

FY2013

FORT MCCOY

Army Defense Environmental Restoration Program

Installation Action Plan

Printed 24 September 2013

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Statement of Purpose

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

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

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

Acronyms

AEDB-R	Army Environmental Database-Restoration
AOC	Area of Concern
ARIMD	Army Reserve Installation Management Directorate
AS SVE	Air Sparging/Soil Vapor Extraction
CA	Corrective Action
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operation)
CMS	Corrective Measures Study
CS	Confirmatory Sampling
DD	Decision Document
DDT	4,4-Dichloro-Diphenyl-Trichloroethane
DERP	Defense Environmental Restoration Program
DES	Design
DoD	Department of Defense
DoDM	Department of Defense Management Manual
ECS	Equipment Concentration Site
EOD	Explosive Ordnance Disposal
ER,A	Environmental Restoration, Army
FRA	Final Removal Action
FS	Feasibility Study
FTBP	Fire Training Burn Pit
FY	Fiscal Year
GIS	Geographic Information System
GWM	Groundwater Monitoring
IAP	Installation Action Plan
IM	Interim Measure
IMCOM	Installation Management Command
IRA	Interim Removal Action
IRP	Installation Restoration Program
K	thousand
LF	Landfill
LTM	Long-Term Management
LUC	Land Use Control
N/A	Not Applicable
NFA	No Further Action
NPL	National Priorities List
O3	Ozone
ORD	Ordnance
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
POL	Petroleum, Oil and Lubricants
RA	Remedial Action

Acronyms

RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TRC	Technical Review Committee
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USEPA	US Environmental Protection Agency
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WDNR	Wisconsin Department of Natural Resources

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)

Installation Information

Installation Locale

Installation Size (Acreage): 59778

City: Fort McCoy

County: Monroe

State: Wisconsin

Other Locale Information

Fort McCoy is located in Monroe County in the southwestern quarter of Wisconsin. The installation consists of 59,778 acres, occupying part of six townships in Monroe County and is roughly 14 miles long and seven miles wide. The principal towns in Monroe County are Sparta (population 9,522) and Tomah (population 9,169), which are located seven miles southwest and southeast of Fort McCoy, respectively. The city of LaCrosse, Wisconsin, the nearest major city (population 51,719) is located about 35 miles to the west. The installation is divided into north and south post by Wisconsin Highway 21, with US Highway 16, Interstate 90, and two railroad lines crossing east-west on the southern portion of the installation.

Installation Mission

Fort McCoy is a US Army training support installation. Fort McCoy's primary mission is to provide training support services for the reserve and active components of all branches of the military services. The installation serves as a support installation for the needs of military training units and the post's tenant activities. The fort provides military pay services. In addition to the Garrison, Department of Defense (DoD), US Army, and state tenants perform a variety of missions on and off post.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

USAEC

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region 5, Waste Management Branch
State	Wisconsin Department of Natural Resources (WDNR), Remediation and Redevelopment Program & Bureau of Solid Waste

National Priorities List (NPL) Status

FORT MCCOY is not on the NPL

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

Installation at RIP/RC.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	200209	200209	2002
Planned	201801	201809	2018

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
LANDFILL #5	FTMC-04

Results This review was created prior to results being required for completed five year reviews.

Actions This review was created prior to actions being required for completed five year reviews.

Plans This review was created prior to plans being required for completed five year reviews.

Recommendations and Implementation Plans:

All of the RA sites at Fort McCoy are either managed under a USEPA Resource Conservation and Recovery Act (RCRA) permit or under state of Wisconsin regulations. None of the sites are managed under Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). Neither the USEPA RCRA permit nor the applicable state of Wisconsin regulations specify the need for five-year reviews for the closed sites at Fort McCoy. Therefore, five-year reviews are not currently planned for Fort McCoy's closed sites which have waste in place and have not reached unrestricted use/unrestricted exposure as required by the 2012 Defense Environmental Restoration Program (DERP) Department of Defense Management Manual (DoDM 4715.20).

Land Use Control (LUC) Summary

LUC Title: Fire Training Pit 2

Site(s): FTMC-10

ROD/DD Title: FIRE TRAINING PIT # 2

Location of LUC

FTP 2 is located within the boundaries of the Fort McCoy/ Sparta airport. This site is mapped and available in a layer of the Installation Geographic Information System (GIS) shared data.

