JFHQ TN 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
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligram/kilogram
MRSPP	Munitions Response Site Prioritization Protocol
N/A	Not Applicable
PA	Preliminary Assessment
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
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TA	Training Area
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TRC	Technical Review Committee

Acronym	Definition
ug/L	Micrograms per liter
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
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
6917A.1004	CC_TNHQ-003-R-01_NDNODS_LAUREL HILL TRAINING AREA	RRTN000003

JFHQ TN ARNG

COMPLIANCE CLEANUP SITES

CC_TNHQ-003-R-01_NDNODS_LAUREL HILL TRAINING AREA

HQAES ID: 6917A.1004

Alias: RRTN000003

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/30/2024

RC Date: 9/30/2024

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	*Start*	*End*
PA	4/30/2007	9/30/2009
SI	7/31/2010	9/30/2012
RI/FS	9/1/2019	9/30/2024
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

The Laurel Hill Training Area is located within Laurel Hill Wildlife Management Area and is owned by the Tennessee Wildlife Resources Agency. According to an interview, M-1 rifles, M-14 rifles, M-16 rifles, and .45-caliber pistols were fired at the site during the 1960s and 1970s to the west of the base of the dam at VFW Lake. Firing was conducted in a southerly direction into a steep slope.

Site Inspection (SI) field work was conducted in 2011. One surface water sample was collected. The concentration (190 micrograms per liter [ug/L]) of lead in the surface water sample exceeded the United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL) for lead of 15 ug/L. Thirteen surface soil samples were collected. Antimony and lead were detected (160 milligram/kilogram (mg/kg) and 24,000 mg/kg, respectively) at concentrations exceeding the USEPA Regional Screening Levels of 31 mg/kg and 400 mg/kg, respectively.

Defense Environmental Restoration Program funding was used to complete work through the SI at this site. Non Department of Defense Non-Operational Defense Sites moving forward with the Remedial Investigation (RI)/Feasibility Study (FS) phase are reprogrammed into Compliance-related Cleanup. The RI/FS are funded and underway. The draft final Proposed Plan (PP) was issued in fiscal year (FY) 23, which indicated that no further actions (NFA) are required at the site.

Cleanup Strategy: An NFA Record of Decision (ROD) will be prepared and the site will be closed.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
6917A.1001	TNHQ-002-R-01_NDNODS Cleveland Range	9/30/2012
6917A.1002	TNHQ-003-R-01_NDNODS Laurel Hill Training Area (TA)	9/30/2012
6917A.1005	TNHQ-003-R-02_NDNODS LAUREL HILL TA	9/15/2012

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:	A RAB solicitation will be posted in local papers and a Community Involvement Plan will be prepared.
Administrative Record is located at:	TNARNG-ENV 3041 Sidco Drive Nashville, TN 37204
Information Repository is located at:	TNARNG-ENV 3041 Sidco Drive Nashville, TN 37204
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

AASF 2

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
AFFF	Aqueous Film Forming Foam
AOI	Area of Interest
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
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFHxS	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete

Acronym	Definition
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
SI	Site Inspection
SL	Screening Level
µg/kg	micrograms/kilogram
µg/L	micrograms/liter
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
47B77.1002	TN2020-01-P_AASF#2 PFAS CONTAMINATION	- -

AASF 2

INSTALLATION RESTORATION PROGRAM SITES

TN2020-01-P_AASF#2 PFAS CONTAMINATION

HQAES ID: 47B77.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/30/2031

RC Date: 9/30/2031

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	8/11/2017	5/15/2020
SI	5/10/2020	9/30/2023
RI/FS	9/30/2024	9/30/2031
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

A Preliminary Assessment (PA) was completed for per- and poly-fluoroalkyl substances (PFAS) at Army Aviation Support Facility (AASF) in Louisville, Tennessee, to assess potential PFAS release areas and exposure pathways to receptors. The PA identified two areas at the facility where Aqueous Film Forming Foam (AFFF) was released or stored. For these areas of interest (AOI 1 Active Hangar and AOI 2 Flight Line/Washrack), there was a potential for exposure to PFAS contamination in surface and subsurface soil to site and construction workers via direct contact/ingestion and in groundwater to residents via ingestion. The Site Inspection (SI) has been completed. The Final SI report was issued in April 2023. The SI concluded that a remedial investigation (RI) is warranted at AOI 1 and AOI 2.

