# FY2015

## **FORT RUCKER**

Army Defense Environmental Restoration Program
Installation Action Plan

# **Table of Contents**

Statement Of Purpose	1
Acronyms	2
Acronym Translation Table	5
Site Alias List	6
Installation Information	7
5-Year / Periodic Review Summary	g
Land Use Control (LUC) Summary	10
Cleanup Program Summary	12
Installation Restoration Program	13
IRP Summary	14
IRP Contamination AssessmentIRP Previous Studies	16 17
Installation Restoration Program Site Descriptions	21
AOC-S PCE in GW near SWMU 8	22
FTRU-002 LF NORTH OF AEROMED RES BLD SWMU 3	23
FTRU-008 LF N OF DILLY BR RD/E OF TEST STD,SWMU10	24
FTRU-012 LANDFILL OZARK CITY LEASEE, SWMU 4	25
FTRU-040 WASTE POL DISPOSAL, SWMU 14	27
FTRU-051 FIREFIGHTING TNG AREA, SWMU 15	28
FTRU-171 CLOSED SANITARY LANDFILL, SWMU 2D	29
Installation Restoration Program Site Closeout (No Further Action) Sites Summary	30
Installation Restoration Program Schedule	33
Installation Restoration Program Milestones	33
IRP Schedule Chart	37
Military Munitions Response Program	38
MMRP Summary	39
MMRP Contamination Assessment	40
MMPD Provious Studios	11

# **Table of Contents**

Military Munitions Response Program Site Descriptions	42
FTRU-001-R-01 ANTI-TANK ROCKET/GRENADE RANGE	43
FTRU-003-R-01 INFILTRATION/GRENADE RANGE	44
Military Munitions Response Program Site Closeout (No Further Action) Sites Summary	45
Military Munitions Response Program Schedule	46
Military Munitions Response Program Milestones	46
MMRP Schedule Chart	47
Compliance Restoration	48
CR Summary	49
CR Contamination Assessment	50
CR Previous Studies	51
Compliance Restoration Site Descriptions	52
CC AOC-A1 Buried Debris Behind Primary School	53
Compliance Restoration Site Closeout (No Further Action) Sites Summary	54
Compliance Restoration Schedule	55
Compliance Restoration Milestones	55
CR Schedule Chart	56

## **Statement of Purpose**

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), Fort Rucker, the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and budgets for all major Army installation cleanup programs.

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

## **Acronyms**

- A/I Active and Inactive
- ADEM Alabama Department of Environmental Management
- AEDB-CC Army Environmental Database-Compliance-related Cleanup
- AEDB-R Army Environmental Database-Restoration
  - AOC Area of Concern
  - ATG Anti-Tank Grenade
  - ATR Anti-Tank Rocket
  - BRAC Base Realignment and Closure
  - CAP Corrective Action Plan
  - CC Compliance-related Cleanup
- CERCLA Comprehensive Environmental Response, Compensation and Liabilities Act
  - CMI Corrective Measures Implementation
  - CMI(C) Corrective Measures Implementation (Construction)
  - CMI(O) Corrective Measures Implementation (Operation)
    - CMIP Corrective Measures Implementation Plan
    - CMS Corrective Measures Study
      - **CR** Compliance Restoration
      - CS Confirmation Sampling
    - CTT Closed, Transferred or Transferring
    - **DD** Decision Document
  - DERP Defense Environmental Restoration Program
  - DES Design
  - DMM Discarded Military Munitions
  - DoD Department of Defense
  - ER,A Environmental Restoration, Army
  - FRA Final Remedial Action
  - FS Feasibility Study
  - ft feet
  - FTRU Fort Rucker (AEDB-R site designation)
    - FY Fiscal Year
  - HRR Historic Records Review
  - HSWA Hazardous Solid Waste Amendment
    - IAP Installation Action Plan
    - IM Interim Measures
- IMCOM Installation Management Command
  - IR Installation Restoration
  - IRA Interim Remedial Action
  - IRP Installation Restoration Program
  - JP-4 Jet Propellant 4
    - K thousand
    - LF Landfill
  - LTM Long-term Management
  - LUC Land Use Control
  - MC Munitions Constituent
  - MCL Maximum Contaminant Level

## **Acronyms**

- MEC Munitions and Explosives of Concern
- MMRP Military Munitions Response Program
- MNA Monitored Natural Attenuation
- MOGAS Motor Gasoline
- MPPEH Munitions Presenting a Potential Explosive Hazard
  - MR Munitions Response
  - MRS Munitions Response Site
- MRSPP Munitions Response Site Prioritization Protocol
  - N/A Not Applicable
  - NFA No Further Action
  - NPL National Priorities List
  - O&M Operations and Maintenance
- ODUSD (I&E) Office of Deputy Under Secretary of Defense for Installations and Environment
- ODUSD(I&E) Office of the Deputy Under Secretary of Defense for Installations and Environment
  - PA Preliminary Assessment
  - PBA Performance-Based Acquisition
  - PCE Tetrachloroethylene
  - POL Petroleum, Oil, and Lubricant
  - POP Period of Performance
  - PSV Preliminary Screening Value
  - RA Remedial Action
  - RA(C) Remedial Action (Construction)
  - RA(O) Remedial Action (Operation)
  - RAB Restoration Advisory Board
  - RAC Risk Assessment Code
  - RC Response Complete
  - RCRA Resource Conservation and Recovery Act
    - RD Remedial Design
    - RFA RCRA Facility Assessment
    - RFI RCRA Facility Investigation
    - RI Remedial Investigation
    - RIP Remedy-in-Place
  - ROD Record of Decision
  - RRSE Relative Risk Site Evaluation
  - RSE Remedial Systems Evaluation
  - RSL Residential Screening Level
  - S&A Supervision and Administration
  - S&R Supervision and Remediation
    - SI Site Inspection
  - SVOC Semi-Volatile Organic Compound
  - SWMU Solid Waste Management Unit
  - TAPP Technical Assistance for Public Participation
  - TCE Trichloroethylene
  - TCRA Time Critical Removal Action
  - TRC Technical Review Committee

## **Acronyms**

ug/L micrograms per liter

US United States

USAACE US Army Aviation Center of Excellence

USAAVNC US Army Aviation Center

USACE US Army Corps of Engineers

USAEC US Army Environmental Command

USEPA US Environmental Protection Agency

UXO Unexploded Ordnance

VOC Volatile Organic Compound

XRF X-ray Fluorescence

# **Acronym Translation Table**

#### **CERCLA**

Preliminary Assessment(PA)

Site Inspection(SI)

Remedial Investigation/Feasibility Study(RI/FS)

Remedial Design(RD)

Remedial Action (Construction)(RA(C))

Remedial Action (Operation)(RA(O))

Long Term Management(LTM)

Interim Remedial Action(IRA)

#### **RCRA**

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

# **Site Alias List**

#### **AEDB-R Site ID to Alias List**

AEDB-R#	Alias
AOC-S	AOC-S
CC AOC-A1	SWMU 97
FTRU-001-R-01	AOC-W
FTRU-002	SWMU 3
FTRU-003-R-01	AOC-X
FTRU-008	SWMU 10
FTRU-012	SWMU 4
FTRU-040	SWMU 14
FTRU-051	SWMU 15
FTRU-171	SWMU 2D

## **Installation Information**

#### **Installation Locale**

Installation Size (Acreage): 62430

City: Daleville

County: Dale and Coffee Counties

State: Alabama

#### Other Locale Information

Fort Rucker is located in southeast Alabama approximately 20 miles northwest of the city of Dothan. It consists of 62,430 acres: 57,885 acres at the main installation and 4,545 acres of satellite airfields and leases and easements.

#### Installation Mission

Since 1973, when Fort Rucker became the center for all US Army aviation flight training, its mission has been to maintain and operate facilities and provide services and material to support the helicopter pilot training for the US Army. Fort Rucker is the largest helicopter training installation in the world. As the US Army Aviation Center of Excellence (USAACE) and the home of the Aviation Branch, Fort Rucker is charged with producing aviation Soldiers for the world's premier aviation force.

In addition to this role as the USAACE, Fort Rucker houses several tenant activities and directorates. It is the home for the US Army Combat Readiness Center, the Warrant Officer Career College, Air Traffic Services Command, the Army Aviation Flight Test Directorate, the Army School of Aviation Medicine and Aeromedical Research Laboratory.

#### **Lead Organization**

**IMCOM** 

#### **Lead Executing Agencies for Installation**

US Army Corps of Engineers (USACE)- Mobile District

#### **Regulator Participation**

Federal US Environmental Protection Agency (USEPA), Region 4, Resource Conservation and Recovery

Act (RCRA) and Federal Facilities Branch, Waste Management Division.

State Alabama Department of Environmental Management (ADEM)

#### **National Priorities List (NPL) Status**

FORT RUCKER is not on the NPL

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

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

#### **Installation Program Summaries**

#### IRP

Primary Contaminants of Concern: Metals, Other (construction debris and household refuse), Petroleum, Oil and

Lubricants (POL), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil, Surface Water

#### **MMRP**

Primary Contaminants of Concern: Munitions and explosives of concern (MEC)

Affected Media of Concern: Groundwater, Soil

# **Installation Information**

#### CR

**Primary Contaminants of Concern:** Volatiles (VOC)

Affected Media of Concern: Soil

## 5-Year / Periodic Review Summary

#### 5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	200802	201006	2010
Underway	201405	201601	2016

#### Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Phase II RFI, Volume I, 1995	FTRU-002, FTRU-004, FTRU-006, FTRU-030, FTRU-075,
	FTRU-079, FTRU-080, FTRU-110, FTRU-116, FTRU-117,
	FTRU-119, FTRU-120, FTRU-180, FTRU-181

Results The Five-Year Review for SWMUs 2d, 4, 14 and 10/15 (FTRU-171, 012, 040, 008 and 051) selected monitored natural attenuation with Land Use Controls as the corrective measures to protect human health and the environment.

#### **Actions**

#### **Plans**

#### **Recommendations and Implementation Plans:**

The five-year review is a voluntary non-NPL review requested by the installation and conducted by the USACE. Fort Rucker has monitored natural attenuation (MNA) groundwater remedies at closed landfill solid waste management unit (SWMU), including SWMU-2d, SWMU-4, and SWMU-10/15, which are each regulated under a RCRA permit. AOC-S is currently using insitu chemical oxidation as a corrective measure. All other SWMUs have received no further action (NFA) status. Recommendations in the report include:

-SWMU 4: Install monitoring wells to assess off-site volatile organic compounds (VOC) migration. It is uncertain if changes in VOCs are caused by natural attenuation processes or reflect variations in groundwater levels. It is likely the cis-1,2-DCE is moving off-site due to radial flow from the landfill. The RFI includes installing monitoring wells to assess off-site VOC migration.

-Form a remedial systems evaluation (RSE) team to assess the performance of MNA at SWMU 2d, SWMU 4, and SWMU 10/15.

Reported issues at SWMUs 2d and 10/15 include:

SWMU 2d: Contaminant concentrations are increasing in wells adjacent and cross gradient to the landfill.

-SWMU 10/15: The report states that it is not apparent that MNA is occurring at this site.

A RSE team will not be assembled on March 22, 2013 to assess performance of MNA as it will be reassessed during the next periodic review in 2015.

-Prepare an operations and maintenance (O&M) plan for the corrective action sites, prepare a health and safety plan for corrective action sites, change the analytical method for ferrous iron from 6010B to a field method, post warning signs at corrective action site gates, and perform routine maintenance on monitoring wells as needed.

As of Sept. 24, 2014 an O&M plan has not been developed.

## Land Use Control (LUC) Summary

LUC Title: LUC for FTRU-051

Site(s): FTRU-051

ROD/DD Title: CMIP for SWMU 15, Dated 5/2007,FTRU-051

Location of LUC

SWMU 15 located on Dilly Branch Road.

