

PINE BLUFF ARSENAL

Army Cleanup Program

Installation Action Plan Final

June 2024

TABLE OF CONTENTS

STATEMENT OF PURPOSE3

INSTALLATION OVERVIEW4

ACRONYMS5

PHASE TRANSLATION TABLE8

PROGRAM SUMMARY9

SITE-LEVEL INFORMATION 10

 05087.1004_PBA-04_504TH ST BURN SITE (SWMU 25) 11

 05087.1007_PBA-07A_DEPOT STORAGE YARD (SWMU 22) 12

 05087.1008_PBA-07B_LEWISITE DISPOSAL AREA (SWMU 19) 13

 05087.1009_PBA-07C_MUSTARD AGENT BURNING YARD (SWMU 14

 05087.1010_PBA-07D_STORAGE YARD BORROW PITS (SWMU 2 15

 05087.1012_PBA-08_N HC SMOKE POT TEST POND (SWMU 74 16

 05087.1016_PBA-11_OLD CHEM MANUFACTURING (SWMU 29) 17

 05087.1035_PBA-20A_SOUTH DEPOT DISPOSAL AREA (SWMU 19

 05087.1037_PBA-23A_WHITE SMOKE TEST POND (SWMU 62)..... 20

 05087.1038_PBA-24_THERMITE DISPOSAL AREA (SWMU 63) 21

 05087.1040_PBA-27_AGENT BZ POND (SWMU 65) 22

 05087.1041_PBA-29_SOLID WASTE ARK-LA SITE (SWMU 27) 23

 05087.1055_PBA-41_MCA 83 HAZARDOUS WASTE LANDFILL (..... 25

 05087.1056_PBA-44_MCA 83 SURFACE IMPOUNDMENT (SWMU 26

 05087.1080_PBA-64_PFAS 27

 05087.1075_PBA-001-R-01_BOMBING MAT VICINITY 28

 05087.1076_PBA-002-R-01_YELLOW LAKE BORROW AREA 29

SITE SUMMARY 30

SITE CLOSEOUT SUMMARY 31

COMMUNITY INVOLVEMENT 34

FIVE-YEAR / PERIODIC REVIEW SUMMARY 35

STATEMENT OF PURPOSE

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

INSTALLATION OVERVIEW

Installation Name: PINE BLUFF ARSENAL

Installation City: WHITE HALL

Installation County: JEFFERSON

Installation State: AR

Regulatory Participation - Federal: US Environmental Protection Agency (USEPA), Region VI, Site Assessment and Federal Facilities Section, Dallas, TX

Regulatory Participation - State: Arkansas Energy and Environment - Department of Environmental Quality (DEQ)

ACRONYMS

Acronym	Definition
AOPI	Areas of Potential Interest
ARK-LA	Arkansas-Louisiana
BMV	Bombing Mat Vicinity
CAIS	Chemical Agent Identification Sets
CAP	Corrective Action Plan
CC	Compliance-Related Cleanup
Cd	Cadmium
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
Cr	Chromium
CRL	Cleanup Restoration & Liabilities
CS	Confirmation Sampling
CWM	Chemical Weapon Munitions
cy	Cubic Yard
DDT	Dichloro-Diphenyl-Trichloroethane
DEQ	Department of Environmental Quality
DES	Design
DNAPL	Dense Non-Aqueous Phase Liquid
ENV	Environmental
FS	Feasibility Study
HC	Hexachloroethane
HDPE	High-Density Polyethylene
Hg	Mercury
IAP	Installation Action Plan
IM	Interim Measure
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
INV	Investigation
IR	Installation Restoration
IRA	Interim Remedial Action
ISC	Initial Site Characterization
LTM	Long-Term Management
LUC	Land Use Control

Acronym	Definition
LUCIP	Land Use Control Implementation Plan
MC	Munition Constituent
MCL	Maximum Containment Level
mm	Millimeter
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OSD	Office of the Secretary of Defense
PA	Preliminary Assessment
Pb	Lead
PBA	Pine Bluff Arsenal
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane Sulfonate
PP	Proposed Plan
QA	Quality Assurance
RA	Response Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RADD	Remedial Action Decision Document
RC	Response Complete
RCI	Runoff Control Impoundment
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-In-Place
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation

Acronym	Definition
TDS	Total Dissolved Solids
TOX	Total Organic Halides
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound

PHASE TRANSLATION TABLE

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

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 14/15

Number of Open Sites with Response Complete/Total Open MR Sites: 0/2

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

SITE-LEVEL INFORMATION

05087.1004_PBA-04_504TH ST BURN SITE (SWMU 25)