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

Types of Engineering Controls: Fences

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Restrictions on land use, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: VOC

Additional Information

N/A

LUC Title: Landfill 3/grit area

Site(s): FTMC-02

ROD/DD Title: LANDFILL #3/GRIT AREA

Location of LUC

Closed landfill 3/grit area are located within the boundaries of the Fort McCoy military reservation. These sites are mapped and available in a layer of the Installation GIS shared data.

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

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: METALS, ORGANICS

Additional Information

N/A

Land Use Control (LUC) Summary

LUC Title: Active EOD

Site(s): FTMC-07

ROD/DD Title: ACTIVE EXPLOSIVE ORD DEMOLITION SITE

Location of LUC

The Active Explosive Ordnance Disposal (EOD) Site is located within the impact area of the Fort McCoy military reservation. This site is mapped and available as a layer of the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200310

LUC Enforcement: Other

Contaminants: NITRATE/NITRITE, Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: Inactive EOD

Site(s): FTMC-08

ROD/DD Title: ABANDONED EXPLOSIVE ORD DEMOLITON SITE

Location of LUC

The Abandoned EOD Site is located within the impact area of the Fort McCoy military reservation. This site is mapped and available as a layer in the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Sites.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200310

LUC Enforcement: Other

Contaminants: NITRATE/NITRITE, Unexploded Ordnance(UXO)

Additional Information

N/A

Land Use Control (LUC) Summary

LUC Title: Landfill #8

Site(s): FTMC-13

ROD/DD Title: CLOSED LANDFILL # 8

Location of LUC

Landfill #8 is located just north of Buckley Court Road inside the Fort McCoy military reservation boundary. This site is mapped and available in a layer on the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 200308

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200310

LUC Enforcement: Other

Contaminants: METALS

Additional Information

N/A

LUC Title: Landfill #9

Site(s): FTMC-14

ROD/DD Title: CLOSED LANDFILL # 9

Location of LUC

This landfill is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer on the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

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

Types of Engineering Controls: None

Types of Institutional Controls: Zoning

Date in Place: 200307

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200307

LUC Enforcement: Other

Contaminants: METALS

Additional Information

N/A

Land Use Control (LUC) Summary

LUC Title: Landfill 2

Site(s): FTMC-01

ROD/DD Title: LANDFILL #2

Location of LUC

Closed landfill 2 is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer of the Installation GIS shared data.

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

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: METALS

Additional Information

N/A

LUC Title: Landfill 4

Site(s): FTMC-03

ROD/DD Title: LANDFILL #4

Location of LUC

Closed landfill 4 is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer of the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

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

Types of Engineering Controls: Fences

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: METALS

Additional Information

N/A

Land Use Control (LUC) Summary

LUC Title: Landfill 5

Site(s): FTMC-04

ROD/DD Title: LANDFILL #5

Location of LUC

Closed landfill 5 is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer of the Installation GIS shared data.

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

Types of Engineering Controls: Fences

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199110

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: METALS, NITRATE/NITRITE, PETROLEUM HYDROCARBON, VOC

Additional Information

N/A

LUC Title: Landfill 7

Site(s): FTMC-12

ROD/DD Title: LANDFILL #7

Location of LUC

Closed landfill 7 is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer of the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: Fences

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: METALS

Additional Information

N/A

Land Use Control (LUC) Summary

LUC Title: Pesticide Disposal Site

Site(s): FTMC-06

ROD/DD Title: PESTICIDE DISPOSAL SITE

Location of LUC

The pesticide disposal site is located within the boundaries of the Fort McCoy military reservation. This site is mapped and available in a layer of the Installation GIS shared data. The site is also listed on the WDNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites.

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

Types of Engineering Controls: Fences

Types of Institutional Controls: Restrictions on Groundwater Withdrawal, Zoning

Date in Place: 199709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Other

Contaminants: PESTICIDES

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

Fort McCoy began in 1909 as a military post in an area south of Highway 21. The onset of World War II precipitated intensive preparation efforts. During the early-1940s, the current cantonment area was constructed and additional acreage north of Highway 21 was added to the installation. Fort McCoy is currently a total force training center and has provided training support for over 100,000 personnel annually since 1985.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Long-term management (LTM) will continue at FTMCO1, FTMC04 and FTMCO9.

