

FY2015

PINE BLUFF ARSENAL

Army Defense Environmental Restoration Program

Installation Action Plan

Printed 04 August 2015

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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, the US Army Environmental Command (USAEC), Pine Bluff Arsenal (PBA), 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

| | |
|--------|--|
| ADEQ | Arkansas Department of Environmental Quality |
| AEDB-R | Army Environmental Data Base - Restoration |
| AMC | Army Materiel Command |
| AOC | Area of Concern |
| AR | Arkansas |
| ARK-LA | Arkansas - Louisiana |
| BMV | Boming Mat Vicinity |
| BZ | Benzilate |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act of 1980 |
| CMI(C) | Corrective Measures Implementation (Construction) |
| CMI(O) | Corrective Measures Implementation (Operation) |
| CMS | Corrective Measures Study |
| CS | Confirmation Sampling |
| CWM | Chemical Warfare Materiel |
| DD | Decision Document |
| DDT | Dichlorodiphenyltrichloroethane |
| DES | Design |
| DoD | Department of Defense |
| ER,A | Environmental Restoration, Army |
| FRA | Final Remedial Action |
| FS | Feasibility Study |
| FY | Fiscal Year |
| HC | Hexachloroethane |
| HDPE | High Density Polyethylene |
| HRR | Historical Records Review |
| IAP | Installation Action Plan |
| ID | Identification |
| IM | Interim Measure |
| IRA | Interim Remedial Action |
| IRP | Installation Restoration Program |
| LTM | Long-Term Management |
| LUC | Land Use Controls |
| MC | Munitions Constituent |
| MCL | Maximum Contaminant Level |
| MEC | Munitions and Explosives of Concern |
| MMRP | Military Munitions Response Program |
| MRSPP | Munitions Response Site Prioritization Protocol |
| N/A | Not Applicable |
| NCTR | National Center for Toxicological Research |
| NFA | No Further Action |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List |
| PA | Preliminary Assessment |
| PBA | Pine Bluff Arsenal |
| PP | Proposed Plan |

Acronyms

| | |
|--------|---|
| RA | Remedial Action |
| RA(C) | Remedial Action (Construction) |
| RA(O) | Remedial Action (Operation) |
| RAB | Restoration Advisory Board |
| RADD | Remedial Action Decision Document |
| RC | Response Complete |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RFA | RCRA Facility Assessment |
| RFI | RCRA Facility Investigation |
| RI | Remedial Investigation |
| RIP | Remedy-in-Place |
| ROD | Record of Decision |
| RRSE | Relative Risk Site Evaluation |
| SI | Site Inspection |
| SVOC | Semi-Volatile Organic Compound |
| SWMU | Solid Waste Management Unit |
| TAPP | Technical Assistance for Public Participation |
| TOX | Total Organic Halides |
| TRC | Technical Review Committee |
| USACE | US Army Corps of Engineers |
| USAEC | US Army Environmental Command |
| USAEHA | US Army Environmental Hygiene Agency |
| USAJMC | US Army Joint Munitions Command |
| USEPA | US Environmental Protection Agency |
| VOC | Volatile Organic Compound |

Acronym Translation Table

CERCLA

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

RCRA

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

Site Alias List

AEDB-R Site ID to Alias List

| AEDB-R # | Alias |
|-----------------|--------------|
| PBA-001-R-01 | Site 62 |
| PBA-002-R-01 | Site 63 |
| PBA-04 | SWMU 25 |
| PBA-07A | SWMU 22 |
| PBA-07B | SWMU 19 |
| PBA-07C | SWMU 21 |
| PBA-07D | SWMU 20 |
| PBA-08 | SWMU 74 |
| PBA-11 | SWMU 29 |
| PBA-20A | SWMU 53 |
| PBA-23A | SWMU 62 |
| PBA-24 | SWMU 63 |
| PBA-27 | SWMU 65 |
| PBA-29 | SWMU 27 |
| PBA-41 | SWMU 1 |
| PBA-44 | SWMU 12 |

Installation Information

Installation Locale

Installation Size (Acreage): 13500

City: Pine Bluff

County: Jefferson

State: Arkansas (AR)

Other Locale Information

Pine Bluff Arsenal (PBA) occupies approximately 13,500 acres in Jefferson County, Arkansas, approximately eight miles northwest of Pine Bluff and 30 miles southeast of Little Rock, AR, the State Capitol.

Installation Mission

PBA is an element of the US Army Joint Munitions Command (USAJMC). PBA satisfies the Department of Defense's (DoD) peacetime and replenishment requirements by providing the US and Allied forces with critical products and services that are primarily unavailable from other sources. PBA's core primary missions include: conventional ammunition, chemical biological defense, engineering and technical support, mobile and powered system support and base operations support to numerous tenant activities. Also a conventional depot, PBA has 1.3 million square feet of storage capacity with over 75,000 tons of inventory. PBA also provides specialized training and logistical support for the Department of Homeland Security.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

Pine Bluff Arsenal

Regulator Participation

| | |
|----------------|---|
| Federal | US Environmental Protection Agency (USEPA), Region VI, Site Assessment and Federal Facilities Section, Dallas, TX |
| State | Arkansas Department of Environmental Quality (ADEQ) |

National Priorities List (NPL) Status

PINE BLUFF 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: Chemical weapon munitions (CWM)/Chemical agent, Metals, Munitions constituents (MC), Pesticides, Semi-volatiles (SVOC), Volatiles (VOC)

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

MMRP

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

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

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

| Status | Start Date | End Date | End FY |
|----------|------------|----------|--------|
| Complete | 200705 | 200903 | 2009 |
| Underway | 201406 | 201504 | 2015 |

Last Completed 5-Year / Periodic Review Details

| Associated ROD/DD Name | Sites |
|--------------------------|--|
| Corrective Measure Study | PBA-04, PBA-07A, PBA-07B, PBA-07C, PBA-07D, PBA-08, PBA-11, PBA-11A, PBA-11B, PBA-11C, PBA-11D, PBA-11E, PBA-11F, PBA-20A, PBA-23A, PBA-24, PBA-27, PBA-29, PBA-41, PBA-44 |

Results Five-Year Review provided maintenance and optimization recommendations.

Actions There will be no general changes to the monitoring plan. At the regulators request during the latest CMS revision PBA will be making some minor changes to the ecological monitoring plan. Some additional parameters will be added to specific sites.

Plans Continue monitoring with any changes being on an as needed basis based on the Periodic Reviews or changes in condition.

Recommendations and Implementation Plans:

PBA requests periodic modifications to the groundwater and ecological monitoring plans on an as-needed basis. There are no modifications to either plan that are currently pending. There will be a relatively large revision of the plans in conjunction with the new permit (2017). Monitoring and LTM will continue without change unless the 2014 periodic remedy review contains suggested changes that PBA and the ADEQ accept as beneficial to the program and compatible with the RCRA permit and RADD.

Cleanup Program Summary

Installation Historic Activity

The War Department established PBA in 1941 for the manufacture, loading and assembly of incendiary and chemical munitions. Facilities were placed in active operation in 1942. Storage magazines, laboratories and associated administrative and support facilities were also constructed. During the ensuing two decades, chemical synthesis on the reservation produced chemicals such as chlorine, mustard, lewisite, and biologically active products. Formulations mixed or filled include incendiary bombs, white phosphorous, tear gas (chlorobenzylidenemalononitrile, 2 chlorobenzalmalonitrile), smoke materials, and benzilate (BZ) incapacitating agent.

Surplus facilities were leased to a contractor in the 1950s for the synthesis of chlorine, caustics, dichlorodiphenyl trichloroethane (DDT) and chlorobenzene. Biological demilitarization was completed in 1972 and the associated portion of the facility transferred to the Food and Drug Administration for the National Center for Toxicological Research (NCTR). PBA currently manufactures smoke, riot control, incendiary and pyrotechnic agents and munitions, as well as operating a protective mask rework facility, a storage depot and other facilities.

PBA is a leader in environmental restoration activities, having made the decision to initiate programs to correct past operations of the arsenal well before regulation or law required such efforts. The US Army Environmental Hygiene Agency (USAEHA) placed 15 monitoring wells near suspected groundwater contamination in 1966. Numerous other studies and RAs followed through ensuing decades.

PBA submitted a final CMS to the ADEQ in November 2008. The CMS was approved in January 2009. A remedial action decision document (RADD) was completed and issued by the ADEQ in August 2009. The CMS included an LTM plan that is being implemented with ADEQ approval and issuance of the RADD and Resource Conservation and Recovery Act (RCRA) permit modification.

Installation Program Cleanup Progress

IRP

Prior Year Progress: All assessments were completed and submitted to appropriate regulatory agencies.

Future Plan of Action: LTM will continue at all sites. Completion of required annual assessments will continue.

MMRP

Prior Year Progress: Huntsville District Corps of Engineers is currently managing a contract with Chicago Bridge and Iron. The RI/FS phase has been completed, a plan is approved, and a final decision document (DD) is anticipated.

Future Plan of Action: The DD will be finalized and the US Army Corps of Engineers (USACE) will be awarding a contract to begin the removal of five pits and for the 100 percent surface clearance of the Bombing Mat to begin in fiscal year (FY)16.

