

FY2016

ROCK ISLAND ARSENAL
Army Defense Environmental Restoration Program
Installation Action Plan

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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, Installation Management Command (IMCOM), the US Army Environmental Command (USAEC), Rock Island Arsenal (RIA), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

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

Acronyms

| | |
|--------|--|
| ACL | Alternative Concentration Limit |
| AEDB-R | Army Environmental Database - Restoration |
| AOC | Area of Concern |
| ARAR | Applicable or Relevant and Appropriate Requirements |
| AST | Above Ground Storage Tank |
| Bldg | Building |
| CC | Compliance-related Cleanup |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CMS | Corrective Measures Study |
| CR | Compliance Restoration |
| DD | Decision Document |
| DRA | Dispute Resolution Agreement |
| EE/CA | Engineering Evaluation/Cost Analysis |
| ER,A | Environmental Restoration, Army |
| FFS | Focused Feasibility Study |
| FRA | Final Remedial Action |
| FS | Feasibility Study |
| FY | Fiscal Year |
| GWCI | Groundwater Classification Investigation |
| HHRA | Human Health Risk Assessment |
| IAP | Installation Action Plan |
| IEPA | Illinois Environmental Protection Agency |
| IMCOM | Installation Management Command |
| IRA | Interim Remedial Action |
| IRP | Installation Restoration Program |
| ITR | Internal Technical Review |
| JMTC | Joint Manufacturing and Technology Center |
| K | thousand |
| LTM | Long-Term Management |
| LUC | Land Use Control |
| LUCIP | Land Use Control Implementation Plan |
| LUCMOA | Land Use Control Memorandum of Agreement |
| MNA | Monitored Natural Attenuation |
| N/A | Not Applicable |
| NFA | No Further Action |
| NHL | National Historic Landmark |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priority List |
| NRHP | National Register of Historic Places |
| PA | Preliminary Assessment |
| PAH | Polycyclic Aromatic Hydrocarbons |
| PBA | Performance-Based Acquisition |
| PCB | Polychlorinated Biphenyl |
| POL | Petroleum, Oil and Lubricants |
| PP | Proposed Plan |

Acronyms

| | |
|----------|---|
| QAPP | Quality Assurance Project Plan |
| RA | Remedial Action |
| RA(C) | Remedial Action (Construction) |
| RA(O) | Remedial Action (Operation) |
| RAB | Restoration Advisory Board |
| RC | Response Complete |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RFI | RCRA Facility Investigation |
| RI | Remedial Investigation |
| RIA | Rock Island Arsenal |
| RIP | Remedy-in-Place |
| ROD | Record of Decision |
| RRSE | Relative Risk Site Evaluation |
| SI | Site Inspection |
| SVE | Soil Vapor Extraction |
| SVOC | Semi-Volatile Organic Compound |
| TAPP | Technical Assistance for Public Participation |
| TCE | Trichloroethylene |
| TRC | Technical Review Committee |
| UFP | Uniform Federal Policy |
| USACE | US Army Corps of Engineers |
| USAEC | US Army Environmental Command |
| USAEHA | US Army Environmental Hygiene Agency |
| USAJMC | US Army Joint Munitions Command |
| USATHAMA | US Army Toxic and Hazardous Materials Agency |
| USEPA | US Environmental Protection Agency |
| UST | Underground Storage Tank |
| VA | US Department of Veterans Affairs |
| VOC | Volatile Organic Compound |

Installation Information

Installation Locale

Installation Size (Acreage): 866.5

City: Rock Island

County: Rock Island

State: Illinois

Other Locale Information

The RIA, located in Rock Island County, Illinois, is a 946.3-acre island in the Mississippi River. The US Army Corps of Engineers (USACE) occupies 9.5 acres, the US Department of Veteran's Administration (VA), which includes a cemetery, occupies 70.3 acres, and the RIA occupies 866.5 acres. The Iowa cities of Davenport (population 102,157) and Bettendorf (population 34,207) are located immediately north, across the Mississippi River. The Illinois cities of Rock Island (population 39,018) and Moline (population 43,116) are located immediately south of the RIA and are separated by a channel of the Mississippi River called the Sylvan Slough and the Moline Pool.

Installation Mission

Rock Island Arsenal is the US Army's Center of Excellence for Logistics and Readiness. As such, the Arsenal serves as the home of over 80 diverse tenant organizations which provide a broad spectrum of logistics and Soldier readiness functions. The US Army Sustainment Command, the US Army Joint Munitions Command (USAJMC), and the US Army Contracting Command-Rock Island provide all logistics, all conventional ammunition, and the majority of contracting support to America's Warfighters worldwide. The Joint Manufacturing and Technology Center produces artillery, armor kits, mobile maintenance kits and small arms parts and gauges to support the Department of Defense's (DoD) vital mission. Joint Manufacturing and Technology Center (JMTC) is also the DoD's only vertically integrated metal manufacturing facility and has the Army's only foundry. First Army trains, mobilizes, deploys and demobilizes all Reserve component units for the Department of the Army. First Army ensures Reserve Component mission readiness to support the nation's needs worldwide. Other RIA tenant activities provide worldwide support in human resources management, research and development, chemical and biological defense engineering and infrastructure and water management for the midwest and the nation. RIA is truly the logistics and readiness hub providing nearly all critical services to the Army and joint and federal agencies in every corner of the globe.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

USAEC

RIA

Regulator Participation

State Illinois Environmental Protection Agency (IEPA)

National Priorities List (NPL) Status

ROCK ISLAND ARSENAL is not on the NPL

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

The community has expressed no sufficient, sustained interest in a RAB.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil, Surface Water

CR

Primary Contaminants of Concern: Metals, Volatiles (VOC)

Affected Media of Concern: Groundwater

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

| Status | Start Date | End Date | End FY |
|---------|------------|----------|--------|
| Planned | 201806 | 201902 | 2019 |

5-Year / Periodic Review Details

| Associated ROD/DD Name | Sites |
|------------------------|---------|
| RIA-001 - Old Landfill | RIA-001 |

Land Use Control (LUC) Summary

LUC Title: RIA-014 (UST 34)

Site(s): RIA-014

ROD/DD Title: Record of Decision for RIA-014 (UST 34)

Location of LUC

Rock Island Arsenal Administrative Repository located in Bldg 102.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 201406

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 201406

LUC Enforcement: 5 Year Reviews

Contaminants: PAH

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

RIA is an active IMCOM installation located on Arsenal Island, which is about 3 miles long and 3/4 of a mile wide. It is bound on the north by the Mississippi River and the south by a channel of the Mississippi River called the Sylvan Slough and Moline Pool. Arsenal Island is divided into RIA, USACE, and the VA. The VA portion includes the National Cemetery of 70.3 acres and the Confederate Cemetery of 3 acres.

Arsenal Island is in the center of the Quad Cities region, surrounded on all sides by the four cities of Davenport, Bettendorf, Rock Island, and Moline. Land use in the cities consists of retail, services, administrative, industrial, transportation, wholesaling, warehousing, communications, utility, recreation, exhibition, conservation, and a cemetery.