Future Plan of Action: The LTM will continue at Landfills (LF) Nos. 2 and 5 (FTMC-01 and FTMC-04), and at FTP-1 (FTMC-09). Closeout strategies for LF No. 2 and FTP-1 will be evaluated with the USEPA and the WDNR during fiscal year (FY)13.

FORT MCCOY
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 15/12

Installation Site Types with Future and/or Underway Phases

- 1 Fire/Crash Training Area
(FTMC-09)
- 2 Landfill
(FTMC-01, FTMC-04)

Most Widespread Contaminants of Concern

Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
FTMC-04	CLOSED SANITARY LANDFILL #5	FRA	CAPPING	1996
FTMC-05	LANDFILL #6	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1996
FTMC-10	FIRE TRAINING PIT #2	FRA	WASTE REMOVAL - SOILS	1996
FTMC-06	PESTICIDE DISPOSAL SITE	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1997
FTMC-13	CLOSED LANDFILL 8	FRA	WASTE REMOVAL - SOILS	1997
FTMC-14	CLOSED LANDFILL 9	FRA	WASTE REMOVAL - SOILS	1997
FTMC-15	CLOSED LANDFILL 10	FRA	WASTE REMOVAL - SOILS	1997
FTMC-01	LANDFILL #2	FRA	CAPPING	1998
FTMC-09	FIRE TRAINING PIT #1	FRA	IN-SITU SOIL TREATMENT	2003
FTMC-09	FIRE TRAINING PIT #1	FRA	REMOVAL	2006

Duration of IRP

Date of IRP Inception: 198704

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 200609/200609

Date of IRP completion including Long Term Management (LTM): 204209

IRP Contamination Assessment

Contamination Assessment Overview

In 1987, a RCRA facility assessment (RFA) was conducted at the installation. The RFA identified several facilities that required additional investigation. Fort McCoy formerly operated a hazardous waste management facility jointly permitted by the USEPA and the WDNR under the RCRA for hazardous waste storage. The joint permit identified 11 solid waste management units (SWMU) as needing investigation and possible remediation. An additional four SWMUs have been identified since the permit was issued. Fort McCoy is not on the NPL; therefore, the regulatory driver for this corrective action (remediation) program is the federal portion of the RCRA part B permit (permit for treatment, storage, and/or disposal of hazardous waste). This requires Fort McCoy to meet the closure requirements of the RCRA part B permit rather than the CERCLA requirements. Fort McCoy also had a RCRA subpart X permit for treatment of explosive ordnance, but closed the treatment pit in June 1999. The subpart X permit was utilized for disposing of unexploded ordnance (UXO) that could not otherwise be utilized for training purposes. After identifying less expensive and safer disposal options, the installation subsequently closed its subpart X permit. In addition, the part B permit expired on June 29, 2000. After evaluating disposal/treatment options, as well as environmental liability issues, the installation decided not to renew the part B permit. The part B storage unit received closure on Sept. 19, 2000.

The Fort McCoy SWMUs include 10 landfills (one was investigated, but not substantiated), two explosive ordnance disposal (EOD) sites, two fire training pits, and a pesticide disposal site. Remedial investigations (RI) began in 1991 with a preliminary study of current site conditions and planning for the actual field investigation of the 10 SWMUs. Results identified localized soil and groundwater contamination. In the early 1990's, LF No. 6 was remediated by complete removal prior to construction of the central vehicle washrack and no further investigation was conducted at this site. One additional SWMU was added to the study during the summer of 1992. Four additional sites were added to the study in the summer of 1993, for a total of 15 SWMUs to be studied. The initial field investigation occurred in April and May 1992. Follow-up fieldwork occurred from October through November 1992, May through July 1993, and November through December 1993. In 1995, a feasibility study (FS) was conducted recommending RAs at six SWMUs. In September 1997, Fort McCoy received a modification to the subpart B permit incorporating the recommendations from the FS. FTBP-1 was intentionally left out of the 1997 modification to the RCRA part B permit due to the need for further study and RA development. In August 2001, Fort McCoy received another modification to the permit requiring RAs at FTBP-1; these were performed in September 2001.