PINE BLUFF ARSENAL
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 74/60

Installation Site Types with Future and/or Underway Phases

| | |
|---|--|
| 5 | Burn Area (PBA-04, PBA-07C, PBA-08, PBA-20A, PBA-23A) |
| 1 | Contaminated Buildings (PBA-11) |
| 1 | Landfill (PBA-41) |
| 1 | Storage Area (PBA-07A) |
| 3 | Surface Disposal Area (PBA-07B, PBA-24, PBA-29) |
| 3 | Surface Impoundment/Lagoon (PBA-07D, PBA-27, PBA-44) |

Most Widespread Contaminants of Concern

Chemical weapon munitions (CWM)/Chemical agent, Metals, Munitions constituents (MC), Pesticides, 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 |
|---------|---|--------|--|------|
| PBA-15 | CLOSED SANI & DDT LANDFILL (SWMU 32) | FRA | CAPPING | 1975 |
| PBA-15 | CLOSED SANI & DDT LANDFILL (SWMU 32) | FRA | DRAINAGE CONTROLS | 1975 |
| PBA-11A | DDT SEDIMENT RETENTION BASIN1(SWMU 18) | IRA | WASTE REMOVAL - SOILS | 1978 |
| PBA-11B | DDT SEDIMENT RETENTION BASIN2(SWMU 18) | IRA | WASTE REMOVAL - SOILS | 1978 |
| PBA-11C | DDT SEDIMENT RETENTION BASIN3(SWMU 18) | IRA | WASTE REMOVAL - SOILS | 1978 |
| PBA-18 | CLOSED SANITARY LANDFILL (SWMU 54) | IRA | CAPPING | 1980 |
| PBA-11A | DDT SEDIMENT RETENTION BASIN1(SWMU 18) | FRA | DRAINAGE CONTROLS | 1985 |
| PBA-11B | DDT SEDIMENT RETENTION BASIN2(SWMU 18) | FRA | DRAINAGE CONTROLS | 1985 |
| PBA-11C | DDT SEDIMENT RETENTION BASIN3(SWMU 18) | FRA | DRAINAGE CONTROLS | 1985 |
| PBA-27 | AGENT BZ POND (SWMU 65) | FRA | CAPPING | 1987 |
| PBA-27 | AGENT BZ POND (SWMU 65) | FRA | WASTE REMOVAL - SOILS | 1987 |
| PBA-02 | WEBSTER ROAD TEST SITE (SWMU 6) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-07C | MUSTARD AGENT BURNING YARD (SWMU 21) | FRA | CAPPING | 1988 |
| PBA-10A | DEPOT DEMOL, N BURN AREA (SWMU 8) | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1988 |
| PBA-13A | ABANDONED BURN PIT (SWMU 11) | FRA | DRAINAGE CONTROLS | 1988 |
| PBA-16A | WHITE PHOSPHORUS LANDFILL (SWMU 33) | FRA | CAPPING | 1988 |

IRP Summary

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

| Site ID | Site Name | Action | Remedy | FY |
|---------|--|--------|---|------|
| PBA-17 | OLD PRODUCT TEST RANGE (SWMU 36) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-26 | PRODUCT ASSURANCE TEST RANGE (SWMU 64) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-31A | PRODUCT ASSURANCE TEST RANGE (SWMU 72) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-34 | NCTR EQUALIZATION POND (SWMU 4) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-38 | IMPREGNITE SLUDGE LAGOON (SWMU 68) | FRA | WASTE REMOVAL - SOILS | 1988 |
| PBA-07B | LEWISITE DISPOSAL AREA (SWMU 19) | FRA | CAPPING | 1989 |
| PBA-12 | MUSTARD BURN PIT (SWMU 10) | FRA | WASTE REMOVAL - SOILS | 1989 |
| PBA-23A | WHITE SMOKE TEST POND (SWMU 62) | FRA | DRAINAGE CONTROLS | 1989 |
| PBA-29 | SOLID WASTE ARK-LA SITE (SWMU 27) | FRA | DRAINAGE CONTROLS | 1989 |
| PBA-29A | SALT PILE (SWMU 30) | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1989 |
| PBA-07D | STORAGE YARD BORROW PITS (SWMU 20) | FRA | CAPPING | 1990 |
| PBA-20A | SOUTH DEPOT DISPOSAL AREA (SWMU 53) | FRA | CAPPING | 1990 |
| PBA-20A | SOUTH DEPOT DISPOSAL AREA (SWMU 53) | FRA | DRAINAGE CONTROLS | 1990 |
| PBA-54 | WP STORAGE UST'S (35) | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1991 |
| PBA-61 | TANK 33-320A | FRA | WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS | 1992 |
| PBA-60 | OLD BZ PRODUCTION AREA (SWMU 66) | FRA | OTHER | 1997 |
| PBA-11 | OLD CHEM MANUFACTURING (SWMU 29) | FRA | CONTAINMENT | 2004 |
| PBA-11 | OLD CHEM MANUFACTURING (SWMU 29) | FRA | CAPPING | 2004 |
| PBA-03 | OLD DDT DISPOSAL AREA (SWMU 75) | FRA | REMOVAL | 2005 |
| PBA-11D | DDT LANDFILL BLDG #54-270 (SWMU 24) | FRA | CONTAINMENT | 2005 |
| PBA-11D | DDT LANDFILL BLDG #54-270 (SWMU 24) | FRA | CAPPING | 2005 |
| PBA-11E | DDT LANDFILL BLDG #54-325 (SWMU 24) | FRA | CONTAINMENT | 2005 |
| PBA-11E | DDT LANDFILL BLDG #54-325 (SWMU 24) | FRA | CAPPING | 2005 |
| PBA-11F | SEDIMENTS CONTAINING DDT (SWMU 23) | FRA | CONTAINMENT | 2005 |
| PBA-11F | SEDIMENTS CONTAINING DDT (SWMU 23) | FRA | CAPPING | 2005 |

IRP Summary

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

| Site ID | Site Name | Action | Remedy | FY |
|---------|---------------------------------|--------|---------|------|
| PBA-07A | DEPOT STORAGE YARD (SWMU 22) | FRA | REMOVAL | 2010 |

Duration of IRP

Date of IRP Inception: 197010

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201009/201009

Date of IRP completion including Long Term Management (LTM): 204509

IRP Contamination Assessment

Contamination Assessment Overview

Groundwater contamination studies at PBA began in 1966 when the USAEHA installed 15 groundwater monitoring wells near suspected contaminated areas. Preliminary investigations found high levels of sulfate, phosphorus, nitrates and chlorides. As a result, further sampling was recommended. In 1970, PBA conducted a contaminated areas survey that included reviews of past and present operations, interviews with operations personnel, and preliminary soil, surface water and groundwater investigations.

From 1973 to 1975, more than 1,600 shallow borings (about 20 feet deep) were drilled at 31 sites to determine the extent of soil contamination. The USACE installed 111 monitoring wells in 1977 and 1978, including 49 along the perimeter of the facility and 62 at specific sites.

In 1975, a preliminary environmental survey of PBA was compiled from biological and ecological studies done in the early-1970s and an ecological study plan was proposed. A variety of reports followed [see previous studies section following the IRP contamination assessment section]. From 1981 through 1983 the USACE installed 65 additional groundwater monitoring wells at sites where the potential for groundwater contamination was greatest and to act as a post-closure monitoring system. In 1983, background levels were determined for 102 soil samples and 105 groundwater samples from 17 sites. In 1987 the USEPA conducted an RFA, which was used to prepare the corrective action portions of the 13-H permit.

RA at some sites was started by PBA as early as 1978. By 1989, the RA and cleanup of historical sites at PBA were completed. RCRA work plans were prepared by PBA and the USACE in 1990 and 1991 for Group I and II solid waste management units (SWMU). PBA and the USACE have completed and submitted to the regulators the RFI for the Group I and II SWMUs and a CMS for the Group II SWMUs. RAs at Sites-03, -11D, -11E, and -11F were completed and a final CMS was submitted for review to the ADEQ.

In January FY09, the ADEQ issued approval of the final CMS, which includes a monitoring plan for IRP sites. The ADEQ issued a RADD for inclusion to a consolidated RCRA permit (1H-RN2) for PBA operations in August 2009. PBA achieved RIP/RC status when the final RA was completed at PBA Site 7a in March 2010. The first five-year review has been completed and was submitted to the ADEQ in April 2010. Per the RCRA permit all sites are now in LTM/five-year review status.

The lead regulatory agency for PBA environmental restoration is the ADEQ, Little Rock, AR. PBA is a non-NPL site with corrective action requirements included in RCRA Part B permit 1H-RN2.

Cleanup Exit Strategy

In August 2009, the ADEQ issued a RADD for inclusion in the PBA consolidated RCRA permit (1H-RN2). This DD gave regulatory approval to all PBA RAs performed to date. The PBA groundwater LTM plan was also approved and included in the RCRA permit. The plan includes ecological monitoring at some sites and is included as a regulatory requirement in the consolidated permit. PBA will perform trend analyses of natural attenuation at all identified sites, with assessments submitted at five-year intervals. Recommendations to discontinue or decrease monitoring will be based on observed trends showing improved or unchanged groundwater quality over time or the decrease of contamination concentrations as compared to USEPA maximum contamination levels (MCL).