At AOI1, perfluorooctanesulfonic acid (PFOS) in groundwater exceeded the screening level (SL) of 4 nanograms/Liter (ng/L) with a maximum concentration PFOS at 6.4 ng/L.

At AOI2, PFOS in surface soil exceeded the SL of 13 microgram/kilogram (µg/kg) with a maximum concentration of 38.6 µg/kg. Perfluorooctanoic acid (PFOA), PFOS, perfluorononanoic acid (PFNA), and perfluorooctanoic acid (PFHxS) in groundwater exceeded the SLs of 6 ng/L for PFOA, 4 ng/L for PFOS, 6 ng/L for PFNA, and 39 ng/L for PFHxS. The maximum concentrations detected in groundwater at AOI2 were PFOA at 93.6 ng/L, PFOS at 955 ng/L, PFNA at 7.51 ng/L, and PFHxS at 696 ng/L. Further evaluation under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is warranted in a Remedial Investigation (RI) for AOI1 and AOI2.

The subject site was tracked as 47B77.1001 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. The RI will be funded under DERP during the current FY, and the FS will be awarded in the future.

Cleanup strategy: An RI will be conducted at AOI 1 and AOI 2. Future actions will be determined by the results of the RI.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
47B77.1001	CCTN2020-01-P_AASF#2 PFAS CONTAMINATION	4/25/2023

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 be developed once 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

JACKSON AIRPORT ARMORY

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
AFFF	Aqueous Film Forming Foam
AOI	Area of Interest
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
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic acid
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
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
47B51.1002	TN2019-02-P_JACKSON AIRPORT ARMORY PFAS CONTAMINATION	- -

JACKSON AIRPORT ARMORY

INSTALLATION RESTORATION PROGRAM SITES

TN2019-02-P_JACKSON AIRPORT ARMORY PFAS CONTAMINATION

HQAES ID: 47B51.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/30/2031

RC Date: 9/30/2031

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	8/11/2017	12/11/2018
SI	12/6/2019	9/30/2023
RI/FS	9/30/2024	9/30/2031
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

A Preliminary Assessment (PA) was completed for per- and poly-fluoroalkyl substances (PFAS) at Jackson Airport Armory/Army Aviation Support Facility (AASF) in Madison County, Tennessee, to assess potential PFAS release areas and exposure pathways to receptors. The PA identified one area at the facility where Aqueous Film Forming Foam (AFFF) was released. For this area of interest (AOI 1 Hangar and Washrack), there is potential for exposure to PFAS contamination in surface and subsurface soil to site and construction workers via direct contact/ingestion and in groundwater to residents via ingestion.

The Site Inspection (SI) has been completed. The Final SI report was issued in April 2023. The SI concluded that a remedial investigation (RI) is warranted at AOI 1. In the groundwater, perfluorooctanoic acid (PFOA) was detected above the screening level (SL) of 6 nanograms/Liter (ng/L) at a maximum concentration of 76.3 ng/L. Based on the exceedances of the SL in groundwater, the SI has determined that further investigation in a Remedial Investigation (RI) is warranted for AOI 1.

The subject site was tracked as 47B51.1001 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.

Cleanup strategy: An RI will be conducted at AOI 1. Future actions will be determined by the results of the RI.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
47B51.1001	CC TN2019-02-P_JACKSON AIRPORT ARMORY PFAS CONTAMINATION	4/25/2023

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 be developed once 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

MILAN ARMY AMMUNITION PLANT

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AMC	Army Materiel Command
ARNG	Army National Guard
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CTC	Cost-to-Complete
DD	Decision Document
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
ENV	Environmental
ESD	Explanation of Significant Difference
FFA	Federal Facility Agreement
FS	Feasibility Study
FY	Fiscal Year
FYR	Five-year Review
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
IROD	Interim Record of Decision
IRP	Installation Restoration Program
LTM	Long-Term Management
LUC	Land Use Control
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MLAAP	Milan Army Ammunition Plant
mm	millimeter
MMRP	Military Munitions Response Program
MR	Munitions Response