Land Use Restriction: Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media

specific restriction - restrict drinking water well installation

Types of Engineering Controls: Fences

Types of Institutional Controls: Notations in Master Plan

**Date in Place:** 199707 **Modification Date:** N/A **Date Terminated:** N/A

**Inspecting Organization:** State

Record of LUC: Master Plan or Equivalent

**Documentation Date: 201312** 

**LUC Enforcement:** Annual Inspections

Contaminants: VOC
Additional Information

N/A

LUC Title: SWMU 2D and AOC-P LUC

Site(s): FTRU-171

ROD/DD Title: CMIP Revised SWMU 2D, 04/2008, FTRU-171

**Location of LUC** 

Located on the corner of Hatch and Engineer Roads. This LUC also covers AOC-P which is adjacent to SWMU 2D.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage

system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Restrict land use - No

daycare/hospital/school use, Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Restrictions on land use

Date in Place: 200709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

**Documentation Date: N/A** 

**LUC Enforcement:** 5 Year Reviews **Contaminants:** METALS, VOC

**Additional Information** 

N/A

# Land Use Control (LUC) Summary

LUC Title: SWMU 3 LUC Site(s): FTRU-002

ROD/DD Title: Phase II RFI, Volume I, 1995

**Location of LUC** 

LUC is located on Landfill north of AERO Medical Research Building.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage

system, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover

system, Restrict land use - No residential use

Types of Engineering Controls: Signs

Types of Institutional Controls: Restrictions on land use

**Date in Place:** 200109 **Modification Date:** N/A **Date Terminated:** N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

**Documentation Date: N/A** 

LUC Enforcement: 5 Year Reviews

Contaminants: VOC
Additional Information

N/A

## **Cleanup Program Summary**

#### **Installation Historic Activity**

On May 1, 1942, Fort Rucker was activated as the Ozark Triangular Division Camp, in response to the US military escalation following Pearl Harbor. In June 1943, the facility was renamed Camp Rucker, in honor of General Edmund Winchester Rucker.

Camp Rucker served as an infantry training ground and housed artillery, tank, anti-aircraft, medical, and quartermaster troops until 1946. In May 1945 following Victory in Europe Day, the camp became an Infantry Replacement Training Center and later an Infantry Advanced Replacement Training Center.

The successful use of helicopters in Korea caused a pressing need for testing and training in the maintenance and operation of rotary-wing aircraft and the Army established an aviation center and school to meet that need. The Army Aviation School of Fort Sill, Oklahoma, was relocated to Camp Rucker. In March 1955, Camp Rucker was officially designated as the US Army Aviation Center (USAAVNC). In October of the same year, it became a permanent US military fort, and, consequently, was renamed Fort Rucker.

In 1973, Fort Rucker became the center for all US Army aviation flight training. Since then, its mission has been to maintain and operate facilities and provide services and material to support the helicopter pilot training for the Army.

In addition to its role as the USAAVNC, Fort Rucker houses several tenant activities and directorates. It is the home of the Army Safety Center, the US Army Aviation Development Test Activity, the Aeromedical Center and the Aeromedical Research Laboratory.

## Installation Program Cleanup Progress IRP

Prior Year Progress: CMI(O) is ongoing for FTRU-171, FTRU-008, FTRU-051, FTRU-012 and AOC-S and long-term

management (LTM) for FTRU-002, FTRU-040 and AOC-P. A CMI report for FTRU-040 was submitted to ADEM in January 2014 requesting NFA. ADEM has not yet responded. A performance-based acquisition (PBA) to perform an RFI at FTRU-012 was awarded in September 2013. The RFI

addendum report for FTRU-012 was submitted to ADEM in February 2015.

Future Plan of Action: Continue CMI(O) and LTM activities through FY16 for FTRU-171, FTRU-008, FTRU-051, FTRU-

012, FTRU-002, FTRU-040, AOC-S and AOC-P. Achieve NFA for FTRU-040.

**MMRP** 

**Prior Year Progress:** A PBA was awarded in 2009 to perform an RFI and achieve record of decision (ROD)/decision

document (DD) for FTRU-001-R-01 and FTRU-003-R-01 by FY11. Due to regulatory review times, the ROD/DD date was modified to FY14. RFI work plan was approved by ADEM in January FY12. The final RFI/CMS report was submitted to ADEM in June 2014 and again in September 2014 as final

revision 1. ADEM does not concur with the plan and the PBA for this effort has expired.

Future Plan of Action: ADEM approval of the RFI/CMS report will determine activities for the next two years.

**CR** 

Prior Year Progress: A PBA awarded in August 2013 to conduct a RFI for AOC-A1. The RFI is underway. All field activities

have concluded and draft report is expected in February 2015.

Future Plan of Action: Completion of the RFI for AOC-A1.

## **FORT RUCKER**

Army Defense Environmental Restoration Program Installation Restoration Program

## **IRP Summary**

#### Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 108/101

#### Installation Site Types with Future and/or Underway Phases

- 1 Contaminated Ground Water
  - (AOC-S)
- Disposal Pit/Dry Well
  - (FTRU-040)
- 1 Fire/Crash Training Area
  - (FTRU-051)
- 4 Landfill

(FTRU-002, FTRU-008, FTRU-012, FTRU-171)

#### **Most Widespread Contaminants of Concern**

Metals, Other (construction debris and household refuse), Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

#### **Media of Concern**

Groundwater, Soil, Surface Water

Completed R Site ID	emedial Actions (Interim Reme Site Name	dial Action Action	s/ Final Remedial Actions (IRA/FRA)) Remedy	FY
FTRU-182	BLDG 810, REFUELING POINT	FRA	INCINERATION	1996
FTRU-183	CONTAMINATED SOIL, TANK HILL	FRA	INCINERATION	1997
FTRU-010	SI HATCH ROAD NEAR LAKE, SWMU 2C	, FRA	WASTE REMOVAL - SOILS	1998
FTRU-041	STORAGE WASTE POL-10K GAL RR TANK,SWMU27	FRA	WASTE REMOVAL - SOILS	1998
FTRU-042	STRG WAST POL(10K GAL RR TANK), SWMU 28	FRA	WASTE REMOVAL - SOILS	1998
FTRU-045	STORAGE WASTE POL(30K GAL AST), SWMU 31	FRA	WASTE REMOVAL - SOILS	1998
FTRU-051	FIREFIGHTING TNG AREA, SWMU 15	FRA	NATURAL ATTENUATION	1998
FTRU-051	FIREFIGHTING TNG AREA, SWMU 15	FRA	THERMAL DESORPTION	1998
FTRU-052	WST FUEL STR SW DILLY BR RD&AVE F SWMU63		WASTE REMOVAL - SOILS	1998
FTRU-080	WASHRACK W/O W SEP(LOWE AHP), SWMU 71	FRA	WASTE REMOVAL - SOILS	1998
FTRU-082	WASHRACK W/ O W SEP(BLDG 1412), SWMU 73	FRA	WASTE REMOVAL - SOILS	1998
FTRU-101	SUMP DRAINAGE SYSTEM- POL SHOP SWMU 70	FRA	WASTE REMOVAL - SOILS	1998
FTRU-109	MATERIAL STORAGE (BLDG 6015), SWMU K		WASTE REMOVAL - SOILS	1998
FTRU-115	NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J		WASTE REMOVAL - SOILS	1998
FTRU-158	WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64		WASTE REMOVAL - SOILS	1998
FTRU-162	SPENT BATTERY STRG, BLDG 6015, SWMU 41B	FRA	WASTE REMOVAL - SOILS	1998
FTRU-165	WASTE OIL(AST) (BLDG 6015), SWMU 41A	FRA	WASTE REMOVAL - SOILS	1998
FTRU-179	PRODUCT STORAGE AREA, SWMU D	FRA	WASTE REMOVAL - SOILS	1998

### **IRP Summary**

#### Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) FΥ Action Remedy Site ID **Site Name** FTRU-040 WASTE POL DISPOSAL, **IRA BIOVENTING** 1999 SWMU 14 FTRU-002 LF NORTH OF AEROMED **IRA** OTHER 2001 **RES BLD SWMU 3** FTRU-012 LANDFILL OZARK CITY **FRA** NATURAL ATTENUATION 2001 LEASEE, SWMU 4 FTRU-073 HERBICIDE STORAGE (BLDG IRA WASTE REMOVAL - SOILS 2001 1448), SWMU 50 FTRU-070 PESTICIDE **IRA** WASTE REMOVAL - SOILS 2002 STOR/HANDLE(BLDG 1476)SWMU 49 FTRU-171 **CLOSED SANITARY FRA** FENCE OR OTHER SITE ACCESS 2007 LANDFILL, SWMU 2D CONTROL MEASURES FTRU-171 **CLOSED SANITARY FRA CAPPING** 2007 LANDFILL, SWMU 2D **CLOSED SANITARY** FTRU-171 **FRA** NATURAL ATTENUATION 2007 LANDFILL, SWMU 2D NATURAL ATTENUATION AOC-S PCE in GW near SWMU 8 2014 FRA AOC-S PCE in GW near SWMU 8 FRA CHEMICAL REDUCTION/OXIDATION 2014

#### **Duration of IRP**

Date of IRP Inception: 198202

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201310/204510

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

## **IRP Contamination Assessment**

#### **Contamination Assessment Overview**

In 1988 the Fort Rucker Installation Restoration Program (IRP) identified 111 sites. Forty-four of these sites required further investigation, which was initiated in 1990. Site investigations, recommendations and studies of these sites produced initiatives for NFA, removal, and corrective measures study (CMS). The following is a summary of the IRP initiatives:

- All of the sites at Fort Rucker scored low because the primary contaminant was petroleum hydrocarbons.
- None of the sites has extensive groundwater contamination.
- 108 sites have been evaluated by the state regulators and granted NFA status. These are listed on Table III.2 of the permit.
- Five sites (SWMUs 3, 4, 10 14, and 15) require LTM.
- Removal was completed at SWMU 8 and a cap was installed at SWMU 2D.

There is a reasonable expectation that the IRP at Fort Rucker will declare a large percentage of its sites RIP in the near future.

#### **Cleanup Exit Strategy**

Remaining cleanup requirements are being addressed under PBAs that were awarded in FY09 and FY11; RIP is expected at all sites. Remaining remedial operations and LTM are expected to be completed by FY20 for a majority of sites and FY40 for others.

	Title	Author	Date
1979	Tech Memo: Groundwater Monitoring, Bldgs 1172,	USACE- Alaska District	JAN-1979
1982	3425, 3481, 5110		
	Installation Assessment of Fort Rucker, Alabama, Report No. 305	Environmental Science and Engineering, Inc.	JAN-1982
1984			
	Evaluation of Washrack Leachate, Fort Rucker, Alabama, Hazardous Waste Study No. 37-26-0458-85	US Army Environmental Hygiene Agency	JAN-1984
	Draft Final Report: Evaluation of SWMUs at Fort Rucker, Report No. 37-26-1648-89	US Army Environmental Hygiene Agency	JAN-1984
1987			
	Geohydrogeologic Study at Fort Rucker, TAC-Runkle Landfill and Dilly Branch Landfills	US Army Environmental Hygiene Agency	JAN-1987
1988			
	Installation Restoration Program Plan for Fort Rucker	USACE, Toxic and Hazardous Materials	JAN-1988
	RCRA Facility Assessment Report for Fort Rucker	Agency   USEPA	JAN-1988
1991			
	Final work plan, Volume 1, Project Management Plan	Metcalf & Eddy, Inc.	MAR-1991
1992		T	
	Preliminary Site Inspection for Fort Rucker Military Reservation, Site Inspection Report No. 91030	USACE, Toxic and Hazardous Materials Agency	JAN-1992
1993		Agency	
	Volume 1, Final Project Management Plan, Fort Rucker Corrective Measures Study	Metcalf & Eddy, Inc.	JAN-1993
	Volume 2, Final Sampling and Analysis Plan, Fort Rucker Corrective Measures Study	Metcalf & Eddy, Inc.	JAN-1993
1994			
	Final RCRA Facility Report	US Army Environmental Center	SEP-1994
	Final Corrective Measures Remedial Design Workplan for the Removal of Contaminated Soils at SWMUs 2c,	Metcalf & Eddy, Inc.	DEC-1994
1995	27, 28, 31, 41a, 41b, 48, 63, 64, 70, 71, D, J and K		
	Phase II RCRA Facility Investigation Final Report, Fort Rucker Alabama	Metcalf & Eddy, Inc.	NOV-1995
1996	****	1	
	Statement of Basis, No Further Action Sites, Fort Rucker Alabama,	Metcalf & Eddy, Inc.	NOV-1996
1997			
	Final Corrective Measures Study, Fort Rucker, Alabama	Metcalf & Eddy, Inc.	JUL-1997
4000	Well Closure Plan - Draft	Metcalf & Eddy Inc.	JUL-1997
1998	First Depart Interior Oall D. L. (OMMILLAS S.)	HOAOE	14110 4000
	Final Report- Interim Soil Removal at SWMU 15, Fire Fighting Training Area and Removal of Contaminated Soils at CAMU 2-7, Fort Rucker, AL	USACE	AUG-1998