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|---|----------|
| 1969 | Groundwater Monitoring at PBA, Edgewood Arsenal Technical Report, No. 4287 | | MAR-1969 |
| 1972 | Edgewood Arsenal Special Publication, EB-SP-74025, Preliminary Environmental Survey | PBA | DEC-1972 |
| 1973 | Water Quality Geohydrologic Consultation No. 24-004- 74, PBA | USEHA | JUL-1973 |
| 1976 | Edgewood Arsenal Technical Report, EB-TR-76038, Results of Aquatic Surveys at PBA | | APR-1976 |
| 1980 | Hydrogeological Survey of PBA | US Army Engineer Waterways Experiment Station | AUG-1980 |
| 1981 | PBA, Technical Memorandum No. 14, Installation Restoration Activities 1970-1979 | | OCT-1981 |
| 1983 | Groundwater Assessment Plan | PBA | DEC-1983 |
| 1984 | Site Closure Plan, Site 20A, Depot South Burning Pit | Tulsa District Corps of Engineers | JAN-1984 |
| | Site Closure Plan, Site 17, Product Assurance Test Range and Dump Site | Tulsa District Corps of Engineers | JAN-1984 |
| | Site Closure Plan, Site 10A, Depot Demolition and North Open Burning Area | Tulsa District Corps of Engineers | JUL-1984 |
| | Lagoon Sampling and Characterization in Accordance with Appendix A Annex B, PBA | Garver & Garver | OCT-1984 |
| | Site Closure Plan, Site 16A, White Phosphorus Landfill | Tulsa District Corps of Engineers | DEC-1984 |
| | Site Closure Plan, Site 27, BZ Pond | Tulsa District Corps of Engineers | DEC-1984 |
| 1985 | Site Closure Plan, Sites 2, 20B, 26, 31A, & 31B | Tulsa District Corps of Engineers | FEB-1985 |
| | Environmental Engineering Services for PBA Task 002, Aquatic Bioassays | Battelle Columbus Laboratories | JUN-1985 |
| | Site Closure Plan, Site 34, NCTR Equalization Pool | Tulsa District Corps of Engineers | JUN-1985 |
| | Site Closure Plan, Site 38, Impregnite Sludge Lagoon | Tulsa District Corps of Engineers | JUN-1985 |
| | Groundwater Assessment Plan | PBA | JUL-1985 |
| | Site Closure Plan, Site 4A, Burn Site at 504th Street | Tulsa District Corps of Engineers | JUL-1985 |
| | Site Closure Plan, Site 12, Mustard Burning Pits | Tulsa District Corps of Engineers | JUL-1985 |
| | Site Closure Plan, 13A, Abandoned McCoy Road Burn Pit | Tulsa District Corps of Engineers | JUL-1985 |
| | Site Closure Plan, Site 23A, HC Smoke Test Pond | Tulsa District Corps of Engineers | JUL-1985 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|-----------------------------------|----------|
| 1985 | Site Closure Plan, Sites 2, 10A, 17, 20A, 26, 27, 31A, & 31B, Supplement No. 1 | Tulsa District Corps of Engineers | JUL-1985 |
| | Site Closure Plan, Site 24, Thermite Disposal Area | Tulsa District Corps of Engineers | AUG-1985 |
| | Site Closure Plan, Site 29 Solid Waste Ark-La Site and Site 29A Salt Pile | Tulsa District Corps of Engineers | AUG-1985 |
| | Site Closure Plan, Sites 7B, 7C & 7D | Tulsa District Corps of Engineers | SEP-1985 |
| | Groundwater Quality Background Assessment, Runoff Control Impoundment | PBA | OCT-1985 |
| | Groundwater Quality Background Assessment, Hazardous Waste Landfill | PBA | OCT-1985 |
| | Hazardous Waste Landfill Groundwater Quality Background Assessment | Tulsa District Corps of Engineers | OCT-1985 |
| 1986 | Groundwater Assessment PBA | Tulsa District Corps of Engineers | OCT-1986 |
| | Groundwater Quality Detection Monitoring Assessment, Hazardous Waste Landfill | PBA | OCT-1986 |
| | Groundwater Assessment | PBA | OCT-1986 |
| 1987 | Demonstration Report, Source of Significant Increases in Parameters, Hazardous Waste Landfill and Runoff Control Impoundment | PBA | JAN-1987 |
| | Statistical Procedures Evaluation and Detection Monitoring Assessment, Hazardous Waste Landfill and Runoff Control Impoundment | PBA | JAN-1987 |
| 1988 | Groundwater Quality Detection Monitoring Assessment, Hazardous Waste Landfill and Runoff Control Impoundment | PBA | JAN-1988 |
| | Final Technical Report, Environmental Engineering Services at PBA, Task 002, Aquatic Toxicity Testing | Battelle Columbus Laboratories | MAY-1988 |
| | Groundwater Quality Detection Monitoring Assessment, Hazardous Waste Landfill and Runoff Control Impoundment | PBA | JUN-1988 |
| | Groundwater Quality Background Assessment, Hazardous Waste Landfill FY86 | PBA | AUG-1988 |
| 1989 | Groundwater Quality Detection Monitoring Assessment, FY86 Hazardous Waste Landfill | PBA | OCT-1989 |
| 1991 | Runoff Control Impoundment, Groundwater Assessment | PBA | JAN-1991 |
| | Runoff Control Impoundment, Groundwater Assessment | PBA | JAN-1991 |
| | FY86 Hazardous Waste Landfill Groundwater Assessment | PBA | JAN-1991 |
| | FY83 Hazardous Waste Landfill Groundwater Assessment | PBA | JAN-1991 |
| | FY83 Hazardous Waste Landfill Groundwater Assessment | PBA | JAN-1991 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|---|---|----------|
| 1991 | FY86 Hazardous Waste Landfill Groundwater Assessment | PBA | JAN-1991 |
| | RCRA Facility Investigation | USACE Tulsa District | DEC-1991 |
| 1996 | Draft Corrective Measures Study | Tulsa District Corps of Engineers, CDM Federal | AUG-1996 |
| 2002 | Interim Measures Data Collection Summary Report | Tulsa District Corps of Engineers, WGI | JUN-2002 |
| 2004 | Final Corrective Measures Study | Tulsa District Corps of Engineers, Washington Group International | MAY-2004 |
| 2005 | Final RI Work Plan, Site 7a | Shaw Environmental | NOV-2005 |
| 2006 | Final DDT Soil Remedial Action Construction Report, SWMUs 23, 24 and 75 | Tulsa District Corps of Engineers, Shaw Environmental | MAR-2006 |
| | RCI Groundwater Assessment PBA | Great Lakes Environmental Center | JUL-2006 |
| | FY83 Hazardous Waste Landfill Groundwater Assessment Pine Bluff Arsenal | Great Lakes Environmental Center | JUL-2006 |
| 2007 | RCI Groundwater Assessment PBA | Great Lakes Environmental Center | MAR-2007 |
| | FY83 Hazardous Waste Landfill Groundwater Assessment PBA | Great Lakes Environmental Center | MAR-2007 |
| | Hazardous Waste RCRA Permit 1H-RN2 | ADEQ | OCT-2007 |
| 2008 | RCI Groundwater Assessment PBA | Great Lakes Environmental Center | APR-2008 |
| | FY83 Hazardous Waste Landfill Groundwater Assessment PBA | Great Lakes Environmental Center | APR-2008 |
| | Groundwater Monitoring Plan for Corrective Measures Study | PBA/GLEC | NOV-2008 |
| | Resubmitted Final Corrective Measures | PBA/Washington Group International | NOV-2008 |
| 2009 | RCI Groundwater Assessment | PBA/GLEC | MAR-2009 |
| | FY83 HWL Groundwater Assessment | PBA/GLEC | MAR-2009 |
| | Remedial Action Decision Document | ADEQ | SEP-2009 |
| 2010 | RCI Groundwater Assessment | PBA/GLEC | MAR-2010 |
| | Five-Year GW Assessment and Eco Trend Report | Pine Bluff Arsenal/GLEC | MAR-2010 |
| | FY83 HWL Groundwater Assessment | PBA/GLEC | MAR-2010 |

IRP Previous Studies

| Year | Title | Author | Date |
|------|--|----------------------|----------|
| 2010 | Remedial Action Implementation Report Site 7a | Ayuda Management/PBA | JUN-2010 |
| 2011 | RCI Groundwater Assessment | PBA/GLEC | MAR-2011 |
| | 2011 Groundwater Assessment and Eco Monitoring Report | PBA/GLEC | APR-2011 |
| | FY83 HWL Groundwater Assessment | PBA/GLEC | APR-2011 |
| | 2010 Groundwater Assessment and Ecological Monitoring Report | PBA/GLEC | AUG-2011 |
| 2012 | FY83 HWL Groundwater Assessment | PBA/GLEC | MAR-2012 |
| | 2011 RCI Groundwater Assessment | PBA/GLEC | MAR-2012 |
| | 2012 Groundwater Assessment and Eco Monitoring Report | PBA/GLEC | APR-2012 |
| 2013 | 2014 FY83 HWL Groundwater Assessment | PBA/GLEC | MAR-2013 |
| | 2012 RCI Groundwater Assessment | PBA/GLEC | MAR-2013 |
| | 2013 Groundwater Assessment and Eco Monitoring Report | PBA/GLEC | APR-2013 |
| 2014 | 2014 Groundwater Assessment and Eco Monitoring Report | PBA/GLEC | APR-2014 |
| | 2014 Groundwater Assessment and Eco Monitoring Report | PBA/GLEC | APR-2014 |
| | 2013 RCI Groundwater Assessment Report | PBA/GLEC | APR-2014 |
| | 2013 83 Landfill HW Groundwater Assessment | PBA/GLEC | APR-2014 |
| | Five-Year GW Assessment and Eco Trend Report | PBA/GLEC | DEC-2014 |
| | | | |
| 2015 | 2014 FY83 HWL Groundwater Assessment | PBA/GLEC | MAR-2015 |
| | 2014 RCI Groundwater Assessment | PBA/GLEC | MAR-2015 |

PINE BLUFF ARSENAL
Installation Restoration Program
Site Descriptions

Site ID: PBA-04
Site Name: 504TH ST BURN SITE (SWMU 25)
Alias: SWMU 25

STATUS

Regulatory Driver: RCRA
RRSE: LOW
 Contaminants of Concern: Metals
 Media of Concern: Groundwater

| Phases | Start | End |
|------------------|--------------------|---------------|
| RFA..... | 198008..... | 198008 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198507 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198712..... | 198812 |
| LTM..... | 199909..... | 204509 |
| RIP Date: | N/A | |
| RC Date: | 198812 | |

SITE DESCRIPTION

PBA-04 (SWMU 25), a 5-acre burn site, is located in the northwestern part of PBA, southwest of the intersection of 504th Street and 6242 Avenue. A large burn area, measuring about 600 by 300 feet, existed where most of the burn activity occurred. An elongated depression on the north end of this area was a filled-in dumpsite containing rusted 55-gallon drums, railroad ties, and other debris. The site was used as a burning area for various production wastes. Due to a low-permeability clay-shale layer underlying the site, in situ encapsulation of the waste materials was the method of remediation (1987). Lead and chromium were detected in the waste.

In 1991, the RFI was submitted to regulators. Additional wells were installed in FY02. The remedy involved site closure with waste in place and thus LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program. Five wells will be monitored (three wells will be monitored semiannually and two wells annually).

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing. Once completed, the results of the five-year review will be considered and the future strategy will be adjusted as necessary.

Site ID: PBA-07A
Site Name: DEPOT STORAGE YARD (SWMU 22)
Alias: SWMU 22

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 197702..... | 197708 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 200007..... | 200308 |
| CMI(C)..... | 200310..... | 201009 |
| LTM..... | 201010..... | 204509 |

RIP Date: N/A

RC Date: 201009

SITE DESCRIPTION

PBA-07A is a 40-acre fenced storage area. This site contained drums of a corrosive screening smoke made of sulfur trioxide and chlorosulfonic and pesticides, along with empty blister agent (mustard and lewisite) containers. All deteriorated barrels and visible areas of surface soil contamination were removed in 1984. This unit was used for storage only, not for disposal of hazardous or nonhazardous materials.