Acronym	Definition
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
NFA	No Further Action
OBG	Open Burning Ground
OU	Operable Unit
PA	Preliminary Assessment
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Hexahydro-1,3,5-triazine
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TNT	Trinitrotoluene
ug/L	micrograms per Liter
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnance
WBS	Work Breakdown Structure
WP	White Phosphorus

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
47475.1028	MAAP-017A_OPEN BURNING GROUND OU5	- -
47475.1031	MAAP-019_OU5 LANDFILL (SWMU 4)	- -
47475.1041	MAAP-001-R-01_OPEN BURNING GROUND	- -

MILAN ARMY AMMUNITION PLANT

INSTALLATION RESTORATION PROGRAM SITES

MAAP-017A_OPEN BURNING GROUND OU5

HQAES ID: 47475.1028

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/30/2011

RC Date: 9/30/2011

RC Reason: All Required Cleanups Completed

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	3/31/1978	6/30/1978
SI	3/31/1978	6/30/1978
RI/FS	9/30/1987	8/31/2009
RD	1/31/2007	10/15/2016
IRA	- -	- -
RA(C)	1/31/2008	9/30/2011
RA(O)	- -	- -
LTM	9/30/2011	9/30/2053

Site Narrative

Site MAAP-017A is a part of Operable Unit 5 (OU5) Southern Study Area in an area near the center of MLAAP that consists of 114 acres at the Open Burning Ground (OBG). The Site was formerly used for burning and disposal of munitions. These practices resulted in the soil and groundwater becoming contaminated with explosives namely hexahydro-1,3,5-triazine (RDX) and trinitrotoluene (TNT), metals and asbestos. Site MAAP-017A includes only the response to soils contamination. The response to groundwater is included in Site MAAP-003 (47475.1003). The response at Site MAAP- 017A is regulated in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Federal Facility Agreement (FFA) entered into between the Army, US Environmental Protection Agency (USEPA) and the Tennessee Department of Environment and Conservation in 1989.

Investigations of the OU5 OBG began in 1981 as part of the Milan Army Ammunition Plant (MLAAP) Contamination Survey Report, followed by 1991 and 1999 Remedial Investigations (RI's) for environmental contamination. A Feasibility Study (FS) that evaluated the various cleanup alternatives for the OBG was completed in 2001. Based on the 2001 FS, an Interim Record of Decision (IROD) for OU5 was prepared in 2004 that identified in-situ bioremediation as the selected remedy. Supplemental field characterization efforts were performed in 2005 to refine the volumes of soil that required remediation in support of the IROD.

In January 2007 an Explanation of Significant Difference (ESD) was generated and signed that would have directed the explosive contaminated soils into the bioremediation facility for composting. However, all field work was halted upon the discovery of asbestos containing material. Visual observations of potential unexploded ordnance and asbestos in the target remediation areas presented a safety hazard for the land farming techniques designed to be used in the selected remedy. Based on the Final RI/FS Addendum and Supplemental Remedial Investigation Report dated 3 March 2010, a containment remedy was subsequently selected as the preferred alternative. A Final Record of Decision (ROD) was released in April 2011 that specified "Alternative F" engineered caps as the selected remedy. The final remedy was

constructed during 2011 and consisted of approximately 2.55 acres of geosynthetic caps with vegetative cover and land use controls (LUCs). The site is currently in Long-term Management (LTM).

Three sites at MLAAP were transferred to the Army National Guard (ARNG) from the Army Materiel Command (AMC) in fiscal year (FY) 23:

- The subject site MAAP-017A 47475.1028;
- MAAP-019 47475.1031; and
- MAAP-001-R-01 47475.1041

These three sites are included in the installation-wide five-year review. Since these sites are now under ARNG responsibility, the future cost requirements for the portion of the five-year review that includes these three ARNG sites will be captured in the cost-to-complete (CTC) estimate for this site.