Arsenal Island has been owned and operated by the government since the US acquired the title to the land in 1804 through a treaty with the Sauk and Mesquakie (Fox) Indians. The US flag flew above the island long before any of the communities of the surrounding area were founded. Even before Illinois and Iowa achieved statehood, the US Army established a significant military presence on the island with the building of Fort Armstrong in 1816. The fort served as a sanctuary to early pioneers who sought refuge behind its walls during the threatening days of the early frontier.

In July 1862, the US Congress passed an act which established an arsenal on Rock Island; however, prior to the construction of permanent arsenal buildings, the US Army began building a prisoner-of-war camp on the island. A total of 12,192 Confederate Soldiers were confined at Rock Island during the Civil War years of 1863 to 1865. Construction of the first manufacturing shop buildings began in 1866 and continued until the last, the Stone Shop, was completed in 1893.

Arsenal Island and the swing span bridge leading to it were nominated to the National Register of Historic Places (NRHP) as an historic district in 1969. The State Historic Preservation Officer met with the officials from RIA in 1988 to establish contributing structures within the NRHP District.

The historic nineteenth century manufacturing core of RIA was further designated a National Historic Landmark (NHL) District in 1987. The NHL District is composed of two distinct zones: the nineteenth century manufacturing core (Zone 1), and the officers quarters (Zone 2).

The arsenal has evolved over the years into a center of technical excellence for weaponry and support equipment.

Completion of the renovation of the armament manufacturing (1982-1989) greatly enhanced the physical plant, machine tool inventory, and data processing capabilities. RIA's tenants include: the US Army JMTC; the USAJMC; Headquarters, First Army; Headquarters, US Army Sustainment Command; Rock Island Contracting Center; the US Edgewood Chemical Biological Center; and Navy Surface Warfare Center Division.

The USACE owns and operates Lock and Dam No. 15 and maintains a district office on Arsenal Island, which is responsible for the administration of federal water resource development programs in Iowa, Illinois, Wisconsin, Missouri, and Minnesota.

The VA maintains two cemeteries on Arsenal Island. The National Cemetery, located on the eastern end of Arsenal Island, inter US military veterans, spouses, and dependent children. The Confederate Cemetery, situated near the southern border of the island, contains the remains of 1,959 prisoners who died on Arsenal Island during the Civil War.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Groundwater sampling at the Underground Storage Tank (UST) 34 site will continue. The removal of storm water lines, finalization of bank revetment and cover installation for OLF completed in 2015. GWM at OLF will continue. RI completed for RIA-007. Draft Final FS for RIA-007 completed in Sept 2015 with IEPA comments in Nov. 2015. Response to IEPA comments in progress. A RI/FS was completed for RIA-069 in October 2015 with IEPA comments in Jan. 2016. Response to IEPA comments in progress.

Future Plan of Action: Initiate Silurian groundwater investigation at the old landfill. Finalize construction completion report for soils at OLF. Finalize FS at RIA-007 and RI/FS RIA-069. Close out RIA-014 if groundwater results

Cleanup Program Summary

support closure. Institute land use controls (LUC) at sites as actions warrant.

CR

Prior Year Progress: Completed Final RI and Draft Final FS at CC-RIA-007. Completed Draft Final RI/FS at CC-RIA-069. Conducted semi-annual groundwater monitoring at RIA-007 and RIA-069.

Future Plan of Action: Complete the FS and implement remedy as necessary at RIA-007. Bioremediate and continue to monitor the groundwater at CC-RIA-69. Both sites are expected to have LUCs implemented.

ROCK ISLAND ARSENAL
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 30/27

Installation Site Types with Future and/or Underway Phases

- 2 Landfill
(RIA-001, RIA-001A)
- 1 Soil Contamination After Tank Removal
(RIA-014)

Most Widespread Contaminants of Concern

Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil, Surface Water

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

| Site ID | Site Name | Action | Remedy | FY |
|----------------|------------------------------|---------------|---|-----------|
| RIA-002 | USTs 8,9,10,11 at BLDG 222 | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1988 |
| RIA-014 | UST (34) | IRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1992 |
| RIA-008 | OLD QUARRY FILLED WITH WATER | FRA | REMOVAL | 2003 |
| RIA-014 | UST (34) | FRA | WASTE REMOVAL - SOILS | 2011 |

Duration of IRP

Date of IRP Inception: 197902

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201910/204609

Date of IRP completion including Long Term Management (LTM): 204609

IRP Contamination Assessment

Contamination Assessment Overview

The RIA had a total of 30 sites of environmental concern. These sites include industrial and construction debris landfills, storage tanks, a quarry, a training area, storage areas and burial sites. There are presently five open/active sites and two possible future sites when the coal pile and heating plant are removed. There used to be 18 accumulation areas in operation. This number has been reduced to 12 currently in operation.

Since the early-1900s, over 40 USTs have been present at RIA. The USTs have stored a variety of fuels and solvents, including diesel fuels, gasoline, kerosene, dry cleaning solvent, used oil and used water-soluble cutting fluids. To date, 33 USTs have been removed with seven USTs still in use. Of the remaining seven US Environmental Protection Agency (USEPA)-compliant USTs, one is for gasoline, two for diesel fuel, two for used water-soluble cutting fluid, one for used oil, and one in reserve for quench oil emergency fire suppressant. There are various aboveground storage tanks (ASTs) containing diesel fuel used for emergency power generators and one for dispensing diesel fuel. Another AST is for dispensing gasoline.

During the removal of USTs 8, 9, 10, and 11, soils contaminated with chlorinated solvents were identified. The soil in the immediate area was removed, and monitoring wells were installed downgradient. No further contamination of this site (RA-002) has been observed.

In 1979, an installation assessment of the RIA was conducted by the US Army Toxic and Hazardous Materials Agency (USATHAMA). This assessment evaluated the environmental quality of RIA with regard to the use, storage, treatment, and disposal of toxic and hazardous materials and defined any conditions that may adversely affect health and welfare or result in environmental degradation. 29 sites were listed as potentially contaminated. (This list has been narrowed down to the two open sites: the plume from an underground tank removal south of Building 250 and the Old Landfill site.)

In 1987 an update of the initial assessment of RIA was conducted to determine if conditions had changed. This report indicated a clay cap had been placed over the landfill; however, the need to investigate all contaminants is required by the Army. At this point, the two remaining sites became part of the RIA restoration IAP for cleanup.

A groundwater monitoring well inventory conducted in the third and fourth quarters of 2015 determined that there are a total of 136 monitoring wells on RIA. The wells are associated with the two landfills, the UST area south of Bldg. 250, Building 64 Resource Conservation and Recovery Act (RCRA) closure, Bldg. 66 plating shop, and background areas. After the major Mississippi River flood in 1993, all of the monitoring wells were sampled, which indicated changes from previous sampling results. The area of major concern was the landfill, site RIA-001, because of semi-volatile organic compounds (SVOC). The results identified an increased potential for off-site contamination, and Environmental Restoration, Army (ER,A) funding was provided for the Phase II RI, a draft FS, technical management plan, Phase II RA with a risk assessment, and a groundwater classification investigation (GWCI). In April 2009 the Silurian Aquifer beneath the Old Landfill site was designated as site RIA-001A for investigative purposes. Groundwater monitoring wells were installed into the aquifer at the Old Landfill in February 2011, and a year of quarterly groundwater sampling followed by annual sampling has been conducted.