This site was once used as a storage facility for approximately 4,000 one-ton mustard containers. A decontamination facility was constructed to clean and dispose of these containers. This facility has now completed its mission and has been removed. The cost for the cleaning and disposing is non-Environmental Restoration, Army (ER,A) funded. Remediation has been limited to run-on/runoff control structures (concrete berms and a containment ditch) and a high-density polyethylene-lined retention pond.

In response to the ADEQ concerns, a soil gas survey over the 40-acre site was performed in FY01. Soil samples were taken and additional monitoring wells were installed in FY02. Metals were found above screening criteria in soil samples around Building 55-320. Based on historical knowledge and perimeter sampling and analysis, the building is considered to be the likely source of the soil contamination. Groundwater samples in the area have shown solvents above MCLs, as well as detections of lead and mercury.

Additional soil samples were taken in February 2006 to evaluate the need for building demolition, which indicated some metals contamination above the USEPA Region VI medium-specific screening levels underneath a portion of the building.

The site is included in the installation-wide, long-term groundwater monitoring program.

The building demolition funding came from a source other than the IRP. After building demolition, soil removal was completed in FY10 as the RA for this site. Four wells are sampled, two semiannually and two annually, for metals, VOCs, SVOCs, chloride, and sulfate.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program. A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Four wells are sampled, two semiannually and two annually, for metals, VOCs, SVOCs, chloride and sulfate. The LTM funding at this site also includes annual ecological monitoring.

During five-year assessments this site will be evaluated continually for possible optimization.

Site ID: PBA-07B
Site Name: LEWISITE DISPOSAL AREA (SWMU 19)
Alias: SWMU 19

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 197705..... | 197708 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198509 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198909 |
| LTM..... | 198909..... | 204509 |

RIP Date: N/A

RC Date: 198909

SITE DESCRIPTION

PBA-7B is an unlined, four-acre breached lagoon. This site was used for burning and disposing of lewisite along with mercury, a catalyst used in production. There was no vegetation. The abandoned lagoon contained demilitarized lewisite as a white sludge up to seven feet deep.

Remediation was achieved by capping it with a flexible membrane-lined clay cover and three feet of topsoil in conjunction with a slurry trench extending below the lower limits of detected contaminated soil.

In response to the ADEQ concerns, additional soil and groundwater samples were collected in FY02. Because the remedy involved site closure with waste in place, LTM is required.

In January 2009 a final CMS that included LTM with groundwater monitoring was approved by the ADEQ. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Four wells are monitored; two are sampled semiannually and two annually, for chlorides, sulfates, metals, VOCs and SVOCs.

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-07C

Site Name: MUSTARD AGENT BURNING YARD (SWMU 21)

Alias: SWMU 21

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 198008..... | 198008 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198509 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198809 |
| LTM..... | 198809..... | 204509 |

RIP Date: N/A

RC Date: 198809

SITE DESCRIPTION

PBA-7C is located in the north central part of PBA south of Webster and west of Doolittle roads. The site consisted of a half-acre mustard burning area, a drainage ditch just north of the burning area and a blister agent cleanout area east of the Depot Storage Yard fence.

Remediation was achieved by capping it with a flexible membrane-lined clay cover and three feet of topsoil in conjunction with a slurry trench extending below the lower limits of detected contaminated soil.

The RFI was submitted to regulators in 1991. In response to ADEQ concerns, additional soil and groundwater samples were collected in FY02. Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Three wells are monitored semiannually for metals, chloride, sulfates, VOCs, and SVOCs.

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-07D

Site Name: STORAGE YARD BORROW PITS (SWMU 20)

Alias: SWMU 20

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 197705..... | 197708 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198509 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198910 |
| LTM..... | 198910..... | 204509 |

RIP Date: N/A

RC Date: 198910

SITE DESCRIPTION

PBA-7D is located in the north central part of PBA. It was used for the storage and disposal of mustard and mustard byproducts produced at PBA. The site consisted of two water-filled pits, approximately 75 feet wide and 600 feet long. These pits provided material for the construction of the Depot Storage Yard. After World War II, mustard and lewisite munitions were buried just east of the borrow pits. In 1955 these munitions were excavated and removed.

Remediation was achieved by capping it with a flexible membrane-lined clay cover and three feet of topsoil in conjunction with a slurry trench extending below the lower limits of detected contaminated soil.

Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Three wells are monitored semiannually for metals, chloride, sulfates, VOCs and SVOCs.

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-08

Site Name: N HC SMOKE POT TEST POND (SWMU 74)

Alias: SWMU 74

STATUS

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

| Phases | Start | End |
|------------------|-------------|--------|
| RFA..... | 197310..... | 198110 |
| CS..... | 197310..... | 198110 |
| RFI/CMS..... | 200007..... | 200208 |
| LTM..... | 200209..... | 204509 |
| RIP Date: | N/A | |
| RC Date: | 200208 | |

SITE DESCRIPTION

PBA-08 is a half-acre lagoon located northeast of Doolittle Road within the northern part of PBA. This unit was used on a limited basis between 1940 and 1970 to test floating hexachloroethane (HC) smoke pots.

Phase I RI work was completed in 1977. In response to draft CMS (1996) comments, additional interim measures investigations were performed. In FY02 three new wells were installed and soil and groundwater samples were collected. Results indicated there was no soil contamination.

Groundwater sampling results were above MCLs for metals and VOCs.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Three wells are monitored semiannually for metals, chloride, sulfates, VOCs, and SVOCs.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-11

Site Name: OLD CHEM MANUFACTURING (SWMU 29)

Alias: SWMU 29

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil, Surface Water

| Phases | Start | End |
|-----------------|--------------------|---------------|
| RFA..... | 197211..... | 197503 |
| CS..... | 197701..... | 197805 |
| RFI/CMS..... | 197809..... | 200102 |
| CMI(C)..... | 200311..... | 200408 |
| CMI(O)..... | 200409..... | 201002 |
| LTM..... | 201003..... | 204509 |

RIP Date: 200409

RC Date: 201002

SITE DESCRIPTION

PBA-11 includes Sites -03, -11A, -11B, -11C, -11D, -11E, and -11F and covers approximately 50 acres. Originally, the unit consisted of 168 buildings and structures. Between 1942 and 1943, PBA manufactured non-lethal chemical agents within this unit. During the 1950s, the unit was leased to contractors for the production of pesticides and their intermediates. Widespread DDT contamination was found in the buildings, the surrounding area and Phillips Creek. The surface contamination was removed during the 1976-77 RAs for PBA-11 and all surrounding areas.

In 1985, PBA began the demolition of nine large chemical manufacturing buildings and numerous smaller ones, and the excavation of 24,000 feet of industrial sewer lines. In 1986, soil was removed from around the sewer lines and buildings. This contaminated material and soil was disposed of in the Hazardous Waste Landfill, PBA-41. An ecological risk assessment was completed to answer ADEQ concerns. In FY05 contamination from sites PBA-03, -11D, -11E, and -11F was consolidated into one capped containment unit located within the Site 11 boundary.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in 2009. The RADD recommended LTM and ecological monitoring which continue to this day.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

The LTM implementation for Sites -03, -11, -11A, -11B, -11C, -11D, -11E, and -11F are funded under this site and includes 18 wells for semiannual monitoring for metals, pesticides, VOCs, SVOCs, nitrates, chlorates, and sulfates. The LTM funding at this site also includes annual ecological monitoring.

Site ID: PBA-20A

Site Name: SOUTH DEPOT DISPOSAL AREA (SWMU 53)

Alias: SWMU 53

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Metals, Munitions constituents (MC)

Media of Concern: Groundwater, Soil, Surface Water

| Phases | Start | End |
|---------------|--------------|------------|
| RFA..... | 198008..... | 198008 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198401 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198911 |
| LTM..... | 198911..... | 204509 |

RIP Date: N/A

RC Date: 198911

SITE DESCRIPTION

PBA-20A is located in the southeastern part of PBA and within the Arkansas River floodplain, adjacent to a swampy wetland. From 1941 to 1978 this five-acre pit was used to burn pyrotechnic mixes and other incendiary devices. This pit contained approximately 58,000 cubic yards of burned fill and contaminated soil. Lead contamination extended to a depth of three feet in the soil below the burn pit.

Remediation in 1988 consisted of in situ encapsulation, since the subsurface consisted of a low-permeability clay-shale layer that serves as a lower boundary and lies under the site. The contaminated materials were placed within a constructed levee that was keyed into the clay layer and covered with an impervious flexible membrane-lined cover.

In FY02, in response to the ADEQ concerns, three additional wells were installed and soil and groundwater samples were collected. Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009 and is documented in the September 2009 RADD.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Seven wells are monitored (five wells will be sampled semiannually and two annually) for metals, chloride and sulfates.

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-23A

Site Name: WHITE SMOKE TEST POND (SWMU 62)

Alias: SWMU 62

STATUS

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

| Phases | Start | End |
|------------------|-------------|--------|
| RFA..... | 197705..... | 197708 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198509 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198812 |
| LTM..... | 198812..... | 204509 |
| RIP Date: | N/A | |
| RC Date: | 198812 | |

SITE DESCRIPTION

PBA-23A is located in the central southeastern part of PBA. It was originally a five-acre wooded area containing a 1.5-acre pond and several small burn piles. The site was used between 1941 and 1976 as a test area for HC smoke pots and smoke grenades, and was also used as a general dump area for production-related material.

Due to a low-permeability clay-shale layer, which lies under the site and acts as a lower boundary, in situ encapsulation of waste materials was the method of remediation. Contaminants are contained within the site by slurry walls along the boundary and by keying the slurry walls into the underlying clay-shale layer. An impervious flexible membrane-lined cover was constructed over the top of the site to prevent vertical migration of the contaminants and provide run-on/runoff control. Approximately 51,500 cubic yards of non-RCRA wastes from sites PBA-2, -10A, -12, -17, -20B, -26, and -31A were deposited at this site. This RA was completed in 1988.