Cleanup/Exit Strategy In accordance with the OU5 Soils ROD, engineered caps were installed at the OU5 Open Burning Grounds site. Since completion of the remedy, the site has been in LTM. It is planned to continue LTM at the site with LUCs and five year reviews will continue indefinitely until unlimited use (UU)/unrestricted exposure (UE) is achieved.

MAAP-019_OU5 LANDFILL (SWMU 4)

HQAES ID: 47475.1031

Alias: None

Regulatory Driver: RCRA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 12/31/1991

RC Date: 12/31/1991

RC Reason: Study Completed, No Cleanup Required

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
RFA	3/31/1978	6/30/1978
CS	3/31/1978	6/30/1978
RFI/CMS	9/30/1987	12/31/1991
DES	- -	- -
IRA	- -	- -
CMI(C)	- -	- -
CMI(O)	- -	- -
LTM	2/9/2021	9/30/2053

Site Narrative

The subject landfill is located south of Route 54 and northwest of the Open Burning Grounds on MLAAP. The landfill was identified as "Landfill 144" in the 1978 Resources Conservation and Recovery Act (RCRA) Facility Assessment and also as the "Active Sanitary Landfill" Federal Facility Agreement. However, this term is misleading, since the landfill is no longer active and has not been in use since the early 1990's. The portion of the landfill that was used after 1993 was closed under RCRA and is not included with this site. The majority of the landfill, approximately 60 acres, was reportedly used in the 1940's - 1950's and then a portion of the landfill was operated from around 1960 until 1993 when it was closed. The pre-1993 portion of the landfill was investigated under the Installation Restoration Program (IRP) program. The landfill was used for disposal of plant trash and industrial waste. Because this landfill is within the geographic area of OU 5, the landfill is now identified as the OU5 Closed Sanitary Landfill.

Results from the 1991 MLAAP RI detected explosives in the groundwater. It was believed that the contamination from explosives was from the upgradient OU5 Open Burning Ground groundwater plume. The RI concluded that the data did not demonstrate that the landfill soil was contaminated with either explosives or select metals. An RI conducted for the Southern Study Area in 1999 furthermore did not identify any risk from the landfill. A No Further Action (NFA) ROD dated January 1998 was issued stating that a human health evaluation identified no unacceptable risk to human health and therefore, no further action was necessary to ensure protection of human health and the environment.

Semi-annual groundwater sampling conducted under the post closure care permit for the RCRA portion of the landfill has identified trace amounts of volatiles such as 1, 4 Dichlorobenzene, Dichlorofluoromethene, 1, 1-Dichloroethane and cis-1,2-Dichloroethene in the downgradient groundwater below maximum contaminant limits. Trace explosives 2,4,6-TNT, RDX, octahydro-1,3,5,7-tetranitro- 1,3,5,7-tetrazocine (below 100 micrograms per liter (ug/L) are detected in upgradient and downgradient monitoring wells. It is expected that the explosives are emanating from the OU5 open burning ground groundwater plume but that the volatiles are originating from some area of the landfill. The OU5 groundwater plume is addressed

by the MLAAP Site-Wide Groundwater ROD. Groundwater monitoring of the OU5 Closed Sanitary Landfill is not addressed under this site.

The OU5 Closed Landfill has not been included in Five-year Reviews (FYRs) prior to the fifth FYR in 2020 as the landfill was closed with no requirements for LTM or LUCs in the NFA ROD. However, due to waste being left in place at the site, statutory FYRs are required in accordance with the National Contingency Plan (40 CFR §300.430(f)(4)(ii)) which states "if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action". In accordance with the USEPA FYR guidance documents, sites closed with a NFA ROD are still subject to statutory FYRs.

Cleanup/Exit Strategy It is planned to continue LTM with LUCs and FYRs at this site. LTM at this site includes general maintenance such as maintaining a health vegetative cover, site drainage and dig restrictions. LTM is required indefinitely for this site.