In 2003, regulatory approval was obtained for closing the two EOD sites, Fire Training Burn Pit 2, and Closed LF Nos. 8 and 10. Closure of LF Nos. 7 and 9, and the pesticide disposal site was achieved in 2008. Landfill Nos. 3 and 4 were closed during 2012 and the monitoring wells were abandoned.

Three Installation Restoration Program (IRP) sites remain open at Fort McCoy [FTMC-01 (Landfill No. 2), FTMC-04 (Landfill No. 5), and FTMC-09 (Fire Training Pit No. 1)]. LTM is being conducted semiannually at these sites under the current performance-based acquisition (PBA). Current condition reports for FTMC01 and FTMC09 were submitted to the regulators in 2012. These reports will provide a basis for negotiating closure options with the regulators. During FY11, approval was obtained to discontinue monitoring two of the wells at Landfill No. 5. Those two wells were abandoned during FY12.

Cleanup Exit Strategy

LTM will continue at LF Nos. 2 and 5 (FTMC-01 and FTMC-04), and at FTBP-1 (FTMC-09) until the regulators approve closure.

IRP Previous Studies

Year	Title	Author	Date
1990	Fort McCoy RCRA Permit	Fort McCoy	JUN-1990
1995	Final RCRA Facility Investigation Report/Addendum	Rust Environment & Infrastructure	FEB-1995
	Final Work Plan Air Sparging/Soil Vapor Extraction Pilot Study	Rust Environment & Infrastructure	APR-1995
	Revised Draft Corrective Measure Study Report, Fort McCoy, WI	Rust Environment & Infrastructure	AUG-1995
	Draft Final Report for the Fire Training Burn Pit #2 at Fort McCoy, Monroe County, Wisconsin	OHM Remediation Services Corp	AUG-1995
	Operation Plan for Excavation and Sampling/Activities for Landfill Sites #8, #9, and #10 at Fort McCoy, WI	Sonag Company Inc.	SEP-1995
1996	Revised Draft Corrective Measure Study Report Fort McCoy, WI	Rust Environment & Infrastructure	MAR-1996
	Draft Air Sparging/Soil Vapor Extraction Treatability Study Report at Fort McCoy, Monroe County, Wisconsin	Rust Environment & Infrastructure	JUL-1996
	Draft Final Closure Report for Landfills #8, #9, and #10 at Fort McCoy, Monroe County, Wisconsin	Sonag Company Inc.	SEP-1996
	Draft Final Closure Report for Landfills #8, #9, and #10 at Fort McCoy, Monroe County, Wisconsin	Sonag Company Inc.	OCT-1996
1997	Ft McCoy 1997 RCRA Permit Modification	Fort McCoy	SEP-1997
1998	Final Remedial Design Submittal for Closed Landfill No. 2 Fort McCoy, WI	Rust Environment & Infrastructure	FEB-1998
1999	Former Fire Training Burn Pit #1 Draft Remedial Action Plan	Earthtech	JAN-1999
	Corrective Measures Study Addendum Report, Former Fire Training Pit 1, Fort McCoy, Wisconsin	Earthtech	DEC-1999
2001	Final Construction Report, Capping of Closed Landfill #2, Fort McCoy	CET Environmental Services, Inc.	APR-2001
	Former Fire Training Burn Pit #1 Draft Contract Documents for In Situ Remediation	Earthtech	MAY-2001
2005	Closed Landfill 5 4 EVENTS VOA DETECT TABLE	Kemron Environmental Services	JAN-2005
	Closed Landfill 5 4 Events PAL ES Exceedences	Kemron Environmental Services	JAN-2005
2007	PDA Human Health Risk Evaluation	Kemron Environmental Services	NOV-2007
	PDA Cover Letter to Bob Egan	Kemron Environmental Services	NOV-2007
2008	Landfill 7 WDNR Concurrence Letter	Wisconsin Department of Natural Resources	JAN-2008