RIA is currently a large-quantity, 90-day generator of hazardous waste and does not have a RCRA Part B permit. A hazardous waste container storage unit was properly closed and is now used as one of the accumulation areas. The RIA water treatment facility processes Mississippi River surface water for consumption and use by approximately 7,000 employees and residents .

RIA sends its sanitary effluent to the city of Rock Island publicly owned treatment works; the permit with the city includes total effluent and one pretreatment industrial wastewater facilities. The RIA has a general National Pollutant Discharge Elimination System (NPDES) permit for storm water. The RIA has a Nuclear Regulations Commission materials license for storage and usage of radioactive material. The main sources are thorium and tritium.

RIA is subject to a major source Clean Air Act Title V air permit. The Title V air permit includes emission sources from surface coating operations, natural gas boiler and heating units, foundry operations, electroplating operations, and RICE generators.

The small business performance-based acquisition (PBA) that was awarded in September 2004 has expired. A new PBA was contracted in 2011. The PBA includes groundwater treatment studies, bank revetment, cover, in situ treatment, compliance sampling and removal of three storm water lines that traverse the landfill. A record of decision (ROD) was agreed upon in June of 2014 regarding the soil component of the Old Landfill. The response action in the ROD was for the revetment, soil cover, monitoring well abandonments, and removal of the three storm sewer lines. The field activities were conducted in fall 2014 and completed in summer 2015. The construction completion report is in progress. Upon its completion and IEPA approval, response

IRP Contamination Assessment

Contamination Assessment Overview

complete (RC) will be achieved for soils at the site. The groundwater remediation path forward will be determined at a later date.

An RI for site RIA-014, (the UST 34 site) was approved by the USEPA in January 2008, the final FS was approved in August 2012, and a ROD was agreed upon in April 2014. The site is close to the regulatory requirements. The site will go to long-term management (LTM), and a land use control implementation plan (LUCIP) will be put in place. The site will become part of the land use control memorandum of agreement (LUCMOA) program. Upon reaching regulatory requirements, the site will be closed with the site remaining in the LUCMOA.

Two environmental site investigation reports were generated in October 2012 and January 2013 for investigations conducted in the Silurian Aquifer (RIA-001a) at the Old Landfill.

A draft final quality assurance project plan (QAPP) has been completed for sites RIA-001, RIA-014, and other sites; and a draft final QAPP has also been completed for RIA-001a.

Cleanup Exit Strategy

A PBA was awarded in 2011 to complete the RA phase of the restoration program at RIA. The contractor completed a focused feasibility study (FFS) for site RIA-001, the Old Landfill, and an FS for the site RIA-014, the former UST 34. A remedial action plan was also completed for RIA-001.

The RA for RIA-001 was completed and involved a soil cover, river bank revetment, storm water line removal, vegetation planting and a LUC. The remedy for the UST-34 site (RIA-014) continues to be LTM with a LUC.

