FY2013

FORT GEORGE G MEADE

Army Defense Environmental Restoration Program

Installation Action Plan

Printed 03 July 2014

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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, as directed in the Army Defense Environmental Restoration Program (DERP) Management Guidance for Active and BRAC Installation (2004). 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 George G. Meade (FGGM), 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
AOI	Area of Interest
AS/SVE	Air sparging/soil vapor extraction
ASP	Ammunition Supply Point
AST	Aboveground Storage Tank
BEHP	bis (2-ethylhexyl phthalate)
bgs	below ground surface
BRA	Base-line Risk Assessment
BRAC	Base Realignment and Closure
BTAG	Biological Technical Assistance Group
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CA	Corrective Action
cal	caliber
CAP	Corrective Action Plan
CC14	carbon tetrachloride
CEMP	Comprehensive Environmental Monitoring Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMS	Corrective Measures Study
COC	Contaminants of Concern
CS	ortho-chlorobenzlidene malononitrile
CSA	Comprehensive Site Assessment
CSF	Covered Storage Facility
CSL	Closed Sanitary Landfill
DCB	1,4 Dichlorobenzene
DCE	cis-1,2 Dichloroethene
DD	Decision Document
DES	Design
DoD	Department of Defense
DOL	Directorate of Logistics
DPDO	Defense Property Disposal Office
DPW	Directorate of Public Works
DPW-ED	Directorate of Public Works-Environmental Division
DRMO	Defense Reutilization and Marketing Office
EBS	Environmental Baseline Study
ED	Environmental Division
EE/CA	Engineering Evaluation / Cost Analysis
ER	Emergency Removal
ER,A	Environmental Restoration, Army
ESD	Explanation of Significant Differences
FFA	Federal Facility Agreement
FFS	Focused Feasibility Study
FGGM	Fort George G. Meade
FRA	Final Removal Action
FS	Feasibility Study

Acronyms

ft	feet
FY	Fiscal Year
GIS	Geographic Information System
GW	Groundwater
HE	High explosive
HHRA	Human Health Risk Assessment
HRC-A	Hydrogen-releasing compounds-advanced
IAP	Installation Action Plan
IC	Institutional Controls
IMCOM	Installation Management Command
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
ISCO	In Situ Chemical Oxidation
ISCO	In-situ chemical oxidation
J	Estimated Concentration
K	thousand
kg	kilogram
LEL	Lower Explosive Limit
LPA	Lower Patapsco Aquifer
LPH	Light Phase Hydrocarbon
LTM	Long-Term Management
LUC	Land Use Control
LUCAP	Land Use Control Action Plan
LUCIP	Land Use Control Implementation Plan
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MCPA	2-methyl-4-chlorophenoxyacetic acid
MCPP	methylchlorophenoxypropionic acid
MDE	Maryland Department of the Environment
MEAT	Maryland Environment Assessment Technology
MEC	Munitions and Explosives of Concern
mg	milligram
mm	millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MP	Motor Pool
MPPEH	Munitions Potentially Presenting an Explosive Hazard
MRA	Munitions Response Area
MRS	Muntions Response Site
MW	Monitoring Well

Acronyms

N/A	Not Applicable
NCP	National Oil & Hazardous Substances Pollution Contingency Plan
NCR-D	National Capital Region-District
NFA	No Further Action
NPL	National Priorities List
NSA	National Security Agency
NTCRA	Non-time critical removal action
OMA	Operations and Maintenance Army
OU	Operable Unit
OWS	Oil and Water Separator
PA	Preliminary Assessment
PA/SI	Preliminary Assessment / Site Inspection
PAH	Polyaromatic Hydrocarbons
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethylene or Tetrachloroethene
PLF	Post Laundry Facility
PLT	Plant
PMR	Phoenix Military Reservation
POE	Point of Exposure
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
ppb	parts per billion
ppm	parts per million
PRR	Patuxent Research Refuge
PRR-NT	Patuxent Research Refuge - North Tract
QA	Quality Assurance
QC	Quality Control
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RBC	Risk-Based Concentration
RC	Response Complete
RCA	Riot Control Agent
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RI/FS	Remedial Investigation / Feasibility Study
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SARA	Superfund Amendments Reauthorization Act

Acronyms

SI	Site Inspection
SLERA	Screening -Level Ecological Risk Assessment
SRS	Sensitive Receptor Survey
SSL	Soil Screening Level
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethylene
TMP	Transportation Motor Pool
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
ug/L	micrograms per liter
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USAOC	US Architect of the Capitol
USATHAMA	US Army Toxic and Hazardous Materials Agency (currently called USAEC)
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WR	Washrack
WWI	World War I
WWII	World War II

Acronym Translation Table

CERCLA		RCRA Underground Storage Tank (UST) Site Phase Terms
Preliminary Assessment(PA)	=	Initial Site Characterization(ISC)
Remedial Investigation(RI)	=	Investigation(INV)
Feasibility Study(FS)	=	Corrective Action Plan(CAP)
Remedial Design(RD)	=	Design(DES)
Remedial Action (Construction)(RA(C))	=	Implementation (Construction)(IMP(C))
Remedial Action (Operation)(RA(O))	=	Implementation (Operations)(IMP(O))
Long Term Management(LTM)	=	Long Term Management(LTM)
Interim Remedial Action(IRA)	=	Interim Remedial Action(IRA)

Installation Information

Installation Locale

Installation Size (Acreage): 5142
City: FGGM
County: Anne Arundel
State: Maryland
Other Locale Information

FGGM is a permanent US Army installation located on 5,142 acres of land in the northwest corner of Anne Arundel County, Maryland (MD). Anne Arundel County is in central MD, on the western shore of the Chesapeake Bay estuary, almost equidistant (12 miles) between Baltimore, MD and Washington, DC, southeast of the Baltimore-Washington Parkway, north of Maryland Route 32, and west of Maryland Route 175, approximately 28 miles from Fort McNair, DC. Nearby communities include Odenton, Severn, Jessup, and Laurel. FGGM is close to the border of Howard County on the west and Prince Georges County on the south. FGGM is located in a region of significant population. The resident and working populations of FGGM approach 60,000.

Installation Mission

The mission of FGGM is to enable critical national security missions by providing its customers and community the facilities and infrastructure they require, the quality of life they deserve, and a safe, secure environment in which to work and live.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

USAEC

FGGM

US Army Corps of Engineers (USACE), Baltimore District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region III
State	Maryland Department of the Environment (MDE)
Local	Ann Arundel County

National Priorities List (NPL) Status

A score of 54 was recorded on 01-JUL-98.

Date for RA(C) Completion: 201912

Date for NPL Deletion: TBD

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

RAB established 199504

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Metals, Munitions and explosives of concern (MEC), Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil, Surface Water

MMRP

Primary Contaminants of Concern: Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	200807	200909	2009
Complete	200307	200409	2004
Planned	201409	201509	2015

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Safety Precautions to be taken at Tipton	FGGM 10, FGGM 31, FGGM 82, FGGM 85

Results Because of the history of ordnance use on the property it is recommended that the recurring review process not be terminated.

Actions Recommended that the PRR continue to enforce their MEC/MPPEH education program. Upgrading the Ball Fields UXO public outreach program to more closely match the PRR-NT education program is recommended

Plans Continuation of the Five-Year Recurring Review process will allow future evaluation of the continuing effectiveness of the removal action.

Recommendations and Implementation Plans:
Please note that all of the five-year reviews listed above are for property already transferred under Public Law 100-526 (1988 Base Realignment and Closure Act). As of this date, there are no five-year reviews specific to sites on the active installation. The first five-year review for the active installation is scheduled to commence in September 2014. This will include FGGM-13 (Former Pesticide Shop) and FGGM-003-R-01 and -02 (Former Mortar Range MRSs). Other sites will be added as appropriate with the goal of having a single five-year review for all applicable sites.

Cleanup Program Summary

Installation Historic Activity

FGGM was originally authorized by Congress in 1917 as one of 16 training cantonments to be built for troops drafted during World War I (WWI). In 1928 it became a permanent military reservation. During WWI, more than 100,000 troops were trained at the installation. From 1940 to 1946, World War II (WWII) brought 3.5 million men and women to FGGM for training, in different phases. At various times since 1946 FGGM has been involved in the mission of training troops.

Subsequent to the Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Amendments of 1984, FGGM applied for a Part B Permit. In 1987, in accordance with RCRA provisions, FGGM began investigating its potential solid waste management units (SWMU). At the same time, a site investigation began at the active sanitary landfill to determine what, if any, impacts the landfill had on local groundwater.

In 1988 Public Law 100-526, the Base Realignment and Closure Act (BRAC), identified FGGM for realignment as an administrative installation, and recommended excessing approximately 9,000 acres used for training. Since that time, in an effort to keep the surrounding community abreast of restoration activities, FGGM has successfully and actively participated in developing a RAB.

As a result of the BRAC, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and RCRA statutes, FGGM has RAs ongoing in the base closure account and Environmental Restoration, Army (ER,A) account. In 1989 the installation was placed on the Federal Agency Hazardous Waste Compliance Docket, after issuance of the Part B Permit. As of July 28, 1998, FGGM was added to the National Priorities List (NPL). This listing was based on an April 1, 1997 proposal by the USEPA.

At the end of fiscal year (FY) 2001, a number of SWMUs remained to be reviewed by the installation/USEPA/State regulator Tier I partnering team. As of FY03 some of these SWMUs have been geographically consolidated and assigned Army Environmental Database - Restoration (AEDB-R) designations. Currently, 15 AEDB-R sites are under investigation. Completion of remedial investigations (RI) at all 15 sites is anticipated by the end of FY09.

FGGM is also responsible for the Granite Nike Fire Control site and the Phoenix Military Reservation (PMR). The Granite site was a state-lead site and received a finding of no further action (NFA) from the MDE in August 2007. The PMR is a former Nike Fire Control Area, which operated from 1955 to 1972. From 1972 to the 1980s the Maryland National Guard used the PMR for training. Historical operations have resulted in environmental impacts at the PMR. Groundwater contamination is present on-site and off-site. An RI is in progress. An RA may be required at PMR.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Of the sites with future cost liabilities 7 are in the RI/FS phase FGGM-07, -17, -47, -74, -83, -87 and -93. FGGM-47 includes FGGM-33, -45, -49, -51, -86, -88, -89, -90, -91, and -92. A NTCRA was completed at FGGM-93 and one is being developed for FGGM-47. Records of Decision were signed for FGGM-13 and FGGM-003-R-001. A PA/SI is being performed for over 100 areas. (FGGM-95 and -96). An FS and PP were completed for FGGM-17 and FGGM-74.

Future Plan of Action: All sites should have RODs in place before the end of FY15. Remedial designs and their implementation should occur for all but the largest and most complex sites: FGGM-07, -47, and -83.

MMRP

Prior Year Progress: A ROD and RD were completed for the Former Mortar Range MRA (FGGM-003-R-01 and R-02). LUC implementation includes an annotation in the master plan, annual surface sweeps, signs, informational brochures, and other public and workforce outreach activities. Implementation also includes the removal of several cubic yards of brass .22 cal bullet casings.

Future Plan of Action: Implementation of the land-use controls and 5-yr reviews.

FORT GEORGE G MEADE

Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 34/6

Installation Site Types with Future and/or Underway Phases

6 Contaminated Buildings
(FGGM 33, FGGM 36, FGGM 45, FGGM 49, FGGM 70, FGGM 71)
1 Contaminated Fill
(FGGM 83)
3 Contaminated Ground Water
(FGGM 47, FGGM 87, FGGM 92)
1 Disposal Pit/Dry Well
(FGGM 86)
1 Incinerator
(FGGM 37)
1 Industrial Discharge
(PBC at Meade)
3 Landfill
(FGGM 17, FGGM 93, FGGM-95)
3 Maintenance Yard
(FGGM 88, FGGM 89, FGGM-96)
1 Pesticide Shop
(FGGM 13)
2 Spill Site Area
(FGGM 05, FGGM 51)
5 Storage Area
(FGGM 07, FGGM 08, FGGM 74, FGGM 90, FGGM 91)
1 Surface Disposal Area
(FGGM 11)

Most Widespread Contaminants of Concern

Metals, Munitions and explosives of concern (MEC), Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY
FGGM 03	WATER TREATMENT PLT. BLDG 8688	IRA	OTHER	1994
FGGM 33	BATTERY SHOP BLDG. 2283	IRA	WASTE REMOVAL - SOILS	1994
FGGM 07	DRMO DRUM SITE (OPERABLE UNIT 5)	IRA	WASTE REMOVAL - SOILS	1995
FGGM 05	TROOP BOILER PLT (OPERABLE UNIT 2)	FRA	GROUND WATER TREATMENT	1996
FGGM 07	DRMO DRUM SITE (OPERABLE UNIT 5)	IRA	OTHER	1997
FGGM 08	COMP AMMO SUPPLY POINT #1	IRA	REMOVAL	1999
FGGM 17	CLOSED SANITARY Landfill	IRA	CAPPING	1999
FGGM 78	GRANITE NIKE	FRA	REMOVAL	2002
FGGM 83	TRAP AND SKEET RANGE	IRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	2003
FGGM 13	PEST. SHOP BLDG. 6621	FRA	REMOVAL	2013
FGGM 13	PEST. SHOP BLDG. 6621	FRA	INSTITUTIONAL CONTROLS	2013

IRP Summary

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

Site ID	Site Name	Action	Remedy	FY
FGGM 13	PEST. SHOP BLDG. 6621	FRA	GROUND WATER TREATMENT	2013
FGGM 93	MANOR VIEW DUMP SITE	IRA	CAPPING	2013
FGGM 93	MANOR VIEW DUMP SITE	IRA	REMOVAL	2013
FGGM 93	MANOR VIEW DUMP SITE	IRA	SOIL VAPOR EXTRACTION	2013
FGGM 93	MANOR VIEW DUMP SITE	FRA	INSTITUTIONAL CONTROLS	2013

Duration of IRP

Date of IRP Inception: 198011

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201912/204412

Date of IRP completion including Long Term Management (LTM): 204912

IRP Contamination Assessment

Contamination Assessment Overview

In 1980 the United States Army Toxic and Hazardous Material Agency (USATHAMA; now USAEC) completed its initial installation assessment for FGGM. This assessment identified the need for a SI for the active sanitary landfill. NFA was taken until 1987, when USATHAMA updated the 1980 assessment to verify conditions at FGGM, and determine the next steps to be taken. In 1988, USATHAMA began a PA of the active sanitary landfill. In FY94, ER,A funds were obtained to complete the cap on Cell No. 1 of the landfill and Operation and Maintenance Army (OMA) funds for the liner of active Cell No. 2. All restoration work to date, besides the landfill, was done with OMA funds. Contaminants found in the landfill area include heavy metals, chlorinated solvents, and non-chlorinated solvents.

