eight years and abandonment of the wells.

Site ID: CC RVAAP-77
Site Name: BLDG 1037 Laundry Waste Water Sump

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Explosives

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

Phases	Start	End
PA	200809	200904
SI	200905	201109
RI/FS	201003	201409
RD	201410	201509
RA(C)	201510	201709
LTM	201710	202509

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

CC RVAAP-77 consists of a former below ground concrete sump located on the north side of Building 1037. The sump had a capacity of approximately 5,765 gallons. The unit was previously used as a settling tank for the discharge of laundry rinse water. Wash water was emptied approximately 12 times during eight hours of operation and rinsing three times each eight hours. The wash water entering the tank prior to the rinse water discharge had sufficient settling time so that the increase in rate from the rinse water did not disturb the settled matter on the tank bottom. Rinse water was then sent to CC RVAAP-75 (George Road Sewage Treatment Plant). Wastes of concern are TNT and RDX. The concrete wastewater sump was removed in 2009.

A phase I RI will start in 2010. The phase I RI consists of a background search for historical information (consistent with a PA, and an initial intrusive investigation of the site media (consistent with a site inspection) to assess potential environmental impacts at the former sites.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include an RI, an FS, and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 46 cubic yards of soil (expanded volume). LTM includes annual monitoring of four wells for eight years and abandonment of the wells.

Site ID: CC RVAAP-78
Site Name: QUARRY POND SURFACE DUMP

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Asbestos, Explosives, Metals, Other (Propellants), Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

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

Phases	Start	End
PA	200904	200906
SI	200907	200909
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Quarry Pond Surface Dump consists of an area of former dumping along a small topographic ridge located north and northeast of the northern-most quarry pond within the FBQ. The potentially impacted area consists of approximately 8,750 (250 ft by 35 ft) square ft. The debris pile appears to have an average thickness of about five ft (where present). Contents of the debris pile appear to consist of potential asbestos containing materials (ACM), construction debris, scrap metal, and other unknown materials. One 55-gallon metal drum (contents unknown) is located on the ground surface within this area. A former burn location is also present along the northeastern portion of the surface dump and is characterized by ground charring.

The Quarry Pond Surface Dump appears to be a possible northern extension of the existing FBQ AOC (RVAAP-16), which operated from 1945 through 1993. Prior to 1976, the quarry was reportedly used for open burning and as a landfill. The debris from the burning/landfill was reportedly removed during pond construction. In 1998, the FBQ site expanded to include three other shallow settling ponds and two debris piles.

Constituents of concern include explosives, propellants, VOCs, SVOCs, metals, asbestos, and PCBs in soil and groundwater.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include a site inspection and FS. The RA(C) includes excavation and off-site disposal of 3,241 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-79
Site Name: DLA ORE STORAGE SITES

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Metals

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

Phases	Start	End
PA	200904	200906
SI	200907	200909
RI/FS	201010	201409
RD	201410	201509
RA(C)	201510	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

Various ores were historically stored (stock-piled) at the facility for the General Services Administration (GSA). The Defense Logistics Agency (DLA), Defense National Stockpile Center (DNSC) leased space at the Ravenna facility for the storage of the ore materials on the ground and in ASTs. The ASTs were referred to as strategic material tanks. Many of the ASTs were constructed without floors; therefore, the ores were allowed to make direct contact with the underlying soils.

The following GSA materials were stock-piled on the ground surface: brass ingots, chemical chrome ore, copper ingots, ferrochrome ore, ferro manganese ore, and metallurgical manganese ore.

The following GSA materials were stored in strategic material tanks: magnesium, kyanite, antimony sulfide, asbestos (raw), cobalt rutile sand, cobalt zircon sand, monazite sand, nickel cathodes, rutile sand, silicon carbide, talc, and zircon sand ore. The monazite sand contained radioactive element thorium 232.

Ore storage occurred at the following primary locations on the Ravenna property: DLA Load Line 3 Tank Storage and Building 803, DLA Route 80 Tank Farm, DLA Main Ore Pile Storage Area, DLA Area 8 Inert Storage, Building 841, and DLA Area 2 Ammunition Storage Area. The total area of potentially impacted media associated with the ore storage consists of approximately 333,582 square yards (about 68.92 acres).

This AOC also includes the former Ore Pile Retention Pond (RVAAP-31) constructed in the mid 1950s. The pond was constructed to control potentially contaminated surface water runoff from the adjacent manganese and chrome stock piles from entering a receiving stream. There remains the potential for releases of contaminants from this unit to the surrounding soils, groundwater, surface water and sediment.

Available aerial photographs and site observations indicate that ores still remain on the ground surface at several locations. As such, the surface soils may be impacted by these materials.