	Title	Author	Date
2000			
	Final Groundwater Assessment Report for Solid Waste Management Unit 2D, Closed Sanitary Landfill	Metcalf & Eddy, Inc.	MAY-2000
2002			
	Final Groundwater Assessment Addendum Report for Solid Waste Management Unit 2D, Closed Sanitary Landfill	Metcalf & Eddy, Inc.	FEB-2002
2003			
	Summary of RCRA-Related Program Activities/Investigation for SWMU 6 - Closed Construction Landfill	Montgomery Watson Harza	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 10 Closed Landfill	MWH Americas, Inc.	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 14 Closed Waste Pol Pit	MWH Americas, Inc.	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 15 Former Fire Training Area, Vol. 1	MWH Americas, Inc.	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 15 Former Fire Training Area, Vol. 2, Appendix F	MWH Americas, Inc.	APR-2003
	Soil Removal and Sampling Report - SWMU 70 and 73	Bhate	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 4, Closed City of Ozark Landfill	MWH Americas, Inc.	APR-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 49, Former Pesticide Storage	MWH Americas, Inc.	MAY-2003
	Summary of RCRA-Related Program Activities/Investigations for SWMU 50, Former Herbicide Storage	MWH Americas, Inc.	MAY-2003
	Revised Semiannual Report for Natural Attenuation Monitoring	Montgomery Watson Harza	JUL-2003
	Final Post-Wide HHRA for Arsenic in Soil Final CMS, M&E 7/97	Montgomery Watson Harza	SEP-2003
	SWMU 2 Draft RFI Report	Montgomery Watson Harza	NOV-2003
2004		1	1
	SWMU 49 and 50 ADEM Letter of Notice of Concurrence for the Summary of RCRA-Related Program Activities/Investigations (NFA)	ADEM	OCT-2004
2005			
	Misc Sites ADEM Letter of Review and Comments of Summary of Investigation Activities and Statement of Basis for Closure of Wells	ADEM	MAR-2005
	2005 Project Management Plan	CCI/ARCADIS	MAY-2005
	SWMU 2D ADEM Letter of Review and Comments of Draft CMIP	ADEM	JUN-2005
	CCI Response to ADEM Comments - SWMU2D CMIP	CCI	JUN-2005
	SWMU 6 ADEM Letter of Review and Comments Groundwater Sampling	ADEM	JUL-2005

	Title	Author	Date
2005			
	Misc Sites ADEM Letter of Review and Comments of Summary of Investigation Activities and Statement of Basis for Closure of Wells	ADEM	JUL-2005
	SWMU 2D ADEM Letter of Review and Comments of CMIP	ADEM	JUL-2005
	SWMU 8 ADEM Letter of Review and Comments of Sampling Plan Technical Memorandum	ADEM	AUG-2005
	Final SWMU 8 Sampling Plan Technical Memorandum	CCI/ARCADIS	SEP-2005
	SWMU 2D Final CMIP	CCI/ARCADIS	SEP-2005
	SWMU 8 ADEM Letter of Review and Comments of Final Sampling Plan	ADEM	OCT-2005
	SWMU 2D ADEM Letter of Review and Comments of Final Corrective Measures Implementation Plan	ADEM	OCT-2005
	Final Construction Best Management Practices Plan, DeLoney Road Borrow Site for SWMU 2D	CCI/ARCADIS	NOV-2005
	SWMU 6 Draft Groundwater Sampling Results	CCI/ARCADIS	DEC-2005
2006			
	SWMU 6 ADEM Letter of Review and Concurrence of Draft CMIP (NFA)	ADEM	MAR-2006
	SWMU 14 ADEM Letter of Review and Comments of CMIP	ADEM	APR-2006
	2006 Field Sampling Plan	CCI/ARCADIS	JUN-2006
	2006 Quality Assurance Project Plan	CCI/ARCADIS	JUN-2006
	2006 Project Management Plan	CCI/ARCADIS	JUL-2006
	SWMU 8 ADEM Letter of Review and Comments of CMIP	ADEM	SEP-2006
	SWMU 8 Sample Plan Addendum	CCI/ARCADIS	NOV-2006
	SWMU 8 ADEM Letter of Review and Concurrence of Sampling Plan	ADEM	DEC-2006
2007			
	SWMU 6 ADEM Letter of Review and Comments of Well Abandonment Report	ADEM	JAN-2007
	Misc Sites ADEM Letter of Review and Comments CMIP	ADEM	JAN-2007
	SWMU 4 ADEM Letter of Review and Comments of CMIP	ADEM	JAN-2007
	Final Fort Rucker SWMU 6 Well Abandonment Report	CCI/ARCADIS	FEB-2007
	Final SWMU 6 CMIP	CCI/ARCADIS	FEB-2007
	Final SWMU 8 CMIP	CCI/ARCADIS	FEB-2007
	Final Misc Sites CMIP	CCI/ARCADIS	FEB-2007
	SWMU 2D ADEM Letter of Review and Concurrence of CMIP Addendum	ADEM	FEB-2007
	SWMU 2D ADEM Letter of Review and Concurrence of CMIP Addendum	ADEM	FEB-2007
	SWMU 6 ADEM Letter of Review and Concurrence of Final CMIP (Approval)	ADEM	MAR-2007

	Title	Author	Date
2007			
	SWMU 8 ADEM Letter of Review and Concurrence of Final CMIP (NFA)	ADEM	MAR-2007
	Misc Sites ADEM Letter of Review and Concurrence of Final CMIP	ADEM	MAR-2007
	SWMU 2D ADEM Letter of Review and Concurrence of Corrective Measures Implementation Plan Addendum	ADEM	APR-2007
	SWMU 10-15 Groundwater Final CMIP	CCI/ARCADIS	MAY-2007
	SWMU 10-15 Groundwater Final CMIP	CCI/ARCADIS	MAY-2007
	Final CMIP for SWMU 4	CCI/ARCADIS	MAY-2007
	SWMU 2D Corrective Measures Implementation Plan Addendum	CCI/ARCADIS	JUN-2007
	SWMU 14 Corrective Measures Implementation Plan	CCI/ARCADIS	JUL-2007
	SWMU 4 ADEM Letter of Review and Concurrence of CMIP	ADEM	AUG-2007
	SWMU 10-15 ADEM Letter of Review and Concurrence for CMIP	ADEM	AUG-2007
	SWMU 10-15 ADEM Letter of Review and Concurrence for CMIP	ADEM	AUG-2007
2008			
	SWMU 2D Revised Corrective Measures Implementation Plan	CCI/ARCADIS	APR-2008
	SWMU 2D ADEM Letter of Review and Comments of Revised Corrective Measures Implementation Plan Addendum	ADEM	JUN-2008
	SWMU 2D ADEM Letter of Review and Comments of Revised Corrective Measures Implementation Plan Addendum	ADEM	JUN-2008
2009			
	Project Management Plan, Environmental Remediation Services	CH2MHILL	OCT-2009
2012			
	RCRA Facility Investigation Report for AOC-S, Final Revision 2, January 2012	CH2MHILL	JAN-2012
	AOC-S, ADEM Letter for Approval of RFI for AOC-S, Dated February 2012	ADEM	FEB-2012
2013	•		
	Corrective Measures Study and Corrective Measures Implementation Plan for AOC-S	CH2MHILL	FEB-2013
2014			
	Corrective Measures Implementation Report for AOC-S	CH2MHILL	JAN-2014

## **FORT RUCKER**

Installation Restoration Program
Site Descriptions

Site ID: AOC-S

Site Name: PCE in GW near SWMU 8

Alias: AOC-S



Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	.200503	.200608
RFI/CMS	.200612	.201210
CMI(C)	.201009	.201310
CMI(O)	.201301	.204509

**RIP Date:** 201310 **RC Date:** 204509

### SITE DESCRIPTION

A RCRA RFI for AOC-S (which is near and upgradient of SWMU 8) was completed in 2012. The RFI showed that groundwater within the investigation area has been impacted with tetrachloroethylene (PCE) at concentrations exceeding the ADEM maximum contaminant level (MCL) of 5 micrograms per liter (µg/L). The apparent source of the PCE in groundwater was a washrack that was operated from the 1950s to the late-1980s. PCE was not detected in soil in the vicinity of the washrack, indicating that the source may have been removed during removal of the washrack.

As documented in the RFI, the PCE plume dimensions are approximately 2,900 feet by 900 feet, and it covers approximately 60 acres. The plume has migrated southward, following groundwater flow past the Fort Rucker boundary. PCE concentrations range from 120  $\mu$ g/L at approximately 500 feet downgradient of the apparent source to 17  $\mu$ g/L at the installation boundary. The maximum PCE concentration off-post is 8  $\mu$ g/L, which exceeds the MCL. A CMS/CMIP for AOC-S, dated July 2013 has been submitted to and approved by state regulators. The CMS/CMIP recommended installation of PCE treatment technology (an oxidizing treatment zone) followed by MNA and a risk assessment. The PCE treatment technology was installed in October 2013. Groundwater monitoring under the CMI(O) phase was initiated in December 2013. The CMI report was submitted to ADEM for regulatory review in January 2014 which included an environmental use restriction document as required by ADEM.

In September of 2014 a contract was awarded, W91278-12-D-0017 TO 0007, to perform corrective measures effectiveness and long-term monitoring at AOC-S in 2015. Period of performance (POP) for the contract is Sept. 26, 2014 to Sept. 26, 2016. A new PBA will be awarded in 2015.

The costs for periodic reviews and USACE supervision and administration (S&R) for sites FTRU-002, FTRU-008, FTRU-012, FTRU-051 and AOC-S will be captured under FTRU-171.

### **CLEANUP/EXIT STRATEGY**

Site AOC-S was included in a PBA contract awarded in FY09. The PBA contract includes completion of RFI/CMS and implementation of the remedy. The RFI report is complete and has been approved by ADEM. A CMIP has been submitted to ADEM and was approved. MNA as well as in situ chemical oxidation via injections is the proposed remedy. Specifically a 250-foot row of potassium permanganate candles injected to create an oxidizing treatment zone to limit PCE migration. These candles were installed in October 2013. A CMI report was submitted to ADEM in January 2014. Post-PBA CMI(O) will continue through FY45.

### Site Name: LF NORTH OF AEROMED RES BLD SWMU 3

Alias: SWMU 3



Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Other (construction debris and

household refuse)

Media of Concern: Groundwater

Phases	Start	End
RFA	198202	198611
CS	199010	199602
RFI/CMS	200012	200109
IRA	200106	200109
LTM	200510	204509

RIP Date: N/A RC Date: 200109

### SITE DESCRIPTION

FTRU-002 was a landfill of approximately 10 acres located on Farrell Road adjacent to the US Army Aviation Research Lab. When the site began operation is unknown; it concluded operation in 1986. The site is a terraced landfill consisting of three separate terraces with berms. Construction debris, paper, cardboard, and household refuse were reportedly disposed of here. The initial assessment conducted by ADEM and the USEPA indicated that no further investigation of this site was warranted based on the Phase II RFI results, dated November 1995, with the provision that groundcover be maintained to reduce risk by inhalation of trichloroethylene (TCE) in surface soil.

Two 100-year floods, within a five-year period, caused severe erosion of the existing cap and slopes of the landfill. This erosion exposed landfill material and scattered debris downstream of the site. The installation formulated a plan to conduct an interim remedial corrective action based on state requirements. The action included repairing the eroded areas by backfilling and diversion of storm water off the site. The severe slope of the berms resulted in erosion of the berm structure, requiring immediate repair to avoid future problems of the same nature. This RA was completed in September 2001 and is anticipated to be the final remedial action for this site.

LTM will continue to prevent erosion and will include routine mowing, fertilizing and erosion repair. The PBA will provide for the cleanup and LTM of all SWMU sites at Fort Rucker. This site is covered under a hazardous waste corrective action permit issued by ADEM.

Costs for periodic reviews and USACE S&A for this site will be captured under FTRU-171.

### **CLEANUP/EXIT STRATEGY**

The entire site has a vegetative cover and LTM will include routine mowing, fertilizing and erosion repair. LTM is expected to continue through FY45.

Site Name: LF N OF DILLY BR RD/E OF TEST STD,SWMU10

Alias: SWMU 10



Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Surface Water

Phases	Start	End
RFA	198202	198611
CS	199010	199602
RFI/CMS	199410	199709
CMI(C)	199801	199809
CMI(O)	199810	204509

**RIP Date**: 199810 **RC Date**: 204510

### SITE DESCRIPTION

FTRU-008 was a 10-acre landfill located in the southeast portion of Fort Rucker on North Dilly Branch Road and east of the Engine Test Stand. When the site began operation is unknown; however, it operated as a trench and fill landfill until closure in 1970. Household refuse and debris from demolished barracks were placed here. In 1997 an RFI confirmed that a further investigation was required to determine the impact to this site from three adjacent SWMUs, as well as the impact to downgradient areas. Phase II RFI results confirmed the Phase I data and a CMS was recommended. A CMS was conducted and recommended natural attenuation with enhanced monitoring. ADEM concurred with the recommendations of the CMS. Natural attenuation monitoring will continue in accordance with the CMIP, dated May 15, 2007 on a semiannual basis for VOCs.