As of July 28, 1998 FGGM was added to the NPL. This listing was based on an April 1, 1997 proposal by the USEPA. In October 2009, a Federal Facilities Agrement (FFA) went into effect. The FFA was signed by the Army, Environmental Protection Agency, Department of Interior, and the Architect of the Capitol.

The general purpose of the FFA is to:

1) Ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and appropriate remedial action taken as necessary to protect the public health, welfare and the environment;
2) Establish a procedural framework and Schedule for developing, implementing and monitoring appropriate response actions at the site in accordance with CERCLA, as amended by SARA, the NCP, Superfund Guidance and policy, RCRA, RCRA Guidance and policy, and applicable Maryland law;
3) Facilitate cooperation, exchange of information and participation of the parties in such actions.

The purposes of the FFA specific to Fort George G. Meade are to:

1. Identify interim remedial action (IRA) alternatives, which are appropriate at the site prior to the implementation of final remedial actions(s) for the site. The IRA alternatives shall be identified and proposed to the parties as early as possible prior to formal proposal of IRAs to USEPA pursuant to CERCLA and applicable Maryland law. This process is designed to promote cooperation among the parties in identifying IRA alternatives prior to selection of final IRAs.
2. Establish requirements for the performance of a RI to determine fully the nature and extent of the threat to the public health or welfare or the environment caused by the release and threatened release of hazardous substances, pollutants or contaminants at the site and to establish requirements for the performance of a FS for the Site to identify, evaluate and select alternatives for the appropriate remedial action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants or contaminants at the site in accordance with CERCLA and applicable Maryland law.
3. Identify the nature, objective and Schedule of response actions to be taken at the Site. Response actions at the site shall attain that degree of cleanup of hazardous substances, pollutants or contaminants mandated by CERCLA and applicable Maryland law;
4. Implement the selected IRA and final RA(s) in accordance with CERCLA and applicable Maryland law and meet the requirements of CERCLA Section 120(e)(2) for an interagency agreement among the parties.
5. Ensure compliance, through this Agreement, with RCRA and other Federal and Maryland hazardous waste laws and regulations for matters covered herein.
6. Establish a procedural framework and Schedule for DOI/FWS and USAOC to participate and cooperate with the Army in its development and implementation of appropriate response actions relating to releases or threatened releases on or migrating to lands formerly managed by the Army and transferred to DOI/FWS and USAOC.
7. Coordinate response actions at the site with the mission and support activities at it. Meade and lands managed by the DOI/FWS and USAOC.
8. Expedite the cleanup process to the extent consistent with protection of human health and the environment.
9. Provide for operation and maintenance of any remedial action selected and implemented pursuant to this agreement.

Cleanup Exit Strategy

Actions will continue to be performed as outlined in the IAP contingent on funding levels. In May 2005 a performance-based contract (PBC) was awarded that covers AEDB-R sites FGGM 05, FGGM 07, FGGM 47, FGGM 83, FGGM 86, FGGM 87, FGGM 88, FGGM 89, FGGM 90, FGGM 91, and FGGM 92. The second FGGM PBC (PBC No. 2) was awarded in August 21, 2009. Sites covered under this contract are FGGM-13, 17, 74, 93, 003-R-01, and Operable Unit (OU) 4. OU 4 includes FGGM-47, 86, 89, 90, 91, and 92. Future costs at these sites include remedy-in-place (RIP)/response complete (RC) through RA(O) phase.

The Army will continue to investigate and where appropriate remediate sites consistent with the requirements of CERCLA and

other environmental laws that regulate or are otherwise are pertinent to the FGGM restoration program.

IRP Previous Studies

	Title	Author	Date
1977			
	Environmental Impact Statement - Existing Activities and Conditions		JUN-1977
1979			
	Landfill Study		JUN-1979
1980			
	Final - Installation Assessment of FGGM		NOV-1980
1981			
	Final - Overall Environmental Impact Statement		AUG-1981
1987			
	Final - Update of the Initial Installation Assessment of FGGM and Gaithersburg Research Facility		DEC-1987
1989			
	Final - Site Safety & Health Plan for Remedial Investigation at FGGM Landfill and Preliminary Assessment/Site Investigation at the Former Gaithersburg Nike Control and Launch Areas		MAR-1989
	Draft - Task Order 2 Preliminary Assessment for Fort Holabird		DEC-1989
1990			
	USATHAMA Task Order 2 Enhanced Preliminary Assessment Fort Holabird Crime Records Center		JAN-1990
	Preliminary Draft - Environmental Assessment - Base Closure at Gaithersburg, MD		FEB-1990
	Technical and Sampling/Analysis Plan, U.S. Army Toxic and Hazardous Material Agency	EA Engineering	FEB-1990
	Site Safety and Health Plan for Remedial Investigation/Feasibility Studies at FGGM Landfill and Preliminary Assessment/Site Investigation at Former Gaithersburg Nike Control and Launch areas		MAR-1990
	Draft - USATHAMA - Appendices for FGGM Active Sanitary Landfill and Clean Fill Dump Remedial Investigation Report		APR-1990
	Final - Gaithersburg Research Facility Control Area Site Investigation - Accident Prevention Safety Plan		MAY-1990
	USATHAMA - Appendices for FGGM Active Sanitary Landfill and Clean Fill Dump Remedial Investigation Report		AUG-1990
	Final - Public Involvement and Response Plan		SEP-1990
	Preliminary Assessment Report FGGM - Hazardous Substances Identification and Storage and Potential Receptors for Groundwater, Surface Water and Onsite Pathways		NOV-1990
	Preliminary Assessment Report, US Army Toxic and Hazardous Material Agency	Roy F. Weston, Inc.	NOV-1990
	Draft Final Document - USATHMA Technical Report for Proposed Ordnance Clearance at FGGM		DEC-1990
	Draft Final - Gaithersburg Appendices Final Project Report		DEC-1990
1991			

IRP Previous Studies

Title	Author	Date
1991		
Final - Remedial Investigations/Feasibility Studies for Proposed Ordnance Clearing at FGGM		MAR-1991
Draft Final Document - USATHAMA Ordnance Clearance Survey		MAR-1991
Final - Gaithersburg Research Facility Central Area Site Inspection		MAR-1991
Draft - Comprehensive Base Realignment and Partial Closure for FGGM & Fort Holabird		MAR-1991
Final - Gaithersburg Project Report Appendices		MAR-1991
Volatile Analysis - Fort Meade Laundry Analytical Data Package		AUG-1991
Environmental Investigation for Property Transfer - Fort Holabird Crime Records Center Environmental Investigation and Alternatives Assessment		SEP-1991
Draft - Addendum Site Health and Safety Plan Ordnance Clearance Survey		NOV-1991
Review of Draft Work Plan for Ordnance Survey of 1,400 Acres - Department of Interior Parcel		DEC-1991
Post Laundry Facility Contaminant Assessment Report		DEC-1991
Post Laundry Facility Contaminant Assessment Report	Versar	DEC-1991
1992		
Final - Preliminary Assessment Report Addendum for FGGM		MAR-1992
Preliminary Assessment Report Addendum, US Army Toxic and Hazardous Material Agency	Roy F. Weston, Inc	MAR-1992
Final Environmental Investigation Report for Fort Holabird Crime Records Center		MAR-1992
Work Plan for Unexploded Ordnance Clearance Survey at FGGM		APR-1992
Accident Prevention and Safety Plan - FGGM Ordnance Clearance Survey		APR-1992
Site Health and Safety Plan - FGGM Ordnance Clearance Survey		JUN-1992
Work Plan - FGGM Ordnance Clearance Survey		JUN-1992
Draft Report for Asbestos Investigation and Estimation of Fort Holabird Crime Records Center (CRC)		SEP-1992
Site Inspection, Volumes I - III - Ordnance Demolition Area, Clean Fill Dump, Fire Training Area, Inactive Landfill No. 1, Inactive Landfill No. 2, Inactive Landfill No. 3, DPDO Salvage Yard, US Arm	EA Engineering	OCT-1992
Asbestos Investigation and Estimation of Fort Holabird Crime Records Center		OCT-1992
Remedial Investigation Report and Appendices - Active Sanitary Landfill and Clean Fill Dump, U.S. Army Toxic and Hazardous Material Agency	EA Engineering, Science and Technology, Inc.	DEC-1992
1993		
Work Plan Feasibility Study and Remedial Investigation/Site Inspection RI/SI Addendum - Inactive Landfill No. 2, DPDO Salvage Yard and Transformer Storage, Helicopter Hangar Area, Fire Training Area	USAEC, Arthur D. Little	NOV-1993
Quality Control Plan Feasibility Study and Remedial Investigation/Site Inspection RI/SI Addendum	USAEC, Arthur D. Little	NOV-1993

IRP Previous Studies

	Title	Author	Date
1993			
	Health and Safety Plan, Feasibility Study and Remedial Investigation/Site Inspection Addendum - Inactive Landfill No. 2, DPDO Salvage Yard and Transformer Storage, Helicopter Hangar Area, Fire Train	USAEC, Arthur D. Little	NOV-1993
	Health & Safety Plan - DRMO	USAEC, Arthur D. Little	NOV-1993
	Work Plan, Feasibility Study and Remedial Investigation/Site Inspection Addendum	USAEC, Arthur D. Little	NOV-1993
	Quality Control Plan Feasibility Study and Remedial Investigation/Site Inspection RI/SI Addendum,	USAEC, Arthur D. Little	NOV-1993
1994			
	Architect of Capitol - Initial Phase I Report, Site Assessment of 100-Acre Parcel	Rummel, Klipper & Kahl	MAY-1994
	Ordnance Survey Report, 1400 Acre Parcel - 500-acre Dept. of Interior Parcel, Tipton Army Airfield Parcel, Active Sanitary Landfill Parcel, USAEC	International Technology Corp.	JUN-1994
	Cell 2 Modifications - Active Sanitary Landfill		AUG-1994
	Initiation of Detection Monitoring Program - Active Sanitary Landfill, U.S. Army Center for Health Promotion and Preventive Medicine		SEP-1994
	Feasibility Study Report - Active Sanitary Landfill	USAEC, Arthur D. Little	SEP-1994
	Residential Wells Data - Active Sanitary Landfill	USAEC, Arthur D. Little	OCT-1994
	DRMO - Final Quality Control Plan Remedial Investigation/Feasibility Study	USAEC, Engineering Technologies Associates, Inc.	DEC-1994
1995			
	DRMO - Quality Control Plan Remedial Investigation and Feasibility Study of the Defense Property Disposal Office	USAEC, Engineering Technologies Associates, Inc.	MAY-1995
	DRMO - Technical Work Plan Remedial Investigation/Feasibility Study	USAEC, Engineering Technologies Associates, Inc.	MAY-1995
	Post Laundry Facility - Safety & Health Program Site Specific Safety and Health Plan, Subsurface Investigation	Versar, Inc.	JUN-1995
	DPDO Sample Analysis Report - GP Work Order #9508083	Baltimore District Corps of Engineers	AUG-1995
	Post Laundry Facility Additional Subsurface Investigation Activities MDE Case # C-0094-132		SEP-1995
	DPDO Semi-volatile Package	Baltimore District Corps of Engineers	SEP-1995
	DRMO - Semi-volatile Package	GP Environmental Services, Inc	SEP-1995
	DPDO Metals Package	Baltimore District Corps of Engineers	SEP-1995
	Metals Package Metals Case Narrative	GP Environmental Services, Inc.	SEP-1995
	DPDO Sample Analysis Report - GP Work Order #9509006	Baltimore District Corps of Engineers	SEP-1995
	Post Laundry Facility - Additional Subsurface Investigation Activities	Versar, Inc.	SEP-1995
	DPDO Sample Analysis Report - GP Work Order #9508056	Baltimore District Corps of Engineers	OCT-1995

IRP Previous Studies

	Title	Author	Date
1995			
	DPDO Sample Analysis Report - GP Work Order #9508022	Baltimore District Corps of Engineers	OCT-1995
	Sample Analysis Report - GP Work Order #9508037	Baltimore District Corps of Engineers	OCT-1995
	DPDO Sample Analysis Report - GP Work Order #9508018	Baltimore District Corps of Engineers	OCT-1995
	Site Inspection Addendum Report - Defense Reutilization And Marketing Office Inactive Landfill No. 2 Helicopter Hangar Area Fire Training Area Ordnance Demolition Soldiers Lake	USAEC, Arthur D. Little	DEC-1995
1996			
	Solid Waste Management Unit Study	BCM Engineers	JUN-1996
	1996 Active Sanitary Landfill Annual Detection & Assessment Monitoring Report,	CH2M Hill	AUG-1996
	DPDO Draft Final, Phase One HTRW (SCAPS) Investigation,	Baltimore District Corps of Engineers	DEC-1996
	DRMO - Sampling Report Environmental Sampling Activities	USACE	DEC-1996
1997			
	BRAC Clean-up Team (USEPA R3 and State)		JAN-1997
	Clean Fill Dump Preliminary Data (surface soils, sediment, groundwater)		JAN-1997
	DPDO Environmental Sampling Covered Storage Facility	Baltimore District Corps of Engineers	MAR-1997
	DRMO - Environmental Sampling	USACE	MAR-1997
	Post Laundry Facility comprehensive Site Assessment	Versar	MAR-1997
	DPDO Final Report, Phase One HTRW (SCAPS) Investigation	Baltimore District Corps of Engineers	APR-1997
	Draft, Active Sanitary Landfill Off-Post Drilling and Sampling Results and Surface Water Sampling Results Fort Meade Feasibility Study and Remedial Investigations/Site Inspection	Arthur D. Little	APR-1997
	Post Laundry Facility - Additional Subsurface Investigation Activities	USACE	APR-1997
	DRMO - Phase One HTRW (SCAPS) Investigation	USACE	APR-1997
	Remedial Investigation Addendum - Active Sanitary Landfill	USAEC, Arthur D. Little	MAY-1997
	Draft, Active Sanitary Landfill Atrazine Study Fort Meade Feasibility Study and Remedial Investigation/Site Inspection	Arthur D. Little	JUN-1997
	1997 Active Sanitary Landfill Semi-Annual Detection & Assessment Monitoring Report	CH2M Hill	AUG-1997
	1997 Active Sanitary Landfill Annual Detection & Assessment Monitoring Report	CH2M Hill	AUG-1997
	DRMO - Response to Specific Comments-USEPA		AUG-1997
	DRMO - Response to Specific Comments-MDE		AUG-1997
	DRMO - Work Plan Phase Two HTRW Investigation	USACE	SEP-1997
1998			