IRP Previous Studies

Year	Title	Author	Date
2008	Closed Landfill 4 Closeout Application Request	Kemron Environmental Services	MAR-2008
	Final Fire Training Burn Pit 1 AS SVE Abandonment Report	Kemron Environmental Services	APR-2008
	PDA Exhibits 1A-1F	Kemron Environmental Services	APR-2008
	PDA Table 1	Kemron Environmental Services	APR-2008
	PDA Table 2 Revised	Kemron Environmental Services	APR-2008
	Closed Landfill 3 Closeout Application Request	Kemron Environmental Services	MAY-2008
2009	October 2008 Sampling Event Report for Closed Landfills 2, 5 and Fire Training Burn Pit 1	KEMRON Environmental Services	JAN-2009
	April 2009 Sampling Event Report for Closed Landfills 2, 5 and Fire Training Burn Pit 1	KEMRON Environmental Services	MAY-2009
	October 2009 Sampling Event Report for Closed Landfills 2, 3, 4, 5 and Fire Training Burn Pit 1	Endpoint Solutions, LLC	NOV-2009
2010	April 2010 Sampling Event Report for Closed Landfills 2, 3, 4, 5 and Fire Training Burn Pit 1	Endpoint Solutions, LLC	APR-2010
	November 2010 Sampling Event Closed Landfills 2, 5 and Fire Training Burn Pit 1	BT2	NOV-2010
2011	April 2011 Sampling Event Reports for Closed Landfills 2, 5 and Fire Training Burn Pit 1	Craig Bartholomew/PEC	JUN-2011
	Fort McCoy Landfill 5 (License #02820) Plan Modification	Fort McCoy	OCT-2011
	October 2011 Sampling Event Report for Closed Landfills 2, 5 and Fire Training Burn Pit 1	Craig Bartholomew/PEC	DEC-2011
2012	April 2012 Sampling event for Closed Landfills 2 and 5 (FTMC01 and FTMC04) and Fire Training Burn Pit 1 (FTMC09).	Craig O. Bartholomew and PEC.	JUN-2012
	Closed Fire Training Burn Pit #1 Current Conditions Report	Craig O. Bartholomew	OCT-2012
	Closed Landfill 2 Current Conditions Report	Craig O. Bartholomew	OCT-2012
	October 2012 Sampling event for Closed Landfills 2 and 5 (FTMC01 and FTMC04) and Fire Training Burn Pit 1 (FTMC09).	Craig O. Bartholomew and PEC.	DEC-2012

FORT MCCOY
Installation Restoration Program
Site Descriptions

Site ID: FTMC-01
Site Name: LANDFILL #2

STATUS

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

Phases	Start	End
RFA.....	198704.....	198704
CS.....	198704.....	198704
RFI/CMS.....	199010.....	199610
DES.....	199702.....	199802
CMI(C).....	199807.....	199809
LTM.....	199811.....	201609
RIP Date:	N/A	
RC Date:	199811	

SITE DESCRIPTION

Closed LF No. 2 was reportedly used between 1942 and 1945 to dispose of demolition wastes, incinerator ash, and other non-recyclable materials. Results of the RCRA Facilities Investigation (RFI) conducted in 1992 and 1993 indicated that the landfill waste had impacted groundwater beneath the site. In 1996 a corrective measures study (CMS) was conducted at the site. During that study it was determined that as a portion of the waste at Closed Landfill 2 is present beneath the water table, the clay cap traditionally required by the regulations would not significantly reduce the potential for groundwater to leach contaminants from the waste materials. It was further determined that a soil cover would meet the objectives of preventing direct contact and minimizing the potential for erosion of waste material. In 1997, the USEPA issued the final modification to the Fort McCoy RCRA permit. In this modification, the USEPA required Fort McCoy to install a soil cap over the landfill wastes. Installation of the required soil cap occurred during 1998. Establishing adequate vegetative cover was challenging and required approximately four years with annual re-seeding efforts. The storm water permit was closed in August 2002 after the site achieved sufficient vegetative cover. This site was included in the initial PBA and in the USEPA RCRA permit. The final sampling round under the initial PBA occurred in April and May 2009. Four monitoring wells were replaced in FY10.

Fort McCoy is also evaluating the potential of installing a photovoltaic array over the landfill cap to produce renewable energy.