In FY02, in response to the ADEQ concerns, two additional wells were installed and soil and groundwater samples were collected. Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Eleven wells are monitored (four are sampled semiannually and seven annually) for VOCs, SVOCs, metals, chloride and sulfate.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-24
Site Name: THERMITE DISPOSAL AREA (SWMU 63)
Alias: SWMU 63

STATUS

Regulatory Driver: RCRA
RRSE: LOW
Contaminants of Concern: Metals
Media of Concern: Groundwater, Soil

| Phases | Start | End |
|------------------|--------------|------------|
| RFA..... | 198008..... | 198008 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 200208 |
| LTM..... | 200209..... | 204509 |
| RIP Date: | N/A | |
| RC Date: | 200208 | |

SITE DESCRIPTION

PBA-24 is located in the central southeastern part of PBA, northwest of the intersection of Stokes Road and Avenue 321B. It is a four-acre barren site that had a three-foot layer of thermite and bomb wash residue, approximately 44,000 cubic yards of the contaminants and contaminated soil. In the 1940s and early-1950s it was used as a dump for the Quality Assurance Drop Tower, PBA-26, and from 1959 to 1961 for bomb wash from the BZ Pond, PBA-27.

In 1988 remediation was achieved by containment dikes and drainage ditches around the site and a high density polyethylene (HDPE) liner cover system over the site to provide run-on control and eliminate vertical infiltration of surface waters, along with slurry walls, French drains and dewatering wells to lower the perched water table. Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Four wells are monitored annually for metals, chloride and sulfate.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-27
Site Name: AGENT BZ POND (SWMU 65)
Alias: SWMU 65

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Sediment, Soil

| Phases | Start | End |
|--------------|-------------|--------|
| RFA..... | 197705..... | 197708 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198412 |
| DES..... | 198610..... | 198703 |
| CMI(C)..... | 198704..... | 198706 |
| LTM..... | 198706..... | 204509 |

RIP Date: N/A

RC Date: 198706

SITE DESCRIPTION

PBA-27 is located in the central southeastern part of PBA, west of the intersection of Stokes Road and Avenue 321B and southwest of the Thermite Disposal Area, PBA-24. It is a 0.25-acre, unlined pond with sections of the side slopes stabilized with large concrete blocks. The pond was used in the 1940s for thermite waste disposal. In the 1940s and late-1960s, bomb wash containing red lead was disposed of in the pond. In 1959 thermite rounds were washed out and into this pond. From 1963 to 1966, the pond was used for disposal of BZ production waste and cyclohexane, a BZ carrier solvent agent. In 1970 the bomb wash facility was converted to an impregnite plant and wastes were disposed of in the pond.

The total contaminated material at this site is approximately 10,000 cubic yards. Due to a low-permeable clay-shale layer, which is suitable for use as a lower boundary, an on-site closure cell scheme was selected.

This plan used a slurry wall and a compacted low-permeable soil cap to close the heavy metal contaminated materials and soil in place. The pond sediments, contaminated with several priority pollutant organic compounds, were solidified and disposed of in the hazardous waste landfill. The pond water was pumped to natural drainage.

In 1988 the RA was complete. In FY02, in response to ADEQ concerns, two additional wells were installed and soil and groundwater samples were collected. Because the remedy involved site closure with waste in place, LTM is required. In FY04 two wells were installed.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Ten wells are monitored (four are sampled semiannually and six annually) for VOCs, SVOCs, metals, chloride and sulfates.

A five-year program review (assessment) was completed in January 2009. The most recent review began in August 2014 (FY14) and is in draft form at this writing.

Site ID: PBA-29
Site Name: SOLID WASTE ARK-LA SITE (SWMU 27)
Alias: SWMU 27

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|---------------|--------------|------------|
| RFA..... | 198008..... | 198008 |
| CS..... | 198008..... | 198008 |
| RFI/CMS..... | 198309..... | 198508 |
| DES..... | 198610..... | 198709 |
| CMI(C)..... | 198710..... | 198811 |
| LTM..... | 198811..... | 204509 |

RIP Date: N/A

RC Date: 198811

SITE DESCRIPTION

PBA-29 is located in the north central part of PBA, northwest of the intersection of Atkisson Road and 504th Street. It is a 40-acre site that was used in the 1940s for the manufacture of chlorine for mustard and lewisite operations. From 1950 to 1969, the site was leased to the Arkansas-Louisiana (ARK-LA) Chemical Corporation, which produced chlorine for commercial purposes. All buildings and most foundations have been removed from the site.

Due to the presence of an underlying clay-shale layer, in situ encapsulation was the method chosen for closure. The site was divided into two sub-sites, north and south. The north sub-site was contained by the use of a slurry wall that was keyed into the clay-shale layer. The south sub-site and material outside the slurry wall was excavated and placed within the limits of the slurry wall. The volume enclosed by the slurry wall was filled, graded and covered with a 40 mil HDPE flexible membrane liner. In 1988 the RA was completed.

In FY02, in response to the ADEQ concerns, two additional wells were installed and soil and groundwater samples were collected. Because the remedy involved site closure with waste in place, LTM is required.

A final CMS that included LTM with groundwater monitoring was approved by the ADEQ in January 2009. A RADD was completed and approved by the ADEQ in August 2009.

CLEANUP/EXIT STRATEGY

This site is included in the installation-wide, long-term groundwater monitoring program.

Six wells are monitored (four are sampled semiannually and two annually) for metals, chlorides, sulfates, VOCs and SVOCs.

The LTM funding at this site also includes annual ecological monitoring.

A five-year program review (assessment) was completed in January 2009; the next review is scheduled for FY14. During five-year assessments this site will be evaluated continually for possible optimization.

Site ID: PBA-41

Site Name: MCA 83 HAZARDOUS WASTE LANDFILL (SWMU 1)

Alias: SWMU 1

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Metals, Pesticides

Media of Concern: Groundwater, Soil

| Phases | Start | End |
|---------------|--------------|------------|
| RFA..... | 198708..... | 198711 |
| LTM..... | 198711..... | 204509 |

RIP Date: N/A

RC Date: 198711

SITE DESCRIPTION

PBA-41 is a RCRA-permitted hazardous waste landfill. This landfill consists of three cells. Two of the cells contain demolition wastes from the Old Chemical Manufacturing Area, PBA-11. Wastes were placed in these cells between October 1985 and October 1986.

This is a RCRA site used for disposal of material removed during the remediation of IRP sites only. In 1999 RCRA closure was achieved by capping the site and removal of the third cell. In 2009, a leachate collection system was installed. In accordance with the 2009 RADD, groundwater monitoring is the only current activity at this location.

CLEANUP/EXIT STRATEGY

Groundwater monitoring and cap maintenance will continue as required by the post-closure permit. Ten wells are monitored semiannually for metals, total organic halides (TOX) and pesticides. In FY09, a leachate collection system was constructed to reduce operating and life cycle costs.

Site ID: PBA-44

Site Name: MCA 83 SURFACE IMPOUNDMENT (SWMU 12)

Alias: SWMU 12

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Metals, Pesticides

Media of Concern: Groundwater, Surface Water

| Phases | Start | End |
|---------------|--------------|------------|
| RFA..... | 198708..... | 198711 |
| LTM..... | 198711..... | 204509 |

RIP Date: N/A

RC Date: 198711

SITE DESCRIPTION

PBA-44 is a 9-acre, lined, RCRA-permitted retention pond. This pond functions as a settling basin that allows surface water runoff to be retained so that potential contaminants can settle out. Runoff from the Old Chemical Manufacturing Area, PBA-11, and the Chemical Munitions Storage and Dump Area, PBA-7, was diverted to the pond during the remediation of these sites. This impoundment is receiving only storm water discharge from the 545 acres that includes PBA Sites 11 and 7.

This is a RCRA and National Pollutant Discharge Elimination System (NPDES) permitted facility used for runoff control from IRP sites only.

CLEANUP/EXIT STRATEGY

Groundwater monitoring and NPDES surface water monitoring will continue as required by permit. Eight wells are monitored semiannually for metals, TOX and pesticides.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|---------|---|----------|--|
| PBA-01 | N EXCLUSION AREA RUBBLE PILE (SWMU 3) | 200209 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-02 | WEBSTER ROAD TEST SITE (SWMU 6) | 198804 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-03 | OLD DDT DISPOSAL AREA (SWMU 75) | 200509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-06 | OLD ARK-LA RUBBLE SITE (SWMU 28) | 200209 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-06S | NON-PRODUCTION WASTE BURNING (SWMU 34) | 197708 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-07S | M50 BOMBLET PRIMER DEMOLITION (SWMU 73) | 197708 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-10 | BOMBING MAT (SWMU 7) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-10A | DEPOT DEMOL, N BURN AREA (SWMU 8) | 198807 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-10B | SOLID WASTE STORAGE FACILITY (SWMU 9) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11A | DDT SEDIMENT RETENTION BASIN1(SWMU 18) | 198509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11B | DDT SEDIMENT RETENTION BASIN2(SWMU 18) | 198509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11C | DDT SEDIMENT RETENTION BASIN3(SWMU 18) | 198509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11D | DDT LANDFILL BLDG #54-270 (SWMU 24) | 200509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11E | DDT LANDFILL BLDG #54-325 (SWMU 24) | 200509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-11F | SEDIMENTS CONTAINING DDT (SWMU 23) | 200509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-12 | MUSTARD BURN PIT (SWMU 10) | 198811 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-13A | ABANDONED BURN PIT (SWMU 11) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-15 | CLOSED SANI & DDT LANDFILL (SWMU 32) | 197509 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-16A | WHITE PHOSPHORUS LANDFILL (SWMU 33) | 198809 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-17 | OLD PRODUCT TEST RANGE (SWMU 36) | 198809 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-17T | DILLY FARM TEST RANGE (SWMU 37) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-18 | CLOSED SANITARY LANDFILL (SWMU 54) | 200007 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-18A | CURRENT SANITARY LANDFILL (SWMU 55) | 200208 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-18B | S ARSENAL BLDG RUBBLE SITE (SWMU 56) | 198008 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-18C | CLASS IV LANDFILL (SWMU 57) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-18D | REUSABLE RUBBLE PIT (SWMU 58) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-19 | FACILITY BURN PIT/ASBESTOS LF (SWMU 59) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-20B | WP SLAG BURN & DISPOSAL AREA (SWMU 60) | 198808 | No Further Action (NFA) is documented in |