IRP Previous Studies

	Title	Author	Date
1998			
	Comment-Response Package for Off-Post Drilling Report - Active Sanitary Landfill	USAEC, Arthur D. Little	MAR-1998
	DRMO - Summary Report, Drilling & Testing Activities, Phase II Groundwater Investigation	USACE, Dames & Moore	APR-1998
	Post Laundry Facility Comprehensive Site Assessment	Versar	JUN-1998
	1998 Active Sanitary Landfill Semi-Annual Detection & Assessment Monitoring Report	CH2M Hill	OCT-1998
	Industrial Corridor Risk Assessment	Versar	DEC-1998
1999			
	Atrazine Study Feasibility Study and Remedial Investigation Site Inspection - Active Sanitary Landfill	USAEC, Arthur D. Little	MAR-1999
	Off-Post Drilling and Sampling Results and Surface Water Sampling Results Feasibility Study and Remedial Investigation/Site Inspection - Active Sanitary Landfill, Clean Fill Dump	USAEC, Arthur D. Little	MAR-1999
	Groundwater Database Report - Active Sanitary Landfill	USACE, Malcolm Pirnie	MAR-1999
	Post Laundry Facility - January 1999 Quarterly Groundwater Sampling Results	Versar, Inc.	MAR-1999
	Comprehensive Site Assessment - Former Incinerator Building 21-1/2 Street	Versar, Inc.	JUN-1999
	Comprehensive Site Assessment - Former Battery Disposal Facility Morrison Street	Versar, Inc.	JUN-1999
	Former Trap And Skeet Range (20th Street) - Comprehensive Site Assessment	Versar, Inc.	JUN-1999
	Post Laundry Facility - May 1999 Quarterly Groundwater Sampling Results	Versar, Inc.	JUN-1999
	Sampling Visits Solid Waste Management Units Volume III	Versar, Inc.	SEP-1999
	Sampling Visits Solid Waste Management Units Volume IV	Versar, Inc.	SEP-1999
	Sampling Visits Solid Waste Management Units Volume V	Versar, Inc.	SEP-1999
	Sampling Visits Solid Waste Management Units Volume VI	Versar, Inc.	SEP-1999
	Sampling Visits Solid Waste Management Units Volume I	Versar, Inc.	SEP-1999
	Sampling Visits Solid Waste Management Units Volume II	Versar, Inc.	SEP-1999
	RCRA Facility Assessment	CH2M Hill	SEP-1999
	Sampling Visit - Building 8881	Versar, Inc.	SEP-1999
	Public Health Assessment	Dept. of Health & Human Services, Agency for Toxic Substances and Disease Registry	NOV-1999
	Post Laundry Facility - December 1999 Quarterly Groundwater Sampling Results	Versar, Inc.	DEC-1999
2000			
	Summary Report Pump Test for Site-Wide Groundwater Investigation	USACE/Dames & Moore	MAR-2000
	Architect of Capitol - Work Plan Part II -Quality Assurance Project Plan Remedial Investigation	USACE/Malcolm Pirnie	MAR-2000

IRP Previous Studies

2000

Title	Author	Date
Architect of Capitol - Work Plan Part III -HASP Remedial Investigation	USACE, Malcolm Pirnie	MAR-2000
Work Plan Initial Delineation Activities Impacted Solid Waste Management Units	Versar, Inc.	MAR-2000
Community Relations Plan	US Army Corps of Engineers ICF Kaiser/General Physics	JUN-2000
Remedial Investigation Work Plan - Former Tank Cleaning Supply Warehouse (FGGM90) Buildings 2240 - 2243 and 2247 - 2249	USACE, Versar, Inc.	JUN-2000
Sampling Visits (23 Additional Solid Waste Management Units) Volumes I and II	Versar, Inc.	JUL-2000
Draft Initial Delineation Report Department of Logistics Tactical & Support Vehicle/Heavy Equipment Maintenance Facility	Versar, Inc.	AUG-2000
Draft Initial Delineation Reports Wash Rack Oil/Water Separator at Equipment Concentration Station 86 (Building 2120C), Heavy Equipment & Generator Maintenance Shop (Building 2128) & Forensic Toxicology Drug Testing Lab	Versar, Inc.	SEP-2000
Draft Initial Delineation Reports Equipment/Vehicle Storage Yard Wash Rack System (Bldg 1007), 20th Street, and Dept. of Public Works Storage and Receiving Yard (Bldg 2207), 1st Street	Versar, Inc.	SEP-2000
Draft Initial Delineation Reports Department of Logistics, Storage Services and Supply Division Complex, Pepper Road	Versar, Inc.	SEP-2000
Draft Initial Delineation Reports Department of Public Works Storage Yard, 2nd Street	Versar, Inc.	SEP-2000
Draft Initial Delineation Reports Directorate of Office Management Complex, 20th Street	Versar, Inc.	SEP-2000
Draft Initial Delineation Reports the Photo Lab (Bldg 546) and Former Vehicle Maintenance Shop (Bldg 2227)	Versar, Inc.	SEP-2000
Post Laundry Facility - Comprehensive Site Assessment Volume I of II	Versar, Inc.	OCT-2000
Architect of Capitol - Work Plan Part I -Field Sampling Plan Remedial Investigation	USACE, Malcolm Pirnie	NOV-2000

2001

Site Investigation Report - Building 2630 (Washrack) SWMU 78	Versar, Inc.	JUL-2001
Site Investigation Report - Washrack at 4th and Y Streets, SWMUs 143/144	Versar, Inc.	JUL-2001
Results from May 2001 Sampling of Monitoring Well MW-4DR - Active Sanitary Landfill	IT Corp/Advanced Infrastructure Management Technologies	JUL-2001
Site Investigation Report - Building 1251 (SWMU 19)	Versar, Inc.	JUL-2001
Site Investigation Report - Building 2253 (SWMUs 61/62)	Versar, Inc.	JUL-2001
Site Investigation Report - Building 2482 (SWMU 72)	Versar, Inc.	JUL-2001
Site Investigation Report - Former Wash Pack and Oil Separator at Building 940 (SWMUs 12/13)	Versar, Inc.	AUG-2001
Site Investigation Report - Building 2213 SWMU 38	Versar, Inc.	AUG-2001

IRP Previous Studies

2001

Title	Author	Date
Site Investigation Report - Building 2220 SWMU 42	Versar, Inc.	AUG-2001
Site Investigation Report - Building 8688 SWMUs 129/130	Versar, Inc.	AUG-2001
Site Investigation Report - Building 6513, SWMU 150	Versar, Inc.	AUG-2001
Site Investigation Report - Building 2240 SWMUs 45/46	Versar, Inc.	SEP-2001
Site Investigation Report - Building 2276 (SWMUs 63/64)	Versar, Inc.	SEP-2001
Site Investigation Report - Building 2286 (SWMUs 66/67)	Versar, Inc.	SEP-2001
Site Investigation Report - Former Wash Rack at Building 8480 (SWMUs 110/111)	Versar, Inc.	SEP-2001
Site Investigation Report - Building 8549 SWMUs 121/124	Versar, Inc.	SEP-2001
Architect of Capitol - Remedial Investigation Report Volumes I-II	USACE, Malcolm Pirnie	OCT-2001
Soil Background Concentration Report	USACE, Malcolm Pirnie	OCT-2001
Site Investigation Report - Building 2121 (SWMUs 29/30)	Versar, Inc.	OCT-2001
Site Investigation Report - Building 2120C (SWMU 25)	Versar, Inc.	OCT-2001
Site Investigation Report - Building 8486 SWMUs 117/118	Versar, Inc.	NOV-2001
Groundwater Remedial Investigation Work Plan Addendum - Active Sanitary Landfill	IT Corp/Advanced Infrastructure Management Technologies	NOV-2001
Site Investigation Report - Building 8485, SWMU 115/116	Versar, Inc.	NOV-2001
Site Investigation Report - Wash Rack Building 8485 SWMU 116A	Versar, Inc.	NOV-2001
Site Investigation Report - Building 2724 (SWMUs 80 through 86)	Versar, Inc.	DEC-2001
Site Investigation Report - Building 4587 SWMO 101/102	Versar, Inc.	DEC-2001
Site Investigation Report - Building 4680, SWMU 103	Versar, Inc.	DEC-2001
Site Investigation Report - Wash Racks at Building 2728 SWMUs 87, 88, 89, 90, 91, 92	Versar, Inc.	DEC-2001
Site Investigation Report - Golf Course Maintenance Area Buildings 8860, 8880, 8890 and 8896, SWMUs 131-133 and 135-137	Versar, Inc.	DEC-2001

2002

Post Laundry Facility - Response to USEPA Comments on Final Comprehensive Site Assessment	Versar, Inc.	JAN-2002
Architect of Capitol - Quality Control Summary/Analytical Results Volumes I-V	USACE, Malcolm Pirnie	MAR-2002
Site Investigation Report - O'Brien Road	USACE, URS	MAR-2002
Solid Waste Management Unit Project Work Plans Data Gap Sites	Versar, Inc.	MAY-2002
Generic Site Safety & Heath Plan	USACE/EM Federal	JUN-2002
Site Investigation Report - Building 2266	Versar, Inc.	SEP-2002

IRP Previous Studies

	Title	Author	Date
2002			
	Former Trap And Skeet Range (20th Street) - Corrective Action Plan	Versar, Inc.	DEC-2002
2003			
	Partnering Meeting Summaries	US Army	JAN-2003
	Generic Field Sampling Plan	USACE/EM Federal	MAR-2003
	Generic Quality Assurance Plan	USACE/EM Federal	MAR-2003
	Remedial Investigation Work Plan - Former Motor Pool Maintenance Facility (FGGM86) Building 2286	USACE, Versar, Inc.	MAY-2003
	Remedial Investigation Work Plan - Former Heavy Gun Cleaning and Repair Shop (FGGM92) Buildings 2246 and 2253	USACE, Versar, Inc.	MAY-2003
	Remedial Investigation Work Plan - Former Nike Missile Control Site (FGGM87) Buildings 1945, 1946, 1957, 1958, 1974, 1976, 1977, 1978 and 1990	USACE, Versar, Inc.	JUN-2003
	DRMO - Remedial Investigation and Baseline Risk Assessment	URS, USACE	JUL-2003
	Remedial Investigation Work Plan - Former Tank Maintenance Facility (FGGM88) Building 2207	USACE, Versar, Inc.	JUL-2003
	Remedial Investigation Work Plan - Former Tank Maintenance Facility (FGGM89) Building 2217	USACE, Versar, Inc.	JUL-2003
	Field Sampling Plan - Phoenix Military Reservation	Malcolm Pirnie	OCT-2003
	Remedial Investigation Work Plan - Golf Course Maintenance Facility Buildings 8860, 8870, 8880, 8890 and 8890A, SWMUs 131-137	Versar, Inc.	OCT-2003
	Remedial Investigation Work Plan - Golf Course Maintenance Facility Buildings 8860, 8870, 8880, 8890 and 8890A, SWMUS 131-137	USACE, Versar, Inc.	OCT-2003
2004			
	Site-specific Work Plan - Architect of the Capitol	Malcolm Pirnie	OCT-2004
2005			
	Final Work Plan - Phoenix Military Reservation	Malcolm Pirnie	DEC-2005
2006			
	Final Work Plan - Former Pesticide Shop	URS	JAN-2006
	Final RI Work Plan - Operable Unit 3	Kemron Environmental Services	MAR-2006
	1st Quarter 2006 Data Report, Operable Unit 2	USAEC; Kemron	APR-2006
	Final RI Work Plan, Operable Unit 4	Kemron Environmental Services	MAY-2006
	Draft Engineering Evaluation/Cost Analysis Report	USAEC; Kemron	JUN-2006
	Final Remedial Investigation, Architect of Capitol	Baltimore District Corps of Engineers; Malcolm Pirnie	JUL-2006
	3rd Quarter 2006 Data Report, Operable Unit 2	USAEC; Kemron	OCT-2006
2007			
	4th Quarter 2006 Data Report, Operable Unit 2	USAEC; Kemron	JAN-2007
	Draft Technical Memorandum, Architect of Capitol	Baltimore District Corps of Engineers	JAN-2007

IRP Previous Studies

	Title	Author	Date
2007			
	1st Quarter 2007 Data Report, Operable Unit 2	USAEC; Kemron	APR-2007
	2nd Quarter 2007 Data Report, Operable Unit 2	USAEC; Kemron	JUL-2007
	Draft Final Remedial Investigation, Former Pesticide Shop	URS Corp	JUL-2007
	Groundwater Remedial Investigation, Closed Sanitary Landfill	Baltimore District Corps of Engineers, EM Federal Corp.	AUG-2007
	Preliminary Assessment/Site Inspection for Suspect Sites	URS	SEP-2007
	Draft Remedial Investigation, Manor View Dump Site	URS Corp	OCT-2007
	Final Memorandum, Human Health Risk Assessment Report, Operable Unit 1	USAEC; Kemron	NOV-2007
	Draft Proposed Plan, DRMO, Operable Unit 5	USAEC; Kemron	NOV-2007
	Draft Final Remedial Investigation/Feasibility Study, Operable Unit 4	USAEC; Kemron	DEC-2007
2008			
	4th Quarter 2007 Data Report for Operable Unit 2	USAEC; Kemron	JAN-2008
	Draft Final Remedial Investigation/Feasibility Study, Operable Unit 3	USAEC; Kemron	JAN-2008
	Draft Proposed Plan, Operable Unit 4	USAEC; Kemron	FEB-2008
	Final Site Conceptual Model and Assessment Report, Operable Unit 2	USAEC; Kemron	FEB-2008
2009			
	Draft Integrated Base-wide Cleanup Plan & Installation Action Plan	USAEC, URS	JAN-2009
	OU-2 Draft 4th Qtr 2008 Status Report for the Former Troop Housing	USAEC, Kemron	JAN-2009
	Integrated Corrective Measures Operations and Maintenance and 4th	USAEC, Kemron	JAN-2009
	Project Management Plan Update for the Performance Based Contract,	USAEC, Kemron	FEB-2009
	Draft Final Addendum Number 3 to the Final Site Work Plan for	USAEC, Malcolm Pirnie	MAR-2009
	OU-5 Pre-Design Plum Delineation and Data Collection Plan	USAEC, Kemron	MAR-2009
	Draft Final Addendum Number 3 to the Final Site Work Plan for	USAEC, Kemron	MAR-2009
	Draft Interim Measures Assessment Report	USAEC, URS	APR-2009
	RCRA Facility Investigation Work Plan	USAEC, URS	MAY-2009
	Final Site Management Plan for Fort Meade	USAEC, URS	MAY-2009
	Draft Pre-investigation Evaluation of Corrective Measures	USAEC, URS	MAY-2009
2010			
	Draft Focused Feasiblity Study Addendum, Technical Report on the Pre-design Plume Delineation and Data Collection Plan	Arcadis	MAR-2010
	Draft Consensus Letter, Preliminary Assessment/Site Inspection Northern Area of Interest Sites	URS Corp.	MAY-2010