Results from the 2014 monitoring events indicate that concentrations are consistent with historical results. Results suggest natural attenuation is occurring. This site is covered under a hazardous waste corrective action permit issued by ADEM.

Costs for periodic reviews and USACE S&A for this site will be captured under FTRU-171.

### **CLEANUP/EXIT STRATEGY**

MNA will continue until cleanup objectives have been met as defined in the approved CMIP dated May 2007 and Fort Rucker's corrective action permit. Routine maintenance and repair of the landfill cover is required. Routine maintenance of the road and drainage ditches is required to ensure well sampling continues. Groundwater and surface water are sampled semiannually and annually as defined in the approved CMIP.

Once VOC concentrations have decreased below MCLs for three consecutive monitoring events in a single well, monitoring may be discontinued at the well upon the approval of the revision to the CMIP and a modification to the permit.

Upon approval by ADEM, wells will be properly abandoned according to the draft Well Closure Plan prepared by Metcalf and Eddy prepared in 2002.

Post-PBA CMI(O) will continue for 30 years (through FY45).

Site Name: LANDFILL OZARK CITY LEASEE, SWMU 4

Alias: SWMU 4



Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	198202	198611
CS	199010	199602
RFI/CMS	199410	200109
CMI(C)	200109	200109
CMI(O)	200110	204509

**RIP Date:** 200110 **RC Date:** 204510

### **SITE DESCRIPTION**

This site was a trench and fill landfill of about 10 acres located on Campground Road at the northern edge of Fort Rucker. Woods surround the landfill on three sides and a road and residential houses are located on the fourth side. The landfill was a municipal waste landfill which operated from 1977 to 1982. In addition to the installation, the landfill was used by the city of Ozark and Dale County to dispose of household waste.

Investigation results from the Phase I RFI indicated groundwater contamination at this site and further investigation was required to determine the full extent and impact of this contamination. The Phase II RFI, conducted in 1997, confirmed the Phase I results and this site was recommended for corrective measures. A CMS was conducted, and the recommendations in the CMS were for MNA with enhanced monitoring. On Jan. 5, 1998 the UESPA approval of the CMS was received.

ADEM concurred with the recommendations of the CMS for MNA with enhanced monitoring on a semiannual basis for VOCs and metals. Groundwater monitoring, routine cover maintenance and maintaining access roads to monitoring wells will be in accordance with the CMIP, dated May 2007. This site is covered under a hazardous waste corrective action permit issued by ADEM.

The results from the 2014 monitoring events at SWMU 4 indicate that concentrations are consistent with historical results. The VOC trends are either no significant change or significantly decreasing in one well. These results, along with the natural attenuation parameter results, suggest that environmental conditions are favorable for natural attenuation and that it is occurring. However, the state regulatory agency has required that the VOC contamination in the groundwater be delineated. A task order to prepare a RFI at the site was awarded in FY13. A draft RFI addendum was submitted in December 2014. The RFI addendum will be completed in 2015.

Costs for periodic reviews and USACE S&A for this site will be captured under FTRU-171.

### **CLEANUP/EXIT STRATEGY**

MNA will continue until cleanup objectives have been met as defined in the approved CMIP dated May 2007 and Fort Rucker's corrective action permit. Routine cover maintenance is required. Groundwater is sampled semiannually as defined in the approved CMIP.

ADEM has requested that an RFI be performed to delineate VOC contamination in the groundwater. The final RFI was submitted to ADEM in January 2015.

Once VOC concentrations have decreased below MCLs for three consecutive monitoring events in a single well, monitoring may be discontinued at the well upon the approval of the revision to the CMIP and a modification to the permit.

Site Name: LANDFILL OZARK CITY LEASEE, SWMU 4

Alias: SWMU 4

Upon approval by ADEM, wells will be properly abandoned according to the draft Well Closure Plan prepared by Metcalf and Eddy in 2002.

Post-PBA CMI(O) will continue for 30 years (through FY45).

Site Name: WASTE POL DISPOSAL, SWMU 14

Alias: SWMU 14

**STATUS** 

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Metals, Petroleum, Oil and

Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	198202	198611
CS	199010	199602
RFI/CMS	199610	200109
IRA	199706	199909
LTM	200110	201510

RIP Date: N/A RC Date: 200109

### SITE DESCRIPTION

This site was an unlined pit approximately 80 feet in diameter and 7 feet deep. The pit was located on Faulkner Gate Road and was used to dispose of waste POL products such as contaminated helicopter fuel, tanker truck washouts, and possibly motor oil. Operations at this site ceased prior to 1980 and the pit was capped with clay. Samples taken from the pit in 1980 showed traces of TCE. Both the state of Alabama and Region IV USEPA were notified of the site and immediate closure was recommended. The Phase II RFI conducted in 1997 confirmed the initial investigation results, and a CMS was recommended. The CMS recommended bioventing to digest the POL contamination. A pilot bioventing project was initiated in 1997 and based on its success was optimized and operated for an additional year. A report was submitted to ADEM in April 1999 requesting discontinuation of bioventing. VOCs are below MCLs. A CMIP was developed in July of 2007 and requires metals to be sampled in groundwater.

Fort Rucker requested NFA status for FTRU-040 from ADEM in FY10 based on the three required consecutive sampling events below MCLs referenced in the CMIP and the soil's confirmation sampling conducted in 1999. ADEM responded that a CMI report should be submitted prior to requesting NFA status.

Results from the 2013 monitoring event indicate that concentrations are consistent with historical results. For six semiannual monitoring events there have been no metals detected in the groundwater at concentrations that exceeded screening levels. This site is covered under a hazardous waste corrective action permit issued by ADEM.

This site is currently under contract to achieve NFA by FY16. This site is fully funded.

### **CLEANUP/EXIT STRATEGY**

A single round of confirmation soil sampling (for VOCs and metals) was conducted to support NFA status. A CMI report was submitted to ADEM in January 2014. Groundwater monitoring and vegetative cover maintenance will continue until NFA is granted by ADEM through permit modification and CMIP revision.

**Site Name: FIREFIGHTING TNG AREA, SWMU 15** 

Alias: SWMU 15



Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Surface Water

Phases	Start	End
RFA	198202	.198809
CS	199010	.199209
RFI/CMS	199209	.199707
DES	199610	.199707
CMI(C)	199710	.199809
CMI(O)	199910	.204509

**RIP Date**: 199910 **RC Date**: 204510

### **SITE DESCRIPTION**

This site is located on Dilly Branch Road on the southeast portion of the installation. From the 1950s until 1986 an old unlined fire training pit was operated here. It was approximately 60 feet in diameter and three feet deep and clay lined. Waste POL (crankcase oil, motor gasoline (MOGAS), jet propellant 4 (JP-4), and other fuels) were poured onto a water buffer inside the pit, ignited, and extinguished. In 1986 a new brick lined fire fighting training pit overlapping the original site was constructed. As a result of the new construction a portion of the original site was excavated and buried nearby.

In 1994 the installation began an RFI. Soil samples were collected from both pits and wells were installed to determine any impact to groundwater. Contaminants were found in groundwater downgradient of the site and in the water discharging from the oil/water separator. The Phase II RFI data confirmed the Phase I data and a CMS was recommended. The CMS recommended a removal action for both pits. In 1997 the USACE, Mobile District designed a soil removal and thermal desorption project for the site. Work began in 1997 and was completed in 1998. MNA was initiated in accordance with the 1997 CMS and continued in accordance with the approved 2007 CMIP.

Results from the 2014 monitoring events indicate that concentrations are consistent with historical results. Results suggest natural attenuation is occurring. This site is covered under a hazardous waste corrective action permit issued by ADEM.

Costs for periodic reviews and USACE S&A for this site will be captured under FTRU-171.

### **CLEANUP/EXIT STRATEGY**

MNA will continue until cleanup objectives have been met as defined in the approved CMIP dated May 2007 and Fort Rucker's corrective action permit. Routine maintenance of the landfill cap and repair of any deterioration is required. Routine maintenance of the road and drainage ditches is required to ensure well sampling continues. Groundwater and surface water are sampled semiannually and annually as defined in the approved CMIP.

Once VOC concentrations have decreased below MCLs for three consecutive monitoring events in a single well, monitoring may be discontinued at the well upon the approval of the revision to the CMIP and a modification to the permit.

Upon approval by ADEM wells will be properly abandoned according to the draft Well Closure Plan prepared by Metcalf and Eddy prepared in 2002.

Post-PBA CMI(O) and LUCs will continue for 30 years (through FY45).

Site Name: CLOSED SANITARY LANDFILL, SWMU 2D

Alias: SWMU 2D

**STATUS** 

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA	198202	198611
CS	199908	200109
RFI/CMS	200106	200512
DES	200310	200512
CMI(C)	200407	200709
CMI(O)	200407	204509

**RIP Date:** 200709 **RC Date:** 204510

### **SITE DESCRIPTION**

This site was a trench and fill landfill located at the southeast corner of Hatch and Engineer Road in the southeastern area of the installation. It was approximately 40 acres and was operated from about 1950 to the early-1980s. The landfill was used to dispose of a wide variety of materials. The west half of the site was backfilled with clean fill and pine trees were planted. The east half was closed and backfilled with clean fill.

Groundwater monitoring wells were installed at various times throughout the life of the landfill. During this monitoring contamination above MCLs was detected in several wells. In June 1999, ADEM required the installation to prepare a groundwater corrective action plan (CAP). As a result of the CAP, 16 groundwater monitoring wells were installed to delineate the extent of the contamination. Preliminary analytical data collected indicated the presence of chlorinated solvents, VOCs, and metals. At that time, the contamination appeared to be migrating from the site. Preliminary data suggested the need for additional groundwater monitoring wells to further delineate the plume. In January 2001, six additional monitoring wells were installed. Based upon sampling results, the limits of the plume were horizontally delineated.

In 2007 a RCRA cap was constructed to cover the 30.5-acre site as delineated by the use of geophysics and test pits. The CMI(O) includes maintenance, erosion control, and LUCs, as well as MNA and groundwater monitoring as described in the approved 2008 CMIP. Groundwater monitoring at this site includes required monitoring at AOC-P which is downgradient and contiguous of FTRU-171.

Costs for future periodic reviews and USACE S&A for sites FTRU-002, FTRU-008, FTRU-012, FTRU-051 and AOC-S will be captured under this site.

### **CLEANUP/EXIT STRATEGY**

A RCRA constructed cap covers the entire site. The CMI(O) will include erosion control, LUC, MNA and groundwater performance monitoring to estimated end date in 2045. Future LTM will consist of LUCs, groundwater monitoring, and cap maintenance.