Env Site ID: PBA-04

Cleanup Site: 504TH ST BURN SITE (SWMU 25)

Alias: SWMU 25

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	8/31/1980	8/31/1980
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	12/31/1987	12/31/1988
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: PBA-04 Solid Waste Management Unit (SWMU) 25 was a five-acre burn site and is currently located in the northwestern part of Pine Bluff Arsenal (PBA) southwest of the intersection of 504th Street and 6242 Avenue. 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 which contributed to the contamination of soil and groundwater. The contaminant of concern was determined to be metals. The media of concern included groundwater. Due to a low-permeability clay-shale layer underlying the site, in situ encapsulation of the waste materials was selected by Arkansas Department of Environmental Quality (DEQ) and PBA as an interim remedial action (IRA) in 1987. In response to Arkansas DEQ concerns, in 2002 PBA began a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) and follow-on Corrective Measures Study (CMS). The RFI and CMS were subsequently completed culminating with an Arkansas DEQ signed Remedial Action Decision Document (RADD) on Sept. 1, 2009, which defined all long-term management (LTM) requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, and general water quality indicators will continue per the RADD as incorporated by RCRA permit 1H-RN3; June 25, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established Interim Remedial Action (IRA) effectively contains the contaminant of concern within the boundary and media of the capped site. As a result, five wells are monitored; three are sampled semiannually and two annually for chlorides, sulfates, and metals. Sampling results are then analyzed against 2018 US Environmental Protection Agency (USEPA) maximum contaminant levels (MCL) in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances pollutants or contaminants will remain at the site at concentration exceeding levels that allow for unlimited use/unrestricted exposure (UU/UE), land use controls (LUC) and periodic reviews will continue indefinitely.

05087.1007_PBA-07A_DEPOT STORAGE YARD (SWMU 22)

Env Site ID: PBA-07A

Cleanup Site: DEPOT STORAGE YARD (SWMU 22)

Alias: SWMU 22

Regulatory Driver: RCRA-C

RIP Date: 9/30/2010

RC Date: 9/30/2010

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1977	8/31/1977
CS:	8/31/1980	8/31/1980
RFI/CMS:	7/31/2000	9/1/2009
DES:	--	--
IRA:	5/1/1984	8/15/1984
CMI(C):	9/2/2009	9/30/2010
CMI(O):	--	--
LTM:	10/1/2010	9/30/2054

Site Narrative: PBA-07A was a 40-acre fenced storage area east of Atkisson Road in the northern section of the Arsenal. This site was once a storage area for drums of a corrosive screening smoke made of sulfur trioxide, chlorosulfonic acid, and pesticides, and was also used for storage of empty blister agent (mustard and lewisite) containers. The contaminants of concern were determined to be chemical weapon munitions (CWM), chemical agent metals, and volatile organic compound (VOC). The media of concern included soil, sediment, and groundwater. Due to contaminant leakage as a result of deterioration and spills, an IRA to remove contaminated soil was initiated and completed in 1984. Further IRA efforts were enacted and included the installation of run-on/runoff control structures (concrete berms and a containment ditch) and a high-density polyethylene-lined retention pond. In response to Arkansas DEQ concerns in 2000, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements and soil excavation requirements. Contaminated soil was removed per the RADD in 2010. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and Semi-Volatile Organic Compounds (SVOCs) will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminant of concern within the boundary and media of the capped site. As a result, four wells are monitored; two are sampled semiannually and two annually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for unlimited use/unrestricted exposure (UU/UE), LUCs and periodic reviews will continue indefinitely.

05087.1008_PBA-07B_LEWISITE DISPOSAL AREA (SWMU 19)

Env Site ID: PBA-07B

Cleanup Site: LEWISITE DISPOSAL AREA (SWMU 19)

Alias: SWMU 19

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1977	8/31/1977
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	9/30/1989
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: PBA-7B is located east of Atkisson Road in the northern section of the Arsenal and was 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. The contaminants of concern were determined to be CWM, chemical agent, and metals. The media of concern included soil, sediment, and groundwater. An IRA was completed in 1989 capping the abandoned lagoon 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 Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminant of concern within the boundary and media of the capped site. As a result, four wells are monitored; two are sampled semiannually and two annually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances pollutants or contaminants will remain at the site at concentration exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1009_PBA-07C_MUSTARD AGENT BURNING YARD (SWMU)

Env Site ID: PBA-07C

MRSPP: N/A

Cleanup Site: MUSTARD AGENT BURNING YARD
(SWMU)