IRP Previous Studies

2010

Title	Author	Date
Draft Consensus Letter, Preliminary Assessment/Site Inspection Southeastern Area of Interest Sites	URS Corp	MAY-2010
Draft Consensus Letter, Preliminary Assessment/Site Inspection Southwestern Area of Interest Sites	URS Corp	MAY-2010
Draft Final Consensus Letters Document, Preliminary Assessment/Site Inspection - Golf Course Sites	URS Corp	JUN-2010
Technical Memorandum (Operable Unit No. 4, Architect of the Capitol, and Closed Sanitary Landfill), Drilling and Groundwater Sampling Event of April 2010	Kemron	JUN-2010
Draft Report - Operable Unit 4, Architect of the Capitol, Closed Sanitary Landfill - Drilling and Groundwater Event	Kemron	JUN-2010
Draft Remedial Investigation Report (Former Mortar Range MRA)	Arcadis	JUL-2010
Semi-Annual Monitoring Report (Closed Sanitary Landfill)	Arcadis	AUG-2010
Draft Final Workplan, Attachment B, Preliminary Assessment/Site Inspection for the North, Southeast, and Southwest Areas of Potential Interest	URS Corp	AUG-2010
Draft Feasibility Study (Manor View Dump Site)	Arcadis	SEP-2010
Draft Remedial Investigation Report - Former Pesticide Shop	Arcadis	SEP-2010
Draft Supplemental Remedial Investigation Workplan for Operable Unit No. 4	Arcadis	OCT-2010
Draft Off-Post Groundwater Investigation (Nevada Ave) Workplan for Operable Unit No. 4	Malcolm Pirnie	OCT-2010
Draft Final Sampling and Analysis Plan; Performance-based Acquisition	Arcadis	OCT-2010
Draft Final Waste Management Plan - Performance-based Aquisition	Arcadis	OCT-2010
Draft Final Quality Assurance Project Plan - Performance-based Acquisition	Arcadis	NOV-2010
Draft Final Screening Level Ecological Risk Assesment (Operable Unit No. 1/FGGM-87, Former Nike Fire Control Site)	Arcadis	NOV-2010
Draft Consensus Letter, Preliminary Assessment/Site Inspection, Areas of Interest South of Route 32	URS Corp	NOV-2010
Final Consensus Letter Document, Preliminary Assessment/Site Inspection - Golf Course Sites	URS Corp	DEC-2010
Final Workplan, Preliminary Assessment/Site Inspection	URS	DEC-2010
Draft Remedial Investigation/Phase II, Off-Post Plume Delineation Plan	Arcadis	DEC-2010
Draft Final Remedial Investigation Report (Operable Unit No. 1/FGGM-83, Trap and Skeet Range)	Kemron	DEC-2010

2011

Draft Final PA/SI Summary Report, Golf Course AOIs	URS	JAN-2011
Operable Unit 4 Sub-slab Soil Gas Sampling (Draft Work Plan)	Arcadis	MAR-2011
Final Consensus Letter PA/SI Southwest AOIs	URS	MAR-2011
Final Monitoring Plan, Closed Sanitary Landfill	Arcadis	APR-2011
Final PA/SI Consensus Letter, North AOIs	URS	MAY-2011

IRP Previous Studies

2011

Title	Author	Date
Final PA/SI Work Plan North AOIs	URS	JUN-2011
Final PA/SI Work Plan Southwest AOIs	URS	JUN-2011
Final Site Management Plan (annual report)	URS	AUG-2011
Draft Feasibility Study, Manor View Dump Site	Arcadis	SEP-2011
Off-Post Monitoring Well Repair and Sampling Work Plan, Operable Unit 4	Arcadis	OCT-2011
Draft Final Work Plan, Phase II Off-Post Plume Delineation	Arcadis	OCT-2011
Final Remedial Investigation Report, Pesticide Shop	Arcadis	OCT-2011
Final Engineering Evaluation/Cost Analysis, Manor View Dump Site	Arcadis	OCT-2011
Draft Work Plan and Consensus Letters for Potential Radiation Sites	URS	NOV-2011
Draft Action Memorandum, Non-time Critical Removal Action, Manor View Dump Site	Arcadis	NOV-2011
Final Action Memorandum, Non-time Critical Removal Action Manor View Dump Site	Arcadis	DEC-2011

2012

Final Consensus Letter PA/SI Southeast AOIs	URS	JAN-2012
Draft Final Consensus Letter and Work Plan AOIs South of Rte 32	URS	JAN-2012
Draft Work Plan and Consensus Letter for Select AOIs	URS	JAN-2012
Draft Focused Feasibility Study, Pesticide Shop	Arcadis	FEB-2012
Final Non-time Critical Removal Action Work Plan	Arcadis	FEB-2012
Final Site Mangement Plan (annual report)	URS	AUG-2012
Final Off-Post Well Investigation, Interim Measures Report	Arcadis	SEP-2012
Closed Sanitary Landfill - Draft Semi-annual Monitoring Report	Arcadis	OCT-2012
Draft: Off-Post Geoprobe WP (benzene) for the Closed Sanitary Landfill	Arcadis	OCT-2012
Final Pre-remedial Design Workplan (Former Pesticide Shop)	Arcadis	NOV-2012
Draft Engineering Evaluation/Cost Analysis for Operable Unit 4	Arcadis	DEC-2012
Inactive Landfill No.2 Final 2012 Annual Inspection Report	Ft. Meade DPW-ED	DEC-2012
Draft Interim Removal Action Report (Manor View Dump Site)	Arcadis	DEC-2012

2013

Draft Final Supplemental Remedial Investigation Work Plan (Operable Unit 4)	Arcadis	JAN-2013
Draft Semi-annual Monitoring Report (Closed Sanitary Landfill)	Arcadis	FEB-2013
Final 2013 Monitoring Plan (Closed Sanitary Landfill)	Arcadis	FEB-2013
Final Remedial Investigation Report (Former Nike Missile Fire Control Site)	Kemron	MAR-2013

IRP Previous Studies

2013

Title	Author	Date
Final Interim Removal Action Report (Manor View Dump Site)	Arcadis	MAR-2013
Final Remedial Investigation Report (Former Trap and Skeet Range)	Kemron	MAR-2013
Draft Permit Equivalency, ESC Plan (Pesticide Shop)	Arcadis	APR-2013
Final Remedial Design (Former Mortar Range MRA)	Arcadis	APR-2013
Final Supplemental Remedial Investigation (Architect of the Capitol)	Arcadis	APR-2013
Quarterly Methane Monitoring Report (Manor View Dump Site)	Arcadis	APR-2013
Final Remedial Design (Former Mortar Range MRA)	Arcadis	APR-2013
Draft Focused Feasbility Study (Architect of the Capitol)	Arcadis	MAY-2013
Internal Draft Proposed Plan (Closed Sanitary Landfill)	Arcadis	MAY-2013
Final Off-Post Monitoring Well Sampling Result Report -Year 2	Arcadis	JUN-2013
Draft NTCRA Work Plan, Operable Unit 4	Arcadis	JUN-2013
Final EE/CA, Operable Unit 4	Arcadis	JUN-2013
Draft Proposed Plan (Architect of the Capitol)	Arcadis	JUN-2013
Draft Annual Monitoring Report (Closed Sanitary Landfill)	Arcadis	JUN-2013
Draft Proposed Plan (Manor View Dump Site)	Arcadis	JUN-2013
Supplemental RI Work Plan, Operable Unit 4	Arcadis	JUL-2013
Internal Draft Record of Decision (Architect of the Capitol)	Arcadis	JUL-2013
Draft Final Remedial Investigation Addendum (Manor View Dump Site)	Arcadis	AUG-2013
Draft Remedial Design (Pesticide Shop)	Arcadis	AUG-2013
Final Variance Request Report (Manor View Dump Site)	Arcadis	AUG-2013
Final Feasibility Study (Manor View Dump Site)	Arcadis	AUG-2013
Internal Draft Record of Decision (Manor View Dump Site)	Arcadis	AUG-2013
Internal Draft Remedial Action Report (Former Mortar Range)	Arcadis	AUG-2013
Draft Final Site Mangement Plan (annual report)	URS	AUG-2013
Draft Final Action Memo, Operable Unit 4	Arcadis	AUG-2013
Draft Plume Delineation and Analytical Data Summary Memorandum (DPT investigation) (Closed Sanitary Landfill)	Arcadis	AUG-2013

FORT GEORGE G MEADE

Installation Restoration Program

Site Descriptions

Site ID: FGGM 05
Site Name: TROOP BOILER PLT (OPERABLE UNIT 2)

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater

Phases	Start	End
RFA	199103	199203
CS	199204	199205
RFI/CMS	199206	199207
DES	199208	199212
CMI(C)	199407	199512
CMI(O)	199701	200909
LTM	201103	201309

RIP Date: 199701

RC Date: 200909

SITE DESCRIPTION

During its operational history, FGGM-05, also referred to as OU No. 2 (site) contained the following site improvements: Building 8481; five aboveground storage tanks (ASTs) ranging in capacity from 275 gallons to 142,000 gallons; and four underground storage tanks (UST) ranging in capacity from 550 gallons to 20,000 gallons. The ASTs and USTs stored petroleum products, mainly No. 2 fuel oil with some ASTs containing waste oil. Bldg 8481 has been demolished and the ASTs and USTs have been taken out of service and closed. One of the USTs was closed in place using inert fill and remains in the ground. Records indicate that three releases occurred at the site, one during a delivery in 1981 and two reported UST leaks in 1991. Due to these incidents the site became an active state-lead site under the MDE's Oil Control Program (Case No. 92-0026-AA).

Six product recovery wells and over 30 monitoring wells have been installed since 1991. Groundwater samples have been collected from monitoring wells at the site, most recently in 2001 and 2008. All 2008 test results are below Federal maximum contaminant levels (MCL). A liquid phase hydrocarbon (LPH) plume was detected at the site. A pump-and-treat system was installed and operated from 1993 to 1996. As the plume thickness decreased the Army used different technologies to optimize product (LPH) recovery. From 2000 to 2003 a solar powered oil skimmer was active. In 2006, the Army began hand bailing product from select wells and in 2008 the Army installed oil absorbent socks/booms into select wells to complete the product recovery operation. The Army continues to monitor the socks/booms and conduct weekly groundwater/LPH depth gauging activates. As of 2008 the initial plume had been reduced into two small plumes with product thicknesses of less than an inch. From 1993 to the present, a total of 4,326 gallons of LPH had been recovered from the site. Gauging records indicate that LPH has not been found in any down gradient wells. The LPH plumes are believed to be static and not migrating off the site. None of the risk factors established in the 2003 guidance document titled Maryland Environmental Assessment Technology (MEAT) for leaking USTs are evident at the site and the Army intends to petition the state to end product and gauging activities and close the site.

As documented in the Final Conceptual Site Model and Assessment Report, a comparison of site conditions against the seven risk factors identified in the MEAT for Leaking USTs (revised, February 2003) and a related Point of Exposure (POE) evaluation indicate no complete receptor pathways, and thus no potential risk is identified under the current and future land use scenario of military or industrial/commercial use. Site conditions indicate that further site remediation is not necessary to mitigate risk. The Army requested MDE grant a certificate of completion for the site which was granted by MDE in December 2009.

A contract was awarded at the end of FY12 for deconstruction of the two pump-and-treat systems. The deconstruction process is complete and the site has been restored to benificial re-use; no further environmental actions are anticipated.

CLEANUP/EXIT STRATEGY

This site was officially closed in December 2009 and reopened to facilitate the deconstruciton of the pump-and-treat systems

Site ID: FGGM 05
Site Name: TROOP BOILER PLT (OPERABLE UNIT 2)

which was completed in 2012. Nearly 100% of the material was recycled. With the deconstruction process complete the site has been restored to benificial re-use.

Site ID: FGGM 07
Site Name: DRMO DRUM SITE (OPERABLE UNIT 5)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199205	199405
SI	199205	199405
RI/FS	199409	201711
RD	200505	201807
IRA	199503	199709
RA(C)	200505	201907
RA(O)	201907	202407
LTM	202407	204907

RIP Date: 201907

RC Date: 202407

SITE DESCRIPTION

The Defense Reutilization and Marketing Office (DRMO) Drum Site at the intersection of Rock Avenue and Remount Road along the southern boundary of the installation. The site is nine acres and is bordered by State Route 32 along the south, Remount Road on the east, Rock Avenue on the north, and wooded areas to the west. FGGM 07 is identified as OU-5 in the performance-based contract (PBC). The site includes the covered storage facility (CSF) located at the former salvage yard portion of the former Defense Property Disposal Office (DPDO). The CSF is also known as the DRMO warehouse.

In 1988, the DPDO Salvage Yard was an open storage/disposal area for automobiles, drums, water heaters, heating units, dry cleaning machines, spent batteries transformers, pipe, and scrap metal. Operation of the DPDO Salvage Yard ceased in January 1994 in preparation for the CSF warehouse construction. 263 drums, two transformers, and one high voltage box, were discovered on June 15, 1995. 3,500 tons of contaminated soil was removed. Test results of the drums contents found solvents, degreasers, petroleum products metals, pesticides, and polychlorinated byphenls (PCBs). Soil test results found VOCs and SVOCs (primarily fuel compounds), PCBs, and metals were present. After completion of the investigation, the site was completely paved and the operation of the DRMO resumed along with the newly constructed CSF.

VOCs were detected in the water table aquifer. The source of contamination appears to be the former buried drums and associated contaminated soil. The primary contaminant of concern (COC) is tetrachloroethene (PCE), detected at elevated levels ranging from 189 micrograms per liter (µg/L) (September 1999) to 128 µg/L (May 2006), which exceed the MCL of 5 µg/L. The PCE plume is approximately 5,000 feet long.

Although future land use for this site is industrial/installation support, the baseline risk assessment (BRA) reported a lifetime cancer risk of 2.5 × 10-4 for residential exposure to groundwater used as tap water; PCE, trichloroethene (TCE), carbon tetrachloride, and chloroform in groundwater drive the cancer risks. The human health evaluation did not identify elevated risks associated with the soil under current or projected future land use scenarios. No ecological risks were identified.

In the final focused feasibility study (FFS), simulated solute transport modeling was used to predict future migration of PCE and TCE (degradation daughter product of PCE) plumes under current groundwater conditions. The model results indicated that after 120 years of transport (year 2119), PCE concentrations would not exceed 5 µg/L.

The final FFS, approved by the MDE and the USEPA in 2007, evaluated four remedial alternatives and recommended monitored natural attenuation (MNA)/institutional controls as the preferred remedy for FGGM 07; however, a Draft Final Supplemental Plume Delineation and Data Collection Plan was prepared in September 2008 to address USEPA and the MDE's concerns about the adequacy of the plume delineation and the applicability of the MNA remedy. A supplemental technical report to the FFS detailing pre-design plume delineation and data collection was submitted to the USEPA for review, commented on, and response to comments generated. A Technical meeting with USEPA and the MDE was held on October 27, 2010 to review each comment/response and to agree on a path forward which was determined an active remedy would be necessary (e.g.,

recirculatory pump and treat system, LTM and LUCs). Additional data may be required to refine a remedy.

