JFHQ MO ARNG

Army Cleanup Program

Installation Action Plan

2023

CONTENTS

ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituent
mg/kg	milligrams/kilogram
MOARNG	Missouri Army National Guard
MRBCA	Missouri Risk Based Corrective Action
MR	Munitions Response
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
NDNODS	Non-Department of Defense Owned, Non-Operational Defense Sites
PA	Preliminary Assessment
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RBTL	Risk Based Target Level
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
USEPA	U. S. Environmental Protection Agency
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

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

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
6898A.1027	CC_MOHQ-003-R-01_NDNODS DONIPHAN RIFLE	
6898A.1028	CC_MOHQ-005-R-01_NDNODS HANNIBAL TRAININ	
6898A.1029	CC_MOHQ-006-R-01_NDNODS JEFFERSON CITY F	
6898A.1030	CC_MOHQ-009-R-01_NDNODS MARSHALL SMALL A	

JFHQ MO ARNG

COMPLIANCE CLEANUP SITES

CC_MOHQ-003-R-01_NDNODS DONIPHAN RIFLE

HQAES ID: 6898A.1027

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2036

RC Date: 2/1/2036

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	*Start*	*End*
PA	4/1/2007	9/30/2009
SI	7/1/2010	9/30/2012
RI/FS	1/1/2029	12/31/2033
RD	1/1/2034	1/31/2034
IRA	- -	- -
RA(C)	2/1/2034	2/1/2036
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

The Doniphan Rifle Range is a 6-acre munitions response site (MRS), of which the subject site, Doniphan Rifle Range Target Area, consists of 3.5 acres. The site is located along US Highway 160 in Doniphan, Missouri in Ripley County. The 3.5-acre MRS is positioned in the southeast ¼, northeast ¼, of the northeast ¼ portion of Section 23, Township 23 north, Range 2 east, of the 5th Principal Meridian. The 200-yard rifle range was used by Company I, 140th Infantry of the Missouri Army National Guard (MOARNG) during the 1930s. The primary usage of the site was for small arms (M1 Garand Rifle and 45 caliber Pistols) training. The MRS transverses US Highway 160; to the south, the firing area is located on commercial property, to the north, the impact area is located on industrial property.

Site Inspection (SI) field work was conducted at the Doniphan Rifle Range in 2011, and activities included a biased instrument-aided visual survey and collection of surface soil samples. Lead, considered a munitions constituent (MC), was detected in soils near suspected target areas in exceedance of the Missouri residential soil screening level of 260 milligrams/kilogram (mg/kg). The SI report recommended further investigation [Remedial Investigation (RI)] for MC for the 3.5-acre Doniphan Rifle Range Target Area.

Defense Environmental Restoration Program (DERP) funding was used to complete work through the SI at this site. Non-Department of Defense Owned, Non-Operational Defense Sites (NDNODS) sites moving forward with the RI/Feasibility Study (FS) phase are reprogrammed into Compliance-related Cleanup (CC).

Cleanup/Exit Strategy An RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

CC_MOHQ-005-R-01_NDNODS HANNIBAL TRAININ

HQAES ID: 6898A.1028

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2038

RC Date: 2/1/2038

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	*Start*	*End*
PA	4/1/2007	9/1/2009
SI	7/1/2010	9/20/2012
RI/FS	1/1/2031	12/31/2035
RD	1/1/2036	1/31/2036
IRA	- -	- -
RA(C)	2/1/2036	2/1/2038
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

The Hannibal Training Area is a 19-acre MRS, of which the subject site (Hannibal Training Area Target Area, CC_MOHQ-005-R-01) consists of 0.89 acres. The former training site is located south of CR-409, 3.5 miles northwest of Hannibal, Missouri in Marion County. The site's primary usage was by multiple MOARNG infantry units for small arms training, bivouacs, and maneuver training. No range features were identified during the Modified Site Visit. The range was active from approximately 1927 until 1938 when the last lease was terminated.

SI field work was conducted in 2011 and included instrument-aided visual survey transects and collection of surface soil samples. Lead, considered an MC, was found to exceed the Missouri Risk Based Corrective Action (MRBCA) Risk Based Target Level (RBTL) for residential land use (260 mg/kg) in a downrange location from the target area. The occurrence (410 mg/kg) also exceeded the U. S. Environmental Protection Agency (USEPA) residential soil screening level of 400 mg/kg. The SI report recommended further investigation (RI) for MC at the Hannibal Training Area Target Area.