Alias: SWMU 21

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

Phase	Start	End
RFA:	8/31/1980	8/31/1980
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	9/30/1988
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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. The contaminants of concern were determined to be CWM, chemical agent, and metals. The media of concern included soil, sediment, and groundwater. An IRA was completed in 1988 capping the site 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 Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, three wells are monitored semiannually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1010_PBA-07D_STORAGE YARD BORROW PITS (SWMU 2)

Env Site ID: PBA-07D

Cleanup Site: STORAGE YARD BORROW PITS (SWMU 2)

Alias: SWMU 20

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1977	8/31/1977
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	10/31/1989
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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 borrow pits approximately 75 feet wide and 600 feet long. After World War II, mustard and lewisite munitions were buried just east of the borrow pits. In 1955 these munitions were excavated and removed. An IRA was completed in 1989 capping the site 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 contaminants of concern were determined to be CWM, chemical agent, metals, and VOCs. The media of concern included soil, sediment, and groundwater. In response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, three wells are monitored semiannually for chlorides sulfates metals VOCs and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentration exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1012_PBA-08_N HC SMOKE POT TEST POND (SWMU 74)

Env Site ID: PBA-08

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

Alias: SWMU 74

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	10/31/1973	10/31/1981
CS:	10/31/1973	10/31/1981
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	--	--
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: PBA-08 is a 0.50-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. The contaminants of concern were determined to be metals and VOCs. The media of concern included groundwater. In response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed culminating with an Arkansas DEQ-signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the contained site. As a result, three wells are monitored semiannually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1016_PBA-11_OLD CHEM MANUFACTURING (SWMU 29)

Env Site ID: PBA-11

MRSPP: N/A

Cleanup Site: OLD CHEM MANUFACTURING (SWMU 29)

Alias: SWMU 29

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

Phase	Start	End
RFA:	11/30/1972	3/31/1975
CS:	1/31/1977	5/31/1978
RFI/CMS:	9/30/1978	9/1/2009
DES:	--	--
IRA:	9/1/1976	9/1/2005
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: PBA-11 (includes SWMUs -03[SWMU 75], -11A [SWMU 18], -11B [SWMU 18], -11C [SWMU 18], -11D [SWMU 24], -11E [SWMU 24], and -11F [SWMU 23]) and is located west of Atkisson Road in the northern section of the Arsenal. 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 dichloro-diphenyl-trichloroethane (DDT) contamination was found in the buildings, the surrounding area, and Phillips Creek. The contaminants of concern were determined to be metals, pesticides, and VOCs. The media of concern included groundwater, sediment, soil, and surface water. Three phases of IRA occurred between 1976-2005. During Phase 1 the DDT surface contamination was removed from the site between 1976 and 1977. In 1985-1986, PBA demolished nine large chemical manufacturing buildings and numerous smaller ones, along with the excavation of 24,000 feet of industrial sewer lines and contaminated soil. During Phase 3 in 2005, contamination from sites PBA-03, -11D, -11E, and -11F was consolidated into one capped containment unit located within the site 11 boundary. In an effort to bring all PBA sites into a RADD PBA incorporated all previous RFI efforts into the installation-wide CMS. The CMS was subsequently completed culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, pesticides, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. Additionally Monitoring of Natural Attenuation (MNA) will continue with select wells associated with the site and defined by the RADD. Lastly, ecological monitoring will continue in compliance with the RADD, which includes surface water soil and sediment analysis. The 2021 periodic review determined that additional information was required in order to determine if the remedy remained protective of human health and the environment. As a result, PBA initiated a study in 2018 to assess potential ecological impacts to the Arkansas River from Phillips Creek. DDT was determined to be present above EPA screening levels in several fish samples within the Arkansas River near the mouth of Phillips Creek. As a result, PBA will continue monitoring fish tissue in the Arkansas River and reopen the investigation phase. Additionally, a

new DDT source was discovered in Phillips Creek in 2021, adjacent to SWMU 75. As a result, the Army initiated a supplemental investigation in order to determine the new source's nature and extent.

Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, 18 wells are monitored semiannually for pesticides, nitrates, chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Additionally, a Response Action (RA) to divert Phillips Creek around the new source of DDT contamination was completed in 2023. PBA began supplemental investigative work in 2023 within the LTM phase to further delineate the nature and extent of DDT contamination. The results of this investigation will be followed by a supplemental CMS and potential future actions. Future land use will remain industrial and hazardous substances pollutants or contaminants will remain at the site at concentration exceeding levels that allow for UU/UE, thus LUCs and periodic reviews will continue indefinitely.