CLEANUP/EXIT STRATEGY

The site is currently in the RI/FS phase and a ROD is planned for FY18. The site is contaminated with a large deep diffuse plume of PCE that extends for over 1 mile (at 5 parts per billion (ppb)) from the site onto property owned by the Department of Interior (DOI). The DOI imposed restrictions on the use of groundwater for potable purposes and the Army anticipates an engineered remedy with LTM and LUCs. Due to the size of the plume, groundwater monitoring is anticipated to continue for an extended period of time (to be determined at the end of the RI/FS phase).

Site ID: FGGM 08
Site Name: COMP AMMO SUPPLY POINT #1

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199510	199604
SI	199510	201110
RI/FS	201110	201309
IRA	199801	199903

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

This site, also known as Ammunition Supply Point No. 1 (ASP I), is located within the Closed Sanitary Landfill (CSL) site (FGGM-17). At ASP I, chemical munitions were used including smoke grenades and Riot Control Agents (RCAs) for training purposes (Argonne, 1989). These items were stored at the site. In the 1950s, an unknown number of chemical agent identification sets were also stored in at the site. The final disposition of these sets is unknown.

Over the course of previous investigations, 21 surface soil, 6 subsurface soil, 1 surface water sample, and 6 sediment samples were collected and submitted for laboratory analysis. In addition, both shallow and deep groundwater at the CSL site has been monitored, for volatile and semi-volatile organics, metals and other parameters including explosives and explosive constituents. Some of the FGGM-17 wells are located near ASP I.

Soil samples were collected around the magazine locations (EM Federal, 2007). One surface and 1 subsurface soil sample were collected from each of 6 former magazine locations in the former ASP area to assess the potential for soil contamination due to spills or leaks. Based on a risk analysis of the analytical results, the risk numbers are below site-specific action levels.

Closeout of this site will require a Record of Decision (ROD). Since this site is located completely within the boundary of the CSL, it will be included in the ROD for the CSL.

CLEANUP/EXIT STRATEGY

No compounds were detected at concentrations that result in unacceptable levels of risk to human health and the environment. This site is located within FGGM-17 (Closed Sanitary Landfill)(which is part of the PBC at Meade site) and will be closed as part of the CSL ROD in FY13.

Site ID: FGGM 11
Site Name: GAS TRAINING BUILDING (former)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199701	199705
SI	199706	201309

RIP Date: N/A

RC Date: 201310

SITE DESCRIPTION

Building 73 was constructed in 1965 and used between 1965 and 1979 for troop training using respiratory protection for riot control agents. The building has since been converted for use by the Defense Information School for urban facility inspection training.

Only ortho-chlorobenzylidene malononitrile (CS); tear gas has been used at building 73. CS is not a RCRA-listed waste, CERCLA-listed hazardous waste, or Superfund Amendments Reauthorization Act (SARA)-listed extremely hazardous substance or toxic release chemical.

Building 73 was not identified as a potential SWMU in the 1996 SWMU study nor was this AOI identified in the USEPA (1996) review of historic aerial photographs of FGGM. A Comprehensive Site Assessment (CSA) and RRSE were completed for this site in 1997. As part of the CSA-RRSE, seven wipe samples were collected from interior building material surfaces in March 1997. The wipe samples were analyzed for acid compounds and base/neutral compounds.

Only one compound, bis (2-ethylhexyl) phthalate was detected in one sample at 10 µg/wipe (equivalent to 0.010 milligram per kilogram (mg/kg)). The CSA-RRSE concluded that based on-site reconnaissance, historical records review, interviews, and sample analysis, use of tear gas in Bldg 73 has not resulted in significant chemical contamination of the building or surrounding lands. The CSA-RRSE indicates that the overall risk value is low.

There is very low potential for the tear gas agent or its decomposition products to have entered the soil or groundwater surrounding Bldg 73. Because CS may potentially release hydrochloric acid, cyanide, nitrogen oxide, and carbon monoxide as decomposition products when exposed to both high temperatures and water, both soil and groundwater samples should be analyzed for CS and cyanide. This site is included in FGGM-95. The Army plans to collect soil and groundwater samples to determine if a release has occurred.

CLEANUP/EXIT STRATEGY

The USEPA rejected the Army's proposal to close the site and has required the Army to collect soil and groundwater samples to verify a release to the environment has not occurred. It is the Army's expectation that the results will confirm there are no residual contaminants above federal criteria and the site will be closed in the SI phase.

Site ID: FGGM 13
Site Name: PEST. SHOP BLDG. 6621

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Pesticides

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199701	199704
SI	199701	199704
RI/FS	200410	201209
RD	201209	201304
RA(C)	201209	201309
LTM	201409	204409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

FGGM 13 is former Bldg 6621, the former Pesticide Shop, which is south of the FGGM golf course at the southwest corner of the intersection of York Avenue and Gordon Street. During WWII, the building served as a mess hall for prisoners of war. Between 1958 and 1978, the site was used as a pesticide shop. Pesticides stored at the building include malathion, diazinon, and baygon. During this time, it was also used as a maintenance facility for lawn mowers, tractors, and other landscaping equipment. The building was demolished in 1996 and the area graded; currently, the site is vacant, covered with grass and fenced.

SIs were conducted after the building was demolished and the site regraded. The SI soil sampling results indicate that the following chemicals were detected above USEPA Region 3 RBCs: chlordane, alpha- chlordane, gamma-chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, 2,4-D, heptachlor, dieldrin, arsenic, and mercury. Neither the horizontal nor the vertical extent of these chemicals in the soil was determined during the SI. Groundwater was not assessed. The numerous risk-based screening exceedances beyond the immediate vicinity where pesticides were reported to have been stored and handled suggest that the site grading activities may have spread contamination at the site.

In June 2007, the draft final RI determined that surface and shallow subsurface soils at the former Pesticide Shop are contaminated with pesticides (primarily chlordane) and arsenic. Surface soil contamination primarily drives human health cancer risks and non-cancer hazards that exceed the acceptable USEPA thresholds of 1 by 10-4 and 1.0, respectively for the hypothetical future resident and future construction worker scenarios. The extent of contamination is well defined horizontally and vertically and is proximate to the central area of the former Pesticide Shop, where pesticides handling and mixing occurred. The pesticide contamination is more extensive than the arsenic contamination.

Groundwater is also contaminated with pesticides (primarily chlordane) and certain VOCs but not arsenic. Groundwater pesticide concentrations decrease substantially away from the pesticide handling area. The extent of contamination was determined in 2010 as part of a supplemental RI.

The human health risk assessment (HHRA) finds that for current land use receptors, cancer risks and non-cancer hazards do not exceed the USEPA cancer risk and non-cancer hazard thresholds of 1 by 10-4 and 1.0, respectively. Concerning possible future land use receptors (including residential), the HHRA finds that, although the soil is contaminated with both arsenic and organochlorine pesticides, human health cancer risks and non-cancer hazards above the USEPA cancer risk and non-cancer hazard thresholds are driven by the organochlorine pesticides (primarily chlordane). If chlordane were not present in the soil, human health cancer risks and non-cancer hazards would be below these USEPA thresholds. The screening-level ecological risk assessment findings are consistent with the HHRA findings, indicating that organochlorine pesticides pose elevated risks, but due to the lack of habitat and the small size of the site ecological risks are over-estimated.

Comments were received on the Draft Final RI; USEPA Region 3 requested installing four additional groundwater wells, which were installed and sampled. A final RI and Focused Feasibility Study were completed in 2012. A Proposed Plan was submitted to stakeholders and the public for review and comment in August 2012 and a Record of Decision was signed in September 2012. The remedial alternative selected was soil excavation (approx. 700 tons), enhance reductive dechlorination with long-term

management (LTM) of groundwater, and land-use controls (LUCs).

CLEANUP/EXIT STRATEGY

This site is part of the Performance-Based Acquisition (PBA) awarded August 2009. A Record of Decision was signed in September 2012. The remedial alternative selected was soil excvation (approx. 700 tons), enhance reductive dechlorination with long-term management (LTM) of groundwater, and land-use controls (LUCs). The Remedial action (construction)(RA(C)) is anticipated in FY13/FY14 with 30 years of groundwater monitoring and LUC maintenance. The number of groundwater samples collected and the types of analytes tested for is anticipated to decrease with time based on the anticipated performance of the remedy.

Site ID: FGGM 17
Site Name: CLOSED SANITARY Landfill

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Pesticides, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	198011	199212
SI	198011	199212
RI/FS	200109	201309
RD	200901	201312
IRA	199806	199812
RA(C)	200901	201411
LTM	201411	204411

RIP Date: N/A

RC Date: 201411

SITE DESCRIPTION

FGGM 17 is the Fort Meade Closed Sanitary Landfill (CSL) located along the eastern boundary of the installation, south of State Route 32 and adjacent to the Amtrak railroad tracks. Fort Meade began landfilling operations at the site in 1958 using the trench fill method until 1976; the landfill was used for the disposal of mixed residential, commercial, and nonhazardous industrial wastes. The landfill was constructed as an unlined facility with no leachate collection system and was initially designated as the Active Sanitary Landfill. It was divided into Cell 1, which covers approximately 155 acres, and Cell 2, which covers 66 acres. These two cells were separated by a drainage swale. A third area, which lacks topographic expression, has been informally referred to as Cell 3. Cell 3 was the only trench type disposal area but the extent of this activity has not been determined.

A landfill-gas collection system operates along the eastern edge of the landfill cells (prevents off-site migration) to control emissions from the site (this action is part of the Ft. Meade Comliance Cleanup Program). Much of the site is wooded and there are several areas identified as wetlands. The landfill was officially closed in January 1996 and thereafter referred to as the CSL. Cells 1 and 2 were capped under the MDE's Disposal Permit 1992-WSF-0022-0 issued in 1992. The approximately 130- acre landfill (the entire FGGM 17 site occupies 367 acres) operated under permit #87-02-00-08A, issued by the state of Maryland Department of Health and Mental Hygiene on June 26, 1987. A new permit No. 1992-WSF-0022-0 was issued by the MDE on Nov. 2, 1995; operations continued under this permit until closure in 1996. Sanitary landfill operations at Fort Meade were managed by the Directorate of Public Works (DPW). The landfill was closed in accordance with MDE-approved closure plans under RCRA. The Cell 1 closure plan was approved on Dec. 2, 1994, and the Cell 2 closure plan was approved on Aug. 10, 1998. Capping and closure of Cell 1 and Cell 2 were completed under contract in August 1996 and May 1999, respectively. Cap design for both cells included a synthetic liner and a passive gas venting system. No future plans to reopen the landfill are being considered. Comp Ammunition Supply Point No. 1 (FGGM-08) is located within the boundary of the CSL and will be closed along with the CERCLA investigations of the near-surface groundwater.

A comprehensive groundwater and surface water monitoring program is in place pursuant to the state's post-RCRA monitoring requirements. The State has agreed with the Army's proposal to reduce the number of analytes in the post-RCRA monitoring (number of wells and analytes) to more closely reflect past detections. A landfill gas collection system was installed in February 2000 in accordance with the post-RCRA requirements. Analytical data from semi-annual groundwater samples collected since December 2000 indicate that several wells have shown statistically significant increases in concentrations of monitored constituents. Three VOCs (carbon tetrachloride, tetrachloroethene, and benzene) and three metals (arsenic, beryllium, and thallium) have routinely exceeded the MCLs. The findings of the 2007 Final RI are as follows; Geologic, hydrogeologic, and hydraulic data indicate that the Middle Patapsco clays are thick and act as a confining unit at the CSL; therefore, the CSL is not the source of VOCs detected in the Lower Patapsco aquifer. The Lower Patapsco aquifer is addressed in FGGM-47 groundwater investigations. Benzene and arsenic have been detected above the residential tap water RBC and/or MCL in the Upper Patapsco aquifer since 1995. It is unknown as to whether or not benzene and/or arsenic is migrating off-site/off-post above their respective MCLs. Additional investigations are planned to determine the extent of contamination in the shallow aquifer.

Site ID: FGGM 17
Site Name: CLOSED SANITARY Landfill

CLEANUP/EXIT STRATEGY

Cell 1 and Cell 2 have been capped. FGGM is currently monitoring groundwater and soil gas. A formal RI to determine the nature and extent of contamination and any associated risk has been finalized and no risks were documented. Groundwater monitoring will be continued in accordance with the post-RCRA requirements. Wells and/or constituents below compliance levels will be removed from future sampling. Benzene and arsenic were detected above federal criteria in the Upper Patapsco Aquifer along the landfill's southern border (comingled plume). Complex groundwater flow patterns are present in this area and additional investigations are being conducted to determine the vertical and horizontal extent of the plume. Additional Geoprobe borings and a monitoring well were advanced. This data is being evaluated to determine if its sufficient to determine the vertical and horizontal extent of the plume, which is necessary to understand potential expossure pathways. A ROD and RA(C) are anticipated in FY13 and FY14, respectively with 30 years of groundwater LTM and LUC maintenance. The number of wells and constituents tested for will be decreased as appropriate.

Site ID: FGGM 33
Site Name: BATTERY SHOP BLDG. 2283

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199112	199303
SI	199112	201110
RI/FS	200901	201409
IRA	199304	199405

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

Former Bldg 2283 was located in the southeast portion of the installation approximately 500 feet west of the intersection of Morrison Street and Huber Road. The Former Battery Shop/Battery Disposal Facility is currently a vacant, grass-covered parcel of land not currently used. The area of interest (AOI) was formerly used as a motor repair shop or storage facility (from 1941 through 1982) and battery disposal facility (from 1982 through 1992). A wood building constructed in 1941 (Bldg T-2283) formerly occupied the AOI, and was demolished in the mid-1990s. From 1982 through 1985, battery acid was discharged directly to surface soil in a bermed area along the north wall of the former building. After installation of an acid neutralization tank in 1985, treated fluids from the neutralization tank were discharged to the surface at the northern end of the AOI. In 1987, discharge of battery acid to the tank ended, but battery rinsing and cleaning operations continued in a sink in the northeast corner of the building; a drain pipe from the sink discharged to the surface soil outside the building. All battery repair and maintenance operations ceased in 1992.

Site characterization and remediation was conducted in 1994 and a CSA was conducted in 2000. The reported results for lead in soil ranged from 13 to 389 mg/kg.

In 1993, soil, groundwater, and concrete samples were collected as part of the Site Characterization and Remediation to assess the extent of lead in soil, groundwater, battery treatment hardware, and the concrete building foundation in preparation for remediation and site closure. Lead in surface soil samples ranged from 0.83 to 3,470 mg/kg. Lead in subsurface soil samples ranged from 0.42 to 954 mg/kg. Lead in groundwater samples ranged from 2.4 to 320 ug/l.