DERP funding was used to complete work through the SI at this site. NDNODS moving forward with the RI/FS phase are reprogrammed into CC.

Cleanup/Exit Strategy An RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

CC_MOHQ-006-R-01_NDNODS JEFFERSON CITY F

HQAES ID: 6898A.1029

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2037

RC Date: 2/1/2037

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	*Start*	*End*
PA	4/1/2007	9/1/2009
SI	- -	- -
RI/FS	1/1/2029	12/31/2034
RD	1/1/2035	1/31/2035
IRA	- -	- -
RA(C)	2/1/2035	2/1/2037
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

The Jefferson City Firing Range is a 31-acre MRS, of which the subject site (Jefferson City Firing Range Targe Area, CC_MOHQ-006-R-01), consists of three (3) of the acres. The site is located east of Riverview Drive in Jefferson City Missouri. The long axis of the ranges are parallel to Riverview Drive and the firing fans extend northward to the Missouri River. MRS RRMO000006 consists of small arms ranges, including a pistol range, a rifle range, and a small-bore range. The pistol range and small-bore range areas have been redeveloped and no evidence of range features remain. The rifle range buttress is still visible. Using original site maps and the location and orientation of the buttress, the locations of the former 200- and 300-yard firing lines were determined. The firing lines for the small-bore range have also been redeveloped.

SI field work was conducted in 2011 and activities included an instrument-aided visual survey and collection of surface soil samples. Lead, considered an MC, was found to exceed the MRBCA RBTL for residential land use (260 mg/kg) in one location near the target wall. Because the lead concentration (1,700 mg/kg) was considerably higher than the residential soil screening level, further investigation in the form of an RI/FS of the Jefferson City Firing Range Target Area, a 3-acre area, is warranted to assess the extent of lead impacts in surface soil.

DERP funding was used to complete work through the SI at this site. NDNODS moving forward with the RI/FS phase are reprogrammed into CC.

Cleanup/Exit Strategy A RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

CC_MOHQ-009-R-01_NDNODS MARSHALL SMALL A

HQAES ID: 6898A.1030

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2038

RC Date: 2/1/2038

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	*Start*	*End*
PA	4/1/2007	9/30/2009
SI	7/1/2010	9/30/2012
RI/FS	1/1/2031	12/31/2035
RD	1/1/2036	1/31/2036
IRA	- -	- -
RA(C)	2/1/203\6	2/1/2038
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

The Marshall Small Arms Range I is a 10-acre MRS, of which the subject site (Marshall Small Arms Range I Target Area, CC_MOHQ-009-R-01) consists of 0.49 acres. The Marshall Small Arms Range I, including MRS RRMO000009, is located east of County Route 105 in Marshall, Missouri. A single railroad borders the property on the eastern edge. The estimated range location, based on lease information, is along a sharp bluff east of the road. This site consists of a single small arms range and bivouac area. The site was used from 1926 through 1933.

SI field work was conducted in 2011 and included an instrument-aided visual survey and collection of surface soil samples. Lead, considered an MC, was found to slightly exceed the MRBCA Risk RBTL for residential land use (260 mg/kg) in one location near the target area. The SI report recommended that the 0.49-acre Marshall Small Arms Range I Target Area be further investigated (RI) for MC.

DERP funding was used to complete work through the SI at this site. NDNODS moving forward with the RI/FS phase are reprogrammed into CC.