05087.1035_PBA-20A_SOUTH DEPOT DISPOSAL AREA (SWMU)

Env Site ID: PBA-20A

Cleanup Site: SOUTH DEPOT DISPOSAL AREA (SWMU)

Alias: SWMU 53

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	8/31/1980	8/31/1980
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	11/30/1989
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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 (cy) of burned fill and contaminated soil. Lead contamination extended to a depth of three feet in the soil below the burn pit. The contaminants of concern were determined to be metals and munitions constituents (MC). The media of concern included groundwater, sediment, soil, and surface water. An IRA was completed in 1989 consisting of in situ encapsulation. 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 response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, and general water quality indicators will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. Additionally, ecological monitoring will continue in compliance with the RADD which includes surface water, soil, and sediment analyses. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, seven wells are monitored; five are sampled semiannually and two annually for chlorides, sulfates, and metals. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1037_PBA-23A_WHITE SMOKE TEST POND (SWMU 62)

Env Site ID: PBA-23A

Cleanup Site: WHITE SMOKE TEST POND (SWMU 62)

Alias: SWMU 62

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1977	8/31/1977
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	12/30/1988
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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. The contaminants of concern were determined to be metals and VOCs. The media of concern included groundwater. An IRA was completed in 1988 consisting of in situ encapsulation. 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 cy of non-RCRA wastes from sites PBA-2, -10A, -12, -17, -20B, -26, and -31A were deposited at this site. In response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, SVOCs, and VOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, 11 wells are monitored; four are sampled semiannually and seven annually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1038_PBA-24_THERMITE DISPOSAL AREA (SWMU 63)

Env Site ID: PBA-24

Cleanup Site: THERMITE DISPOSAL AREA (SWMU 63)

Alias: SWMU 63

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	8/31/1980	8/31/1980
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	12/30/1988
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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 cy of contaminated soil. In the 1940s and the early 1950s it was used as a dump for the Quality Assurance (QA) Drop Tower site PBA-26, and from 1959 to 1961 for bomb wash from the BZ Pond site PBA-27. The contaminant of concern was determined to be metals. The media of concern included groundwater and soil. An IRA was completed in 1988 consisting of installation of 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. In response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, and general water quality indicators will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, four wells are monitored annually for chlorides, sulfates, and metals. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1040_PBA-27_AGENT BZ POND (SWMU 65)

Env Site ID: PBA-27

Cleanup Site: AGENT BZ POND (SWMU 65)

Alias: SWMU 65

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1977	8/31/1977
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	4/30/1987	6/30/1987
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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. This area was a 0.25-acre unlined pond that, from the 1940s through 1970, was used for disposal of thermite waste, red lead contaminated bomb wash, BZ production waste, cyclohexane, and impregnate wastes. The contaminants of concern were determined to be metals, SVOCs, and VOCs. The media of concern included groundwater and soil. An IRA was completed in 1987 consisting of a slurry wall and a compacted low-permeable soil cap to keep 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 response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3 effective June 25th, 2018. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, 10 wells are monitored; four are sampled semiannually and six annually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial, and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1041_PBA-29_SOLID WASTE ARK-LA SITE (SWMU 27)

Env Site ID: PBA-29

Cleanup Site: SOLID WASTE ARK-LA SITE (SWMU 27)

Alias: SWMU 27

Regulatory Driver: RCRA-C

RIP Date: 10/1/2009

RC Date: 10/1/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	8/31/1980	8/31/1980
CS:	8/31/1980	8/31/1980
RFI/CMS:	9/30/2002	9/1/2009
DES:	--	--
IRA:	10/31/1987	11/30/1988
CMI(C):	9/2/2009	10/1/2009
CMI(O):	--	--
LTM:	10/2/2009	9/30/2054

Site Narrative: 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. The contaminants of concern were determined to be metals, SVOCs, and VOCs. The media of concern included groundwater, sediment, and soil. An IRA was completed in 1988 consisting of in situ encapsulation and various physical and engineering controls. 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-millimeter (mm) HDPE flexible membrane liner. In response to Arkansas DEQ concerns in 2002, PBA began an RFI and follow-on CMS. The RFI and CMS were subsequently completed, culminating with an Arkansas DEQ signed RADD on Sept. 1, 2009, which defined all LTM requirements. As part of LTM, groundwater monitoring of inorganics, field parameters, general water quality indicators, VOCs,, and SVOCs will continue per the RADD as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. Additionally, ecological monitoring will continue in compliance with the RADD which includes surface water, soil, and sediment analyses. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - This site is included in the installation-wide long-term groundwater monitoring program which is required by the permit in order to ensure the previously established IRA effectively contains the contaminants of concern within the boundary and media of the capped site. As a result, six wells are monitored; four are sampled semiannually and two annually for chlorides, sulfates, metals, VOCs, and SVOCs. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial, and hazardous substances, pollutants or contaminants will remain at the site at

concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1055_PBA-41_MCA 83 HAZARDOUS WASTE LANDFILL (