# **Site Closeout (No Further Action) Summary**

Site ID	Site Name	NFA Date	Documentation
FTRU-001	LANDFILL SOUTH OF OLD HOSPITAL, SWMU 2A	198611	Hazardous Solid Waste Amendment (HSWA) Permit 200311
FTRU-003	LF SW CORNER RED CLOUD/COPTER RD SWMU 6	200701	NFA Letter 200703
FTRU-004	LF PROPERTY DISPOSAL YARD, SWMU 7	199410	HSWA Permit 200311
FTRU-005	LF S OF ENGR RD & N OF RESV BNDRY,SWMU 8	200703	NFA Letter 200703
FTRU-006	LF S OF CASTLE RD & N OF BNDRY, SWMU 9	199602	HSWA Permit 200311
FTRU-007	LF S OF DILLY BR/N OR CASTLE RD, SWMU 11	199602	HSWA Permit 200311
FTRU-009	LANDFILL NEAR ENTRANCE STOR YARD,SWMU 2B	198611	HSWA Permit 200311
FTRU-010	SI HATCH ROAD NEAR LAKE, SWMU 2C	199812	NFA Letter 200501
FTRU-011	LF GULLY ON AIRPORT RD/NEAR SH95,SWMU 13	198611	HSWA Permit 200311
FTRU-013	CONSTRUCTION DEBRIS LANDFILL, SWMU 1	198611	HSWA Permit 200311
FTRU-014	MUNICIPAL WASTE INCINERATOR, SWMU 22	198611	HSWA Permit 200311
FTRU-015	HOSPITAL INCINERATOR, SWMU 23	198611	HSWA Permit 200311
FTRU-020	MAIN POST LANDFILL, SWMU 5	198611	HSWA Permit 200311
FTRU-022	PRESENT AMMO INSP PT BURN TRENCH, SWMU66	198611	HSWA Permit 200311
FTRU-023	FMR AMMO INSP PT BURN TRENCH, SWMU 67	198611	HSWA Permit 200311
FTRU-030	WASTEWATER TREATMENT PLANT, SWMU 20	199208	HSWA Permit 200311
FTRU-031	HATCHEY ARMY HELIPORT STP(LAGOON),SWMU16	198611	HSWA Permit 200311
FTRU-032	KNOX ARMY HELIPORT STP (LAGOON), SWMU 17	198611	HSWA Permit 200311
FTRU-033	LOWE WSTEWTR PRETREAT(CRREDX)PLANT,SWM19	198611	HSWA Permit 200311
FTRU-034	CAIRNS AHP SEWAGE TREAT PLANT, SWMU 21	198611	HSWA Permit 200311
FTRU-041	STORAGE WASTE POL-10K GAL RR TANK,SWMU27	199803	NFA Letter 200402
FTRU-042	STRG WAST POL(10K GAL RR TANK), SWMU 28	199803	NFA Letter 200402
FTRU-043	STORAGE WASTE POL(10K GAL UST) SWMU 29	198611	HSWA Permit 200311
FTRU-044	STORAGE WASTE POL(10K GAL UST) SWMU 30	198611	HSWA Permit 200311
FTRU-045	STORAGE WASTE POL(30K GAL AST), SWMU 31	199803	HSWA Permit 200311
FTRU-046	WASTE POL(UST)(BLDG 4701) 2EA, SWMU 32AB	198611	HSWA Permit 200311
FTRU-047	WASTE OIL(UST)(BLDG 6021) 2EA, SWMU 33AB	198611	HSWA Permit 200311
FTRU-048	WASTE POL(UST) (BLDG 311) SWMU 34 A & B)	198611	HSWA Permit 200311
FTRU-049	WASTE POL(UST) (BLDG 1102) SWMU 35	198611	HSWA Permit 200311
FTRU-050	WASTE POL(UST) (BLDG 1013), SWMU 36	198611	HSWA Permit 200311
FTRU-052	WST FUEL STR SW DILLY BR RD&AVE F SWMU63	199803	NFA Letter 200403
FTRU-070	PESTICIDE STOR/HANDLE(BLDG 1476)SWMU 49	200410	NFA Letter 200410
FTRU-071	PESTICIDE STORE/HANDLE (BLD 1424) SWMU48	199712	NFA Letter 200403
FTRU-073	HERBICIDE STORAGE (BLDG 1448), SWMU 50	200410	NFA Letter 200410
FTRU-075	PESTICIDE/HERBICIDE STE(BLD 20023)SWMU51	199602	HSWA Permit 200311
FTRU-079	WASHRACK W/ O W SEP(BLDG 1436), SWMU 80	199602	HSWA Permit 200311

# **Site Closeout (No Further Action) Summary**

Site ID	Site Name	NFA Date	Documentation
FTRU-080	WASHRACK W/O W SEP(LOWE AHP), SWMU 71	199803	HSWA Permit 200311
FTRU-081	WASHRACK W/O W SEP(BLDG 6035), SWMU 72	199410	HSWA Permit 200311
FTRU-082	WASHRACK W/ O W SEP(BLDG 1412), SWMU 73	199803	NFA Letter 200412
FTRU-083	WASHRACK W/O W SEP(ALNG AREA), SWMU 74	199410	HSWA Permit 200311
FTRU-084	WASHRACK W/O W SEP(4000 BLOCK), SWMU 75	198611	HSWA Permit 200311
FTRU-085	WASHRACK W/O W SEP(11TH & 2ND AVE)SWMU76	198611	HSWA Permit 200311
FTRU-086	WASHRACK W/O W SEP(FIRE STATION), SWMU77	198611	HSWA Permit 200311
FTRU-087	WASHRACK W/O W SEP(BLDG 405), SWMU 78	198611	HSWA Permit 200311
FTRU-088	WASHRACK W/O W SEP(BLDG 708), SWMU 79	198611	HSWA Permit 200311
FTRU-089	WASHRACK W/O W SEP(BLDG 706), SWMU 92	198611	HSWA Permit 200311
FTRU-090	WASHRACK W/O W SEP(BLDG 709), SWMU 91	198611	HSWA Permit 200311
FTRU-091	WASHRACK W/O W SEP(BLDG 1406), SWMU 89	198611	HSWA Permit 200311
FTRU-092	WASHRACK W/O W SEP(BLDG 1416), SWMU 81	198611	HSWA Permit 200311
FTRU-093	WASHRACK W/O W SEP(BLDG 4710), SWMU 82	198611	HSWA Permit 200311
FTRU-094	WASHRACK W/O W SEP(BLDG 25104), SWMU 83	198611	HSWA Permit 200311
FTRU-095	WASHRACK W/O W SEP(BLDG 50201), SWMU 85	198611	HSWA Permit 200311
FTRU-096	WASHRACK W/O W SEP(BLDG 30306), SWMU 86	198611	HSWA Permit 200311
FTRU-097	WASHRACK W/O W SEP(BLDG 30301), SWMU 87	198611	HSWA Permit 200311
FTRU-098	WASHRACK W/O W SEP(BLDG 50201), SWMU 84	198611	HSWA Permit 200311
FTRU-099	WASHRACK W/O W SEP(BLDG 30125), SWMU 88	198611	HSWA Permit 200311
FTRU-100	WASHRACK W/O W SEP(BLDG 60115), SWMU 90	198611	HSWA Permit 200311
FTRU-101	SUMP DRAINAGE SYSTEM-POL SHOP SWMU 70	199803	NFA Letter 200406
FTRU-102	RADIOLOGICAL WASTE STG (BLDG1314) SWMU58	198611	HSWA Permit 200311
FTRU-109	MATERIAL STORAGE (BLDG 6015), SWMU K	199803	NFA Letter 200412
FTRU-110	FORMER HAZ WASTE STORAGE AREA, SWMU 61	199410	HSWA Permit 200311
FTRU-112	HAZ WASTE STG AREA BLDG 427, (SWMU 56)	198611	HSWA Permit 200311
FTRU-113	MATERIAL STORAGE YARD(1200 AREA), SWMU59	198611	NFA letter Nov 1995.
FTRU-114	PHOTOGRAPHIC LAB (BLDG 1109), SWMU 57	198611	HSWA Permit 200311
FTRU-115	NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J	199803	NFA Letter 200412
FTRU-116	FMR WASTE PCB STRG (DPDO 113), SWMU 55	199602	HSWA Permit 200311
FTRU-117	FMR WASTE PCB STRG(LUMBER YARD), SWMU 54	199602	HSWA Permit 200311
FTRU-119	ACID PIT B/T BLDG 6015 & 6016, SWMU 68	199410	HSWA Permit 200311
FTRU-120	STORM DRN OUTLETS,WASTE STRG AREA,SWMU60	199410	HSWA Permit 200311
FTRU-150	WASTEOIL (500 GAL TAK)(BLDG 405), SWMU C	198611	HSWA Permit 200311
FTRU-151	WASTE OIL(500 GAL AST) (BLDG 702) SWMU38	198611	HSWA Permit 200311
FTRU-152	FORMER PCB STORAGE AREA, SWMU 53	198611	HSWA Permit 200311

# **Site Closeout (No Further Action) Summary**

Site ID	Site Name	NFA Date	Documentation
FTRU-153	WASTE OIL(1000 GAL)(BLDG 1406)SWMU 7044	198611	NFA letter June 2004.
FTRU-154	PCB STORAGE AREA, SWMU 52	198611	HSWA Permit 200311
FTRU-156	VMS WASTE POL, UST, SWMU 37	198611	HSWA Permit 200311
FTRU-157	AREA OF OIL SPILL, SWMU L	199410	NFA Letter 200405
FTRU-158	WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64	199803	NFA Letter 200403
FTRU-159	WASTE OIL(200 GAL UST)(BLD 4004) SWMU 45	198611	HSWA Permit 200311
FTRU-160	WASTE OIL(500 GAL AST)(BLD 4710) SWMU 39	198611	HSWA Permit 200311
FTRU-161	DEMOLISHED VEHICLE STORAGE YARD, SWMU 62	199410	NFA Letter 200412
FTRU-162	SPENT BATTERY STRG, BLDG 6015, SWMU 41B	199803	NFA Letter 200403
FTRU-163	WASTE OIL(UST) (BLDG 5410) SWMU 46	198611	NFA Letter 200403
FTRU-164	OLD DISMANTLED INCINERATOR,SWMU 24,25,26	198611	NFA Letter 200403
FTRU-165	WASTE OIL(AST) (BLDG 6015), SWMU 41A	199803	NFA Letter 200403
FTRU-166	WASTE OIL(200 GAL UST)(BLD 8304)SWMU 40A	198611	HSWA Permit 200311
FTRU-167	WASTE OIL(50K GAL UST)(BLD 8303)SWMU 40B	198611	HSWA Permit 200311
FTRU-168	EMPTY 50K GALLON TANK, SWMU A	198611	HSWA Permit 200311
FTRU-169	8-BRAVO EOD RANGE, SWMU 65	198611	HSWA Permit 200311
FTRU-170	WASTE OIL(UST) (ALNG SITE) SWMU 43	198611	HSWA Permit 200311
FTRU-172	DIESEL, UST, SWMU H	198611	HSWA Permit 200311
FTRU-173	UNKNOWN UST-LOWE AHP, SWMU I	198611	HSWA Permit 200311
FTRU-174	OIL GAS STATION SITE, UST, SWMU E	198611	HSWA Permit 200311
FTRU-175	OLD GAS STATION SITE, UST, SWMU F	198611	HSWA Permit 200311
FTRU-176	INACTIVE CONSTRUCTION DEBRIS LF, SWMU 12	198611	HSWA Permit 200311
FTRU-177	MAIN SEWAGE TREATMENT PLANT, SWMU 18	198611	HSWA Permit 200311
FTRU-178	VMS, WASTE POL, UST, SWMU 42	198611	HSWA Permit 200311
FTRU-179	PRODUCT STORAGE AREA, SWMU D	199808	NFA Letter 200412
FTRU-180	FORMER HAZ. MAT'L DRUM STORAGE, SWMU G	199602	HSWA Permit 200311
FTRU-181	PCP DIP TANK, SWMU 69	199602	HSWA Permit 200311
FTRU-182	BLDG 810, REFUELING POINT	199607	NFA letter Apr 2002.
FTRU-183	CONTAMINATED SOIL, TANK HILL	199701	This site was never included in the permit issued by the state of Alabama. The removal took place in 1997 to close out this site.