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|---------|--|----------|--|
| | | | the September 1, 2009 RADD. |
| PBA-26 | PRODUCT ASSURANCE TEST RANGE (SWMU 64) | 198806 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-29A | SALT PILE (SWMU 30) | 198811 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-31A | PRODUCT ASSURANCE TEST RANGE (SWMU 72) | 198803 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-31B | GRENADE TEST BASIN (SWMU 71) | 198008 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-34 | NCTR EQUALIZATION POND (SWMU 4) | 200208 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-35 | NORTH OXIDATION POND (SWMU 13) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-36 | CENTRAL WASTE TREATMENT LAGOON (SWMU 47) | 198507 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-37 | SOUTH OXIDATION PONDS (SWMU 46) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-38 | IMPREGNITE SLUDGE LAGOON (SWMU 68) | 198809 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-39 | SANITARY POND | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-40 | INCINERATOR COMPLEX (SWMU 38-41) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-40A | IC COOLING POND (SWMU 44) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-40B | SOLID WASTE SHREDDER (SWMU 43) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-40C | WASTE CONTAINER MAGAZINE AT IC (SWMU 42) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-46 | LIQUID WASTE STORAGE BLDG 81-530(SWMU26) | 198308 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-47 | EOD DETONATION AREA (SWMU35) | 198609 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-48 | B Z DEMILITARIZATION FACILITY | 199008 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-49 | FY 86 MCA HAZARDOUS WASTE LANDFILL | 198608 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-50 | M55 ROCKET STORAGE AREA (SWMU 77) | 198512 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-51 | WP POLLUTION ABATEMENT FACILITY (SWMU79) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-52 | TEMP HOLDING FOR HAZARDOUS WASTE(SWMU61) | 198708 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-53 | PCB STORAGE FACILITY (SWMU 70) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-54 | WP STORAGE UST'S (35) | 199108 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-55 | CLARIFIER FOR N SAN TRMT PLANT (SWMU 14) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-56 | SCREEN FILT FOR N. SAN SEW TRMT (SWMU15) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-57 | SLUDGE DRYING N SAN SEW TRMT PLT(SWMU16) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-58 | TRICKLE FILT N SAN SEW TRMT PLT (SWMU17) | 198711 | This site is not IRP eligible. It will be placed in the Compliance-related Cleanup |

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|---------|-----------------------------------|----------|--|
| | | | Program. |
| PBA-59 | SEWAGE CLARIFIER SYSTEM (SWMU 45) | 198711 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-60 | OLD BZ PRODUCTION AREA (SWMU 66) | 199709 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-61 | TANK 33-320A | 199112 | No Further Action (NFA) is documented in the September 1, 2009 RADD. |
| PBA-62 | BOMBING MAT VICINITY | 200502 | Site transferred to the MMRP |
| SITE 63 | YELLOW LAKE BORROW AREA | 200409 | Site transferred to the MMRP |

IRP Schedule

Date of IRP Inception: 197010

Past Phase Completion Milestones

1971

RFA (PBA-03 - OLD DDT DISPOSAL AREA (SWMU 75), PBA-11D - DDT LANDFILL BLDG #54-270 (SWMU 24), PBA-11E - DDT LANDFILL BLDG #54-325 (SWMU 24))

1974

CS (PBA-03 - OLD DDT DISPOSAL AREA (SWMU 75), PBA-11D - DDT LANDFILL BLDG #54-270 (SWMU 24), PBA-11E - DDT LANDFILL BLDG #54-325 (SWMU 24))

1975

SI (PBA-15 - CLOSED SANI & DDT LANDFILL (SWMU 32))

RFA (PBA-11 - OLD CHEM MANUFACTURING (SWMU 29), PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18), PBA-11F - SEDIMENTS CONTAINING DDT (SWMU 23))

RA(C) (PBA-15 - CLOSED SANI & DDT LANDFILL (SWMU 32))

PA (PBA-07S - M50 BOMBLET PRIMER DEMOLITION (SWMU 73), PBA-15 - CLOSED SANI & DDT LANDFILL (SWMU 32))

CS (PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18), PBA-11F - SEDIMENTS CONTAINING DDT (SWMU 23))

1977

PA (PBA-06S - NON-PRODUCTION WASTE BURNING (SWMU 34), PBA-10A - DEPOT DEMOL, N BURN AREA (SWMU 8), PBA-12 - MUSTARD BURN PIT (SWMU 10), PBA-13A - ABANDONED BURN PIT (SWMU 11), PBA-16A - WHITE PHOSPHORUS LANDFILL (SWMU 33), PBA-18 - CLOSED SANITARY LANDFILL (SWMU 54), PBA-18A - CURRENT SANITARY LANDFILL (SWMU 55), PBA-18B - S ARSENAL BLDG RUBBLE SITE (SWMU 56), PBA-31B - GRENADE TEST BASIN (SWMU 71), PBA-36 - CENTRAL WASTE TREATMENT LAGOON (SWMU 47))

SI (PBA-06S - NON-PRODUCTION WASTE BURNING (SWMU 34), PBA-07S - M50 BOMBLET PRIMER DEMOLITION (SWMU 73))

RFA (PBA-07A - DEPOT STORAGE YARD (SWMU 22), PBA-07B - LEWISITE DISPOSAL AREA (SWMU 19), PBA-07D - STORAGE YARD BORROW PITS (SWMU 20), PBA-23A - WHITE SMOKE TEST POND (SWMU 62), PBA-27 - AGENT BZ POND (SWMU 65))

1978

CS (PBA-11 - OLD CHEM MANUFACTURING (SWMU 29))

IRA (PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18))

1980

RFA (PBA-04 - 504TH ST BURN SITE (SWMU 25), PBA-07C - MUSTARD AGENT BURNING YARD (SWMU 21), PBA-20A - SOUTH DEPOT DISPOSAL AREA (SWMU 53), PBA-24 - THERMITE DISPOSAL AREA (SWMU 63), PBA-29 - SOLID WASTE ARK-LA SITE (SWMU 27))

CS (PBA-04 - 504TH ST BURN SITE (SWMU 25), PBA-07A - DEPOT STORAGE YARD (SWMU 22), PBA-07B - LEWISITE DISPOSAL AREA (SWMU 19), PBA-07C - MUSTARD AGENT BURNING YARD (SWMU 21), PBA-07D - STORAGE YARD BORROW PITS (SWMU 20), PBA-20A - SOUTH DEPOT DISPOSAL AREA (SWMU 53), PBA-23A - WHITE SMOKE TEST POND (SWMU 62), PBA-24 - THERMITE DISPOSAL AREA (SWMU 63), PBA-27 - AGENT BZ POND (SWMU 65), PBA-29 - SOLID WASTE ARK-LA SITE (SWMU 27))

IRA (PBA-18 - CLOSED SANITARY LANDFILL (SWMU 54))

SI (PBA-10A - DEPOT DEMOL, N BURN AREA (SWMU 8), PBA-12 - MUSTARD BURN PIT (SWMU 10), PBA-13A - ABANDONED BURN PIT (SWMU 11), PBA-16A - WHITE PHOSPHORUS LANDFILL (SWMU 33), PBA-17 - OLD PRODUCT TEST RANGE (SWMU 36), PBA-18 - CLOSED SANITARY LANDFILL (SWMU 54), PBA-18A - CURRENT SANITARY LANDFILL (SWMU 55), PBA-18B - S ARSENAL BLDG RUBBLE SITE (SWMU 56), PBA-20B - WP SLAG BURN & DISPOSAL AREA (SWMU 60), PBA-26 - PRODUCT ASSURANCE TEST RANGE (SWMU 64), PBA-29A - SALT PILE (SWMU 30), PBA-31A - PRODUCT ASSURANCE TEST RANGE (SWMU 72), PBA-31B - GRENADE TEST BASIN (SWMU 71), PBA-34 - NCTR EQUALIZATION POND (SWMU 4), PBA-36 - CENTRAL WASTE TREATMENT LAGOON (SWMU 47), PBA-38 - IMPREGNITE SLUDGE LAGOON (SWMU 68))