Env Site ID: PBA-41

Cleanup Site: MCA 83 HAZARDOUS WASTE LANDFILL (

Alias: SWMU 1

Regulatory Driver: RCRA-C

RIP Date: 10/31/1986

RC Date: 10/31/1986

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	8/15/1984	11/15/1984
CS:	--	--
RFI/CMS:	11/16/1984	11/15/1985
DES:	--	--
IRA:	--	--
CMI(C):	11/16/1985	10/31/1986
CMI(O):	--	--
LTM:	11/1/1986	9/30/2054

Site Narrative: PBA-41 is a RCRA-permitted hazardous waste landfill that was designed and constructed in the mid-1980s in order to accept the hazardous wastes from the multiple PBA IRAs that took place throughout the installation at various other sites. 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. In October 1986, RCRA closure was achieved by capping the two cells containing waste. The third cell was never used and was later removed from the permit. Groundwater monitoring and periodic leachate removal are the only current activities at this site. Soil and groundwater are the media of concern for metals (Mercury (Hg), Cadmium (Cd), Chromium (Cr), Lead (Pb)), organic compounds (chemical agent and agent breakdown products), and DDT and its breakdown products. Due to location on the Arsenal, method of encapsulation, and extremely low velocity of the groundwater in this area, off-site migration is very unlikely in the event of a landfill leak. LTM requirements were defined by the 1-HR-2 permit that was effective as of November 15th, 1985. LTM will continue as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. LTM includes leachate collection and disposal; groundwater monitoring for inorganics, VOCs, SVOCs, pesticides, total dissolved solids (TDS), fluoride, and conductivity; and landfill cap maintenance and inspection. The 2021 periodic review determined the remedy remained protective of human health and the environment. Cleanup/Exit Strategy - Groundwater monitoring and cap maintenance will continue as required by the post-closure permit. As a result, 10 wells are monitored semiannually for metals, total organic halides (TOX), and pesticides. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1056_PBA-44_MCA 83 SURFACE IMPOUNDMENT (SWMU)

Env Site ID: PBA-44

MRSPP: N/A

Cleanup Site: MCA 83 SURFACE IMPOUNDMENT
(SWMU)

Alias: SWMU 12

Regulatory Driver: RCRA-C

RIP Date: 11/17/1985

RC Date: 11/17/1985

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

Phase	Start	End
RFA:	8/15/1984	11/15/1984
CS:	--	--
RFI/CMS:	11/16/1984	11/15/1985
DES:	--	--
IRA:	9/30/1984	9/30/1985
CMI(C):	11/16/1985	11/17/1985
CMI(O):	--	--
LTM:	11/18/1985	9/30/2054

Site Narrative: PBA-44 is a RCRA-permitted lined runoff control impoundment (RCI) that was designed and constructed in the mid-1980s to collect contaminated DDT-laden stormwater from the multiple PBA sites. The RCI functions as a settling basin that allows surface water runoff to be retained from several sites so that DDT contaminants can settle out prior to discharge to the Arkansas River. Runoff from sites PBA-11 and PBA-7A-D equate to approximately 545 acres. The runoff from these sites is diverted to the pond during the remediation of these sites. A National Pollutant Discharge Elimination System (NPDES) Permit is required and maintained for the outfall. The contaminants of concern were determined to be metals and pesticides. Groundwater and surface waters are the media of concern for metals (Hg, Cd, Cr, Pb), pesticides (DDT and breakdown products), and other organic compounds. Due to location on the Arsenal and extremely low velocity of the groundwater in this area, off-site migration is very unlikely. The permit required LTM in the form of groundwater monitoring and outfall periodic sampling. The NPDES Permit created separate requirements for outfall sampling and monitoring. LTM requirements were defined by the 1-HR-2 permit that was effective as of November 15th, 1985. LTM will continue as incorporated by RCRA permit 1H-RN3, effective June 25th, 2018. LTM includes groundwater monitoring for inorganics, VOCs, SVOCs, pesticides, and general water quality parameters. Additionally, compliance with the requirements of the NPDES Permit shall remain in effect throughout the life of the site. Cleanup/Exit Strategy - Groundwater monitoring and NPDES surface water monitoring will continue as required by permit. As a result, eight wells are monitored semiannually for metals, TOX, and pesticides. Sampling results are then analyzed against 2018 USEPA MCLs in order to ensure contaminants from the site remain contained. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1080_PBA-64_PFAS