Date of IRP Inception: 198202

#### **Past Phase Completion Milestones**

1987

**RFA** 

(FTRU-001 - LANDFILL SOUTH OF OLD HOSPITAL, SWMU 2A, FTRU-002 - LF NORTH OF AEROMED RES BLD SWMU 3, FTRU-003 - LF SW CORNER RED CLOUD/COPTER RD SWMU 6, FTRU-004 - LF PROPERTY DISPOSAL YARD, SWMU 7, FTRU-005 - LF S OF ENGR RD & N OF RESV BNDRY, SWMU 8, FTRU-006 - LF S OF CASTLE RD & N OF BNDRY, SWMU 9, FTRU-007 - LF S OF DILLY BR/N OR CASTLE RD, SWMU 11, FTRU-008 - LF N OF DILLY BR RD/E OF TEST STD, SWMU10, FTRU-009 - LANDFILL NEAR ENTRANCE STOR YARD, SWMU 2B, FTRU-010 - SI HATCH ROAD NEAR LAKE, SWMU 2C, FTRU-011 - LF GULLY ON AIRPORT RD/NEAR SH95,SWMU 13, FTRU-012 - LANDFILL OZARK CITY LEASEE, SWMU 4, FTRU-013 - CONSTRUCTION DEBRIS LANDFILL, SWMU 1, FTRU-014 - MUNICIPAL WASTE INCINERATOR, SWMU 22, FTRU-015 - HOSPITAL INCINERATOR, SWMU 23, FTRU-020 - MAIN POST LANDFILL, SWMU 5, FTRU-022 - PRESENT AMMO INSP PT BURN TRENCH, SWMU66, FTRU-023 - FMR AMMO INSP PT BURN TRENCH, SWMU 67, FTRU-030 - WASTEWATER TREATMENT PLANT, SWMU 20, FTRU-031 - HATCHEY ARMY HELIPORT STP(LAGOON), SWMU16, FTRU-032 - KNOX ARMY HELIPORT STP (LAGOON), SWMU 17, FTRU-033 - LOWE WSTEWTR PRETREAT(CRREDX)PLANT, SWM19, FTRU-034 - CAIRNS AHP SEWAGE TREAT PLANT, SWMU 21, FTRU-040 - WASTE POL DISPOSAL, SWMU 14, FTRU-041 - STORAGE WASTE POL-10K GAL RR TANK, SWMU27, FTRU-042 - STRG WAST POL(10K GAL RR TANK), SWMU 28, FTRU-043 - STORAGE WASTE POL(10K GAL UST) SWMU 29, FTRU-044 -STORAGE WASTE POL(10K GAL UST) SWMU 30, FTRU-045 - STORAGE WASTE POL(30K GAL AST), SWMU 31, FTRU-046 - WASTE POL(UST)(BLDG 4701) 2EA, SWMU 32AB, FTRU-047 - WASTE OIL(UST)(BLDG 6021) 2EA, SWMU 33AB, FTRU-048 - WASTE POL(UST) (BLDG 311) SWMU 34 A & B), FTRU-049 - WASTE POL(UST) (BLDG 1102) SWMU 35, FTRU-050 - WASTE POL(UST) (BLDG 1013), SWMU 36, FTRU-052 - WST FUEL STR SW DILLY BR RD&AVE F SWMU63, FTRU-070 - PESTICIDE STOR/HANDLE(BLDG 1476)SWMU 49, FTRU-071 - PESTICIDE STORE/HANDLE (BLD 1424) SWMU48. FTRU-073 - HERBICIDE STORAGE (BLDG 1448), SWMU 50, FTRU-075 - PESTICIDE/HERBICIDE STE(BLD 20023)SWMU51, FTRU-079 - WASHRACK W/ O W SEP(BLDG 1436), SWMU 80, FTRU-080 - WASHRACK W/O W SEP(LOWE AHP), SWMU 71, FTRU-081 - WASHRACK W/O W SEP(BLDG 6035), SWMU 72, FTRU-082 - WASHRACK W/O W SEP(BLDG 1412), SWMU 73, FTRU-083 - WASHRACK W/O W SEP(ALNG AREA), SWMU 74, FTRU-084 - WASHRACK W/O W SEP(4000 BLOCK), SWMU 75, FTRU-085 - WASHRACK W/O W SEP(11TH & 2ND AVE)SWMU76, FTRU-086 - WASHRACK W/O W SEP(FIRE STATION), SWMU77, FTRU-087 - WASHRACK W/O W SEP(BLDG 405), SWMU 78, FTRU-088 - WASHRACK W/O W SEP(BLDG 708), SWMU 79, FTRU-089 - WASHRACK W/O W SEP(BLDG 706), SWMU 92, FTRU-090 - WASHRACK W/O W SEP(BLDG 709), SWMU 91, FTRU-091 - WASHRACK W/O W SEP(BLDG 1406), SWMU 89, FTRU-092 -WASHRACK W/O W SEP(BLDG 1416), SWMU 81, FTRU-093 - WASHRACK W/O W SEP(BLDG 4710), SWMU 82, FTRU-094 - WASHRACK W/O W SEP(BLDG 25104), SWMU 83, FTRU-095 - WASHRACK W/O W SEP(BLDG 50201), SWMU 85, FTRU-096 - WASHRACK W/O W SEP(BLDG 30306), SWMU 86, FTRU-097 -WASHRACK W/O W SEP(BLDG 30301), SWMU 87, FTRU-098 - WASHRACK W/O W SEP(BLDG 50201), SWMU 84, FTRU-099 - WASHRACK W/O W SEP(BLDG 30125), SWMU 88, FTRU-100 - WASHRACK W/O W SEP(BLDG 60115), SWMU 90, FTRU-101 - SUMP DRAINAGE SYSTEM-POL SHOP SWMU 70, FTRU-102 -RADIOLOGICAL WASTE STG (BLDG1314) SWMU58, FTRU-109 - MATERIAL STORAGE (BLDG 6015). SWMU K, FTRU-110 - FORMER HAZ WASTE STORAGE AREA, SWMU 61, FTRU-112 - HAZ WASTE STG AREA BLDG 427, (SWMU 56), FTRU-113 - MATERIAL STORAGE YARD(1200 AREA), SWMU59, FTRU-114 -PHOTOGRAPHIC LAB (BLDG 1109), SWMU 57, FTRU-115 - NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J, FTRU-116 - FMR WASTE PCB STRG (DPDO 113), SWMU 55, FTRU-117 - FMR WASTE PCB STRG(LUMBER YARD), SWMU 54, FTRU-119 - ACID PIT B/T BLDG 6015 & 6016, SWMU 68, FTRU-120 -STORM DRN OUTLETS, WASTE STRG AREA, SWMU60, FTRU-150 - WASTEOIL (500 GAL TAK) (BLDG 405), SWMU C, FTRU-151 - WASTE OIL(500 GAL AST) (BLDG 702) SWMU38, FTRU-152 - FORMER PCB STORAGE AREA, SWMU 53, FTRU-153 - WASTE OIL(1000 GAL)(BLDG 1406)SWMU 7044, FTRU-154 -PCB STORAGE AREA, SWMU 52, FTRU-156 - VMS WASTE POL, UST, SWMU 37, FTRU-157 - AREA OF OIL SPILL, SWMU L, FTRU-158 - WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64, FTRU-159 - WASTE OIL(200 GAL UST)(BLD 4004) SWMU 45, FTRU-160 - WASTE OIL(500 GAL AST)(BLD 4710) SWMU 39, FTRU-161 - DEMOLISHED VEHICLE STORAGE YARD, SWMU 62, FTRU-162 - SPENT BATTERY STRG, BLDG 6015, SWMU 41B, FTRU-163 - WASTE OIL(UST) (BLDG 5410) SWMU 46, FTRU-164 - OLD DISMANTLED INCINERATOR, SWMU 24,25,26, FTRU-165 - WASTE OIL(AST) (BLDG 6015), SWMU 41A, FTRU-166 - WASTE OIL(200 GAL UST)(BLD 8304)SWMU 40A, FTRU-167 - WASTE OIL(50K GAL UST)(BLD

8303)SWMU 40B, FTRU-168 - EMPTY 50K GALLON TANK, SWMU A, FTRU-169 - 8-BRAVO EOD RANGE, SWMU 65, FTRU-170 - WASTE OIL(UST) (ALNG SITE) SWMU 43, FTRU-171 - CLOSED SANITARY LANDFILL, SWMU 2D, FTRU-172 - DIESEL, UST, SWMU H, FTRU-173 - UNKNOWN UST-LOWE AHP, SWMU I, FTRU-174 - OIL GAS STATION SITE, UST, SWMU E, FTRU-175 - OLD GAS STATION SITE, UST, SWMU F, FTRU-176 - INACTIVE CONSTRUCTION DEBRIS LF, SWMU 12, FTRU-177 - MAIN SEWAGE TREATMENT PLANT, SWMU 18, FTRU-178 - VMS, WASTE POL, UST, SWMU 42, FTRU-179 - PRODUCT STORAGE AREA, SWMU D, FTRU-180 - FORMER HAZ. MAT'L DRUM STORAGE, SWMU G, FTRU-181 -PCP DIP TANK, SWMU 69)

1988

RFA (FTRU-051 - FIREFIGHTING TNG AREA, SWMU 15)

1991

ISC (FTRU-182 - BLDG 810, REFUELING POINT)

1992

(FTRU-030 - WASTEWATER TREATMENT PLANT, SWMU 20, FTRU-051 - FIREFIGHTING TNG AREA, CS

**SWMU 15)** 

1994

CS (FTRU-004 - LF PROPERTY DISPOSAL YARD, SWMU 7)

1995

CS

**ISC** (FTRU-183 - CONTAMINATED SOIL, TANK HILL)

RFI/CMS (FTRU-004 - LF PROPERTY DISPOSAL YARD, SWMU 7)

(FTRU-010 - SI HATCH ROAD NEAR LAKE, SWMU 2C, FTRU-042 - STRG WAST POL(10K GAL RR TANK), SWMU 28, FTRU-045 - STORAGE WASTE POL(30K GAL AST), SWMU 31, FTRU-052 - WST FUEL STR SW DILLY BR RD&AVE F SWMU63, FTRU-071 - PESTICIDE STORE/HANDLE (BLD 1424) SWMU48, FTRU-080 - WASHRACK W/O W SEP(LOWE AHP), SWMU 71, FTRU-081 - WASHRACK W/O W SEP(BLDG 6035), SWMU 72, FTRU-082 - WASHRACK W/O W SEP(BLDG 1412), SWMU 73, FTRU-083 - WASHRACK W/O W SEP(ALNG AREA), SWMU 74, FTRU-101 - SUMP DRAINAGE SYSTEM-POL SHOP SWMU 70, FTRU-109 -MATERIAL STORAGE (BLDG 6015), SWMU K, FTRU-110 - FORMER HAZ WASTE STORAGE AREA, SWMU 61, FTRU-115 - NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J, FTRU-119 - ACID PIT B/T BLDG 6015 & 6016, SWMU 68, FTRU-120 - STORM DRN OUTLETS, WASTE STRG AREA, SWMU60, FTRU-157 - AREA OF OIL SPILL, SWMU L, FTRU-158 - WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64, FTRU-161 -DEMOLISHED VEHICLE STORAGE YARD, SWMU 62, FTRU-162 - SPENT BATTERY STRG, BLDG 6015, SWMU 41B, FTRU-165 - WASTE OIL(AST) (BLDG 6015), SWMU 41A, FTRU-179 - PRODUCT STORAGE AREA, SWMU D)

1996 CS

(FTRU-002 - LF NORTH OF AEROMED RES BLD SWMU 3, FTRU-003 - LF SW CORNER RED CLOUD/COPTER RD SWMU 6, FTRU-005 - LF S OF ENGR RD & N OF RESV BNDRY, SWMU 8, FTRU-006 -LF S OF CASTLE RD & N OF BNDRY, SWMU 9, FTRU-007 - LF S OF DILLY BR/N OR CASTLE RD, SWMU 11, FTRU-008 - LF N OF DILLY BR RD/E OF TEST STD,SWMU10, FTRU-012 - LANDFILL OZARK CITY

LEASEE, SWMU 4, FTRU-040 - WASTE POL DISPOSAL, SWMU 14, FTRU-041 - STORAGE WASTE POL-10K GAL RR TANK, SWMU27, FTRU-070 - PESTICIDE STOR/HANDLE(BLDG 1476) SWMU 49, FTRU-073 -HERBICIDE STORAGE (BLDG 1448), SWMU 50, FTRU-075 - PESTICIDE/HERBICIDE STE(BLD

20023)SWMU51, FTRU-079 - WASHRACK W/ O W SEP(BLDG 1436), SWMU 80, FTRU-116 - FMR WASTE PCB STRG (DPDO 113), SWMU 55, FTRU-117 - FMR WASTE PCB STRG(LUMBER YARD), SWMU 54, FTRU-180 - FORMER HAZ. MAT'L DRUM STORAGE, SWMU G, FTRU-181 - PCP DIP TANK, SWMU 69)

IMP(C) (FTRU-182 - BLDG 810, REFUELING POINT)

1997

IMP(C) (FTRU-183 - CONTAMINATED SOIL, TANK HILL)

(FTRU-010 - SI HATCH ROAD NEAR LAKE, SWMU 2C, FTRU-041 - STORAGE WASTE POL-10K GAL RR DES

TANK,SWMU27, FTRU-042 - STRG WAST POL(10K GAL RR TANK), SWMU 28, FTRU-045 - STORAGE WASTE POL(30K GAL AST), SWMU 31, FTRU-051 - FIREFIGHTING TNG AREA, SWMU 15, FTRU-052 - WST FUEL STR SW DILLY BR RD&AVE F SWMU63, FTRU-071 - PESTICIDE STORE/HANDLE (BLD 1424) SWMU48, FTRU-080 - WASHRACK W/O W SEP(LOWE AHP), SWMU 71, FTRU-082 - WASHRACK W/O W SEP(BLDG 1412), SWMU 73, FTRU-101 - SUMP DRAINAGE SYSTEM-POL SHOP SWMU 70, FTRU-109 - MATERIAL STORAGE (BLDG 6015), SWMU K, FTRU-115 - NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J, FTRU-158 - WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64, FTRU-162 - SPENT BATTERY STRG, BLDG 6015, SWMU 41B, FTRU-165 - WASTE OIL(AST) (BLDG 6015), SWMU 41A, FTRU-179 -

PRODUCT STORAGE AREA, SWMU D)

RFI/CMS (FTRU-003 - LF SW CORNER RED CLOUD/COPTER RD SWMU 6, FTRU-005 - LF S OF ENGR RD & N OF

RESV BNDRY,SWMU 8, FTRU-008 - LF N OF DILLY BR RD/E OF TEST STD,SWMU10, FTRU-051 -

FIREFIGHTING TNG AREA, SWMU 15)