MILAN ARMY AMMUNITION PLANT

MILITARY MUNITIONS RESPONSE PROGRAM SITES

MAAP-001-R-01_OPEN BURNING GROUND

HQAES ID: 47475.1041

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 3/15/2014

RC Date: 12/15/2025

RC Reason: All Required Cleanups Completed

Program: ENV Restoration, Army

Subprogram: MR

Phases	*Start*	*End*
PA	2/21/2003	9/17/2003
SI	5/31/2004	12/31/2005
RI/FS	9/30/2009	4/15/2013
RD	3/15/2013	3/15/2014
IRA	- -	- -
RA(C)	9/30/2009	3/15/2014
RA(O)	- -	- -
LTM	5/15/2014	9/30/2053

Site Narrative

Site MAAP-001-R-01 is a former open burning/open detonation area that consists of approximately 227 acres and is known to contain unexploded ordnance (UXO) and Discarded Military Munitions (DMM). The site has been used by MLAAP personnel for the destruction and disposal of reject munitions and explosives-contaminated wastes since 1942. Based on the findings of historical RIs, various types of munitions and components produced at MLAAP were discarded at the OBG. These include bulk explosives, ordnance components and wastes contaminated with explosives.

On non-operational property UXO is considered to be a contaminant under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Site MAAP-001-R-01 was addressed in accordance with the Military Munitions Response Program (MMRP) that was established by Congress in 2001 when the Defense Environmental Response Program (DERP) was revised. Under the DERP, Department of Defense is tasked to include sites that were known or suspected of containing UXO or DMM.

Site MAAP-001-R-01 is coincident with the OBG portion of the IRP Site OU5. In addition to the MMRP, extensive investigation, sampling and remediation efforts have previously been conducted at the OBG under the IRP program. A complete list of investigations under the IRP program is provided in the OBG Munitions Response Site (MRS) ROD dated October 2013.

Under the MMRP program, the first inventory for closed, transferring and transferred ranges on MLAAP was conducted in 2003. The Final Historic Records Review was completed in 2005 and the Final Site Investigation (SI) report followed in the same year. The RI and FS for the OBG MRS were each completed in 2010. A Final ROD was subsequently published in October 2013. Based on the comparative analysis of remedial alternatives in the OBG Final ROD, Alternative 2 was the selected remedy for the site. Alternative 2 includes the implementation of LUCs to control Munitions and Explosives of Concern (MEC) risk. The LUCs include site restrictions, prohibition of intrusive activities without proper UXO support, the installation of approximately 13,500 feet of fence and warning signs every 200 feet around

the MRS, an educational program and administrative controls. These LUCs will be required as long as munitions and MEC remain onsite.

During the spring of 2014 the selected remedy was fully implemented in accordance with the Remedial Action Work Plan dated April 2014. The Final Remedial Action Report for the OBG MRS was published on May 21, 2014.

MEC identified on the site during the RI/FS fieldwork included two 155-millimeter (mm) white phosphorous (WP) projectiles, a 105-mm HEAT projectile, a 105-mm WP projectile, two 37-mm projectiles, a 60-mm mortar and an 81- mm mortar. Munitions debris (MD) found on the surface included items associated with 20-, 37-, 57-, and 105mm projectiles, bomblet casings, mortars, and fuzes. Munition's debris is prevalent on the surface at the OBG..

Cleanup Exit Strategy Since the remedy was implemented at the site in 2014, the site has been in LTM. It is planned to continue LTM at the site including the implementation of LUCs and five year reviews are required for this site indefinitely.

SITE CLOSEOUT SUMMARY

None

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	7/31/1987
Community Involvement Plan (Date Published):	2/15/2015
Restoration Advisory Board (RAB) Establishment Date:	7/31/1994
RAB Adjournment Date:	8/15/2014
RAB Adjournment Reason:	All environmental restoration remedies are in place and are operating properly and successfully
Additional Community Involvement:	NA
Administrative Record is located at:	Army Environmental Office T-116 Administration Building Hwy 104W Milan, TN
Information Repository is located at:	Mildred G. Fields Library, 1075 East Van Hook Street Milan, TN 84096
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 Date	End Date	End FY
COMPLETE	11/15/2019	9/27/2020	2020
PLANNED	9/24/2024	09/27/2025	2025

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

Associated ROD/DD Name	Sites
Milan Army Ammunition Plant, Tennessee, Record of Decision, Final, Open Burning Ground Munitions Response Site	47475.1041

Results, Actions & Plans

Results	Actions	Plans
Remedies are in place but were found to be protective or short term protective for various reasons. Solute Transport Plan is under development.	Prepare groundwater solute transport model. Implement recommendations for changes to ROD Decision Tree Matrix. Update remedial goals for groundwater, surface water and soils.	Prepare groundwater solute transport model. Implement recommendations for changes to ROD Decision Tree Matrix. Update remedial goals for groundwater, surface water and soils.