IRP Previous Studies

| Year | Title | Author | Date |
|------|---|---|----------|
| 1979 | Water Pollution Study for RIA | USACE, Contractor: Harland Bartholomew and Associates | MAR-1979 |
| | Installation Assessment of Rock Island Arsenal Report No. 164. | US Army Toxic and Hazardous Materials (USATHAMA) | DEC-1979 |
| 1988 | Interim Report, Groundwater Contamination Survey No. 38-26-0308-89, Evaluation of Solid Waste Management. | US Army Environmental Hygiene Agency (USAEHA) | MAY-1988 |
| 1989 | Geohydrologic Study No. 38-26-8814-90, RCRA Facility Assessment Sampling Investigation, RIA. | USAEHA | MAY-1989 |
| 1991 | POL Facility Investigation of Leaking Underground Storage Tanks, RIA. | Daily and Associates, D&A | MAY-1991 |
| 1992 | Guidance Document for Renovation/Demolition of Buildings 65 and 106, RIA | COE Contractor: TCT-St. Louis, St. Louis, Missouri | JAN-1992 |
| | Site Investigation in Support of the Closure of the Building 33 Hazardous Waste Management Unit, RIA. | Daily and Associates, D&A | FEB-1992 |
| | Building 251/254 Site Investigation (Former TNT Building), Rock Island Arsenal Final Report | Daily and Associates, D&A | MAY-1992 |
| 1993 | Specification Number 3230-2008. PR Number 8-91, Environmental Cleanup Buildings 64, RIA | COE Contractor: TCT-St. Louis, St. Louis, Missouri | MAY-1993 |
| | Addendum No. 1 Site Investigation in Support of Closure of the Building 33 Hazardous Waste Management Unit, RIA | Daily and Associates, D&A | DEC-1993 |
| 1994 | Groundwater Quality Consultation No. 38-66-kv27-94, Phase I & II, RIA 13-18 September 1993 and 1-5 | USAEHA | FEB-1994 |
| 1996 | Installation Assessment Relook Program, Working Document. | USATHAMA | AUG-1996 |
| 1997 | Technical Management Plan for the RIA | SAIC | MAY-1997 |
| | Phase I Remedial Investigation Report, Old Landfill, RIA. | USACE Contractor: Maxim Technologies Inc., St. Louis, MO | MAY-1997 |
| | Installation Restoration Program, Community Relations Plan | SAIC | AUG-1997 |
| 1998 | Update of the Initial Installation Assessment of RIA. | USATHAMA | JUL-1998 |
| 1999 | Extended Site Inspection Report, the Old Quarry Site | US Army Center for Health Promotion and Preventative Medicine | SEP-1999 |
| | Phase II Remedial Investigation Report, Old Landfill, RIA. | USACE Contractor: SAIC | DEC-1999 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|---|----------|
| 2000 | Remedial Investigation, Old Quarry Site | US Army Center for Health Promotion and Preventative Medicine | JUL-2000 |
| 2001 | Work Plan for Additional Investigations in Support of the FS at the RIA Old Landfill | SAIC | JUL-2001 |
| | Well Installation Plan for the RIA Time Critical Removal Action for LNAPL | USACE: Tetra Tech NUS | JUL-2001 |
| 2002 | Phase I Remedial Investigation Report and Proposed Phase II Sampling UST 34, Old Landfill, RIA | Daily and Associates, D&A | MAR-2002 |
| | Mussel Survey in Sylvan Slough RIA Old Landfill - Final | SAIC | AUG-2002 |
| | EE/CA for Quarry | Installation | AUG-2002 |
| | Phase I Remedial Investigation Report and Proposed Phase II Sampling UST 34, Old Landfill, RIA. | Daily and Associates, D&A | SEP-2002 |
| | Soil Vapor Extraction Pilot Test Summary Report, Landfill | Installation | SEP-2002 |
| | Addendum to the Ecological risk Assessment | Unknown | OCT-2002 |
| | Addendum to the Data Summary Report for Add. Investigation of the FS | Unknown | NOV-2002 |
| 2003 | Work Plan Amendment no. 3 for the POC Sampling, | Unknown | DEC-2002 |
| | Additional Investigation Report for the Old Landfill | SAIC | MAY-2003 |
| | RA Safety and Health Plan, Quarry | RIA | JUL-2003 |
| | Data Summary Report for Year 2002/2003 Point of Compliance Monitoring at the Rock Island Arsenal Old Landfill | SAIC | AUG-2003 |
| | Passive Soil Vapor Test Report to IEPA | RIA | AUG-2003 |
| | Final Addendum to the Ecological Risk Assessment for the Old Landfill | SAIC | DEC-2003 |
| 2004 | Removal Action Report for the Old Quarry | Tetra Tech NUS | FEB-2004 |
| | Removal Action Report for the Old Quarry | Tetra Tech NUS | APR-2004 |
| 2005 | Phase II RI for RIA-014 (UST 34) | Daily and Associates | FEB-2005 |
| | Data Summary Report for Year 2004 Point of Compliance Monitoring at the Rock Island Arsenal Old Landfill | SAIC | MAY-2005 |
| | Summary Interim Report, Environmental Evaluation and Site Closure Activities for the Remediation of RIA-0014 (UST-34) | TolTest | MAY-2005 |
| | Deep Monitoring Well Installation Report for RIA-001 & RIA-014 | TolTest, Inc. | JUN-2005 |
| | Final Second Summary Interim Report, Environmental Evaluation and Site Closure Activities for the Remediation of RIA-0014 (UST-34) | TolTest | NOV-2005 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|--|----------|
| 2006 | 2005 Fourth Quarter (October) Deep Monitoring Well Sampling and Analysis Results for the Rock Island Arsenal Old Landfill | | MAR-2006 |
| | Data Summary Report for Year 2005 Point of Compliance Monitoring at the Rock Island Arsenal Old Landfill | TolTest | MAR-2006 |
| 2007 | Data Summary Report Year 2006 Point of Compliance Monitoring for RIA-001 | TolTest, Inc. | MAR-2007 |
| | Draft Final Health Risk Assessment Base On Data From April 2004 Draft Phase II Remedial Investigation Report US Army Building 251/Structure254/UST 34, IRP Site #14, Rock Island Arsenal | UAACHPPM | APR-2007 |
| | RI Report RIA-014 (UST 34) | FOTH | MAY-2007 |
| 2008 | Data Summary Report for Year 2007 Point of Compliance Monitoring at the Rock Island Arsenal Old Landfill | TolTest, Inc | FEB-2008 |
| 2010 | Old Landfill Silurian Aquifer Groundwater Sampling | Foth Infrastructure & Environmental, LLC | MAR-2010 |
| | Feasibility Study for Old Landfill RIA-001 (Army Approved) | TolTest | JUN-2010 |
| | Feasibility Study for RIA-014 | TolTest | JUN-2010 |
| | Analytical Summary, First Semi-Annual 2010 Groundwater Sampling, Detection Groundwater Sampling Event Underground Storage Tank-34, IRP Site-14, Rock Island Arsenal | TolTest, Inc. | AUG-2010 |
| | 1st Quarterly GW Sampling RIA-14 | TolTest | SEP-2010 |
| | Environmental Investigation Workplan of the Silurian Aquifer (RIA-001a) | TolTest, Inc | OCT-2010 |
| | 2nd Quarterly GW Sampling RIA-14 | Foth | DEC-2010 |
| 2012 | Feasibility Study - RIA-14 | Tetra Tech, Inc. | JAN-2012 |
| | Focused Feasibility Study - Old Landfill | Tetra Tech, Inc. | JAN-2012 |
| | Final Overburden Groundwater Treatability Study Work Plan for RIA-001 Old Landfill | Tetra Tech | AUG-2012 |
| | Final Bedrock Groundwater Treatability Study Work Plan for RIA-001 Old Landfill | Tetra Tech | AUG-2012 |
| | Focused Feasibility Study for RIA-001 Old Landfill | Tetra Tech | AUG-2012 |
| | Final Feasibility Study for RIA-014 | Tetra Tech | AUG-2012 |
| | Environmental Investigation Work Plan of the Silurian Aquifer (RIA-001A) | TolTest, Inc. | OCT-2012 |
| | Old Landfill POC Sampling Report | Tetra Tech, Inc. | DEC-2012 |
| | | | |
| 2013 | Environmental Site Investigation Report of the Silurian Aquifer (RIA-001A) | TolTest, Inc. | JAN-2013 |

IRP Previous Studies

| | Title | Author | Date |
|-------------|--|----------------------|-------------|
| 2014 | Interim Record of Decision - RIA-001 Old Landfill | Tetra Tech | APR-2014 |
| | Final Old Landfill POC Sampling Report Year 2 for RIA-001 Old Landfill | Tetra Tech | APR-2014 |
| | Record Of Decision - RIA-14, UST 34 for RIA | US Army RIA | APR-2014 |
| | Bedrock Groundwater Treatability Study Report - RIA-001 Old Landfill | Tetra Tech | MAY-2014 |
| | Final Overburden Groundwater Treatability Study Report for RIA-001 Old Landfill | Tetra Tech | JUN-2014 |
| | Final Interim Remedial Action Design - RIA-001 Old Landfill | Tetra Tech | JUL-2014 |
| | Final Uniform Federal Policy - Quality Assurance Project Plan (QAPP) RIA-001 and RIA-014 | AECOM (formerly URS) | NOV-2014 |
| 2015 | Final Fall 2014 Groundwater Monitoring Report, RIA-014, UST 34 | AECOM | JUN-2015 |
| | Final Spring 2015 Groundwater Monitoring Report, RIA-014, UST 34 | AECOM | SEP-2015 |
| | Final Spring 2015 Groundwater Monitoring Report - RIA-001 Old Landfill | AECOM | OCT-2015 |

ROCK ISLAND ARSENAL
Installation Restoration Program
Site Descriptions

Site ID: RIA-001
Site Name: OLD LANDFILL

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polychlorinated Biphenyls (PCB), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil, Surface Water

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 197902..... | 197912 |
| SI..... | 198805..... | 198805 |
| RI/FS..... | 201212..... | 201910 |
| RA(C)..... | 201212..... | 201910 |
| RA(O)..... | 201212..... | 204609 |

RIP Date: 201910

RC Date: 204609

SITE DESCRIPTION

The OLF occupies approximately 20 acres in the south central part of RIA. Historical records indicate that a variety of wastes generated by the industrial processes at RIA were potentially disposed of in the OLF during its active life. Historical records also indicate that the OLF was active between 1920 and 1965. Waste oils, solvents, and other liquids were poured into pits and either burned or allowed to percolate into the ground. Additionally, industrial wastes, including degreaser sludges, heat-treating salts, electroplating solutions, sludges, and wastewaters from operation on RIA were disposed of in this area.

In 1987, an update of the initial assessment of RIA was conducted to determine if conditions had changed. This report indicated a clay cap has been placed over the landfill; however, the Army is required to investigate all contaminants. At this point, the three remaining sites became part of the RIA restoration IAP for cleanup. The USACE, Nashville District was hired to act as the project manager for the cleanup of the landfill.