1998

CMI(C) (FTRU-008 - LF N OF DILLY BR RD/E OF TEST STD,SWMU10, FTRU-010 - SI HATCH ROAD NEAR LAKE,

SWMU 2C, FTRU-041 - STORAGE WASTE POL-10K GAL RR TANK,SWMU27, FTRU-042 - STRG WAST POL(10K GAL RR TANK), SWMU 28, FTRU-045 - STORAGE WASTE POL(30K GAL AST), SWMU 31, FTRU-051 - FIREFIGHTING TNG AREA, SWMU 15, FTRU-052 - WST FUEL STR SW DILLY BR RD&AVE F

SWMU63, FTRU-071 - PESTICIDE STORE/HANDLE (BLD 1424) SWMU48, FTRU-080 - WASHRACK W/O W SEP(LOWE AHP), SWMU 71, FTRU-082 - WASHRACK W/O W SEP(BLDG 1412), SWMU 73, FTRU-101 - SUMP DRAINAGE SYSTEM-POL SHOP SWMU 70, FTRU-109 - MATERIAL STORAGE (BLDG 6015), SWMU K, FTRU-115 - NEW PCB MTR STORE(ENGR & DILLY BR)SWMU J, FTRU-158 - WASTE OIL(55 GAL DRUMS)(BLD 4004)SWMU 64, FTRU-162 - SPENT BATTERY STRG, BLDG 6015, SWMU 41B, FTRU-165 -

WASTE OIL(AST) (BLDG 6015), SWMU 41A, FTRU-179 - PRODUCT STORAGE AREA, SWMU D)

1999

IRA (FTRU-040 - WASTE POL DISPOSAL, SWMU 14)

2001

CS (FTRU-171 - CLOSED SANITARY LANDFILL, SWMU 2D)

IRA (FTRU-002 - LF NORTH OF AEROMED RES BLD SWMU 3, FTRU-073 - HERBICIDE STORAGE (BLDG

1448), SWMU 50)

CMI(C) (FTRU-012 - LANDFILL OZARK CITY LEASEE, SWMU 4)

RFI/CMS (FTRU-002 - LF NORTH OF AEROMED RES BLD SWMU 3, FTRU-012 - LANDFILL OZARK CITY LEASEE,

SWMU 4, FTRU-040 - WASTE POL DISPOSAL, SWMU 14)

2002

IRA (FTRU-070 - PESTICIDE STOR/HANDLE(BLDG 1476)SWMU 49)

2003

RFI/CMS (FTRU-070 - PESTICIDE STOR/HANDLE(BLDG 1476)SWMU 49, FTRU-073 - HERBICIDE STORAGE (BLDG

1448), SWMU 50)

2005

LTM (FTRU-070 - PESTICIDE STOR/HANDLE(BLDG 1476)SWMU 49, FTRU-073 - HERBICIDE STORAGE (BLDG

1448), SWMU 50)

2006

DES (FTRU-171 - CLOSED SANITARY LANDFILL, SWMU 2D)

RFA (AOC-S - PCE in GW near SWMU 8)

RFI/CMS (FTRU-171 - CLOSED SANITARY LANDFILL, SWMU 2D)

2007

CMI(C) (FTRU-171 - CLOSED SANITARY LANDFILL, SWMU 2D)

LTM (FTRU-003 - LF SW CORNER RED CLOUD/COPTER RD SWMU 6, FTRU-005 - LF S OF ENGR RD & N OF

**RESV BNDRY,SWMU 8)** 

2013

RFI/CMS (AOC-S - PCE in GW near SWMU 8)

## **IRP Schedule**

2014

CMI(C) (AOC-S - PCE in GW near SWMU 8)

**Projected Phase Completion Milestones** 

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates Site ID Site Name ROD/DD Title

**ROD/DD Date** 

Final RA(C) Completion Date: 201310

Schedule for Next Five-Year Review: 2016

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

### **FORT RUCKER IRP Schedule**

						= phase u	ınderway
SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
PCE in GW near SWMU 8	CMI(O)						
SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
LF NORTH OF AEROMED RES BLD	LTM						
	DUAGE	EV40	EVAZ	EV40	EV40	EVOO	EVO
		FY16	FY17	FY18	FY19	FY20	FY21+
	CMI(O)						
· · · · · · · · · · · · · · · · · · ·							
SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
LANDFILL OZARK CITY LEASEE,	CMI(O)						
SWMU 4							
SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
WASTE POL DISPOSAL. SWMU 14	LTM						
·	DUAGE	EV40	EV47	EV40	EV40	EVOO	EVO
31-11-11-11		FY16	FY17	FY18	FY19	FY20	FY21+
FIREFIGHTING TNG AREA, SWMU 15	CMI(O)						
SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CLOSED SANITARY LANDFILL.	CMI(O)						
SWMU 2D	(-)						
	PCE in GW near SWMU 8  SITE NAME  LF NORTH OF AEROMED RES BLD SWMU 3 SITE NAME  LF N OF DILLY BR RD/E OF TEST STD,SWMU10 SITE NAME  LANDFILL OZARK CITY LEASEE, SWMU 4 SITE NAME  WASTE POL DISPOSAL, SWMU 14  SITE NAME  FIREFIGHTING TNG AREA, SWMU 15  SITE NAME  CLOSED SANITARY LANDFILL,	PCE in GW near SWMU 8  SITE NAME  LF NORTH OF AEROMED RES BLD SWMU 3  SITE NAME  LF N OF DILLY BR RD/E OF TEST STD,SWMU10  SITE NAME  LANDFILL OZARK CITY LEASEE, SWMU 4  SITE NAME  WASTE POL DISPOSAL, SWMU 14  SITE NAME  FIREFIGHTING TNG AREA, SWMU 15  CMI(O)  SITE NAME  PHASE  FIREFIGHTING TNG AREA, SWMU 15  CMI(O)  SITE NAME  PHASE  CLOSED SANITARY LANDFILL, CMI(O)	PCE in GW near SWMU 8  SITE NAME  LF NORTH OF AEROMED RES BLD SWMU 3  SITE NAME  LF N OF DILLY BR RD/E OF TEST STD,SWMU10  SITE NAME  LANDFILL OZARK CITY LEASEE, SWMU 4  SITE NAME  WASTE POL DISPOSAL, SWMU 14  SITE NAME  FIREFIGHTING TNG AREA, SWMU 15  CLOSED SANITARY LANDFILL, CMI(O)  FY16  CMI(O)  FY16  CMI(O)  FY16  CMI(O)  FY16  CMI(O)	PCE in GW near SWMU 8  SITE NAME  LF NORTH OF AEROMED RES BLD SWMU 3  SITE NAME  LF N OF DILLY BR RD/E OF TEST STD,SWMU10  SITE NAME  LANDFILL OZARK CITY LEASEE, SWMU 4  SITE NAME  PHASE  FY16  FY17  WASTE POL DISPOSAL, SWMU 14  SITE NAME  PHASE  FY16  FY17  FIREFIGHTING TNG AREA, SWMU 15  CMI(O)  SITE NAME  PHASE  FY16  FY17  CLOSED SANITARY LANDFILL, CMI(O)	PCE in GW near SWMU 8  SITE NAME  LF NORTH OF AEROMED RES BLD SWMU 3  SITE NAME  LF N OF DILLY BR RD/E OF TEST STD,SWMU10  SITE NAME  LANDFILL OZARK CITY LEASEE, SWMU 4  SITE NAME  WASTE POL DISPOSAL, SWMU 14  FIREFIGHTING TNG AREA, SWMU 15  CLOSED SANITARY LANDFILL,  CMI(O)  CMI(O)  FY17  FY18  CMI(O)  CMI(O)  CMI(O)  FY17  FY18  CMI(O)  CMI(O)  FY17  FY18  CMI(O)  CMI(O)  FY17  FY18  CMI(O)	SITE NAME PCE in GW near SWMU 8 CMI(O)  SITE NAME PHASE FY16 FY17 FY18 FY19  LF NORTH OF AEROMED RES BLD SWMU 3 SITE NAME PHASE FY16 FY17 FY18 FY19  LTM SWMU 10 SITE NAME PHASE FY16 FY17 FY18 FY19  LANDFILL OZARK CITY LEASEE, SWMU 4 SITE NAME PHASE FY16 FY17 FY18 FY19  WASTE POL DISPOSAL, SWMU 14 FIREFIGHTING TNG AREA, SWMU 15 CLOSED SANITARY LANDFILL, CMI(O)  SITE NAME PHASE FY16 FY17 FY18 FY19  CMI(O) FY17 FY18 FY19 FY19 FY19 FY19 FY19 FY19 FY19 FY19	PCE in GW near SWMU 8   CMI(O)

## **FORT RUCKER**

Army Defense Environmental Restoration Program Military Munitions Response Program

## **MMRP Summary**

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 7/5

Installation Site Types with Future and/or Underway Phases

2 Firing Range

(FTRU-001-R-01, FTRU-003-R-01)

#### **Most Widespread Contaminants of Concern**

Munitions and explosives of concern (MEC)

#### **Media of Concern**

Groundwater, Soil

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

Site ID Site Name		Action	Remedy	FY	
	FTRU-001-	ANTI-TANK	IRA	INSTITUTIONAL CONTROLS	2013
	R-01	ROCKET/GRENADE RANGE			
	FTRU-001-	ANTI-TANK	IRA	UXO CLEARANCE	2015
	R-01	ROCKET/GRENADE RANGE			

#### **Duration of MMRP**

Date of MMRP Inception 200202

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201709/201709

Date of MMRP completion including Long Term Management (LTM): 204709

### **MMRP Contamination Assessment**

#### **Contamination Assessment Overview**

The Department of Defense (DoD) has established the Military Munitions Response Program (MMRP) under the Defense Environmental Restoration Program (DERP) to address DoD sites with MEC including unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC).

The MMRP eligible sites include other than operational ranges where UXO, DMM and MC is known or suspected and the release occurred prior to Sept. 30, 2002. Because properties classified as operational ranges are not eligible they are excluded from the MMRP program.

The process began with three phases of range inventories. Phase I consisted of installations completing an initial data call. The USAEC managed the implementation of phases two and three of the MMRP inventory.

The Phase II inventory dealt with active and inactive (A/I) range considerations. Phase III involved the 2002 closed, transferred or transferring (CTT) range inventory. Included were extensive mapping, data collection for upload to the Army Range Inventory Database, an assessment of explosives safety risk using the risk assessment code (RAC) methodology for CTT ranges or sites with UXO or DMM identified in the inventory, and a determination of which sites on the inventory potentially qualify for the MMRP.

The US Army's inventory of CTT ranges and sites has identified seven sites eligible for action under MMRP at Fort Rucker. The site inspection (SI) has been conducted and four of these sites are RC. The state has provided concurrence on the SIs.

#### **Cleanup Exit Strategy**

The RI/FS began in FY09 under a PBA contract (PBA contract includes investigation activities through DD approval). A removal action and LUCs are anticipated.

# **MMRP Previous Studies**

	Title	Author	Date
2002			
	Closed, Transferring and Transferred Range/Site Inventory for Fort Rucker, Alabama	Malcolm Pirnie, Inc.	JAN-2002
2004			
	Final Historical Records Review, Fort Rucker, Alabama	Malcolm Pirnie, Inc.	JUL-2004
	Final Work Plan, Fort Rucker, Alabama	Malcolm Pirnie, Inc.	OCT-2004
2005		I	
	Final Site Investigation, Fort Rucker, Alabama	Malcolm Pirnie, Inc.	JUN-2005
	ADEM NFA Letter MMRP Sites	ADEM	NOV-2005
2011		ı	
	RCRA Facility Investigation Work Plan for FTRU-001-R-01 and FTRU-003-R-01, Final Revision 1	CH2MHILL	NOV-2011
2012	,		<u> </u>
	ADEM Letter of Approval of RFI Work Plan, Final Revision 1 for FTRU-001-R-01 and FTRU-003-R-	ADEM	JAN-2012
2013			'
	Munitions and Explosives of Concern RCRA Facility Investigation FTRU-004-R-01 .22 Caliber Target Butt, Fort Rucker, Alabama	CH2MHILL	MAR-2013
2014			
	Statement of Basis FTRU-004-R-01, .22 Caliber Target Butt, Fort Rucker, Alabama	CH2MHILL	MAR-2014

## **FORT RUCKER**

Military Munitions Response Program
Site Descriptions

### Site ID: FTRU-001-R-01

### Site Name: ANTI-TANK ROCKET/GRENADE RANGE

Alias: AOC-W



Regulatory Driver: RCRA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of

concern (MEC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	200202	200305
CS	200309	200506
RFI/CMS	200810	201512
DES	201601	201609
IRA	201103	201412
CMI(C)	201610	201709
LTM	202209	204709

RIP Date: N/A RC Date: 201709

### SITE DESCRIPTION

The anti-tank rocket/grenade range is located northeast of the cantonment and occupies approximately 57 acres of other than operational range designated area. The area has since been developed and is currently used as a portion of the installation golf course. The anti-tank rocket/grenade range consists of three distinct sub-sites: Anti-tank Rocket Range No. 1 (ATR No. 1), Anti-tank Grenade Range No. 1 (ATG No.1), and an unnamed range.