Cleanup/Exit Strategy An RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
6898A.1001	MOHQ-004-R-01_NDNODS GRIM FARM TRAINING	9/30/2012
6898A.1002	MOHQ-005-R-01_NDNODS HANNIBAL TRAINING A	9/30/2012
6898A.1003	MOHQ-007-R-01_NDNODS KIRKSVILLE SMALL AR	9/30/2012
6898A.1004	MOHQ-011-R-01_NDNODS MOBERLY SMALL ARMS	9/30/2012
6898A.1005	MOHQ-014-R-01_NDNODS TARKIO RIFLE RANGE	9/30/2012
6898A.1006	MOB16-001-R-01_NDNODS IKE SKELETON TRAIN	9/30/2012
6898A.1007	MOHQ-001-R-01_NDNODS CUIVRE CAMP TRAININ	9/30/2012
6898A.1008	MOHQ-002-R-01_NDNODS Dexter Rifle Range	3/1/2022
6898A.1009	MOHQ-003-R-01_NDNODS Doniphan Rifle Rang	9/30/2012
6898A.1010	MOHQ-006-R-01_NDNODS Jefferson City Firi	9/30/2012
6898A.1011	MOHQ-008-R-01_NDNODS Lutesville Target R	9/30/2012
6898A.1012	MOHQ-009-R-01_NDNODS Marshall Small Arms	9/30/2012
6898A.1013	MOHQ-010-R-01_NDNODS Marshall Small Arms	9/30/2012
6898A.1014	MOHQ-012-R-01_NDNODS PIERCE CITY RIFLE R	9/2/2021
6898A.1015	MOHQ-013-R-01_NDNODS Swope Park	9/30/2012
6898A.1016	MOHQ-015-R-01_NDNODS Wappapello Demoliti	9/30/2012
6898A.1017	MOHQ-016-R-01_NDNODS CUIVRE CAMP GRENADE	9/30/2012
6898A.1018	MOC50-001-R-01_NDNODS Raytown Military C	9/30/2012
6898A.1019	MOHQ-003-R-02_NDNODS DONIPHAN RIFLE RANG	10/1/2012
6898A.1020	MOHQ-005-R-02_NDNODS HANNIBAL TRAINING A	10/31/2012
6898A.1021	MOHQ-006-R-02_NDNODS JEFFERSON FIRING RA	10/31/2012
6898A.1022	MOHQ-009-R-02_NDNODS MARSHALL SMALL ARMS	10/31/2012

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Once sites make it to the RI/FS phase a RAB solicitation will be posted in local papers and a Community Involvement Plan will be prepared.
Administrative Record is located at:	Missouri Army National Guard Environmental Management Office 6819B-North Boundary Road Jefferson City, MO 65101 573-638-9791
Information Repository is located at:	Missouri Army National Guard Environmental Management Office 6819B-North Boundary Road Jefferson City, MO 65101 573-638-9791
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

CAMP CROWDER

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
ARNG	Army National Guard
AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DCE	Dichloroethene
DD	Decision Document
EE/CA	Engineering Evaluation/Cost Analysis
ENV	Environmental
ER, A	Environmental Restoration, Army
ETA	Engine Test Area
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long-Term Management
LUC	Land Use Control
MDNR	Missouri Department of Natural Resources
MOARNG	Missouri Army National Guard
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
NGB	National Guard Bureau
NPL	National Priority List
PA	Preliminary Assessment
PBA	Performance-based Acquisition

Acronym	Definition
PBCs	Polychlorinated biphenyls
POL	Petroleum, Oil and Lubricants
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SAA	Superfund Alternative Approach
SI	Site Inspection
SSI	Secondary Site Inspection
SVE	Soil Vapor Extraction
TPH	Total Petroleum Hydrocarbons
USACE	U. S. Army Corps of Engineers
USAEC	U. S. Army Environmental Command
USEPA	U. S. Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

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

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
1095A.1001	CC-001_HILLSIDE DUMPSITE	- -
1095A.1004	CC-004_ENGINE TEST AREA	- -

CAMP CROWDER

INSTALLATION RESTORATION PROGRAM SITES

CC-001_HILLSIDE DUMPSITE

HQAES ID: 1095A.1001

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 6/30/2053

RC Date: 6/30/2053

RC Reason: All Required Cleanup(s) Completed

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	5/31/1995	10/31/1995
SI	3/31/1998	9/30/2004
RI/FS	- -	- -
RD	10/31/2005	2/28/2006
IRA	- -	- -
RA(C)	2/28/2006	9/30/2006
RA(O)	- -	- -
LTM	10/31/2006	6/30/2053

Site Narrative

The Hillside Dumpsite (CC-001) is located in the northwestern corner of Camp Crowder. It includes what the Preliminary Assessment (PA) called Dumpsite 1. The dumping appears to have occurred on the side of a hill, along the base of the hill, and on the floodplain of a small intermittent stream channel. The site may cover up to several acres. Identified materials include ashes, bottles, china, metal, drums, batteries, concrete, wire, burned trees, and stressed soil and vegetation. Dates on the bottles and china indicate that active dumping occurred in the early 1940s. The ashes and burnt material are consistent with waste from the incinerators (CC002). Portions of the dumpsite were apparently covered with soil, and the site is now overgrown with vegetation. Currently, a Land Use Control (LUC) for the dumpsite restricts any activities other than maintaining LUC sinage and the annual inspection fo site conditions.