Hardware and soil removal actions were conducted based on the results of the site characterization. This interim removal action was completed in 1994 and included removal and disposal of the acid neutralization tank, stained concrete, and lead-impacted soil from three soil areas. Lead in confirmatory subsurface soil samples ranged from 1.0 to 66.2 mg/kg.

In June 2000, a CSA was done to evaluate the effectiveness of the removal activities. Groundwater samples were collected from temporary wells and two existing wells. Lead in surface soil samples ranged from 4.5 to 180 mg/kg. Total lead in groundwater samples ranged from 5.7 to 980 µg/l; however, dissolved lead was non-detect. Based on the infrequent nature of site visits and the low concentrations of lead detected in the soil, the potential risk to human health is minimal, and no further RA is warranted for soil.

Post-excavation and post-remediation soil samples are all below the action level for lead (400 mg/kg). Most post excavation groundwater samples are above the federal MCL for total lead but all are below the MCL for dissolved lead. Elevated total lead concentrations detected in the unfiltered groundwater samples are most likely due to the presence of suspended solids. Two of the acid neutralization tank gravel groundwater samples reported detections of benzene, toluene, ethyl benzene, and xylene (BTEX) and VOCs. The gravel and soil has been properly disposed of. It does not appear that subsequent soil or groundwater sampling was performed to confirm that VOCs are no longer a COC. To confirm this AOI has been fully remediated, surface soil and groundwater samples may be collected and analyzed for VOCs and metals.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

Site ID: FGGM 33
Site Name: BATTERY SHOP BLDG. 2283

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 36
Site Name: PHOTO LAB'S BLDG 4553, 6530

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199601	199606
SI	200901	201305

RIP Date: N/A

RC Date: 201305

SITE DESCRIPTION

Bldg 6530 is a vehicle maintenance facility (SWMU 105), with nearby oil/water separator (OWS) (SWMU 106), and washracks (WR) (SWMUs 107 and 108). Bldg 6530 is located in the southwestern portion of the installation at the intersection of Taylor Avenue and Gordon Street. Bldg 6530 (SWMUs 105-108) is part of FGGM 36 (OU-20) an Auto Repair and Craft Center, which also includes Bldg 4553 (Non-SWMU 11). Bldg 4553 (non-SWMU 11) is addressed as a separate AOI under FGGM-95.

Bldg 6530 was identified as SWMUs 105-108 during the 1996 SWMU study because there was routine discharge of waste to the OWS. The 1996 SWMU study also indicated there were no spills or reported releases for this AOI. Bldg 6530 was also previously identified as a photo lab building. The building is currently used as a craft center for installation residents involved in woodworking, ceramics, framing, and similar recreational activities. In addition, approximately two-thirds of the building is devoted to auto repair.

No chemicals except typical cleaners are kept in the crafts portion of the building. The auto repair facility stores oil, antifreeze, and Freon. Used oil cans, oil filters, and rags are stored in 55-gallon drums for eventual removal. All floor drains in the auto repair area flow to an OWS (SWMU 106), which also receives wastewater from two WRs (SWMUs 107 and 108) at the site. An 800-gallon waste oil AST is located at the northern exterior wall of the building.

Per the 1996 SWMU study there are no recorded releases of hazardous substances. There was no sign of a release of contaminants to the environment during the on-site inspection and perimeter survey of the building grounds. Samples were collected around Bldg 6530 on two occasions; during a RCRA Facility Assessment (RFA) 3rd Phase and a data gap investigation. As part of the RFA 3rd Phase, 16 direct-push borings were advanced around the building, WR, and OWS in April 1999. Three surface soil samples, 12 subsurface soil samples and one groundwater sample were collected using a direct-push sampling rig. The samples were analyzed for VOCs, SVOCs, eight RCRA metals, and TPH-diesel range organics.

In June 2002, as part of the data gap investigation, six new borings were advanced around the northern and eastern edges of Bldg 6530 and around the WRs and OWS. Six surface soil samples were collected and analyzed for 23 metals, pesticides, and herbicides. Over the course of previous investigations, nine surface soil, 12 subsurface soil, and one groundwater sample were collected and submitted for laboratory analysis; however, considering that only one groundwater sample was taken at Bldg 6530, and that the chemicals of interest were arsenic, chromium, and mercury, an additional groundwater sample will be collected. Since metals are the risk drivers in groundwater, the groundwater sample will be analyzed for total and dissolved metals. All costs associated with this site are captured under FGGM-95. A letter (June 2011) of no further action was issued for Bldg. 4553 (non-SWMU 11).

CLEANUP/EXIT STRATEGY

The USEPA rejected the Army's proposal for NFA. Additional groundater quality data will be collected in the SI phase. The results will clarify the site's exit strategy, but the Army anticipates a NFA consensus letter, similar to a NFA ROD, in FY13.

Site ID: FGGM 37
Site Name: KIMBROUGH ARMY HOSPITAL

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199601	199606
SI	201009	201309

RIP Date: N/A

RC Date: 201310

SITE DESCRIPTION

Kimbrough Army Community Hospital (Bldg 2480) is located approximately 100 ft east of the intersection of Llewellyn and Wilson Avenues and was identified as SWMU 71 during the 1996 SWMU study because it routinely discharges waste from silver recovery units. Bldg 2480 has been used as a hospital since its construction in 1968. Hospital operations were downsized to those of a clinic in the early-1990s. Chemicals stored in flammable storage cabinets and on shelves include acetic acid, acetone, alcohol, phenol, trichloric acid, silver nitrate, hydrochloric acid, fixer and developer, iodine, peroxides, and sodium chloride. Areas within the hospital that use chemicals include the pharmacy, laboratories, x-ray rooms, emergency rooms, operating rooms, dental labs, podiatry rooms, and orthopedic rooms. Silver recovered from photographic processing is removed to the warehouse for proper disposal.

The 1996 USEPA historic aerial photographic study of the installation identified the site as a motor pool (MP) and vehicle service and staging area at in 1943 and 1952 aerial photographs. The USEPA study identified stained soils adjacent to buildings at the east side of this site in the 1943 and 1952 aerial photographs. Samples were collected around Bldg 2480 on one occasion; during a sampling visit.

As part of the March 2000 sampling visit, eight subsurface soil and one groundwater sample were collected and analyzed for TPH, VOCs, SVOCs, and eight RCRA metals. Arsenic exceeded the residential risk-based criteria (RBC) in two of eight soil samples; however, detection limits exceeded both the residential RBC and the industrial RBC.

Detected concentrations (arsenic and lead) in groundwater are above the site-specific threshold for cumulative cancer risk of 5 x 10-5 and target organ non-cancer hazard threshold of 0.5. In addition, the two metals were detected at concentrations in excess of their federal MCL. Further investigations are being conducted under FGGM-95.

CLEANUP/EXIT STRATEGY

The USEPA rejected the Army's proposal for NFA. Additional groundater quality data will be collected in the SI phase. The results will clarify the site's exit strategy, but the Army anticipates a NFA consensus letter, similar to a NFA ROD, in FY13.

Site ID: FGGM 45
Site Name: CALIBRATION LAB BUILDING 2220

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199601	199606
SI	199607	201110
RI/FS	200909	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

Bldg 2220 is located in the southeastern portion of the installation, approximately 300 ft east of the intersection of 3rd Street and Pepper Road and was identified as SWMU 42 during the 1996 SWMU study because past operations at the building included the use of solvents, which produced waste. Bldg 2220 was constructed in the late-1950s or early-1960s and was used as a warehouse and troop training center for some unknown period of time. Bldg 2220 was used in the late-1960s as a missile repair shop, using solvents and producing solvent waste. Bldg 2220 is currently used as an electronic maintenance and equipment calibration shop. No hazardous chemicals are currently in use at the facility. Bldg 2220 is also identified as FGGM 91, Former Missile Repair Shop. FGGM 91 pertains to the groundwater at Bldg 2220 and FGGM 45 pertains to the building and soil. Both sites are being addresed under FGGM-47.

Small amounts of cleaning solvent and gasoline were formerly stored in a shed outside the building. Two fuel oil USTs were formerly located at the south side of the building; one was removed in 1992, and the other was removed and replaced in 1988, then removed in 1997. During the 1988 UST removal, corrosion holes were noted at the end of the tank.

The 1996 SWMU report indicates there is no evidence of a release of hazardous substances. There was no sign of a release of contaminants to the environment during the on-site inspection and perimeter survey of the building grounds. The FGGM ED retains a copy of the MDE inspection reports dating back to 1988. As of 1996, there was documentation concerning the UST removals.

Samples were collected around Bldg 2220 on two occasions; during a Sampling Visit and a SI. As part of the Sampling Visit, six direct-push borings were advanced around Bldg 2220 in February 2000. Six subsurface soil and six groundwater samples were collected. The soil and groundwater samples were analyzed for TPH, VOCs, SVOCs, 8 RCRA metals, and PCB.

In December 2000, as part of the SI, seven additional direct-push borings were completed at the AOI, four surface soil samples and seven groundwater samples were collected. The soil samples were analyzed for herbicides and pesticides. The groundwater samples were analyzed for TPH (five samples), 19 total metals (four samples), 19 dissolved metals (five samples), herbicides, and pesticides (four samples).

Over the course of the previous investigations, four surface soil samples, six subsurface soil samples, and 13 groundwater samples were collected and submitted for laboratory analysis. Since groundwater is discussed under FGGM 91, it is not discussed in this section.

No herbicides or pesticides detected in surface soil exceeded the residential regional screening levels. The cumulative screening assessment results for subsurface soil were below the site-specific cancer risk threshold of 5x10-5 and the non-cancer threshold of 0.5, and no compounds were detected at concentrations exceeding background levels. These results were determined using three surface and six subsurface soil samples targeting the areas of greatest potential for environmental impact.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

Site ID: FGGM 45
Site Name: CALIBRATION LAB BUILDING 2220

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry), one of the FGGM PBA sites. An RI/FS is being conducted at OU-4. A draft RI/FS report is currently under development. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continue to be addressed under FGGM-47/OU4. All costs associated with this site are captured in FGGM-47/OU-4 (Post Laundry). See FGGM-47 for additional information.

Site ID: FGGM 47
Site Name: POST LAUNDRY (OPERABLE UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199005	199006
SI	199005	199006
RI/FS	199108	201409
RD	200901	201410
IRA	201303	201412
RA(C)	201303	201412
RA(O)	201412	204412

RIP Date: 201412

RC Date: 204412

SITE DESCRIPTION

FGGM 47 is Bldg 2250, the former Post Laundry Facility, which is located approx. 300 feet northeast of the intersection of Rock Avenue and Huber Road. Bldg 2250 is also designated SWMU 59 (post laundry) and SWMU 60 (1941 laundry).

Future land use at the area, according to the CEMP Land Use Plan dated May 2005, is designated as administrative/operations. Bldg 2250 has also been identified as FGGM's 90-day hazardous waste storage facility in other reports. FGGM 47 is also referred to as OU 4 and includes: FGGM-33, FGGM-45, FGGM-49, FGGM-51, Directorate of Logistics (DOL) Bldgs 2246 and 2286, FGGM-86 Former MP Maintenance Facility (Bldg 2286), FGGM-88 Former Tank Maintenance Facility Shop 1 (Bldg 2207), FGGM-89 Former Tank Maintenance Facility Shop 2 (Former Bldg 2217), FGGM-90 Former Tank Cleaning Warehouse (Bldg 2240), FGGM-91 Former Missile Repair Shop (Bldg 2220), FGGM-92 Former Heavy Gun Cleaning Shop (Bldg 2253), and MWs 123/125d and 124/126d.

In June 2009 as part of an ongoing RI, samples of groundwater taken 200 feet below the ground surface from two Army monitoring wells (MW-125D and MW-126D) at North Patuxent Road and Dovetail Lane in Odenton showed elevated levels of trichloroethene (TCE), tetrachloroethene (PCE), and carbon tetrachloride (CCl_4). These chemicals are industrial solvents used for cleaning and degreasing metals, to dry clean fabrics, and as an ingredient in paint removers, spot removers and pesticides. The chemicals appear to have originated from Fort Meade.

Based on this information, the Army began an Interim Measure including testing private wells within a 1-mile radius around monitoring wells MD-125d and MD-126d (tested annually) and homes along Old Dairy Farm Road. These homes were included because they are directly downgradient of MW-125d and MW126d, despite being outside the 1-mile radius. As a precaution, the Army is providing bottled water to homes and businesses with private wells within the 1-mile radius while the testing and analysis was underway. Homes and businesses receiving water from the public water supply are not impacted by the solvents. The Army continues to supply bottled water and intends to continue until data shows the residents are not at risk of drinking water unfit for consumption. The drinking water from one home was found to contain PCE above the federal Maximum Contaminant Level of 5 microgram per liter. The drinking water from this and two immediately adjacent home is tested monthly. The results show a decreasing trend in PCE concentrations. The data also shows PCE at this location is not associated with detections at MW-125d and MW-126d. Hydraulic data and groundwater quality data suggest this contamination may be coming from Ft. Meade. An investigation, referred to as Nevada Ave, is being conducted to determine if Ft. Meade is the source of this contamination is planned for 2012. These homes are supplied with bottled water.

Because a drinking water supply (Lower Patapsco aquifer) has been impacted, a NTCRA (EECA) is being completed to expedite an interim cleanup measure. Source level concentrations of chlorinated solvents including PCE and TCE were detected proximal to Bldgs. 2286, 2276, and Bldg 2250 which will result in two separate engineered remedies e.g., ISCO/RA(O) with LUCs and AS/SVE with LUCs; Bldgs 2276 and 2286, and Bldg 2250, respectively. Downgradient of this area, but still on-Post, a large-scale pump and treat system will likely be constructed to mitigate the contaminant levels and establish favorable hydraulic controls in the Lower Patapsco aquifer in the area. After which an FS will be prepared to determine the final remedy.

Site ID: FGGM 47
Site Name: POST LAUNDRY (OPERABLE UNIT 4)

CLEANUP/EXIT STRATEGY

Indications suggest either one large or several closely spaced smaller PCE/carbon tetrachloride plumes are present in the Lower Patapsco Aquifer. This plume extends over a 1 mile (at concentrations above federal criteria) into the Town of Odenton, Maryland. Bottled water is being supplied to several dozen homeowners/business with drinking water wells as a precaution. Key to the exit strategy is a good understanding of the source, architecture, and heading of the plume. To this end, three additional groundwater monitoring wells were installed further east into the Town of Odenton to better define the leading edge of the plume. The results of this work are still under evaluation, but additional wells may be necessary. This work is currently being done as a NTCRA as the plume has affected a drinking water resource. The collection of groundwater data is expected to continue through FY13 with a ROD and RA(C) in FY14 and an estimated 30 years of RA(O) including groundwater monitoring and LUC maintenance. The Army anticipates three engineered interim remedies, two will be located where source levels of PCE and are located (Bldgs 2250 and 2286) including ISCO/LTM with LUC and AS/SVE with LUC. The third interim remedy would consist of a large-scale pump and treat system across the path of the plume to stop the continued off-post migration. This system will be installed near the Post boundary with the Town of Odenton. Final remedies will be evaluated in the FS and likely include the continued operation of the interim remedies with 30 years of RA(O) and LUCs. The level of groundwater monitoring during the RA(O) phase is anticipated to decrease as the plume(s) attenuate.