CLEANUP/EXIT STRATEGY

In 2012, the installation submitted a current conditions report to the WDNR and USEPA which summarizes all monitoring to date and defines current conditions at the site. This report will be utilized as a basis to evaluate closure options with both regulatory agencies during 2013. Although some groundwater contamination has been caused by the waste, the risks to human health and the environment are well defined and minimal, and continue to decrease. Aquatic populations in the La Crosse River are not being negatively impacted, but are thriving. No drinking water wells are located between LF No. 2 and the downgradient installation boundary 0.65 miles west of the landfill. The site is essentially ready to close at this time. Groundwater monitoring (GWM) will need to continue until agreement is reached with the regulators to close the site. Fort McCoy anticipates that up to three years may be required to complete the closure negotiations with the regulators. Therefore, pending a closure strategy agreement, LTM in the form of GWM is anticipated to continue through at least FY16. A five-year review is being conducted during FY13. Following site closure Fort McCoy personnel will continue to perform the required annual cap inspection and maintenance. The USEPA RCRA permit that covers this site does not include a requirement for conducting ongoing five-year reviews following site closure.

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Metals, Nitrate/Nitrite, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198704.....	198704
CS.....	198704.....	198704
RFI/CMS.....	199001.....	199609
CMI(C).....	199010.....	199609
LTM.....	199709.....	204209

RIP Date: N/A

RC Date: 199709

SITE DESCRIPTION

Landfill No. 5 is 3,000 feet north-northeast of the equipment concentration site (ECS) building. The landfill was used from 1965 to 1989 and was operated by the trench and fill method.

Groundwater monitoring began at the site in 1980 and continues today. Results of GWM indicate that the waste has impacted groundwater beneath and downgradient of the landfill.

A petroleum, oil, and lubricants (POL) disposal area was located north of the landfill entrance road. In 1990, soils in the POL disposal area were excavated and thermally treated. Other wastes and debris stockpiled and disposed of at the landfill include scrap lumber, creosote-treated lumber, animal carcasses, coal slag, asbestos, concertina wire, porcelain fixtures, dead trees, brush, and roofing material. In accordance with WDNR regulatory requirements, the landfill was capped in 1991 with two feet of clay, one foot of native soils, and six inches of topsoil, and was seeded with grass. Thirteen monitoring wells were installed around the landfill. Groundwater monitoring continues at this SWMU under state solid waste authority. A five-year review is being conducted during FY13.

CLEANUP/EXIT STRATEGY

During 2011, a plan modification was prepared and approved by the WDNR for discontinuing monitoring at two of the wells and removing those two monitoring wells. The wells were removed during 2012. WDNR regulations require that GWM continue for a minimum of 30 years following installation of the cap. If concentrations of constituents of concern continue to exceed state standards following the initial 30 years of monitoring, the WDNR will require that GWM be continued. As concentrations of constituents of concern in groundwater are currently above state standards and decreasing very slowly, it is anticipated that monitoring will be required to continue through FY42.

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA.....	198704.....	198704
CS.....	198704.....	198704
RFI/CMS.....	199010.....	200003
DES.....	200003.....	200006
CMI(C).....	200009.....	200609
LTM.....	200609.....	201609

RIP Date: N/A

RC Date: 200609

SITE DESCRIPTION

Fire Training Pit No. 1 is located southwest of LF No. 5 within the ECS vehicle parking area. The pit was constructed by excavating soil to a depth of approximately three feet and a diameter of approximately 40 feet. Training consisted of filling the pits with a layer of water and fuel and igniting the fuel layer. The fire fighters would extinguish and re-ignite the fuel repeatedly until all the fuel had been consumed. In 1983, soil was removed from the pit and the pit was lined with a plastic liner and clay and backfilled with sand. A one-foot-thick clay berm was installed around the edge of the pit. In 1987, the pit was graded flat. In May 1987, the US Army Environmental Hygiene Agency (USAEHA) conducted an investigation of the soil contamination at the site. Contamination from VOCs, petroleum compounds, and metals was found in the soil and the groundwater. An air sparging/soil vapor extraction pilot study was conducted and reduced groundwater contamination during operation. However, as the contaminant mass remained in place, levels rebounded following the pilot study.