In 1994 and 1995, a Phase I RI was conducted. The overall objective was to assess the nature of the contamination present at the landfill. Activities performed included a search of historical records, a topographic survey, site maps, magnetometer sweep, geophysical survey, sampling and analysis of soil and water, permeability testing, groundwater elevation measurement, monitoring well installation and sampling, and other items.

In 1997 and 1998, a Phase II RI was conducted. The field activities associated with this investigation included obtaining additional characterization data to complement the Phase I results, support the baseline human health risk assessment (HHRA) and ecological risk assessment, and define the extent of contamination.

In September 2004, a small business PBA was awarded. It covers work through RC for sites RIA-001 and RIA-014. The contract funds expired with a final Army FS in fiscal year (FY)10. A new PBA was awarded in FY11. The new contract included a soil FFS, groundwater treatability studies, proposed plan (PP), interim soil decision document (DD), and remedial design for interim actions under a dispute resolution agreement (DRA) signed by the Army and IEPA in FY12. Interim actions for the soils included vegetation removal, soil cover, storm water line removal and shoreline revetment. Point of compliance monitoring will continue. Storm water lines have been removed and the shoreline revetment has been constructed. Soil cover was completed in FY15. A new PBA was awarded in FY15 to complete the groundwater FFS, PP and DD as well as continued point of compliance monitoring.

The groundwater is being addressed separately from the OLF soils under the RI/FS phase.

In December 1999, a final RI report was prepared by the USACE, Nashville District. The recommendations in the report stated that the nature and extent data and risk assessment findings should be used in the FS to develop remedial alternatives for the OLF. IEPA-developed alternate concentration limits (ACL) should be used as remediation goals for groundwater and applied at the point of compliance as part of a long-term groundwater monitoring program. The ACLs should also be used to back-calculate soil cleanup levels for the OLF contaminants of concern.

Site ID: RIA-001

Site Name: OLD LANDFILL

In March 2000, a draft FS was prepared by the USACE, Nashville District indicating 11 alternatives to close the site. After a screening evaluation of the alternatives, five site-wide alternatives were retained. Based on the detailed evaluation in the FS, Alternative 4, capping combined with hot spot removal and product recovery was selected.

In June 2000, an internal technical review (ITR) of the OLF project was conducted by USAEC. The purpose of the review is to ensure that installations are attaining the appropriate level of risk reduction while maximizing the effective and efficient use of environmental restoration funds. The ITR team serves only to advise and provide recommendations to the installation. A draft report was received and reviewed by RIA, the USACE, Nashville District, and the IEPA. A final report of recommendations was written and sent to the installation in FY01.

Additional activities conducted in FY01 included further sampling and analysis of the slough bank to determine groundwater discharge points, skimming of free-product from one of the wells that showed free-product, installation of compliance wells, and a mussel survey.

In FY02, a draft report from the mussel survey conducted in the slough adjacent to the landfill was completed. The final report from the mussel survey was sent out for comment to the Natural Resource trustees in February 2002.

In April 2002, a soil vapor extraction (SVE) pilot study was conducted and any bulk free-product found in the wells in question was pumped out. This pilot study was used to extract contamination from the soil in specific locations on the landfill. The results of the test indicated SVE was not a viable option. The compliance wells were sampled on a quarterly basis to determine the level of contamination at those points.

The FS was drafted in FY02 and was submitted to the IEPA. A PBA was awarded in FY04. Comments from the FS were received and the new PBA contractor is responsible for addressing the comments.

In 2004, under the newly awarded PBA, the contractor began to revise the FS to include the data from the mussel survey, SVE pilot study and an Endangered Species Act effects analysis and ecological risk addendum.

The draft final FS was sent to the IEPA on July 25, 2006 and the IEPA responded with substantive comments on April 2, 2007. The previous PBA expired in 2010 and a new PBA was contracted in 2011 to run through 2015 to address the soil contamination. The Army and the IEPA have agreed upon a ROD dated June 2014 and the soil remedial action, soil cover, was completed in summer 2015. The construction completion report for the soil related activities was received in January 2016 and is in progress. Spring and Fall groundwater monitoring was completed in April and October 2015. The Draft Final Uniform Federal Policy (UFP) QAPP for RIA-001, RIA-007, RIA-014, RIA-064, and RIA-069 was submitted in November 2015 with IEPA comments and response to comments in February 2016 followed by final QAPP in March 2016. The groundwater remediation path forward will be determined at a later date. A new PBA will be contracted in 2016 to address the groundwater contamination.

CLEANUP/EXIT STRATEGY

The Army and the IEPA had reached a DRA. To address the DRA, a new PBA was contracted in FY11 to run through FY15, and it includes completing an FFS, river bank revetment, groundwater bioremediation, compliance sampling, storm water line removal, and cover installation. A ROD has also been reached, and the soil remedial action was completed in the summer of 2015 with the associated construction completion report in progress. A project to investigate the Silurian Aquifer beneath the landfill was initiated in FY10. Bi-annual monitoring of point of compliance wells is also scheduled.

Following this PBA, a new PBA will be issued in FY16 to address the groundwater contamination and incorporate the Applicable or Relevant and Appropriate Requirements (ARAR) to be decided on by the Army and the IEPA. This PBA will include bioremediation of the groundwater as indicated by the studies included in the previous PBA. Once the site has reached regulatory standards, LTM will be started (projected in FY21). The LTM will include site maintenance and required groundwater monitoring. A site-specific LUCIP will be written and incorporated into the installation LUCMOA between the IEPA and the Army.

The LUCIP will also be incorporated in the installation master plan.

Site Name: Old Landfill - Silurian Aquifer

STATUS

Regulatory Driver: CERCLA
RRSE: LOW

Table with 3 columns: Phases, Start, End. Rows include PA, SI, RI/FS, RIP Date, and RC Date.

SITE DESCRIPTION

The OLF occupies approximately 20 acres on the south central shore of RIA. Records indicate that industrial processes wastes at RIA were disposed of in the OLF between 1920 and 1965.

In 1978, a water pollution study evaluated the potential seepage of pollutants from the landfill.

In 1979, an installation assessment was conducted by the USATHAMA to evaluate the environmental quality at RIA with regard to the use, storage, treatment, and disposal of toxic and hazardous materials.

In 1987, a site assessment was conducted at RIA. A clay cap has been placed over the landfill and required the Army to investigate the landfill for contaminants.

In 1994 and 1995, a site Phase I RI was conducted.

In 1996, the XYZ Fire Training Area (RIA-003) was combined with the Landfill (RIA-001). The training at the XYZ area, discontinued in 1982, used wood and other combustible materials during exercises inside buildings.

In 1997 and 1998, a Phase II RI was conducted at the site and included obtaining additional site characterization data to complement the Phase I results, supporting the baseline HHRA and ecological risk assessment, and defining the extent of contamination with respect to landfill hot spots.

In September 2004, a small business PBA was awarded. It covers work through RC for sites RIA-001 and RIA-014. The contractor has completed the draft FS for site RIA-001, the OLF and it has been submitted to the IEPA.

In 2005, as part of the RI of the OLF, two deep wells were installed into the Silurian aquifer and were then sampled in March and October. The sample results identified the presence of contamination in the Silurian aquifer; however, the connection or pathway between contamination in the OLF and the Silurian aquifer could not be determined.