Env Site ID: PBA-64

Cleanup Site: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 10/1/2028

RC Date: 10/1/2028

RC Reason: Not assigned

SC Date: 10/2/2028

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	5/21/2018	6/24/2019
SI:	6/25/2019	3/31/2023
RI/FS:	4/1/2023	10/1/2028
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: Per direction from Deputy Chief of Staff G-9, this site was created to account for all Per- and Polyfluoroalkyl Substances (PFAS) costs at the installation. A Preliminary Assessment/Site Investigation (PA/SI) was completed and the final report was approved and published in November, 2021. During the PA/SI phase, two of five Areas of Potential Interest (AOPIs) were identified to move into the RI/FS phase, including the PBA Fire Station Site and the Firefighter Training Area Site. Additionally, the Tractor Fire site is retained as an AOPI; however, soil was not sampled during the SI phase and subsequently will not undergo investigation due to health and safety concerns associated with the presence of white phosphorous. Perfluorooctane Sulfonate (PFOS) was present in soil above the Office of the Secretary of Defense (OSD) screening levels at the Fire Station Site. PFOS and Perfluorooctanoic acid (PFOA) were present in groundwater above the OSD screening levels for groundwater at the Firefighter Training Area site. Cleanup/Exit Strategy - Both sites will be included in the RI/FS phase through the decision document, and further if needed. RI is planned for FY25.

05087.1075_PBA-001-R-01_BOMBING MAT VICINITY

Env Site ID: PBA-001-R-01

Cleanup Site: BOMBING MAT VICINITY

Alias: SITE 62

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 2

Phase	Start	End
RFA:	3/12/2002	5/1/2003
CS:	4/30/2004	1/31/2006
RFI/CMS:	10/31/2010	9/11/2014
DES:	6/30/2015	11/30/2016
IRA:	3/31/2011	10/31/2012
CMI(C):	12/1/2016	9/30/2024
CMI(O):	--	--
LTM:	9/30/2024	9/30/2054

Site Narrative: Bombing Mat Vicinity (BMV) also known as PBA-62 is approximately 320-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. The discovery of empty chemical munitions bodies and glass fragments from Chemical Agent Identification Sets (CAIS) indicated that the area may contain chemical agent contamination. Site-12 (Mustard Burn Pit) is colocated with the BMV site where mustard agent-filled German Traktor rockets were disposed of during World War II. Additionally, chemical warfare material was previously recovered and removed by the US Army from Site-12. The Army conducted an SI which included a review of historical records and interviews with site personnel. The RI/FS phase was completed in 2014. Evidence of CWM and contamination was found during the RI/FS. A proposed plan (PP) was finalized in 2014 and has been approved by the Arkansas DEQ. Initially the US Army conducted the cleanup efforts under CERCLA but transitioned to RCRA in compliance with the 2009 RADD and Arkansas DEQ. Arkansas DEQ amended the 2009 RADD to incorporate the corrective action requirements for the BMV. The plan included 100 percent surface clearance of the BMV, excavation of five burial pits, limited subsurface clearance along the river, annual riverbank inspections, LUCs, and LTM. Active corrective action was completed on Dec. 18, 2020. PBA received Remedial Action Completion Report (RACR) concurrence letter from DEQ on 12/8/2021, but full RACR completion occurred 10/1/2022. LUCs are required per the RADD. The LUCs include shallow groundwater use restrictions, residential land use restrictions, requires area avoidance and updated marine charts for the Arkansas River showing no anchoring allowed along SWMU 80, and the installation of additional warning signs. LTM will continue in the form of groundwater and surface water monitoring. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

05087.1076_PBA-002-R-01_YELLOW LAKE BORROW AREA

Env Site ID: PBA-002-R-01

Cleanup Site: YELLOW LAKE BORROW AREA

Alias: SITE 63

Regulatory Driver: RCRA-C

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
RFA:	3/12/2002	5/1/2003
CS:	4/30/2004	1/31/2006
RFI/CMS:	10/31/2010	9/11/2014
DES:	6/30/2014	11/30/2016
IRA:	3/31/2011	10/31/2012
CMI(C):	9/11/2014	9/30/2024
CMI(O):	--	--
LTM:	9/30/2024	9/30/2054