An ozone (O3) injection pilot study was also conducted. Testing indicated that O3 injection was ineffective. The RA plan underwent public review during FY01. Soil treatment, in the form of nutrient injection to increase microbial breakdown of the contaminants, was initiated in September 2001 and completed in 2004. The initial PBA contractor conducted confirmatory sampling (CS) that indicated the treatment had worked except one small area. That area was removed by excavation in summer 2006.

This site was included in the USEPA RCRA permit. The final sampling round, under the original PBA, occurred in April and May 2009 and was followed by a ramp-down strategy proposed to the USEPA and the WDNR. Semiannual monitoring continues at the site under a separate PBA.

CLEANUP/EXIT STRATEGY

During FY12, the installation submitted a current condition report to the USEPA and the WDNR that summarizes all monitoring conducted at the site and defines current site conditions. This report will be utilized as a basis to discuss closure options with the regulators during FY13. Although groundwater contamination has been caused by the former fire training activities, the risks to human health and the environment are well defined and minimal. The site is essentially ready to be closed. The downgradient plume margin has shown some fluctuation throughout nearly 20 years of GWM. However, that margin has not extended more than 685 feet downgradient of the former pit. This is approximately two miles from the installation boundary and 1.4 miles upgradient of the nearest downgradient potable well located on the installation. Due to the fact that the source of groundwater impacts has been removed, the downgradient plume margin will continue to recede. There are no completed exposure pathways. No groundwater contamination is flowing off the installation. The risk of site contaminants ever migrating beyond the Fort McCoy property boundary, located approximately two miles away, is minimal.

LTM in the form of GWM will need to continue until agreement is reach with the regulators to close the site. Fort McCoy anticipates that up to three years may be required to complete closure negotiations with the regulators. Pending potential site closure, LTM is

Site ID: FTMC-09
Site Name: FIRE TRAINING PIT #1

anticipated to continue at least through FY16. A five-year review is being conducted during FY13. The USEPA RCRA permit that covers this site does not include a requirement for conducting ongoing five-year reviews following site closure.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FTMC-02	LANDFILL #3	201106	USEPA approval to discontinue monitoring and abandon the wells was sent on 12/16/11. WDNR conditional closure, requiring well abandonment was sent on 12/19/11.
FTMC-03	LANDFILL #4	201106	USEPA approval to discontinue monitoring and abandon the wells was sent on 12/16/11. WDNR conditional closure requiring well abandonment was sent on 12/9/11.
FTMC-05	LANDFILL #6	199709	26 June 1990 Closure Plan approval from WDNR
FTMC-06	PESTICIDE DISPOSAL SITE	200809	WDNR Final Closure Letter dated 12/1/08
FTMC-07	ACTIVE EXPLOSIVE ORD DEMOLITION SITE	199609	29 Oct 2003 closure letter from WDNR
FTMC-08	ABANDONED EXPLOSIVE ORD DEMOLITON SITE	200310	22 Oct 2003 closure letter from WDNR
FTMC-10	FIRE TRAINING PIT #2	200310	27 Oct 2003 closure letter from WDNR
FTMC-11	CLOSED LANDFILL X	199506	No Further Action (NFA) letter from USEPA in 1997.
FTMC-12	CLOSED LANDFILL 7	200609	2 Dec 2008 closure letter from WDNR
FTMC-13	CLOSED LANDFILL 8	200310	28 Oct 2003 closure letter from WDNR
FTMC-14	CLOSED LANDFILL 9	200310	29 Oct 2003 closure letter from WDNR
FTMC-15	CLOSED LANDFILL 10	200310	27 Oct 2003 closure letter from WDNR

IRP Schedule

Date of IRP Inception: 198704

Past Phase Completion Milestones

1987

CS (FTMC-01 - LANDFILL #2, FTMC-02 - LANDFILL #3, FTMC-03 - LANDFILL #4, FTMC-04 - CLOSED SANITARY LANDFILL #5, FTMC-05 - LANDFILL #6, FTMC-06 - PESTICIDE DISPOSAL SITE, FTMC-07 - ACTIVE EXPLOSIVE ORD DEMOLITION SITE, FTMC-08 - ABANDONED EXPLOSIVE ORD DEMOLITON SITE, FTMC-09 - FIRE TRAINING PIT #1, FTMC-10 - FIRE TRAINING PIT #2, FTMC-11 - CLOSED LANDFILL X)