A Site Inspection (SI) was completed at this site in 2001, and a Secondary Site Inspection (SSI) was completed in January 2004. Discussions with Missouri Department of Natural Resources (MDNR) are continuing. Surface soil, subsurface soil, sediment, and groundwater were sampled and analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and metals. Metals and minor concentrations of petroleum, oil, and lubricants (POL) were detected in surface soil, consistent with observed waste materials. Some metal concentrations in groundwater appear to be elevated, but this may be due to high turbidity. In January 2004 a round of groundwater sampling for total and dissolved metals was conducted. The results indicate that the concentrations of total and dissolved metals are below state screening levels. In February/March 2005 another round of groundwater sampling for total and dissolved metals was conducted.

In fiscal year (FY) 05 a contract was awarded for Camp Crowder. This site was identified in the PA, and consists of up to 20 acres. It appears to have been used as a disposal site for incinerator waste during the 1940s. No other SI funding is programmed. The remedy for the site is LUCs. The LUCs were implemented in September 2006. Signs were posted and the area was delineated in the Post Master Plan. Annual inspections of the site will continue to be documented. In FY07 the MDNR gave concurrence for LUCs at the site.

Cleanup/Exit Strategy Annual inspections will be completed by the Army National Guard (ARNG) or the Missouri Army National Guard (MOARNG) personnel (no funding required). Five year reviews will be completed in FY25, FY30, FY35, FY40, FY45 and FY50.

CC-004_ENGINE TEST AREA

HQAES ID: 1095A.1004

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/28/2007

RC Date: 3/30/2024

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	5/31/1995	10/31/1995
SI	7/31/1996	12/31/1997
RI/FS	- -	- -
RD	- -	- -
IRA	9/30/1997	9/30/2000
RA(C)	2/28/2006	2/28/2007
RA(O)	2/28/2007	3/30/2024
LTM	- -	- -

Site Narrative

The Engine Test Area (ETA) consists of about 120 acres in northern Camp Crowder. A perimeter road defines the north, west, and south boundaries. The eastern property boundary separates the ETA from the adjacent CTA on private property. The PA identified an aboveground storage tank (AST) containing road oil in the northwestern corner of the ETA as an area of concern, but it is currently used by the MOARNG, is not eligible for Environmental Restoration, Army (ER,A) funding, and is not included in this AEDB-R site. The ETA is part of the Pools Prairie Superfund Site, listed on the National Priority List (NPL) effective October 18, 1999. The ETA is Operable Unit 1 (Source 1) of the Pools Prairie Superfund Site, which addresses VOC contamination of groundwater. Off-site well sampling by the the U. S. Environmental Protection Agency (USEPA) and the U. S. Army Corps of Engineers (USACE) indicates the presence of a contaminant plume north of the ETA and other source areas CTA (east of ETA) and a manufacturing plant (northwest of ETA). The National Guard Bureau (NGB) is the lead federal agency for removal activities at the ETA and the U. S. Army Environmental Command (USAEC) implements the Installation Restoration Program (IRP) for the NGB. The USACE Formerly Used Defense Sites (FUDS) program is the federal government representative for removal activities on other portions of the Pools Prairie Site. The focus at the ETA has been the hazardous waste pit and associated lagoons, located in an intermittent stream valley of about 30 acres. Disposed wastes included solvent trichloroethene (TCE), rocket fuel (RP-1), and hydraulic and lubricant oils. The primary contaminants of concern are TCE and its degradation products dichloroethene (DCE) and vinyl chloride, but POL and polychlorinated biphenyls (PCBs) are also present. Concentrations in soil and groundwater are above regulatory action levels. A removal was completed in 1995 to remove four underground storage tanks (USTs) at the fuel farm. An interim remedial action (IRA) was completed in 2000 at the hazardous waste pit that included removal of liquids, installation of a temporary cap, and installation of drainage controls. The USAEC conducted hydrogeologic studies, including a lineament trace analysis, and surface, airborne, and borehole geophysical techniques. Its purpose was to test non-intrusive methods to better understand hydrogeologic controls on groundwater pathways and contaminant migration. In 2003 a limited RI Superfund Alternative Approach (SAA) was completed. Additional potential soil source areas, including two test stands, a test shop, and an AST, were identified and delineated. In the summer of 2003 a pilot