Much of the former range area (approximately 39.1 acres) has been converted to a golf course for use by installation personnel and guests. Most of this portion of the former range area consists of maintained grassy areas with very few trees. The remainder of the range area (17.9 acres) is wooded. These wooded areas generally lack significant undergrowth and are easily accessible. Most of the ground surface in the wooded areas is covered with leaf litter and fallen limbs/trees.

As noted in the historical records review (HRR), training in the anti-tank rocket/grenade range at Fort Rucker took place from about 1942 to 1952. Since range specific usage dates are not available, the anti-tank rocket/grenade range most likely was used for artillery training during this nine-year period.

In June 2005 the SI was completed and recommended further investigations focused on MEC.

Site data including site size and type are based on the following report: Draft Munitions and Explosives of Concern RCRA RFI and CMS FTRU-001-R-01 Anti-Tank/Rocket Grenade Range, FTRU-003-R-01 Infiltration/Grenade Range, Fort Rucker, Alabama, dated September 2012. In September 2012 a PBA to perform a time critical removal action (TCRA) was awarded. The TCRA included surface removal of MEC in all undeveloped areas and subsurface removal of MEC to depth of detection in all developed areas of AT-RGR. Field activities for the TCRA ended in November 2014.

Planned actions at this site will be the design and contract award to install signage in developed areas and LUCs in undeveloped areas of the munitions response site (MRS) and to conduct five-year reviews.

### **CLEANUP/EXIT STRATEGY**

The RFI/CMS was awarded through a PBA contract in FY09 and is underway. The RFI was scheduled to be complete in FY14; however, ADEM has not approved the RFI and funds for the PBA contract have expired. Because of the large number of UXO discovered as part of the RFI, a TCRA was recommended. All field activities of the TCRA have been completed. The Army has prepared a corrective action implementation (construction) [CMI(C)] estimate based on information in the draft RFI. The recommended final remedy for this site will be periodic reviews and LUCs.

# Site ID: FTRU-003-R-01

Site Name: INFILTRATION/GRENADE RANGE

Alias: AOC-X



Regulatory Driver: RCRA

MRSPP Score: 03

Contaminants of Concern: Munitions and explosives of

concern (MEC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	200202	200305
CS	200309	200506
RFI/CMS	200810	201512
DES	201601	201609
CMI(C)	201610	201709
LTM	202209	204709

RIP Date: N/A RC Date: 201709

### SITE DESCRIPTION

The infiltration/grenade range is adjacent to, but not contiguous with, the anti-tank rocket/grenade range. Much of the former range area is currently used as a golf driving range and occupies some 47.9 acres (rounded to 48 acres) of other than operational range designated area. A previous estimate of the area covered by this site (76.3 acres) was shown to be incorrect because it did not take into account overlapping portions of the individual ranges. The range is made up of three distinct sub-sites: infiltration range no. 2, grenade range no. 1, and the rifle grenade fragmentation range.

The 36.6 acres of the former range area consists of mowed and maintained grassy areas that are used as a driving range and as part of the equestrian center. The remainder of the range area (11.3 acres) is wooded. The wooded areas are generally relatively thick with meandering horse trails. Most of the ground surface in the wooded areas is covered with leaf or pine needle litter.

In June 2005 the SI was completed and recommended further investigations focused on MEC. Site data including site size and type are based on the draft RFI and CMS reports for sites FTRU-001-R-01 Anti-Tank/Rocket Grenade Range and FTRU-003-R-01 Infiltration/Grenade Range dated September 2012.

Planned actions at this site will be the design and contract award to perform surface removal of MEC/material presenting a potential explosive hazard (MPPEH) and LUCs in developed and undeveloped areas of the MRS and to conduct five-year reviews.

### **CLEANUP/EXIT STRATEGY**

The RFI/CMS was awarded through a PBA contract in FY09 and is underway. The RFI was scheduled to be complete in FY14; however, ADEM has not approved the RFI report and funds for the PBA are now expired. The Army has prepared a CMI(C) estimate based on information in the draft RFI.

The recommended final remedy for this site will be surface removal of all MEC/MPPEH in all areas of FTRU-003-R-01, periodic reviews and LUCs.

# **Site Closeout (No Further Action) Summary**

Site ID	Site Name	NFA Date	Documentation
FTRU-002-R-	LAKE THOLOCCO PISTOL RANGE	200506	Not eligible for ER,A/Base Realignment
01			and Closure (BRAC) Funding
FTRU-004-R-	.22 CALIBER TARGET BUTT	201405	
01			
FTRU-005-R-	A-Grenade and Bayonet Court	200506	SI dated June 2005 identified the site for
01			NFA with state concurrence.
FTRU-006-R-	B-Grenade and Bayonet Court	200506	SI dated June 2005 identified the site for
01			NFA with state concurrence.
FTRU-007-R-	C-Grenade and Bayonet Court	200506	SI dated June 2005 identified the site for
01			NFA with state concurrence.

## **MMRP Schedule**

#### Date of MMRP Inception 200202

#### **Past Phase Completion Milestones**

2003

PA (FTRU-002-R-01 - LAKE THOLOCCO PISTOL RANGE, FTRU-005-R-01 - A-Grenade and Bayonet Court, FTRU-006-R-01 - B-Grenade and Bayonet Court, FTRU-007-R-01 - C-Grenade and Bayonet Court)

RFA (FTRU-001-R-01 - ANTI-TANK ROCKET/GRENADE RANGE, FTRU-003-R-01 - INFILTRATION/GRENADE

RANGE, FTRU-004-R-01 - .22 CALIBER TARGET BUTT)

2005

CS (FTRU-001-R-01 - ANTI-TANK ROCKET/GRENADE RANGE, FTRU-003-R-01 - INFILTRATION/GRENADE

RANGE, FTRU-004-R-01 - .22 CALIBER TARGET BUTT)

SI (FTRU-002-R-01 - LAKE THOLOCCO PISTOL RANGE, FTRU-005-R-01 - A-Grenade and Bayonet Court,

FTRU-006-R-01 - B-Grenade and Bayonet Court, FTRU-007-R-01 - C-Grenade and Bayonet Court)

2014

RFI/CMS (FTRU-004-R-01 - .22 CALIBER TARGET BUTT)

#### **Projected Phase Completion Milestones**

See attached schedule

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

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

Final RA(C) Completion Date: 201709

Schedule for Next Five-Year Review: 2016

Estimated Completion Date of MMRP at Installation (including LTM phase): 204709

## **FORT RUCKER MMRP Schedule**

							= phase u	ınderway
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTRU-001-R-01	ANTI-TANK ROCKET/GRENADE	RFI/CMS						
RANGE	DES							
	CMI(C)							
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FTRU-003-R-01	INFILTRATION/GRENADE RANGE	RFI/CMS						
	DES							
	CMI(C)							
		LTM						

## **FORT RUCKER**

Army Defense Environmental Restoration Program Compliance Restoration

## **CR Summary**

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 1/0

Installation Site Types with Future and/or Underway Phases

1 Surface Disposal Area (CC AOC-A1)

**Most Widespread Contaminants of Concern** 

Volatiles (VOC)

**Media of Concern** 

Soil

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

Site ID Site Name Action Remedy FY

N/A

**Duration of CR** 

Date of CR Inception: 198906

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201510/201510

Date of CR completion including Long Term Management (LTM): 201510

## **CR Contamination Assessment**

#### **Contamination Assessment Overview**

Environmental restoration activities include the IRP and MMRP. On Dec. 29, 2008, the Office of the Deputy Under Secretary of Defense for Installations and Environment, ODUSD(I&E), issued an interim policy for DERP eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's Compliance-related Cleanup (CC) program eligible for the DERP. Sites that are now eligible for the Munitions Response (MR) program have been migrated from Army Environmental Database-Compliance-related Cleanup (AEDB-CC) and given the naming convention of other MR sites. The newly eligible non-MR type sites are considered to be Installation Restoration (IR) sites; however, the newly eligible sites are being coded as Compliance Restoration (CR) in AEDB-R to distinguish them from the original IR sites and IR metrics.

#### **Cleanup Exit Strategy**

A PBA to perform an RFI was awarded in 2013 for CC AOC A1. The draft RFI was submitted to ADEM in February 2015.

# **CR Previous Studies**

Title Author Date

There are no Previous Studies

## **FORT RUCKER**

Compliance Restoration
Site Descriptions

### Site ID: CC AOC-A1

### **Site Name: Buried Debris Behind Primary School**

Alias: SWMU 97



Regulatory Driver: RCRA

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons

(PAH)

Media of Concern: Soil

Phases	Start	End
RFA	198906	198910
RFI/CMS	201303	201510

RIP Date: N/A RC Date: 201510

### SITE DESCRIPTION

This site is currently the location of Fort Rucker's Primary School. During 2012, Fort Rucker was in the preliminary stages of designing a consolidated school. This school was to be located in the general footprint of the existing primary school once demolished. In a couple of instances in the past during excavations on school grounds, items such as chunks of concrete, bricks, asbestos shingles and other cultural debris have been found. Directly behind the school grounds there is an area that contains a large amount of discarded concrete, old discarded paint cans, pesticide containers, cars, refrigerators, bricks and numerous other items. In the Historical Photo Analysis Report that was produced in 1995, the site is noted as a junkyard in a 1961 aerial photograph. The existing school was constructed in the mid-1970s.

The environmental assessment that was performed for the Consolidated School Project included performance of a geophysical survey using an electromagnetic geophysical instrument, followed by an intrusive subsurface survey. The geophysical survey identified five anomalous zones for further investigation. Four additional locations were recommended for further investigation based on surface observations. The subsurface survey consisted of installing borings in these selected areas to identify any buried debris or contaminates.

Debris was observed in six out of 29 soil borings and samples for laboratory analysis were collected from four of the borings. Concentrations for arsenic exceeded USEPA's residential screening levels (RSL) and the ADEM's preliminary screening values (PSV) for residential soil in each of the four samples. However, the concentration for arsenic was below or equal to the background concentration established for Fort Rucker. The total chromium concentration in each of the samples exceeded the RSLs and PSVs for hexavalent chromium but was several orders of magnitude below the RSLs for trivalent chromium. The analysis did not distinguish between trivalent and hexavalent chromium. Aluminum, arsenic, iron and vanadium exceeded the PSVs in each of the four samples. Multiple SVOCs were detected in the samples, five of which exceeded the RSLs and PSVs for residential soil (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a, h)antracene and indeno(1,2,3-cd)pyrene.

On Oct. 29, 2012, in accordance with Fort Rucker's corrective action permit, Section III.C.1, the subsurface survey report was submitted to the ADEM for review. In a letter dated Feb. 6, 2013, ADEM requested that Fort Rucker perform an RFI to determine the nature and extent of contamination and submit an RFI report within 180 days. A PBA for the RFI was awarded in August 2013.

This is a fully funded site.

### **CLEANUP/EXIT STRATEGY**

A PBA to perform an RFI was awarded in 2013. The draft RFI was submitted to ADEM in February 2015.

# Site Closeout (No Further Action) Summary

Site ID Site Name

There are no NFA sites

NFA Date Documentation

## **CR Schedule**

Date of CR Inception: 198906

**Past Phase Completion Milestones** 

1990

RFA (CC AOC-A1 - Buried Debris Behind Primary School)

**Projected Phase Completion Milestones** 

See attached schedule

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

To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2016

Estimated Completion Date of CR at Installation (including LTM phase): 201510

## **FORT RUCKER CR Schedule**

					= phase under			nderway
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CC AOC-A1	Buried Debris Behind Primary School	RFI/CMS						

## **Community Involvement**

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201206

Restoration Advisory Board (RAB): No

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

Community Interest Solicited on: 201202

**Efforts Taken to Determine Interest** 

In 2008, 2009, 2010 and 2012, notices were placed in local newspapers to solicit interest in establishing a RAB. The notices informed the public of the role of the RABs and have a 30-day window of opportunity to reply.

Results

No public interest was expressed at that time.

**Follow-up Procedures** 

A community involvement plan was developed in 2012.

#### **Additional Community Involvement Information**

N/A

#### Administrative Record is located at

US Army Aviation Warfighting Center Building 1121 Fort Rucker, AL 334-255-1652

#### Information Repository is located at

The Daleville Public Library 3088 Donnell Boulevard Daleville, Alabama

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

TAPP Title: N/A

Potential TAPP: N/A