Site Narrative: This site, which was previously known as PBA-63, covers approximately 356.36 acres and was used for several years as a borrow area for sandy soils. In 2000 an unexploded 4.2-inch mustard-filled mortar round was discovered in the area during the removal of borrow necessitating the investigation of the area for more unexploded ordnance (UXO). The Army conducted an SI which included a review of historical records and interviews with site personnel. The RI/FS phase was completed in 2014. Evidence of CWM and contamination was found during the RI/FS. A PP was finalized in 2014 and has been approved by Arkansas DEQ. Initially the US Army conducted the cleanup efforts under CERCLA but transitioned to RCRA in compliance with the 2009 RADD and Arkansas DEQ. Arkansas DEQ amended the 2009 RADD to incorporate the corrective action requirements for the site. The plan included LUCs and LTM. Active corrective action was completed on 12/18/2020. PBA received a RACR concurrence letter from DEQ on 12/8/2021, but full RACR completion occurred on 10/1/2022. LUCs are required per the RADD. The LUCs include shallow groundwater use restrictions, residential land use restrictions, requires area avoidance and updated marine charts for the Arkansas River showing no anchoring allowed along SWMU 81, and the installation of additional warning signs. LTM will continue in the form of groundwater and surface water monitoring. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, LUCs and periodic reviews will continue indefinitely.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
05087.1001	PBA-01_N EXCLUSION AREA RUBBLE PILE (SWM	9/30/2002
05087.1002	PBA-02_WEBSTER ROAD TEST SITE (SWMU 6)	4/30/1988
05087.1003	PBA-03_OLD DDT DISPOSAL AREA (SWMU 75)	9/30/2005
05087.1005	PBA-06_OLD ARK-LA RUBBLE SITE (SWMU 28)	9/30/2002
05087.1006	PBA-06S_NON-PRODUCTION WASTE BURNING (SW	8/31/1977
05087.1011	PBA-07S_M50 BOMBLET PRIMER DEMOLITION (S	8/31/1977
05087.1013	PBA-10_BOMBING MAT (SWMU 7)	8/31/1983
05087.1014	PBA-10A_DEPOT DEMOL, N BURN AREA (SWMU 8	7/31/1988
05087.1015	PBA-10B_SOLID WASTE STORAGE FACILITY (SW	8/31/1983
05087.1017	PBA-11A_DDT SEDIMENT RETENTION BASIN1(SW	9/30/1985
05087.1018	PBA-11B_DDT SEDIMENT RETENTION BASIN2(SW	9/30/1985
05087.1019	PBA-11C_DDT SEDIMENT RETENTION BASIN3(SW	9/30/1985
05087.1020	PBA-11D_DDT LANDFILL BLDG #54-270 (SWMU	9/30/2005
05087.1021	PBA-11E_DDT LANDFILL BLDG #54-325 (SWMU	9/30/2005
05087.1022	PBA-11F_SEDIMENTS CONTAINING DDT (SWMU 2	9/30/2005
05087.1023	PBA-12_MUSTARD BURN PIT (SWMU 10)	11/30/1988
05087.1024	PBA-13A_ABANDONED BURN PIT (SWMU 11)	10/31/1987
05087.1025	PBA-15_CLOSED SANI & DDT LANDFILL (SWMU	9/30/1975
05087.1026	PBA-16A_WHITE PHOSPHORUS LANDFILL (SWMU	9/30/1988
05087.1027	PBA-17_OLD PRODUCT TEST RANGE (SWMU 36)	9/30/1988
05087.1028	PBA-17T_DILLY FARM TEST RANGE (SWMU 37)	11/30/1987
05087.1029	PBA-18_CLOSED SANITARY LANDFILL (SWMU 54	7/31/2000
05087.1030	PBA-18A_CURRENT SANITARY LANDFILL (SWMU	8/31/2002
05087.1031	PBA-18B_S ARSENAL BLDG RUBBLE SITE (SWMU	8/31/1980
05087.1032	PBA-18C_CLASS IV LANDFILL (SWMU 57)	9/30/1986