To delineate the contamination in the Silurian aquifer a separate project from the OLF project was undertaken. A sampling event took place February 2010 at the two deep wells to determine if previous sampling results were accurate.

RIA-001A was developed to address the trichlorethylene (TCE) in groundwater associated with RIA-001. Other sites on RIA have detected TCE in groundwater. More specifically, the Silurian bedrock groundwater.

Site ID: RIA-001A
Site Name: Old Landfill - Silurian Aquifer

drinking water purposes, the Silurian groundwater is considered a source of drinking water per the state of Illinois.

A contract for an RI/FS was awarded in May 2015. The purpose of the RI/FS is to determine a potential course of action and possibly combine all sites that have TCE contamination in a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) action and help reduce the overall groundwater monitoring program.

The Draft Final UFP QAPP for RIA-001a was submitted to the IEPA for review. IEPA has reviewed and provided comments on the QAPP and a response to comments has been submitted back to IEPA in March 2016.

CLEANUP/EXIT STRATEGY

The cleanup exit strategy consists of additional biotreatment, groundwater monitoring, and eventually monitored natural attenuation (MNA).

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 198606..... | 198612 |
| SI..... | 199901..... | 199909 |
| RI/FS..... | 200001..... | 200905 |
| IRA..... | 199205..... | 199207 |
| RA(C)..... | 200806..... | 201010 |
| RA(O)..... | 201201..... | 204604 |

RIP Date: 201201

RC Date: 204604

SITE DESCRIPTION

RIA-014 (UST 34) is a site near Buildings 250, 251, and 254. Contamination was discovered during the removal of UST 34. In 1989 an IRA in conjunction with the removal of the abandoned UST removed about 200 cubic yards of contaminated soil. The soil was sent to a permitted landfill manifested as special waste. The FS was finalized to incorporate new groundwater data.

An RI was completed and the plume migration pathways have been identified. PAHs were the initial contaminants of concern. TCE has been subsequently discovered at relatively low levels. An additional investigation was completed to delineate the soil contamination and groundwater plume. A low level detection of explosives has been found in soils. A World War I melt-and-pour facility is the probable source of the explosive contaminants that were identified. The final RI report was submitted to the IEPA and approved in January 2008.

In FY04, a PBA was awarded on this site and RIA-001 (the Old Landfill); however, this contract lapsed prior to the completion of the FS.

One sampling event was conducted in FY10 and one in FY11. The results of these events indicated that the site has not reached remedial limits. In FY12 a PBA was awarded on this site and RIA-001. An FS, PP and ROD were completed for this site using previous sampling data and it is expected that the site will be monitored until regulatory parameters are met. The site will be placed in the RIA Master Environmental LUCMOA program.

A new PBA was awarded in FY15 to continue monitoring. Semi-annual groundwater monitoring and reporting has been conducted through fall 2015.

CLEANUP/EXIT STRATEGY

The site is close to meeting the regulatory requirements. The site groundwater will be monitored semiannually until regulatory requirements are met. A LUCIP is in place, and the site is part of the LUCMOA program.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|----------|--|----------|---|
| RIA-002 | USTs 8,9,10,11 at BLDG 222 | 198809 | IEPA Coordinated Permit Committee (COPRA) letter accepting cleanup effort at site, 16 Aug 88 |
| RIA-004 | ASH PILE | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-005 | AST AT BLD 222 TEMPORARY | 198805 | Site was entered into database erroneously therefore no closure documentation is available. However, state closure was granted in 1995. |
| RIA-006 | LANDFILL CONSTRUCTION DEBRIS | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-008 | OLD QUARRY FILLED WITH WATER | 200309 | Closure letter from IEPA - Apr 2004 |
| RIA-009 | BURIAL SITE NE BLD 342 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-010 | FORMER SHELLBREAKER AND DRMO STG | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-011 | CASING BURIAL AREA MUN BURIAL | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-012 | HAZARDOUS WASTE STG AREA BLD 242 | 198805 | Active site - not eligible for E,RA funding. Closure was approved by IEPA - 1995 |
| RIA-013A | HAZ SATELLITE STG AREAS BLD 33 | 199407 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013B | HAZ SATELLITE STG AREAS BLD 64 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013C | HAZ SATELLITE STG AREAS BLD 65 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013D | HAZ SATELLITE STG AREAS BLD 69 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013E | HAZ SATELLITE STG AREAS BLG 106 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013F | HAZ SATELLITE STG AREAS BLG 108 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013G | HAZ SATELLITE STG AREAS BLD 112 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013H | FORMER HAZ SATELLITE STG AREAS BLD 131 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013I | FORMER SATELLITE STG AREA BLD 133 | 198805 | Site was entered into database erroneously therefore no closure |

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|----------|---------------------------------------|----------|---|
| | | | documentation is available. |
| RIA-013K | HAZ SATELLITE STG AREA BLD 139 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013L | HAZ SATELLITE STG AREA BLD 208 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013M | HAZ SATELLITE STG AREA BLD 220 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013N | HAZ SATELLITE STG AREAS BLD 220 (OIL) | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013O | HAZ SATELLITE STG AREAS BLD 222 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013P | HAZ SATELLITE STG AREAS BLD 230 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013R | HAZ SATELLITE STG AREAS BLD 250 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013S | HAZ SATELLITE STG AREAS BLD 299 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |
| RIA-013T | HAZ SATELLITE STG AREAS BLD 337 | 198805 | Site was entered into database erroneously therefore no closure documentation is available. |

IRP Schedule

Date of IRP Inception: 197902

Past Phase Completion Milestones

1980

RFA (RIA-004 - ASH PILE)
PA (RIA-001 - OLD LANDFILL, RIA-006 - LANDFILL CONSTRUCTION DEBRIS, RIA-008 - OLD QUARRY FILLED WITH WATER, RIA-009 - BURIAL SITE NE BLD 342, RIA-010 - FORMER SHELLBREAKER AND DRMO STG, RIA-011 - CASING BURIAL AREA MUN BURIAL)

1987

PA (RIA-014 - UST (34))

1988

SI (RIA-001 - OLD LANDFILL, RIA-005 - AST AT BLD 222 TEMPORARY, RIA-006 - LANDFILL CONSTRUCTION DEBRIS, RIA-008 - OLD QUARRY FILLED WITH WATER, RIA-009 - BURIAL SITE NE BLD 342, RIA-010 - FORMER SHELLBREAKER AND DRMO STG, RIA-011 - CASING BURIAL AREA MUN BURIAL)

ISC (RIA-002 - USTs 8,9,10,11 at BLDG 222)

INV (RIA-002 - USTs 8,9,10,11 at BLDG 222)

PA (RIA-005 - AST AT BLD 222 TEMPORARY)