LAND USE CONTROLS (LUC) SUMMARY

LUC Title	Site
OU 5 SOILS ROD	47475.1028
OU 5 CLOSED SANITARY LANDFILL ROD	47475.1031
OPEN BURNING GROUND ROD	47475.1041

VTS SMYRNA

Army Cleanup Program

Installation Action Plan

2023

CONTENTS

ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film Forming Foam
AOI	Area of Interest
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
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	nanograms/Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFBS	Perfluorobutanesulfonic acid
PFHxS	Perfluorooctanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act

Acronym	Definition
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S	Smyrna
SI	Site Inspection
SL	Screening Level
µg/L	micrograms/liter
VTS	Volunteer Training Site
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
5977A.1002	TN2019-01-P _VTS SMYRNA PFAS CONTAMINATION	--

VTS SMYRNA

INSTALLATION RESTORATION PROGRAM SITES

TN2019-01-P _VTS SMYRNA PFAS CONTAMINATION

HQAES ID: 5977A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2032

RC Date: 9/15/2032

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	*Start*	*End*
PA	8/11/2017	10/31/2018
SI	9/7/2018	4/15/2023
RI/FS	9/15/2025	9/15/2032
RD	- -	- -
IRA	- -	- -
RA(C)	- -	- -
RA(O)	- -	- -
LTM	- -	- -

Site Narrative

Volunteer Training Site (VTS)-Smyrna (S) is in Smyrna, Tennessee, in Rutherford County, approximately 22 miles southeast of Nashville, and it is comprised of 868 acres of land. The facility is adjacent to the Smyrna/Rutherford County Regional Airport and is partially within the city limits of the Town of Smyrna, Tennessee. The facility includes aircraft hangars, a vehicle maintenance facility, fuel storage, surrounding parking areas, and offices.

A Preliminary Assessment (PA) was completed for per- and poly-fluoroalkyl substances (PFAS) to assess potential PFAS release areas and exposure pathways to receptors. Based on the documented aqueous film forming foam (AFFF) release at this area of interest (AOI), there is potential exposure to PFAS contamination in surface and subsurface soil to site and construction workers via inhalation of dust or ingestion, in surface water to municipal water supply users and recreational users via ingestion and in groundwater to residential and commercial well users via ingestion. The potential release areas were grouped into one AOI, AOI 1.

A Site Inspection (SI) was performed at the site in March 2022, and field activities included the collection of soil and groundwater samples. At AOI 1, perfluorooctanesulfonic acid (PFOS) in groundwater at the AOI exceeded the screening level (SL) of 4 nanograms per liter (ng/L) with detections of 7.00 ng/L and 58.8 ng/L. Based on the results of the SI, further evaluation of AOI 1 was warranted in the Remedial Investigation (RI). The detected concentrations of perfluorooctanoic acid (PFOA), PFOS, perfluorohexanesulfonic acid (PFHxS), and perfluorobutanesulfonic acid (PFBS) in soil were below the SLs.

In June of 2023 the subject site obtained eligibility for the Defense Environmental Restoration Program (DERP). In the FY23 Spring Data Call, future site cost requirements were reported to the Compliance-related Cleanup (CC) program site CCTN2019-01-P, WBS # 5977A.1001. During the FY23 Roll-Forward period, the CC site was closed and future cost requirements were reported to the DERP site 5977A.1002.

Cleanup strategy: A RI/Feasibility Study (FS) is needed at this site. Future actions cannot be determined until the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
5977A.1001	CC TN2019-01-P _VTS SMYRNA PFAS CONTAMINATION	6/18/2023

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 be developed once 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