CRL ID	Site Name	Site Closeout Date
05087.1033	PBA-18D_REUSABLE RUBBLE PIT (SWMU 58)	9/30/1986
05087.1034	PBA-19_FACILITY BURN PIT/ASBESTOS LF (SW	9/30/1986
05087.1036	PBA-20B_WP SLAG BURN & DISPOSAL AREA (SW	8/31/1988
05087.1039	PBA-26_PRODUCT ASSURANCE TEST RANGE (SWM	6/30/1988
05087.1042	PBA-29A_SALT PILE (SWMU 30)	11/30/1988
05087.1043	PBA-31A_PRODUCT ASSURANCE TEST RANGE (SW	3/31/1988
05087.1044	PBA-31B_GRENADE TEST BASIN (SWMU 71)	8/31/1980
05087.1045	PBA-34_NCTR EQUALIZATION POND (SWMU 4)	8/31/2002
05087.1046	PBA-35_NORTH OXIDATION POND (SWMU 13)	9/30/1986
05087.1047	PBA-36_CENTRAL WASTE TREATMENT LAGOON (S	7/31/1985
05087.1048	PBA-37_SOUTH OXIDATION PONDS (SWMU 46)	9/30/1986
05087.1049	PBA-38_IMPREGNITE SLUDGE LAGOON (SWMU 68	9/30/1988
05087.1050	PBA-39_SANITARY POND	9/30/1986
05087.1051	PBA-40_INCINERATOR COMPLEX (SWMU 38-41)	8/31/1983
05087.1052	PBA-40A_IC COOLING POND (SWMU 44)	8/31/1983
05087.1053	PBA-40B_SOLID WASTE SHREDDER (SWMU 43)	8/31/1983
05087.1054	PBA-40C_WASTE CONTAINER MAGAZINE AT IC (8/31/1983
05087.1057	PBA-46_LIQUID WASTE STORAGE BLDG 81-530(8/31/1983
05087.1058	PBA-47_EOD DETONATION AREA (SWMU35)	9/30/1986
05087.1059	PBA-48_B Z DEMILITARIZATION FACILITY	8/31/1990
05087.1060	PBA-49_FY 86 MCA HAZARDOUS WASTE LANDFIL	8/31/1986
05087.1061	PBA-50_M55 ROCKET STORAGE AREA (SWMU 77)	12/31/1985
05087.1062	PBA-51_WP POLLUTION ABATEMENT FACILITY (11/30/1987
05087.1063	PBA-52_TEMP HOLDING FOR HAZARDOUS WASTE(8/31/1987
05087.1064	PBA-53_PCB STORAGE FACILITY (SWMU 70)	11/30/1987
05087.1065	PBA-54_WP STORAGE UST'S (35)	8/31/1991

CRL ID	Site Name	Site Closeout Date
05087.1066	PBA-55_CLARIFIER FOR N SAN TRMT PLANT (S	11/30/1987
05087.1067	PBA-56_SCREEN FILT FOR N. SAN SEW TRMT (11/30/1987
05087.1068	PBA-57_SLUDGE DRYING N SAN SEW TRMT PLT(11/30/1987
05087.1069	PBA-58_TRICKLE FILT N SAN SEW TRMT PLT (11/30/1987
05087.1070	PBA-59_SEWAGE CLARIFIER SYSTEM (SWMU 45)	11/30/1987
05087.1071	PBA-60_OLD BZ PRODUCTION AREA (SWMU 66)	9/30/1997
05087.1072	PBA-61_TANK 33-320A	12/31/1991
05087.1073	PBA-62_BOMBING MAT VICINITY	2/28/2005
05087.1074	SITE 63_YELLOW LAKE BORROW AREA	9/30/2004
05087.1077	PBA-003-R-01_MUSTARD BURN PIT	1/31/2006
05087.1078	PBA-004-R-01_WP SLAG BURN AND DISPOSAL A	1/31/2006
05087.1079	CC-58_Trickle Filter NSSTP	3/31/2009

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	2/15/2012
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	No sufficient, sustained community interest in a RAB has been expressed by the community
RAB Date of Solicitation from Community:	2/5/2023
RAB Results of Solicitation:	No sufficient, sustained community interest in a RAB has been expressed by the community
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	Office of the Restoration Manager, Bldg 10030, Pine Bluff Arsenal, AR 71602
Information Repository Location:	Office of the Restoration Manager, Bldg 10030, Pine Bluff Arsenal, AR 71602

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Completed	PR	4/1/2020	4/1/2021	Ancillary recommendation to clarify RCRA goals for PBA upon next renewal or revision.	Recommended actions were development of a formal site inspection program, assessment of vapor intrusion, additional assessments (PBA-07, 23A and 11), update master plan to clearly identify SWMUs and land use restrictions.	Remedies at the majority of sites is protective in the short term. In order to be protective in the long-term actions are recommended.
Planned	PR	4/1/2025	4/1/2026	PBA intends to propose clarifications for its RCRA permit during an upcoming revision.	A site inspection program is fully implemented. A land use control implementation plan (LUCIP) was completed. The LUCIP identifies SWMUs and appropriate land use restrictions and is included in the master plan. The vapor intrusion assessment will be completed as resources are available.	See Planned Actions Narrative.