Site ID: FGGM 49
Site Name: DOL BUILDINGS 2286, 2246

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199601	199606
SI	199601	199606
RI/FS	199607	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

FGGM 49 concerns Buildings 2286 and 2246 located north of Morrison Street and east of Huber Street, respectively. The Initial Delineations of these 2 buildings were completed. Further actions are required for soil and groundwater. The soil and groundwater investigations and any actions for Bldg 2286 are covered under FGGM-86, which is addressed under FGGM-47. The soil and groundwater investigations and any actions associated with Bldg 2246 are covered under FGGM-92, which is addressed under FGGM-47. Both FGGM-86 and FGGM-92 are part of OU-4. Bldg. 2286 has been idendified as a location potentially suitable for the application of ISCO/LTM with LUCs. This work would be part of the NTCRA associated with FGGM-47. For more information on the Army's cleanup approach and phase schedule, see FGGM-47.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 51
Site Name: BUILDING 2217

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals

Media of Concern: Soil

Phases	Start	End
PA	199601	199606
SI	199607	199612
RI/FS	200901	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

FGGM-51 is Bldg 2217 which was located in the southeastern portion of the installation west of the intersection of Chisholm Avenue and 2nd Street. Two heating oil USTs were located near Bldg 2217: UST No. 2217A was a steel UST (unknown size) installed June 1, 1970 and removed on July 14, 1988; UST No. 2217B was a 1,000-gallon capacity steel UST located off the southwest corner of Bldg 2217 that was installed Aug. 3, 1988 and removed Dec. 11, 1997. The first tank was removed due to corrosion; there were holes at the tank end. There was free-product observed, the saturated soils were removed, and the soil removal project stopped upon finding a clay layer. The new tank was installed and before the hole was completely covered with backfill it filled with rain water. There was no sign of product and the tank installation was completed. In April 2000, the case(s) were closed.

Bldg 2217 was not identified as a SWMU or potential past SWMU in the 1996 SWMU study nor was this AOI identified in the USEPA (1996) review of historic aerial photographs of the base.

Bldg 2217 was demolished in 2003. While the concrete foundation (slab) was being removed, environmental sampling from beneath the slab detected a limited area of petroleum contamination to around 3.5 ft beneath the slab. An investigation of the soil beneath the slab was begun in October 2005. Six locations were sampled beneath the slab. Six surface and 12 subsurface soil samples were collected. The samples were analyzed for SVOCs, target analyte list (TAL) metals, TPH-diesel range organics, TPH-gasoline range organics, PCB, and target compound leachate procedure metals. TPH-diesel range organics was detected at up to 2,300 mg/kg in surface soil and up to 1,200 mg/kg in subsurface samples. Arsenic (at 1.9 mg/kg) was the only other compound to exceed an MDE non-residential cleanup standard.

The slab and soil beneath it were removed on April 24, 2007. To assess the cleanup action, five post-excavation soil samples were collected and analyzed for TPH-diesel range organics and TPH-gasoline range organics. The highest concentration of TPH-diesel range organic detected was 23 mg/kg. The highest concentration of TPH-gasoline range organics detected was 3.5 mg/kg.
FGGM-51 is located within the geographic boundary of FGGM-47. For more information on the cleanup approach and phase schedule, see FGGM-47.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 70
Site Name: BLDG 6513 INDOOR RANGE

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199601	199606
SI	200901	201309

RIP Date: N/A

RC Date: 201310

SITE DESCRIPTION

FGGM-70 (Former Bldg 6513) was located in the southern portion of the installation on the northwest corner of the intersection of York Avenue and Simonds Street. Bldg 6513 was identified as a past SWMU because it was formerly used as an indoor shooting range and disposal practices for the impact range were unknown. Bldg 6513 was demolished in 2001 after standing vacant (but locked) for several years. A 550-gallon heating oil UST was located outside the southeast corner of Bldg 6513. The UST was removed in January 1997. Samples were collected around Bldg 6513 on two occasions; during a Sampling Visit and an SI.

As part of the Sampling Visit, four direct-push borings (SB1-SB4) were advanced around Bldg 6513 in February 2000. Five subsurface soil and one groundwater sample were collected. The soil samples were analyzed for TPH (SB3 only), VOCs, SVOCs, and eight RCRA metals. The groundwater samples were analyzed for VOCs, SVOCs, and 8 RCRA metals.

In January 2001, as part of a SI, four additional borings were completed; four surface soil samples (plus one duplicate sample) and four groundwater samples were collected. The soil samples were analyzed for herbicides and pesticides. The groundwater samples were analyzed for VOCs, SVOCs, and TPH-diesel range organics. A Remedial Investigation Work Plan was prepared in 2003 proposing four additional soil and groundwater samples be collected at four of the previous sample locations around Bldg 6513. It is unknown if this sampling was ever completed.

Over the course of the previous investigations, no herbicides or pesticides were detected in surface soil exceeded the residential regional screening levels. The cumulative screening assessment results for subsurface soil were below the site-specific cancer risk threshold of 5x10-5 and the non-cancer threshold of 0.5, and no compounds were detected at concentrations exceeding background levels. These results were determined using four surface and five subsurface soil samples targeting the areas of greatest potential for environmental impact; however, due to historic activities and that an indoor range was demolished here, there is the potential for lead and other metals to be present in surface soil which will be collected and analyzed for metals.

CSA results for groundwater with total metals analysis was below the site-specific threshold for cancer risk but above the USEPA threshold for non cancer hazards. In addition, bis (2-ethylhexyl) phthalate (BEHP) in groundwater was above its Federal MCL. The maximum detections of risk driving compounds and MCL exceedences in groundwater are in the duplicate sample from SB6, located northeast of Bldg 6513. VOCs are the risk drivers in groundwater. Also, detections of trimethylbenzenes, naphthalene, 2-methylnaphthalene, and BEHP were reported. The Army intends to collect additional groundwater samples and test for VOCs and SVOCs. This site is being addressed under FGGM-95.

CLEANUP/EXIT STRATEGY

The USEPA rejected the Army's proposal for NFA. Additional groundater quality data will be collected in the SI phase. The results will clarify the site's exit strategy, but the Army anticipates a NFA consensus letter, similar to a NFA ROD, in FY13.

Site ID: FGGM 71
Site Name: BLDG 6512 EX INDR RNG

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199601	199606
SI	200901	201305

RIP Date: N/A

RC Date: 201305

SITE DESCRIPTION

FGGM-71 (Former Bldg 6522) was located in the southern portion of the installation approximately 100 ft west of the northwest corner of York Avenue and Simonds Street. Bldg 6522 was identified as a past SWMU because it was formerly used as an indoor small arms target range and disposal practices for the range are undocumented. Bldg 6522 was demolished in the late-1990s. A 550-gallon heating oil UST was located outside the eastern wall of the Building. The UST was removed in August of 1995. Bldg 6522 was not identified in the 1996 USEPA review of historic aerial photographs; no stains, stressed vegetation, standing liquid, or other environmental concerns were identified at this location.

Samples were collected around Bldg 6522 on one occasion. Four subsurface soil and three groundwater samples were collected. The soil samples were analyzed for TPH, VOCs, SVOCs, and 8 RCRA metals. The groundwater samples were analyzed for VOCs and eight RCRA total metals. Boring SB2 was placed at the location of the former UST that was removed in 1997. An RI Work Plan was prepared in 2003. The Work Plan proposed four additional soil and groundwater samples be collected at the four sides of Bldg 6522. It is unknown if this sampling was ever completed.

The cumulative screening assessment results for subsurface soil were below the site-specific cancer risk threshold of 5x10-5 and the non-cancer threshold of 0.5, and no compounds were detected at concentrations exceeding background levels. These results were determined using four subsurface soil samples targeting the areas of greatest potential for environmental impact.

No surface spills/releases were identified on the site; therefore, no surface soil samples were collected and no data is available. Due to historic activities and the demolition of an indoor range here, there is the potential for lead and other metals to be present in surface soil. Three surface soil samples will be collected and analyzed for metals.

CSA results for groundwater with total metals analysis were above the site-specific thresholds for cancer risk and non cancer hazards. In addition, several metals in groundwater were above their Federal MCLs

The Army intends to collect additional groundwater samples to further evaluate the groundwater quality. This site is being addressed under FGGM-95.

CLEANUP/EXIT STRATEGY

The USEPA rejected the Army's proposal for NFA. Additional groundater quality data will be collected in the SI phase. The results will clarify the site's exit strategy, but the Army anticipates a NFA consensus letter, similar to a NFA ROD, in FY13.

Site ID: FGGM 74
Site Name: ARCHITECT OF THE CAPITOL

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Pesticides, Semi-volatiles (SVOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199510	199604
SI	199605	199606
RI/FS	200005	201310
RD	200901	201312
RA(C)	200901	201402
LTM	201402	202402

RIP Date: N/A

RC Date: 201402

SITE DESCRIPTION

FGGM 74 is the US Architect of the Capitol (USAOC) parcel located in an area along the south border of FGGM; it is situated generally between State Route 32 and Rock Avenue and between Taylor and Pepper Roads. This area was authorized by Congressional action for transfer in 1993 (effective date Sept. 30, 1994) from the Department of the Army to the USAOC to accommodate long term storage and service needs of the Library of Congress and other Legislative Branch agencies. Contamination on the USAOC parcel is due to past Army activities. Currently, much of the improved areas of the USAOC parcel are used for storing documents. Approximately 10-acres of the western extreme part of the USAOC property has been leased back to the Army and is used as a transportation motor pool (TMP). The motor pool is operated by the Army.

This area was evaluated in 1994 for feasibility of development for the needs of the Legislative Branch agencies. At the time of the study, the area contained a temporary warehouse area, buildings formerly used as the Fort commissary, and buildings associated with the TMP facility. A stream (Rogue Harbor Branch) flows south through the site, and wetlands are present in the vicinity of the stream.

A phase I site assessment was performed as part of the 1994 development study. The assessment identified VOCs, pesticide, PCBs, and metals contamination in the DRMO area. The assessment also identified petroleum hydrocarbon contamination at the TMP and in the vicinity of several USTs in the warehouse area. Based on the results of the 1994 assessment, a Phase II investigation was recommended.

In 2006, an RI was performed to characterize the nature and extent of contamination and to quantify the risk to human health and ecological receptors. The investigation identified SVOCs, metals (including lead), and a pesticide at concentrations exceeding risk screening criteria for arsenic and lead soil exceedances. The HHRA results indicated a potential risk for future off-site residential (adult and child) exposure to shallow GW. The screening-level ecological risk assessment (SLERA) results indicated that a more thorough assessment of the potential for ecological risk may be warranted, due to the potential for ecological risk to terrestrial wildlife in wooded portions of the site and to the aquatic organisms and benthic invertebrates in Rogue Harbor Branch.

A technical memorandum was prepared in 2007 for the USAOC parcel to further evaluate the HHRA and SLERA results from the RI, present new HHRA evaluations of on-site residential exposure to on-site soil and GW, present refined SLERA results, and to discuss risk management options for the site. The technical memorandum recommended NFA for soil, GW, surface water, and sediment at the site. Regulatory comments included recommendations for hot spot removal of lead and arsenic in soil; however, the arsenic exceedances were from samples collected on the railroad tracks that bisect the USAOC property, which is owned by the Maryland State Highway Authority. No additional work by the Army on the railroad tracks are anticipated at this time.

Two lead hotspots were initially reported; however, one was found to be a result of a transposition error (by building 73) in a data table. A work plan to investigate the other lead hotspot (proximal to an electrical substation) has been approved by the USEPA. Initial results show lead to be more extensive then originally anticipated. Additional borings were advanced to delineate lead in the soil. These results are being addressed in a revised Technical Memorandum. The RI, which is a compilation of several documents was submitted in January 2013. Draft FS is currently being developed to assess remedial action alternatives. A likely

remedy may involve LUCs for PCE in the near-surface groundwater and a lead hot-spot soil removal action with LUCs.

CLEANUP/EXIT STRATEGY

A draft FS is currently under development. The likely remedies will include lead hotspot removal with LUCs for soil and groundwater use restrictions LUCs for groundwater. The Army anticipates completing the ROD through RA(C) phases from FY14 to FY15.

Site ID: FGGM 83
Site Name: TRAP AND SKEET RANGE

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Polycyclic Aromatic Hydrocarbons (PAH)

Media of Concern: Sediment, Soil, Surface Water

Phases	Start	End
PA	199901	199905
SI	199901	199905
RI/FS	199909	201601
RD	199909	201610
IRA	200305	200306
RA(C)	199909	201707
LTM	201708	204708

RIP Date: N/A

RC Date: 201708

SITE DESCRIPTION

The former trap and skeet range was used for recreational purposes from the mid-1970s through 1994. The site is located at the eastern extent of 20th Street, approximately 1,400 feet east of the intersection with State Route 175. The site is a vacant parcel of 66 acres. Approximately 44 acres were used as a trap and skeet range. The former range consisted of a firing line, skeet houses, and the man-made pond. The pond was created by damming a stream. Sampling included shallow soil at 49 locations, sediment at 10 locations (including the flowing stream bed, the dry stream bed, and the pond), surface water at eight locations (including the pond and the stream), and groundwater at four contaminated soil locations and one background location. All samples were analyzed for PAHs and total lead. The highest risk to human health is 2.8 by 10-4, which exceeds the upper threshold for carcinogenic risk (1x10-4); the human health risks are driven by the presence of PAHs in the surface soils. Analytical results indicated that PAHs and total lead were detected across the site at concentrations exceeding regulatory criteria. Based on results of a Sensitive Receptor Survey (SRS) and a risk assessment concluded that corrective action measures should be implemented to address the PAH-contaminated soils and the deposits of lead shot, skeet fragments, and plastic shell fragments.

The July 2002 CAP recommended excavation and removal of these deposits and the PAH-contaminated soils to a maximum estimated depth of 3.5 ft. In addition, draining of the site pond and removal of the deposits from the pond bottom were recommended. In August 2004 over 100 soil samples were collected and analyzed for metals (antimony, arsenic, copper, lead, and zinc) and PAHs. In addition, 10 sediment and seven surface water samples were collected and analyzed for metals and PAHs. Seven groundwater monitoring wells were also installed, developed, and sampled for metals and PAHs.