study was conducted to evaluate potential removal technologies. In March 2006 the revised engineering evaluation/cost analysis (EE/CA) was completed and used in the development of the removal approach for the performance-based acquisition (PBA). In FY05 a PBA was awarded for Camp Crowder. The site is now an NGB/USAEC IRP site. This site includes a part of the former Air Force Plant 65, used from 1956 to 1968 to test-fire rocket engines. Solvent and POL contamination has been confirmed. In 2000 a liquids removal IRA was completed, and in FY06 a soil removal IRA was completed; both were at the hazardous waste pit. From July through September 2006 the soils were landfarmed and remediated to levels below regulatory standards. In October 2006 they were returned to the waste pit. In November 2006 the waste pit was capped. In January 2007 the soil vapor extraction (SVE) systems were constructed, tested, and operational. From January to July 2007 the portable SVE system was operated at the upper NETS. From July to October 2007 the portable SVE system was operated at the SETS. In November 2007 it began operating at the TS and is still in operation. The SVE system at the lower NETS has been operating continuously from March to the present. When the waste pit was being cleaned, samples were collected below it. These samples indicated that there was no release to the environment through the walls or floor of the pit. In FY07 a semi-permanent SVE system was constructed at the lower NETS and a mobile system was constructed for other sites at the ETA. The interim SVE removal action is now complete. This site is part of the Pools Prairie Superfund Site and is funded as part of that effort.

Cleanup/Exit Strategy

Final reports are being prepared for submission to state and federal regulatory agencies for the interim SVE removal action. Contamination in groundwater in the karst limestone aquifer is currently insufficiently characterized to anticipate a remedy. Groundwater at the ETA is included in the Pools Prairie Superfund Site RI to be supervised by the USEPA.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
1095A.1002	CC-002_INCINERATORS/ASHPILES	9/30/2006
1095A.1003	CC-003_VEHICLE MAINTENANCE AREAS	9/30/2006

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	2/28/1999
Restoration Advisory Board (RAB) Establishment Date:	1996
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Currently, a RAB is not specifically associated with the IRP at Camp Crowder; however, there is a Community Advisory Group (CAG) associated with the Pools Prairie Superfund Site. The CAG was formed in 1996 with the support of the USEPA. The USEPA coordinates CAG activities. A representative of the USACE attends meetings and keeps CAG members informed of progress at all Camp Crowder IRP sites.
Administrative Record is located at:	NEOSHO CITY HALL, 203 E. MAIN STREET, NEOSHO MISSOURI
Information Repository is located at:	NEOSHO CITY HALL, 203 E. MAIN STREET, NEOSHO MISSOURI
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

Status	Start	End
PLANNED	1/1/2025	12/31/2025
COMPLETE	9/16/2019	2/3/2021
COMPLETE	6/1/2014	12/14/2015
COMPLETE	1/1/2010	8/31/2010

ROD/DDs associated with the last Five-Year/Periodic Review

Associated ROD/DD Name	Sites
SOIL IRA AT ETA HAZARDOUS WASTE PIT	1095A.1001

Results, Actions & Plans

Results	Actions	Plans
The review was completed.	A regional RI/FS is being completed.	Additional regional work will occur through Department of Justice funds this work at this time.

LAND USE CONTROLS (LUC) SUMMARY

LUC Title	ROD Title	HQAES ID
FINAL RIP REPORT	FINAL ACTION MEMORAN	--
FINAL RIP REPORT	FINAL ACTION MEMORAN	1095A.1001

JEFFERSON CITY, AASF01

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AOI	Area of Interest
AVCRAD	Aviation Classification Repair Activity Depot
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulfonic acid
PFNA	Perfluorononanoic Acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

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

SITE ALIAS LIST

WBS Element	AEDB-R Reference	Site Alias
3914A.1002	MO2020-01-P_JEFFERSON CITY PFAS CONTAM	--

JEFFERSON CITY, AASF01

INSTALLATION RESTORATION PROGRAM SITES

MO2020-01-P_JEFFERSON CITY PFAS CONT

HQAES ID: 3914A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/29/2033

RC Date: 9/29/2033

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	7/10/2019	3/16/2020
SI	12/6/2019	7/30/2023
RI/FS	9/30/2026	9/29/2033
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

A Preliminary Assessment (PA) was completed at Jefferson City Army Aviation Support Facility (AASF) to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. Three areas of interest (AOI) related to potential PFAS releases were identified at the AASF during the PA. Based on the preliminary conceptual site model developed for these AOIs, there is potential for receptors to be exposed to PFAS contamination in media at or near the facility.