IRP Schedule

| | |
|-------------|---|
| PA | (PBA-02 - WEBSTER ROAD TEST SITE (SWMU 6), PBA-10 - BOMBING MAT (SWMU 7), PBA-10B - SOLID WASTE STORAGE FACILITY (SWMU 9), PBA-17 - OLD PRODUCT TEST RANGE (SWMU 36), PBA-20B - WP SLAG BURN & DISPOSAL AREA (SWMU 60), PBA-26 - PRODUCT ASSURANCE TEST RANGE (SWMU 64), PBA-29A - SALT PILE (SWMU 30), PBA-31A - PRODUCT ASSURANCE TEST RANGE (SWMU 72), PBA-34 - NCTR EQUALIZATION POND (SWMU 4), PBA-38 - IMPREGNITE SLUDGE LAGOON (SWMU 68), PBA-40 - INCINERATOR COMPLEX (SWMU 38-41), PBA-40A - IC COOLING POND (SWMU 44), PBA-40B - SOLID WASTE SHREDDER (SWMU 43), PBA-40C - WASTE CONTAINER MAGAZINE AT IC (SWMU 42), PBA-46 - LIQUID WASTE STORAGE BLDG 81-530(SWMU26)) |
| 1982 | |
| SI | (PBA-01 - N EXCLUSION AREA RUBBLE PILE (SWMU 3), PBA-02 - WEBSTER ROAD TEST SITE (SWMU 6), PBA-06 - OLD ARK-LA RUBBLE SITE (SWMU 28)) |
| PA | (PBA-01 - N EXCLUSION AREA RUBBLE PILE (SWMU 3), PBA-06 - OLD ARK-LA RUBBLE SITE (SWMU 28)) |
| RFA | (PBA-08 - N HC SMOKE POT TEST POND (SWMU 74)) |
| CS | (PBA-08 - N HC SMOKE POT TEST POND (SWMU 74)) |
| 1983 | |
| SI | (PBA-10 - BOMBING MAT (SWMU 7), PBA-10B - SOLID WASTE STORAGE FACILITY (SWMU 9), PBA-40 - INCINERATOR COMPLEX (SWMU 38-41), PBA-40A - IC COOLING POND (SWMU 44), PBA-40B - SOLID WASTE SHREDDER (SWMU 43), PBA-40C - WASTE CONTAINER MAGAZINE AT IC (SWMU 42), PBA-46 - LIQUID WASTE STORAGE BLDG 81-530(SWMU26)) |
| RFI/CMS | (PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18)) |
| PA | (PBA-49 - FY 86 MCA HAZARDOUS WASTE LANDFILL) |
| 1984 | |
| DES | (PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18)) |
| RFI/CMS | (PBA-20A - SOUTH DEPOT DISPOSAL AREA (SWMU 53)) |
| RI/FS | (PBA-10A - DEPOT DEMOL, N BURN AREA (SWMU 8), PBA-13A - ABANDONED BURN PIT (SWMU 11), PBA-17 - OLD PRODUCT TEST RANGE (SWMU 36)) |
| 1985 | |
| RFI/CMS | (PBA-04 - 504TH ST BURN SITE (SWMU 25), PBA-07B - LEWISITE DISPOSAL AREA (SWMU 19), PBA-07C - MUSTARD AGENT BURNING YARD (SWMU 21), PBA-07D - STORAGE YARD BORROW PITS (SWMU 20), PBA-23A - WHITE SMOKE TEST POND (SWMU 62), PBA-27 - AGENT BZ POND (SWMU 65), PBA-29 - SOLID WASTE ARK-LA SITE (SWMU 27)) |
| RI/FS | (PBA-02 - WEBSTER ROAD TEST SITE (SWMU 6), PBA-12 - MUSTARD BURN PIT (SWMU 10), PBA-16A - WHITE PHOSPHORUS LANDFILL (SWMU 33), PBA-26 - PRODUCT ASSURANCE TEST RANGE (SWMU 64), PBA-29A - SALT PILE (SWMU 30), PBA-31A - PRODUCT ASSURANCE TEST RANGE (SWMU 72), PBA-34 - NCTR EQUALIZATION POND (SWMU 4), PBA-36 - CENTRAL WASTE TREATMENT LAGOON (SWMU 47), PBA-38 - IMPREGNITE SLUDGE LAGOON (SWMU 68)) |
| CMI(C) | (PBA-11A - DDT SEDIMENT RETENTION BASIN1(SWMU 18), PBA-11B - DDT SEDIMENT RETENTION BASIN2(SWMU 18), PBA-11C - DDT SEDIMENT RETENTION BASIN3(SWMU 18)) |
| 1986 | |
| SI | (PBA-47 - EOD DETONATION AREA (SWMU35), PBA-49 - FY 86 MCA HAZARDOUS WASTE LANDFILL) |
| PA | (PBA-18C - CLASS IV LANDFILL (SWMU 57), PBA-18D - REUSABLE RUBBLE PIT (SWMU 58), PBA-19 - FACILITY BURN PIT/ASBESTOS LF (SWMU 59), PBA-35 - NORTH OXIDATION POND (SWMU 13), PBA-37 - SOUTH OXIDATION PONDS (SWMU 46), PBA-39 - SANITARY POND, PBA-47 - EOD DETONATION AREA (SWMU35), PBA-50 - M55 ROCKET STORAGE AREA (SWMU 77), PBA-54 - WP STORAGE UST'S (35), PBA-61 - TANK 33-320A) |
| 1987 | |
| CMI(C) | (PBA-27 - AGENT BZ POND (SWMU 65)) |

IRP Schedule

| | |
|-------------|---|
| PA | (PBA-52 - TEMP HOLDING FOR HAZARDOUS WASTE(SWMU61)) |
| DES | (PBA-04 - 504TH ST BURN SITE (SWMU 25), PBA-07B - LEWISITE DISPOSAL AREA (SWMU 19), PBA-07C - MUSTARD AGENT BURNING YARD (SWMU 21, PBA-07D - STORAGE YARD BORROW PITS (SWMU 20), PBA-20A - SOUTH DEPOT DISPOSAL AREA (SWMU 53), PBA-23A - WHITE SMOKE TEST POND (SWMU 62), PBA-27 - AGENT BZ POND (SWMU 65), PBA-29 - SOLID WASTE ARK-LA SITE (SWMU 27)) |
| RD | (PBA-02 - WEBSTER ROAD TEST SITE (SWMU 6), PBA-10A - DEPOT DEMOL, N BURN AREA (SWMU 8), PBA-12 - MUSTARD BURN PIT (SWMU 10), PBA-13A - ABANDONED BURN PIT (SWMU 11), PBA-16A - WHITE PHOSPHORUS LANDFILL (SWMU 33), PBA-17 - OLD PRODUCT TEST RANGE (SWMU 36), PBA-26 - PRODUCT ASSURANCE TEST RANGE (SWMU 64), PBA-29A - SALT PILE (SWMU 30), PBA-31A - PRODUCT ASSURANCE TEST RANGE (SWMU 72), PBA-34 - NCTR EQUALIZATION POND (SWMU 4), PBA-38 - IMPREGNITE SLUDGE LAGOON (SWMU 68)) |
| 1988 | |
| PA | (PBA-17T - DILLY FARM TEST RANGE (SWMU 37), PBA-51 - WP POLLUTION ABATEMENT FACILITY (SWMU79), PBA-53 - PCB STORAGE FACILITY (SWMU 70), PBA-55 - CLARIFIER FOR N SAN TRMT PLANT (SWMU 14), PBA-56 - SCREEN FILT FOR N. SAN SEW TRMT (SWMU15), PBA-57 - SLUDGE DRYING N SAN SEW TRMT PLT(SWMU16), PBA-58 - TRICKLE FILT N SAN SEW TRMT PLT (SWMU17), PBA-59 - SEWAGE CLARIFIER SYSTEM (SWMU 45), PBA-60 - OLD BZ PRODUCTION AREA (SWMU 66)) |
| RA(C) | (PBA-02 - WEBSTER ROAD TEST SITE (SWMU 6), PBA-10A - DEPOT DEMOL, N BURN AREA (SWMU 8), PBA-13A - ABANDONED BURN PIT (SWMU 11), PBA-16A - WHITE PHOSPHORUS LANDFILL (SWMU 33), PBA-17 - OLD PRODUCT TEST RANGE (SWMU 36), PBA-26 - PRODUCT ASSURANCE TEST RANGE (SWMU 64), PBA-31A - PRODUCT ASSURANCE TEST RANGE (SWMU 72), PBA-34 - NCTR EQUALIZATION POND (SWMU 4), PBA-38 - IMPREGNITE SLUDGE LAGOON (SWMU 68)) |
| RI/FS | (PBA-20B - WP SLAG BURN & DISPOSAL AREA (SWMU 60)) |
| CMI(C) | (PBA-07C - MUSTARD AGENT BURNING YARD (SWMU 21) |
| RFA | (PBA-41 - MCA 83 HAZARDOUS WASTE LANDFILL (SWMU 1), PBA-44 - MCA 83 SURFACE IMPOUNDMENT (SWMU 12) |
| 1989 | |
| CMI(C) | (PBA-04 - 504TH ST BURN SITE (SWMU 25), PBA-07B - LEWISITE DISPOSAL AREA (SWMU 19), PBA-23A - WHITE SMOKE TEST POND (SWMU 62), PBA-29 - SOLID WASTE ARK-LA SITE (SWMU 27)) |
| RA(C) | (PBA-12 - MUSTARD BURN PIT (SWMU 10), PBA-29A - SALT PILE (SWMU 30)) |
| 1990 | |
| SI | (PBA-48 - B Z DEMILITARIZATION FACILITY) |
| CMI(C) | (PBA-07D - STORAGE YARD BORROW PITS (SWMU 20), PBA-20A - SOUTH DEPOT DISPOSAL AREA (SWMU 53)) |
| PA | (PBA-48 - B Z DEMILITARIZATION FACILITY) |
| 1991 | |
| RA(C) | (PBA-54 - WP STORAGE UST'S (35)) |
| 1992 | |
| RA(C) | (PBA-61 - TANK 33-320A) |
| 1996 | |
| PA | (PBA-62 - BOMBING MAT VICINITY) |
| 1997 | |
| RA(C) | (PBA-60 - OLD BZ PRODUCTION AREA (SWMU 66)) |
| 2000 | |
| RI/FS | (PBA-18 - CLOSED SANITARY LANDFILL (SWMU 54)) |
| 2001 | |
| PA | (SITE 63 - YELLOW LAKE BORROW AREA) |
| RFI/CMS | (PBA-11 - OLD CHEM MANUFACTURING (SWMU 29)) |

2002

RFI/CMS (PBA-03 - OLD DDT DISPOSAL AREA (SWMU 75), PBA-08 - N HC SMOKE POT TEST POND (SWMU 74), PBA-11D - DDT LANDFILL BLDG #54-270 (SWMU 24), PBA-11E - DDT LANDFILL BLDG #54-325 (SWMU 24), PBA-11F - SEDIMENTS CONTAINING DDT (SWMU 23), PBA-24 - THERMITE DISPOSAL AREA (SWMU 63))

LTM (PBA-34 - NCTR EQUALIZATION POND (SWMU 4))

RI/FS (PBA-01 - N EXCLUSION AREA RUBBLE PILE (SWMU 3), PBA-06 - OLD ARK-LA RUBBLE SITE (SWMU 28), PBA-18A - CURRENT SANITARY LANDFILL (SWMU 55))

2003

RFI/CMS (PBA-07A - DEPOT STORAGE YARD (SWMU 22))

DES (PBA-11F - SEDIMENTS CONTAINING DDT (SWMU 23))

2004

CMI(C) (PBA-11 - OLD CHEM MANUFACTURING (SWMU 29))

SI (PBA-62 - BOMBING MAT VICINITY, SITE 63 - YELLOW LAKE BORROW AREA)

2005

RI/FS (PBA-62 - BOMBING MAT VICINITY)

CMI(C) (PBA-03 - OLD DDT DISPOSAL AREA (SWMU 75), PBA-11D - DDT LANDFILL BLDG #54-270 (SWMU 24), PBA-11E - DDT LANDFILL BLDG #54-325 (SWMU 24), PBA-11F - SEDIMENTS CONTAINING DDT (SWMU 23))

2010

CMI(C) (PBA-07A - DEPOT STORAGE YARD (SWMU 22))

CMI(O) (PBA-11 - OLD CHEM MANUFACTURING (SWMU 29))

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: 201009

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of IRP at Installation (including LTM phase): 204509