RFA (FTMC-01 - LANDFILL #2, FTMC-02 - LANDFILL #3, FTMC-03 - LANDFILL #4, FTMC-04 - CLOSED SANITARY LANDFILL #5, FTMC-05 - LANDFILL #6, FTMC-06 - PESTICIDE DISPOSAL SITE, FTMC-07 - ACTIVE EXPLOSIVE ORD DEMOLITION SITE, FTMC-08 - ABANDONED EXPLOSIVE ORD DEMOLITON SITE, FTMC-09 - FIRE TRAINING PIT #1, FTMC-10 - FIRE TRAINING PIT #2, FTMC-11 - CLOSED LANDFILL X)

1993

RFA (FTMC-12 - CLOSED LANDFILL 7, FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

CS (FTMC-12 - CLOSED LANDFILL 7, FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

1995

RFI/CMS (FTMC-11 - CLOSED LANDFILL X, FTMC-12 - CLOSED LANDFILL 7, FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

DES (FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

1996

CMI(C) (FTMC-04 - CLOSED SANITARY LANDFILL #5, FTMC-05 - LANDFILL #6, FTMC-10 - FIRE TRAINING PIT #2)

RFI/CMS (FTMC-02 - LANDFILL #3, FTMC-03 - LANDFILL #4, FTMC-04 - CLOSED SANITARY LANDFILL #5, FTMC-05 - LANDFILL #6, FTMC-07 - ACTIVE EXPLOSIVE ORD DEMOLITION SITE, FTMC-08 - ABANDONED EXPLOSIVE ORD DEMOLITON SITE, FTMC-10 - FIRE TRAINING PIT #2)

1997

CMI(C) (FTMC-06 - PESTICIDE DISPOSAL SITE, FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

RFI/CMS (FTMC-01 - LANDFILL #2, FTMC-06 - PESTICIDE DISPOSAL SITE)

1998

DES (FTMC-01 - LANDFILL #2)

CMI(C) (FTMC-01 - LANDFILL #2)

2000

DES (FTMC-09 - FIRE TRAINING PIT #1)

RFI/CMS (FTMC-09 - FIRE TRAINING PIT #1)

2004

LTM (FTMC-08 - ABANDONED EXPLOSIVE ORD DEMOLITON SITE, FTMC-10 - FIRE TRAINING PIT #2, FTMC-13 - CLOSED LANDFILL 8, FTMC-14 - CLOSED LANDFILL 9, FTMC-15 - CLOSED LANDFILL 10)

2006

LTM (FTMC-12 - CLOSED LANDFILL 7)

CMI(C) (FTMC-09 - FIRE TRAINING PIT #1)

2008

LTM (FTMC-06 - PESTICIDE DISPOSAL SITE)

2011

LTM (FTMC-02 - LANDFILL #3, FTMC-03 - LANDFILL #4)

Projected Phase Completion Milestones

See attached schedule

IRP Schedule

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

Site ID	Site Name	ROD/DD Title	ROD/DD Date
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Final RA(C) Completion Date: 200609

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of IRP at Installation (including LTM phase): 204209

FORT MCCOY IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTMC-01	LANDFILL #2	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTMC-04	CLOSED SANITARY LANDFILL #5	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTMC-09	FIRE TRAINING PIT #1	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 199302

Restoration Advisory Board (RAB): No

Reason Not Established: Installation at RIP/RC.

Additional Community Involvement Information

At one time a site-specific advisory board was active at Fort McCoy, but it has been dissolved.

The Fort McCoy Environmental Division Chief, in conjunction with the USEPA project manager, has determined that a RAB is not necessary. All corrective actions have been made and the project is in the LTM phase. Furthermore, no contamination is migrating off the installation.

Due to the fact that remediation is complete or a remedy is in place at each of the Fort McCoy sites, there is no current need for community involvement.

Administrative Record is located at

Fort McCoy
Environmental Division, Building 2171
Fort McCoy, Wisconsin 54656
608.388.4776

Information Repository is located at

Fort McCoy
Environmental Division, Building 2171
Fort McCoy, Wisconsin 54656
608.388.4776

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

TAPP Title: N/A

Potential TAPP: N/A