RFA (RIA-012 - HAZARDOUS WASTE STG AREA BLD 242, RIA-013A - HAZ SATELLITE STG AREAS BLD 33, RIA-013B - HAZ SATELLITE STG AREAS BLD 64, RIA-013C - HAZ SATELLITE STG AREAS BLD 65, RIA-013D - HAZ SATELLITE STG AREAS BLD 69, RIA-013E - HAZ SATELLITE STG AREAS BLG 106, RIA-013F - HAZ SATELLITE STG AREAS BLG 108, RIA-013G - HAZ SATELLITE STG AREAS BLD 112, RIA-013H - FORMER HAZ SATELLITE STG AREAS BLD 131, RIA-013I - FORMER SATELLITE STG AREA BLD 133, RIA-013K - HAZ SATELLITE STG AREA BLD 139, RIA-013L - HAZ SATELLITE STG AREA BLD 208, RIA-013M - HAZ SATELLITE STG AREA BLD 220, RIA-013N - HAZ SATELLITE STG AREAS BLD 220 (OIL), RIA-013O - HAZ SATELLITE STG AREAS BLD 222, RIA-013P - HAZ SATELLITE STG AREAS BLD 230, RIA-013R - HAZ SATELLITE STG AREAS BLD 250, RIA-013S - HAZ SATELLITE STG AREAS BLD 299, RIA-013T - HAZ SATELLITE STG AREAS BLD 337)

CS (RIA-004 - ASH PILE, RIA-012 - HAZARDOUS WASTE STG AREA BLD 242, RIA-013A - HAZ SATELLITE STG AREAS BLD 33, RIA-013B - HAZ SATELLITE STG AREAS BLD 64, RIA-013C - HAZ SATELLITE STG AREAS BLD 65, RIA-013D - HAZ SATELLITE STG AREAS BLD 69, RIA-013E - HAZ SATELLITE STG AREAS BLG 106, RIA-013F - HAZ SATELLITE STG AREAS BLG 108, RIA-013G - HAZ SATELLITE STG AREAS BLD 112, RIA-013H - FORMER HAZ SATELLITE STG AREAS BLD 131, RIA-013I - FORMER SATELLITE STG AREA BLD 133, RIA-013K - HAZ SATELLITE STG AREA BLD 139, RIA-013L - HAZ SATELLITE STG AREA BLD 208, RIA-013M - HAZ SATELLITE STG AREA BLD 220, RIA-013N - HAZ SATELLITE STG AREAS BLD 220 (OIL), RIA-013O - HAZ SATELLITE STG AREAS BLD 222, RIA-013P - HAZ SATELLITE STG AREAS BLD 230, RIA-013R - HAZ SATELLITE STG AREAS BLD 250, RIA-013S - HAZ SATELLITE STG AREAS BLD 299, RIA-013T - HAZ SATELLITE STG AREAS BLD 337)

IMP(C) (RIA-002 - USTs 8,9,10,11 at BLDG 222)

1992

IRA (RIA-014 - UST (34))

1994

RFI/CMS (RIA-013A - HAZ SATELLITE STG AREAS BLD 33)

1999

SI (RIA-014 - UST (34))

2002

RI/FS (RIA-008 - OLD QUARRY FILLED WITH WATER)

RD (RIA-008 - OLD QUARRY FILLED WITH WATER)

2003

RA(C) (RIA-008 - OLD QUARRY FILLED WITH WATER)

2005

PA (RIA-001A - Old Landfill - Silurian Aquifer)

IRP Schedule

2009

RI/FS (RIA-014 - UST (34))

2011

RA(C) (RIA-014 - UST (34))

2013

SI (RIA-001A - Old Landfill - Silurian Aquifer)

Additional Past Phase Completion Milestones

2014 DD RIA-001

2014 DD RIA-014

2015 RI RIA-007

Projected Phase Completion Milestones

See attached schedule

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

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

Final RA(C) Completion Date: 201910

Schedule for Next Five-Year Review: 2019

Estimated Completion Date of IRP at Installation (including LTM phase): 204609

ROCK ISLAND ARSENAL IRP Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|----------|---------------------------------|-------|------|------|------|------|------|-------|
| RIA-001 | OLD LANDFILL | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| RIA-001A | Old Landfill - Silurian Aquifer | RI/FS | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| RIA-014 | UST (34) | RA(O) | | | | | | |

ROCK ISLAND ARSENAL
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 3/1

Installation Site Types with Future and/or Underway Phases

- 1 Contaminated Ground Water
(CC-RIA-007)
- 1 Plating Shop
(CC-RIA-69)

Most Widespread Contaminants of Concern

Metals, Volatiles (VOC)

Media of Concern

Groundwater

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

| Site ID | Site Name | Action | Remedy | FY |
|-----------|------------------------------|--------|---------|------|
| CC-RIA-54 | BLDG 54 Oil Storage Building | FRA | REMOVAL | 2010 |

Duration of CR

Date of CR Inception: 200610

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 202007/204707

Date of CR completion including Long Term Management (LTM): 204707

CR Contamination Assessment

Contamination Assessment Overview

The Building 69 site (CC-RIA-69) is the former Small Arms Plating Shop. The groundwater contaminants of concern are chromium and VOCs. It is anticipated that the site will require bioremediation for the groundwater. A RCRA facility investigation (RFI)/corrective measures study (CMS) is planned, and a PBA has been issued for this and two other sites.

CC-RIA-007 is a former construction landfill. The contaminant of concern is TCE in the groundwater. An RFI/CMS is planned for the site and it will be part of the above PBA. It is expected that bioremediation will be used to remediate the site groundwater.

Cleanup Exit Strategy

The CC-RIA-69 and CC-RIA-007 sites have both been included in a PBA for three RIA sites. Both sites will have remedial studies conducted, and it is expected that both sites will be remediated via groundwater remediation. It is expected that both sites will have LUCIPs instituted and go into LTM.

CR Previous Studies

| | Title | Author | Date |
|-------------|--|----------------------------------|-------------|
| 2010 | Building 69 Preliminary Environmental Investigation | Foth | FEB-2010 |
| 2011 | CC-RIA-007 Preliminary Site Assessment | Environmental Quality Management | FEB-2011 |
| | Building 69 Remedial Investigation Report | Foth | OCT-2011 |
| 2012 | Fall 2012 Groundwater Monitoring Plan RIA-069, and RIA-064 | URS | OCT-2012 |
| 2013 | Fall 2012 Groundwater Monitoring Report, RIA-69 and RIA-064 | URS | JAN-2013 |
| | UFP Quality Assurance Project Plan (QAPP), RIA-007, RIA-069, and RIA-064 | URS | APR-2013 |
| | UFP Quality Assurance Project Plan (QAPP), RIA-007, RIA-064, RIA-069 | URS | APR-2013 |
| | Spring 2013 Groundwater Monitoring Report RIA-069 Incidental Plating Shop | URS | JUL-2013 |
| 2015 | Final Fall 2014 Groundwater Monitoring Report RIA-069 | URS | JAN-2015 |
| | Final Remedial Investigation Report RIA-007 | URS | JUN-2015 |
| | Final UFP QAPP Addendum, RIA-069 Remedial Investigation Work Plan | URS | JUN-2015 |
| 2016 | Final UFP Quality Assurance Project Plan, RIA-007, RIA-069, RIA-001, and RIA-064 | AECOM (formerly URS) | MAR-2016 |