PINE BLUFF ARSENAL IRP Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
|---------|--|-------|------|------|------|------|------|-------|
| PBA-04 | 504TH ST BURN SITE (SWMU 25) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-07A | DEPOT STORAGE YARD (SWMU 22) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-07B | LEWISITE DISPOSAL AREA (SWMU 19) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-07C | MUSTARD AGENT BURNING YARD (SWMU 21) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-07D | STORAGE YARD BORROW PITS (SWMU 20) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-08 | N HC SMOKE POT TEST POND (SWMU 74) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-11 | OLD CHEM MANUFACTURING (SWMU 29) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-20A | SOUTH DEPOT DISPOSAL AREA (SWMU 53) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-23A | WHITE SMOKE TEST POND (SWMU 62) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-24 | THERMITE DISPOSAL AREA (SWMU 63) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-27 | AGENT BZ POND (SWMU 65) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-29 | SOLID WASTE ARK-LA SITE (SWMU 27) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-41 | MCA 83 HAZARDOUS WASTE LANDFILL (SWMU 1) | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-44 | MCA 83 SURFACE IMPOUNDMENT (SWMU 12) | LTM | | | | | | |

PINE BLUFF ARSENAL
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 4/2

Installation Site Types with Future and/or Underway Phases

- 1 Open Burn
(PBA-001-R-01)
- 1 Unexploded Munitions/Ordnance
(PBA-002-R-01)

Most Widespread Contaminants of Concern

Chemical weapon munitions (CWM)/Chemical agent, Metals

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 |
|--------------|-------------------------|--------|------------------------|------|
| PBA-001-R-01 | BOMBING MAT VICINITY | IRA | INSTITUTIONAL CONTROLS | 2013 |
| PBA-002-R-01 | YELLOW LAKE BORROW AREA | IRA | INSTITUTIONAL CONTROLS | 2013 |

Duration of MMRP

Date of MMRP Inception 200203

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201712/201712

Date of MMRP completion including Long Term Management (LTM): 204512

MMRP Contamination Assessment

Contamination Assessment Overview

Four Military Munitions Response Program (MMRP) sites were identified at PBA. In early FY06, when the SI was completed two of these sites were determined to need no further action (NFA). In FY06, an ecological risk assessment was conducted and funded by PBA and the risk assessment report was submitted to the ADEQ in conjunction with the SI.

Cleanup Exit Strategy

Additional investigation is planned for PBA-001-R-01 and PBA-002-R-01. Remediation such as waste removal and LTM may be needed.

MMRP Previous Studies

| | Title | Author | Date |
|-------------|--|--|----------|
| 2005 | Geophysical Survey Results-Site 63-Yellow Lake | Shaw/PBA | JAN-2005 |
| | MMRP Historical Records Review | USCOE/E2M | FEB-2005 |
| | Eco Hazard Assessment and Risk Characterization of MR Sites | PBA/GLEC | NOV-2005 |
| 2006 | Final Site Inspection Report, Military Munitions Response Program, Site Inspection Munitions Response Sites, PBA, Arkansas for the USACE, Omaha District | Engineering-environmental Management, Inc., ACC Contract Number F44650-99-D-0004 | JAN-2006 |
| 2014 | Final Remedial Investigation/Feasibility Study Report for Two MMRP Sites | Shaw Environmental | MAY-2014 |
| | Proposed Plan for Two MMRP Sites, Pine Bluff Arsenal | Shaw Environmental, USACE Huntsville District | MAY-2014 |
| | Final RI/FS Report for Two MMRP Sites, Pine Bluff, Arkansas | CBI & USACE Huntsville Dist | MAY-2014 |
| | Final Proposed Plan for Two MMRP Sites, Pine Bluff, Arkansas | CBI & USACE Huntsville Dist | JUL-2014 |

PINE BLUFF ARSENAL
Military Munitions Response Program
Site Descriptions

Site ID: PBA-001-R-01
Site Name: BOMBING MAT VICINITY
Alias: Site 62

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 02

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

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

| Phases | Start | End |
|------------|-------------|--------|
| PA..... | 200203..... | 200305 |
| SI..... | 200404..... | 200601 |
| RI/FS..... | 201010..... | 201509 |
| RD..... | 201406..... | 201607 |
| IRA..... | 201103..... | 201210 |
| RA(C)..... | 201406..... | 201712 |
| LTM..... | 201712..... | 204512 |

RIP Date: N/A

RC Date: 201712

SITE DESCRIPTION

Bombing Mat Vicinity (BMV), which was known as PBA-62, is approximately 296 acres and lies within the former impact zone for testing of thermite bombs in the 1940s. Also within the area are work zones that contain pits that were used for the demilitarization of high explosive munitions. Large quantities of metallic debris have been found scattered across the area. The discovery of empty chemical munitions bodies and glass fragments from identification (ID) sets indicate that the area may contain chemical agent contamination. The area is also close to Site 12 (Mustard Burn Pit) where remediation included the removal of mustard agent-filled German Traktor rockets disposed of during World War II.

The Army has conducted an SI which included a historical records review (HRR) and interviews with site personnel. Based on this new information, a revised conceptual site model was produced which may expand the site boundaries. In FY06 an ecological risk assessment funded by PBA was conducted and submitted to the ADEQ.

There is a potential for CWM and contamination at this site.

The RI/FS phase was funded in FY11 and FY12 and a final report has been issued. A proposed plan (PP) is currently under public review and has been approved by the ADEQ. The PP includes 100 percent surface clearance of the BMV, excavation of five additional burial pits, limited subsurface clearance along the river, annual river bank inspection, land use controls (LUC), and LTM. The Huntsville District Corps of Engineers is the lead executing agency.

CLEANUP/EXIT STRATEGY

An RI for potential MC and munitions and explosives of concern (MEC) contamination has been completed and the final PP is under public review. The plan has been approved by ADEQ. Cleanup will include excavation of five pits, 100 percent surface clearance, and limited subsurface clearance along the river. Institutional controls with additional signage, fencing and access restrictions, will be utilized. MEC monitoring, groundwater monitoring, and a five-year review will be conducted as part of LTM.

Site ID: PBA-002-R-01
Site Name: YELLOW LAKE BORROW AREA
Alias: Site 63

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 03
 Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent
 Media of Concern: Soil

| Phases | Start | End |
|------------------|-------------|--------|
| PA..... | 200203..... | 200305 |
| SI..... | 200404..... | 200601 |
| RI/FS..... | 201010..... | 201508 |
| RD..... | 201406..... | 201509 |
| IRA..... | 201103..... | 201210 |
| RA(C)..... | 201406..... | 201609 |
| LTM..... | 201609..... | 204509 |
| RIP Date: | N/A | |
| RC Date: | 201609 | |

SITE DESCRIPTION

This site, which was known as Site 63, covers approximately 943 acres and was used for several years as a borrow area for sandy soils. In 2000, an unexploded 4.2-inch mustard mortar round was discovered in the area during the removal of borrow, necessitating the investigation of the area for more unexploded ordnance.

The Army has conducted an SI, which includes an HRR and interviews with site personnel. Based on this new information, a revised conceptual site model was produced which may expand the site boundaries. In FY06, PBA funded an ecological risk assessment which was submitted to the ADEQ.

The RI/FS phase was funded in FY11 and FY12 and a final report has been issued. A PP is currently under public review and has been approved by the ADEQ. The PP does not include more intrusive activity, but LUC and LTM. Huntsville District Corps of Engineers is the lead executing agency.

CLEANUP/EXIT STRATEGY

An RI for potential MC and MEC contamination has been conducted. There was no MC or MEC found on the surface in the Yellow Lake Area and the small amount found below ground was subsequently destroyed. The final PP is under public review and has received approval from ADEQ. Institutional controls with signage, some fencing and access restriction of the target area will be instituted and MEC monitoring conducted as part of LTM.

Site Closeout (No Further Action) Summary

| Site ID | Site Name | NFA Date | Documentation |
|--------------|--------------------------------|----------|--|
| PBA-003-R-01 | MUSTARD BURN PIT | 200601 | Results of the SI historical records review confirmed that no further action (NFA) is required at this site because it was cleaned up under the IRP and has been made response complete. |
| PBA-004-R-01 | WP SLAG BURN AND DISPOSAL AREA | 200601 | Results of the SI historical records review confirmed that NFA is required at this site because it was cleaned up under the IRP and has been made response complete. |

MMRP Schedule

Date of MMRP Inception 200203

Past Phase Completion Milestones

2003

PA (PBA-001-R-01 - BOMBING MAT VICINITY, PBA-002-R-01 - YELLOW LAKE BORROW AREA, PBA-003-R-01 - MUSTARD BURN PIT, PBA-004-R-01 - WP SLAG BURN AND DISPOSAL AREA)

2006

SI (PBA-001-R-01 - BOMBING MAT VICINITY, PBA-002-R-01 - YELLOW LAKE BORROW AREA, PBA-003-R-01 - MUSTARD BURN PIT, PBA-004-R-01 - WP SLAG BURN AND DISPOSAL AREA)

2013

IRA (PBA-001-R-01 - BOMBING MAT VICINITY, PBA-002-R-01 - YELLOW LAKE BORROW AREA)

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: 201712

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of MMRP at Installation (including LTM phase): 204512

PINE BLUFF ARSENAL MMRP Schedule

= phase underway

| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
|--------------|-------------------------|-------|------|------|------|------|------|-------|
| PBA-001-R-01 | BOMBING MAT VICINITY | RD | | | | | | |
| | | RA(C) | | | | | | |
| | | LTM | | | | | | |
| SITE ID | SITE NAME | PHASE | FY16 | FY17 | FY18 | FY19 | FY20 | FY21+ |
| PBA-002-R-01 | YELLOW LAKE BORROW AREA | RA(C) | | | | | | |
| | | LTM | | | | | | |

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201203

Restoration Advisory Board (RAB): No

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

Community Interest Solicited on: 201302

Efforts Taken to Determine Interest

An advertisement soliciting interest in a RAB was placed in the local Pine Bluff newspaper.

Results

No responses were received from the advertisement.

Follow-up Procedures

Interest in the development of a RAB will continue to be solicited on a periodic basis (every two years).

Additional Community Involvement Information

A community involvement plan was developed for the MMRP RI/FS project. This plan pertains to community involvement for all sites at PBA. Community interest will continue to be solicited on a periodic basis.

Administrative Record is located at

Pine Bluff Arsenal
10020 Kabrich Circle
Building 10-030
Pine Bluff, AR 71602

Information Repository is located at

University of Arkansas Pine Bluff Library
1200 University Drive
Pine Bluff, AR 71602

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

TAPP Title: N/A

Potential TAPP: N/A