A Site Inspection (SI) was performed and the final SI report was issued in July 2023. Based on the results of the SI, further evaluation is warranted for the three AOIs. At AOI 1, in surface soil, perfluorooctane sulfonic acid (PFOS) exceeded the screening level (SL) with a maximum concentration of 75.2 microgram/kilogram (ug/kg). In groundwater, perfluorooctanoic acid (PFOA) exceeded the SL with a maximum concentration of 729 nanograms/Liter (ng/L). PFOS exceeded the SL with a maximum concentration of 12,700 ng/L. Perfluorohexane sulfonate (PFHxS) exceeded the SL with a maximum concentration of 4,060 ng/L. Perfluorononanoic acid (PFNA) exceeded the SL with a maximum concentration of 401 ng/L.

At AOI 2, in surface soil, PFOS exceeded the SL with a maximum concentration of 58.2 ug/kg. In groundwater, PFOA exceeded the SL with a maximum concentration of 437 ng/L. PFOS exceeded the SL with a maximum concentration of 3,130 ng/L. PFHxS exceeded the SL with a maximum concentration of 1,180 ng/L. PFNA exceeded the SL with a maximum concentration of 147 ng/L.

At AOI 3, PFOS exceeded the SL in surface soil with a concentration of 14.5 ug/kg. In groundwater, PFOA exceeded the SL with a concentration of 31.3 ng/L. PFOS exceeded the SL with a concentration of 1,190 ng/L. PFHxS exceeded the SL with a maximum concentration of 181 ng/L. PFNA exceeded the SL with a concentration of 8.67 ng/L.

The subject site was tracked as 3914A.1001 under the Compliance-related Cleanup (CC) program. In June 2023, this site was determined to be eligible for the Defense Environmental Restoration Program (DERP).

Cleanup/Exit Strategy A Remedial Investigation (RI)/Feasibility Study (FS) will be completed at this site. Once the RI/FS is completed, future actions will be evaluated.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
3914A.1001	CCMO2020-01-P_JEFFERSON CITY PFAS CO	12/31/2022

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses.
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

SPRINGFIELD AVCRAD/AASF

Army Cleanup Program

Installation Action Plan

2023

CONTENTS

ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AOI	Area of Interest
AVCRAD	Aviation Classification Repair Activity Depot
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
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MRSPP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/Liter
PA	Preliminary Assessment
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.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

WBS Element	AEDB-R Reference	Site Alias
3949A.1002	MO2020-02-P_SPRINGFIELD PFAS CONTAM	--

SPRINGFIELD AVCRAD/AASF

INSTALLATION RESTORATION PROGRAM SITES

MO2020-02-P_SPRINGFIELD PFAS CONTAM

HQAES ID: 3949A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2031

RC Date: 9/30/2031

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	6/18/2018	3/16/2020
SI	12/6/2019	9/30/2023
RI/FS	9/15/2024	9/15/2031
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

A Preliminary Assessment (PA) was completed at Springfield Aviation Classification Repair Activity Depot (AVCRAD) to assess potential poly-fluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. Four areas of interest (AOIs) related to potential PFAS release were identified at the site during the PA and one additional AOI was identified during the site inspection (SI). Based on potential PFAS release at these AOIs, there is potential for exposure to PFAS contamination in media at or near the facility.

The final SI report was issued in August 2023. The SI concludes that a remedial investigation (RI) is warranted at three AOIs:

- AOI 1 – Hangar 27;
- AOI 3 – FTA 2; and
- AOI 4 – GSE Building.

At AOI 1 – perfluorooctanoic acid (PFOA), and perfluorooctanesulfonic acid (PFOS) wer detected in groundwater at concentrations above screening levels (SLs). At AOI 3 and AOI 4, PFOS was detected in groundwater at concentrations above the SL.

The subject site was tracked as 3949A.1001 under the Compliance-related Cleanup (CC) program. In FY23, this site was determined to be eligible under the Defense Environmental Restoration Program (DERP) and the RI/Feasibility Study (FS) will proceed under DERP.

During the FY23 Spring Data Call, the CTC estimate was based on the assumption that the RI would be awarded during FY23. That assumption has changed, as now the RI for the subject site is not expected to be part of the FY23 contract award, and future funding will be required to complete the RI.

Cleanup/Exit Strategy An RI/FS will be conducted. Future actions will be determined by the results of the RI.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
3949A.1001	CCMO2020-02-P_SPRINGFIELD PFAS CONT	12/31/2022

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses.
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None