ROCK ISLAND ARSENAL
Compliance Restoration
Site Descriptions

Site ID: CC-RIA-007
Site Name: Former Construction Landfill

STATUS

Regulatory Driver: CERCLA
Contaminants of Concern: Volatiles (VOC)
Media of Concern: Groundwater

| Phases | Start | End |
|------------------|--------------|------------|
| PA..... | 200805..... | 200812 |
| SI..... | 201006..... | 201009 |
| RI/FS..... | 201207..... | 201709 |
| RD..... | 201709..... | 201807 |
| RA(C)..... | 201808..... | 202007 |
| RA(O)..... | 201708..... | 204707 |
| RIP Date: | 202007 | |
| RC Date: | 204707 | |

SITE DESCRIPTION

The CC-RIA-007 Former Construction Landfill site is a grassed area between the POL facility and Sylvan Slough. The area was named SWMU RIA-7 in the US Army Environmental Hygiene Agency (USAEHA) Groundwater Contamination Survey No. 38-26-0308-88, Interim Final Report dated May 16-21, 1988. It may also be known as Site 23, as identified in the Installation Assessment of Rock Island Arsenal, Report No.164, December 1979, USATHAMA. The 1988 USAEHA report states that the site was used to landfill construction debris in the 1960s through the mid-1970s. Some of the area was investigated in 1990 and 1991, as part of a POL spill incident. The final report is "POL Facility Investigation of Leaking Underground Storage Tanks, Rock Island Arsenal, D/A File No. 5680.06, May 1991". The contractor was not informed of the past use of the site and only the potential for petroleum contamination and transport was investigated. Review of the document indicates that some apparent landfill contamination was detected by the active soil gas survey. During the winter of 1996-1997, groundwater was classified according to IEPA rules ("Draft Groundwater Classification Investigation Report for the Old Landfill Site at Rock Island Arsenal, March 1997"). Although the intent of the wells installed was to only conduct a pump test of the aquifer, some contamination was also discovered. Sampling results of a 2009 monitoring well survey indicated that the RIA-007 site should be investigated. A preliminary investigation has been completed and sampling results indicated contamination above state soil remediation standards and groundwater remediation standards. The site transferred from the Compliance-related Cleanup (CC) program. This site is part of the FY12 PBA effort at RIA.

An RI was completed in the summer of 2015. A draft final FS was completed in September 2015 and IEPA comments to the report were received Nov. 12, 2015. Response to the comments is in process and anticipated in March 2016. Groundwater contamination at the site appears to be coming from an offsite source. The Draft Final UFP QAPP for RIA-001, RIA-007, RIA-014, RIA-064, and RIA-069 was submitted in November 2015 with IEPA comments and the response to the comments following in February 2016.

CLEANUP/EXIT STRATEGY

A PP and a DD will be written based upon the RI and FS which will outline the remedial path forward at the site. The site is included on a FY15 PBA for five sites at RIA (CR-RIA-001a, CR-RIA-007, IRP-RIA-14, CC-RIA-64, and CR-RIA-069) and was transferred from the CC program to the CR program.

Site Name: BLDG 69 Production, Plating and Tinning

STATUS

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

Table with 3 columns: Phases, Start, End. Rows include PA, SI, RI/FS, RA(C), RA(O) with corresponding dates. Includes RIP Date: 201709 and RC Date: 204609.

SITE DESCRIPTION

A mix of production, plating and tinning operations were performed within Building 69 until about 1980. Until the building structure was demolished in 2007, the major use was for storage.

The building was demolished during FY07, but the foundation and floor remain in place. A plating pit was filled and covered with a high density polyethylene membrane to minimize infiltration. A PA/SI was performed and included groundwater and soil sampling. The PA results indicated chromium contamination. This site is part of the FY12 PBA at RIA. Additional wells have been installed and the site has had biotreatment injections to help reduce chromium contamination. The site moved into the IEPA federal compliance program in FY14. An RI/FS report was completed and submitted to the IEPA in 2015 with IEPA comments following in January 2016. A second biotreatment injection was performed in 2015. Two groundwater monitoring events were conducted in FY15 and will continue in FY16.

The Draft Final UFP QAPP for RIA-001, RIA-007, RIA-014, RIA-064, and RIA-069 was submitted in November 2015 with IEPA comments and the response to the comments following in February 2016.

CLEANUP/EXIT STRATEGY

The Building 69 site was included in a PBA for three sites at RIA [CC-RIA-69, CC-RIA-007, and CC-RIA-64 (CC-RIA-064 is part of the CC program)]. There will be an RFI/CMS performed, and the expected remediation will be bioremediation of the groundwater. The site should then go to LTM, and a LUCIP should be placed on the site.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|-----------|------------------------------|----------|--------------------------|
| CC-RIA-54 | BLDG 54 Oil Storage Building | 201008 | NFA Letter from the IEPA |

Date of CR Inception: 200610

Past Phase Completion Milestones

2007

PA (CC-RIA-69 - BLDG 69 Production, Plating and Tinning)
RFA (CC-RIA-54 - BLDG 54 Oil Storage Building)

2009

SI (CC-RIA-69 - BLDG 69 Production, Plating and Tinning)
PA (CC-RIA-007 - Former Construction Landfill)

2010

CMI(C) (CC-RIA-54 - BLDG 54 Oil Storage Building)
SI (CC-RIA-007 - Former Construction Landfill)

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: 202007

Schedule for Next Five-Year Review: 2019

Estimated Completion Date of CR at Installation (including LTM phase): 204707

ROCK ISLAND ARSENAL CR Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
|------------|---|-------|------|------|------|------|------|-------|
| CC-RIA-007 | Former Construction Landfill | RI/FS | | | | | | |
| | | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |
| SITE ID | SITE NAME | PHASE | FY17 | FY18 | FY19 | FY20 | FY21 | FY22+ |
| CC-RIA-69 | BLDG 69 Production, Plating and Tinning | RI/FS | | | | | | |
| | | RA(C) | | | | | | |
| | | RA(O) | | | | | | |

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 200804

Restoration Advisory Board (RAB): No

Reason Not Established: The community has expressed no sufficient, sustained interest in a RAB.

Community Interest Solicited on: 201603

Efforts Taken to Determine Interest

A RAB solicitation is in process. A RAB letter and survey is being sent to community leaders and a notice will be placed in local newspapers in April 2016. The same was done in May 2009, September 2011, and June 2013.

Results

Due to a poor response and a lack of interest to the 2007, 2009, 2011, and 2013 solicitations, a RAB has not been established.

Follow-up Procedures

N/A

Additional Community Involvement Information

A public meeting was held on Jan. 30, 2013 at RIA to allow the public to review and provide input to the remedy selection at the Old Landfill RIA-001 and the UST-34 site RIA-014 in accordance with the CERCLA regulations.

Administrative Record is located at

Rock Island Arsenal Vault, 1st floor
Building 102, Rodman Avenue
Rock Island Arsenal,
Rock Island, IL 61299

Information Repository is located at

Rock Island Arsenal Vault, 1st floor
Building 102, Rodman Avenue
Rock Island Arsenal,
Rock Island, IL 61299

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

TAPP Title: N/A

Potential TAPP: N/A