Constituents of concern include metals in soil, sediment, surface water and groundwater.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include a site inspection, an FS, four new wells, and abandonment of those wells. The RA(C) includes excavation and off-site disposal of 66,592 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-80
Site Name: GROUP 2 PROPELLANT CAN TOPS

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

Contaminants of Concern: Other (Solid Waste)

Media of Concern: Soil, Surface Water

Phases	Start	End
PA	200904	200906
SI	200907	200909
RI/FS	201004	201409
RD	201410	201509
RA(C)	201510	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

Propellant can tops were identified at the ground surface at the southern and northern ends of the former Group 2 Ammunition Storage Area. The tops were observed by OHARNG trainees in fall 2008 in the vegetative area located immediately south of the ammunition storage magazines in the vicinity of the railroad spur lines. This area consists of approximately 539,572 square ft (12.4 acres). The propellant can tops identified at the northern end of Group 2 were reported to the USACE by the OHARNG and the area consists of approximately 43,418 square ft (one acre).

As a result, the Louisville District USACE performed an initial geophysical survey of the southern area ground surface. Results of the initial investigation revealed multiple magnetic anomalies in the surface and near surface soils. On-site UXO personnel visually identified the surface anomalies as propellant can lids or tops.

The ground surface has been disturbed and contains hummocks (mounds) ranging in height from one to two ft throughout. Historical knowledge and photographs indicate the site was formerly a level-graded area used for the storage of inert materials. A phase I RI is recommended and should include at a minimum; a review of available historical documents, a limited soil investigation to assess the possible release of MC or other related materials to soil, and a geophysical investigation.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include MEC characterization and an FS. The RA(C) includes excavation and off-site disposal of 2,778 cubic yards of soil (expanded volume).

Site ID: CC RVAAP-83
Site Name: FORMER BUILDINGS 1031 AND 1039

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

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

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

Phases	Start	End
PA	200904	200906
SI	200907	200909
RI/FS	201010	201609
RD	201610	201709
RA(C)	201710	201909
LTM	201910	202709

RIP Date: N/A

RC Date: 201909

SITE DESCRIPTION

Former Buildings 1031 and 1039 consist of the former Hospital Building and former Laboratory Building, respectively. Both buildings were located within the Administration Area of the former RVAAP facility.

Building 1031 - Former Hospital Building

The west end of the Hospital Building included a gauge lab. The gauge lab was used for the development of large scale photos for a period of about 1.5 years in the early-1970s after the laboratory at Building 1039 was closed.

Site-related constituents (SRCs) of concern are related to the former generation of x-ray acid/silver mix solutions, and common hospital wastes. The composition of x-ray acids is unknown; however they likely contain lead and radioactive materials. The hospital wastes typically consist of infectious materials containing pathogens, sharps, pathological tissues, and pharmaceuticals.

The potential historical disposal of these materials through the sanitary waste system is of environmental concern. The historical sanitary lines were constructed of clay pipe, and failure of clay pipe is common. Potential SRCs for the sanitary system at the former Hospital Building are VOCs, SVOCs, and target analyte list (TAL) metals.

Building 1039 - Former Laboratory Building

The former Laboratory Building measured approximately 16,500 square ft. The structure contained three powder test rooms for the routine analyses of lead azide, mercury fulminate, and percussion element mixes. The laboratory was used for the testing of Load Line materials. During operations, the building contained and operated a photography laboratory, a chemistry laboratory, and a medical x-ray facility. The photo laboratory was historically used for all large scale photo development activities until its closure in the early-1970s.

Waste x-ray acid/silver mix solutions were reported treated as described above. The Defense Property Disposal Organization (DPDO)/DRMO termed the waste as a reclaimed precious metal resource.

The laboratory building was demolished by Lakeshore Engineering Services, Inc. (LES) during the time period of May 2006 through July 2007. Following demolition, all unpainted and uncontaminated brick and concrete was crushed and recycled off-site. The basement of Building 1039 was filled with approved clean soil, and was then seeded with approved grass seed.

SRCs of concern are related to the former generation of x-ray acid/silver mix solutions, and the laboratory analysis of powder test room materials (lead azide, mercury fulminate), percussion element mixes, paints, shellac, metals, fuels, and tapes or adhesives.

Site ID: CC RVAAP-83
Site Name: FORMER BUILDINGS 1031 AND 1039

The potential historical disposal of these materials through the sanitary waste system is of environmental concern. The historical sanitary lines were constructed of clay pipe, and failure of clay pipe is common. Potential SRCs for the sanitary system at the former Laboratory Building are VOCs, SVOCs, TAL metals, explosives and propellants.

CLEANUP/EXIT STRATEGY

CTC assumptions for the RI/FS include a site inspection, eight new wells, an RI, an FS, and quarterly groundwater monitoring for a year. The RA(C) includes excavation and off-site disposal of 296 cubic yards of soil (expanded volume). LTM includes annual monitoring of eight wells for eight years and abandonment of the wells.

CR Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation

There are no NFA sites

CR Schedule

Date of CR Inception: 200809

Past Phase Completion Milestones

2009

PA	(CC RVAAP-68 - ELECTRIC SUBSTATIONS (E,W,No. 3), CC RVAAP-69 - Building 1048 - Fire Station, CC RVAAP-70 - East Classification Yard, CC RVAAP-72 - Facility-wide USTs, CC RVAAP-73 - Facility-wide Coal Storage, CC RVAAP-74 - BLDG 1034 Motor Pool Hydraulic Lift, CC RVAAP-75 - George Road Sewage Treatment Plant, CC RVAAP-76 - Depot Area, CC RVAAP-77 - BLDG 1037 Laundry Waste Water Sump, CC RVAAP-78 - QUARRY POND SURFACE DUMP, CC RVAAP-79 - DLA ORE STORAGE SITES, CC RVAAP-80 - GROUP 2 PROPELLANT CAN TOPS, CC RVAAP-83 - FORMER BUILDINGS 1031 AND 1039)
SI	(CC RVAAP-78 - QUARRY POND SURFACE DUMP, CC RVAAP-79 - DLA ORE STORAGE SITES, CC RVAAP-80 - GROUP 2 PROPELLANT CAN TOPS, CC RVAAP-83 - FORMER BUILDINGS 1031 AND 1039)

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: 201909

Schedule for Next Five-Year Review: 2012

Estimated Completion Date of CR at Installation (including LTM phase): 202709

RAVENNA ARMY AMMUNITION PLANT CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-68	ELECTRIC SUBSTATIONS (E,W,No. 3)	SI						
		RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-69	Building 1048 - Fire Station	SI						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-70	East Classification Yard	SI						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-72	Facility-wide USTs	SI						
		RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-73	Facility-wide Coal Storage	SI						
		RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-74	BLDG 1034 Motor Pool Hydraulic Lift	SI						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-75	George Road Sewage Treatment Plant	SI						
		RI/FS						
		RD						
		RA(C)						

RAVENNA ARMY AMMUNITION PLANT CR Schedule

SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-76	Depot Area	SI						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-77	BLDG 1037 Laundry Waste Water Sump	SI						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-78	QUARRY POND SURFACE DUMP	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-79	DLA ORE STORAGE SITES	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-80	GROUP 2 PROPELLANT CAN TOPS	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY11	FY12	FY13	FY14	FY15	FY16+
CC RVAAP-83	FORMER BUILDINGS 1031 AND 1039	RI/FS						
		RD						
		RA(C)						
		LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 200906

Restoration Advisory Board (RAB): RAB established 1996

RAB Adjournment Date:

RAB Adjournment Reason:

Additional Community Involvement Information

The RVAAP RAB was established in 1996 and has 25 members consisting of 23 community members and two non-community members. The community members include an appointee from each of the surrounding six townships, one representative appointed by the Trumbull County Commissioners, a representative appointed by the Portage County Commissioners, and 15 members chosen from the general public. One of the community members is elected as a community co-chair by majority vote. The two non-community members include a representative of the Ohio EPA and an Army installation co-chair appointed by the installation. A RAB operating procedure was adopted by all members on Feb. 19, 1997. A copy can be found on the RVAAP web site www.RVAAP.org, as well as in two public repositories (The Reed Memorial Library in Ravenna and the Newton Falls Public Library).

The RVAAP RAB generally meets every two to three months. All meetings are open to the public and are rotated among public places within the townships around the installation. Current topics are addressed at the meetings and a speaker is generally featured. The minutes of all RAB meetings are recorded. All meetings are announced in the local media.

All IRP records are made available to the RAB members and any other interested parties through the two public repositories. IRP and other RVAAP documents are available at www.RVAAP.org. The RAB receives technical assistance for public participation (TAPP).

In 2003, a community involvement plan was developed to facilitate communication, identify issues of concern and serve as a guide for public involvement goals and objectives. The plan outlines the many ways that RVAAP involves the community in the restoration activities, including through the RAB, site tours, and the website. The community involvement plan was updated on June 30, 2009 under contract to PIKA as part of the Phase I Rocket Ridge TCRA.

Administrative Record is located at

RVAAP
Building 1037
8451 State Route 5
Ravenna, OH 44266

Information Repository is located at

Reed Memorial Library
167 East Main Street
Ravenna, OH 44266

Newton Falls Public Library
204 South Canal Street
Newton Falls, OH 44444

Current Technical Assistance for Public Participation (TAPP): 199906

TAPP Title: Winklepeck OB Grounds Phase II

Current Technical Assistance for Public Participation (TAPP): 200102

TAPP Title: Winklepeck Burning Grounds site

Potential TAPP: The RVAAP RAB plans to apply for additional funds for the TAPP.