The findings of the investigation indicate that lead shot, metals, and PAHs have affected portions of the surface soils on-site. PAHs are primarily in front of the former firing line and to the east of the firing line in the woods, just east of one of the former trap-houses of the range. The depth of the PAH impacts extend to the shallow subsurface soils within 150 to 200 ft in front of the former firing line and just to the east of one of the former trap-houses. The lead shot is present in the surface soils east and southeast of the pond in agreement with the azimuth of the former center firing station of the range. A supplemental testing proposal was submitted in September 2007 to determine whether lead concentrations reported in the February Draft Data Report were representative of the lead content in soils excluding any lead shot. To assess potential exposure to human and ecological receptors at the former trap and skeet range, a Final Memorandum Human Health Risk Assessment and Site-specific Terrestrial Ecological Risk Assessment Field Study Work Plan were prepared. Upon approval of the Work Plan, ecological-risk field sampling activities took place and a Draft RI Report was submitted in December 2010, which summarized risks to human health and ecological receptors.

The HHRA was approved in November 2009. The Draft Final RI indicates there is a potential for unacceptable ecological risk in soil from lead; PAHs have been determined to not pose an unacceptable ecological risk.

A final RI was submitted in the Summer of 2011; however, regulatory comments were tendered and addressed. In September 2012, the Army submitted another final RI (revisions 2) and additional regulatory comments were tendered. The army has responded to these comments and submitted the final RI which is under regulatory review. The upcomming FS will evaluate

mulitple remedial action alternatives; however, the likely response will include the removal of lead shot and possibly LUCs.

CLEANUP/EXIT STRATEGY

The Army and the USEPA are evaluating the site to determine if an ecological risk assessment is necessary. Preliminary indications are that a remediation will be needed to reduce the ecological risks. Specifically, the reduction of the amount of lead shot and lead in the surface soil. The dimensions of cleanup have not been fully established, but a further action ROD is anticipated in FY16 with lead contaminated soil and lead shot removal, and LUCs. Thiry years of LTM of LUCs are anticipated.

Site ID: FGGM 86
Site Name: MOTORPOOL FAC (OPERABLE UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200306	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The motorpool maintenance facility (Bldg 2286) was established in 1941. Past operations included vehicle painting, sheet metal stamping, and battery charging. This resulted in elevated levels of VOCs in the groundwater including PCE and TCE. Currently the building is used as a utility workshop and for administrative purposes. FGGM 86 is being addressed under FGGM-47. A NTCRA/EECA is being conducted at FGGM-47 after which a RI/FS through a ROD will be prepared.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 87
Site Name: NIKE CONTROL SITE (OPERABLE UNIT 3)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200307	201601
RD	200307	201609
RA(C)	200307	201912
RA(O)	201909	202409
LTM	202412	204912

RIP Date: 201912

RC Date: 202409

SITE DESCRIPTION

The Nike Control Site is a former Missile Master complex that supported the Nike missile program from 1955 to 1972. As part of the site's RI/FS, lead was detected in surface and subsurface soils above FGGM background levels at concentrations ranging from 0.71 mg/kg to 1,770 mg/kg. Arsenic was detected in subsurface soils above FGGM background levels and above the USEPA Region III industrial RBC of 1.9 mg/kg at concentrations ranging from 0.68 mg/kg to 17.1 mg/kg. Trichloroethene (TCE) was detected in groundwater at concentrations ranging from 0.56 [estimated concentration (J)] ug/L] to 218 ug/L. Bldg 1945 (the apparent source area of the TCE groundwater plume) was used as a generator plant and for maintenance operations.

The Draft Final RI/FS was submitted to the USEPA and the MDE and was commented on. In response to comments from the MDE, the Army collected additional soil samples to better define certain metals and VOCs at the former radar tower. The results have shown no source levels of TCE or metals associated with the radar tower. The USEPA requested that a SLERA be completed and added to the RI/FS. The Draft Final SLERA was submitted to the USEPA. The USEPA also requested the collection of sediment samples from site intermittent streams, which was completed. No unacceptable risks to ecological receptors exist.

The TCE groundwater plume is approximately 100 feet from the nearest building (Bldg 1976). This is an unoccupied storage building that is connected to Bldg 1978, an administrative building. Sediment analysis has been completed and reported in a revised SLERA. The Army and USEPA have worked to finalize the revised SLERA. Several draft final RIs were submitted but additional comments were recieved. The most recent RI was submitted in January 2013. If no comments are recieved within the time frame stipulated in the Ft. Meade Federal Facilities Agreement the RI automatically becomes final. The RI recommends the preparation of a feasibility study to assess potential remedial action alternatives to address TCE and arsenic in near-surface groundwater as well as potential vapor intrusion in building 1976. A likely groundwater remedy may be chemical injections into the groundwater with LTM and LUCs. No further ecological risk evaluations are proposed.

CLEANUP/EXIT STRATEGY

A groundwater plume of TCE is present beneath part of the site. The Army anticipates an engineered remedy with a ROD in FY17, RA(C) and RA(O) extending through FY20. The RA(O) is expected to include groundwater monitoring and LUC maintenance for an estimated 30 yrs. The number of wells and analytes will be reduced over time as appropriate.

Site ID: FGGM 88
Site Name: TANK MNT FAC. SHOP-1 (OP UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200309	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The former Tank Maintenance Facility Shop - 1 Bldg 2207 (FGGM-88) is presently used by the Directorate of Public Works as a storage and receiving yard. Current land use at the site is commercial/industrial. According to the FGGM Land Use Plan dated July 3, 2000, future land use is designated as "administration." The site includes Bldg 2207 and surrounding areas and support buildings. Constructed in 1918, Bldg 2207 was used from that time until 1973 as a tank maintenance facility. Since at least the mid-1980s, it has been in use by the Directorate of Public Works as a receiving and storage facility. The main floor is currently used for receiving materials for distribution to other facilities and the upper floor is used for storing supplies such as filters, light bulbs, and pipe clamps. The grounds are also used to store construction materials, refrigerators, non-PCB- containing transformers, and fluorescent light bulbs. Records indicate that a spill occurred from a transformer in the yard; however, the material was tested and no PCBs were found.

Investigations conducted at the site (Versar, 1999, and Versar,2000d) identified the following exceedances of soil and groundwater screening criteria. In the soil, arsenic exceeded its RBC-residential, RBC-industrial, and background mean in two of 17 locations tested. TPH-diesel exceeded the MDE cleanup standard at three of 17 locations tested. In the groundwater arsenic exceeded its RBC, but not its MCL at one of 11 locations tested. TPH-diesel exceeded its draft MDE screening criterion at four of 11 locations tested. TPH-gasoline exceeded its draft MDE screening criterion at two of those locations.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 89
Site Name: TANK MAIN. FAC. SHOP-2 (OP UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200309	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The former Tank Maintenance Facility Shop - 2 (FGGM-89) is located on Second Street between Pepper Road and Chisholm Avenue. According to the FGGM Land Use Plans dated Oct. 27, 1999, and July 3, 2000, respectively, current and future land uses at the site are designated as maintenance. Bldg 2217 is located in the southeast corner of the site. A former wash rack (SWMU 41) and oil/water separator (SWMU 40) were located in the northwest corner of the site. The asphalt and gravel yard is currently used to store non-PCB electrical transformers, electrical cables, boilers, water heaters, dishwashers, motors, and other equipment and machinery. Constructed in 1918, Bldg 2217 was used as a tank maintenance facility until 1973. The building is currently used to store military vehicles, equipment, and small motors. The associated wash rack was used to wash vehicles and construction equipment; waste wash water was discharged to the oil/water separator and then to the sanitary sewer system. In 1999 or 2000 the wash rack and oil/water separator were demolished and removed. Investigations conducted at the site identified the following exceedances of soil, groundwater, and metals screening criteria. In the soil, arsenic exceeded its RBC-residential and its RBC-industrial at two of 32 locations tested. TPH-gasoline or TPH-diesel exceeded the MDE cleanup standard at 14 of 32 locations tested. In the groundwater and metals, o f dissolved metals, arsenic exceeded its RBC at one location; total metals (arsenic, beryllium, copper, lead, and thallium) exceeded their RBCs. Seven VOCs: (benzene; naphthalene; n-propylbenzene; chlorobenzene; 1,4 dichlorobenzene; 1,2,4-trimethylbenzene; 1,3,5- trimethylbenzene) exceeded their RBCs at five of 30 locations tested. TPH-gasoline and TPH-diesel exceeded the draft MDE screening criterion at three of 30 locations tested.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 90
Site Name: TANK CLEANING SUPPLY (OP UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200307	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The former Tank Cleaning Supply Warehouse (FGGM-90) is located in the northwest corner of the intersection of Pepper Road and Rock Avenue. Current and future land uses at the site are designated for maintenance. The complex includes Bldg 2240 (SWMUs 45, 46), Bldg 2241 (SWMUs 47, 48), Bldg 2242 (SWMUs 49, 50), Buildings 2243, 2247, and 2248 (SWMUs 51, 52), and Bldg 2249 (SWMUs 53, 54). Bldg 2240 [DOL Laundry and Dry Cleaning Services] is a separate single-story brick structure. Buildings 2241, 2242, and 2243 are connected in sequence and are elevated on wooden piers. Buildings 2247, 2248, and 2249 are smaller, wooden garage-type structures located behind the larger buildings.

Bldg 2240
SOIL: Arsenic exceeded its RBC and background mean in the only sample tested. In Buildings 2241, 2242, 2248, and 2249 arsenic exceeded its RBCs and background mean in at least one of 23 locations tested; however, detection limits exceeded both RBC-residential and RBC-industrial.

GROUNDWATER: VOCs (methylene chloride, PCE) exceeded their RBCs and the Federal MCL for PCE in three wells west of the building. SVOCs (bis(2-ethylhexyl)phthalate, benzo(a)anthracene; benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and indeno(1,2,3)pyrene) exceeded their RBCs, primarily in one well east of the building, but detection limits for other locations were above RBCs and MCLs. Benzo(a)pyrene also exceeded its MCL.

METALS: Of dissolved metals arsenic exceeded its RBC, but not its MCL in one well; of total metals, arsenic, cadmium, copper, lead, mercury, and thallium exceeded their MCLs in well SB7; chromium, lead, and mercury exceeded their MCLs in well SB11. TPH-diesel exceeded its draft MDE screening criterion in three wells (but the detection limit was above the screening criterion). Two herbicides(methylchlorophenoxypropionic acid (MCPP) and 2-methyl-4-chlorophenoxyacetic acid (MCPA)) exceeded their RBCs in well SB7 (but detection limits at other locations were above RBCs). One pesticide (hepatachlor epoxide) exceeded its RBC and its MCL in one well (but the detection limit at other locations was above the RBC).

Bldgs 2241, 2242, 2248, 2249 SOIL: Arsenic exceeded RBCs and background mean in at least one of 23 locations tested; however, detection limits exceeded both RBC-residential and RBC-industrial.

GROUNDWATER: Three VOCs (PCE, TCE, and vinyl chloride) exceeded their RBCs and MCLs at 12 locations. PCE and TCE detection limits were above RBCs, and the vinyl chloride detection limit was above both its RBC and its MCL. One SVOC (bis(2-ethylhexyl)phthalate) exceeded its RBC in one well, but the detection limit at other locations was above the RBC.

METALS: Of dissolved metals, arsenic exceeded its RBC, but not its MCL in at least two of five locations tested, but detection limits were above the RBC. At 19 of 20 locations, up to five total metals (arsenic, cadmium, copper, nickel, and thallium) exceeded their RBCs. At 17 of 20 locations, up to five total metals (arsenic, cadmium, copper, lead, and thallium) exceeded their MCLs.TPH-diesel exceeded its draft MDE screening criterion in at least three of 20 locations, but the detection limit was above the draft screening criterion.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

Site ID: FGGM 90
Site Name: TANK CLEANING SUPPLY (OP UNIT 4)

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 91
Site Name: MISSILE REPAIR SHOP (OP UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200302	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The former Missile Repair Shop, Bldg 2220 (FGGM-91) is located approximately 150 ft north of the intersection of Second Street and Pepper Road. The shop was initially used as an electronic maintenance and equipment calibration shop and then later used as a missile repair shop. In the 1960s the shop was a warehouse and troop-training center. Current and future land uses at the site, are designated as maintenance. No hazardous chemicals are currently in use at the facility. Past activities in the building used solvents and produced solvent waste. Small amounts of cleaning solvent and gasoline were stored in a shed outside the building. Two fuel oil USTs were located at the south side of the building; one was removed in 1992 and the other was removed and replaced in 1988 and then removed in 1997. During the 1988 UST removal, corrosion holes were noted at the end of the tank. Investigations conducted at the site identified the following exceedances of soil, groundwater, and metals screening criteria. There were no exceedances of screening criteria identified in the soil. In the groundwater, the TPH-diesel range exceeded the draft MDE screening criterion in six of 11 samples tested. For metals, the total exceeded their RBCs in several samples. Dissolved metals (arsenic, iron, manganese) exceeded their RBCs in three locations on the northwest and west sides of the building.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 92
Site Name: HEAVY GUN CLEAN/REPAIR (OP UNIT 4)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199812	199902
SI	199812	199902
RI/FS	200307	201409

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

The former Heavy Gun Cleaning and Repair facility (FGGM-92) includes Buildings 2246 and Bldg 2253, located by Pepper and Huber Roads. Current and future land use is designated as maintenance. The maintenance facility includes two main structures, Bldg 2246 (SWMUs 55-56) and two smaller structures, buildings 2244 and 2245. Bldg 2246 includes a wing containing vehicle service bays. A WR (SWMU 58) and associated OWS (SWMU 57) are at the southwest side of Bldg 2246D. Bldg 2246 has been used as a warehouse and vehicle and equipment maintenance facility since 1934. From 1934 until the mid-1980s it was used as a heavy gun repair shop. A portion of the building is also believed to have been used as a tank repair shop. The facility currently provides all levels of maintenance and repair of heavy equipment and base vehicles.

Bldg 2253 was constructed in 1934, and has been used for vehicle maintenance. Since 1992, the Director of Community Activities has used the facility for the storage and maintenance of grounds-keeping equipment and supplies (e.g., tractors, gas cylinders). Prior to 1992 it was used as a warehouse.

At Bldg 2246 arsenic levels in the soil exceeded RBC-residential in 11 of 37 locations tested. Detection limits exceeded RBC residential, and five of 10 detection limits also exceeded RBC-industrial. TPH-diesel exceeded the MDE cleanup standard in three of 23 samples tested. In the groundwater, four VOCs (benzene, TCE, PCE, and vinyl chloride) exceeded their RBCs at one or two locations. TCE, PCE, and vinyl chloride also exceeded MCLs. One SVOC [bis(2-ethylhexyl)phthalate] exceeded its RBC at four locations. TPH-diesel exceeded its draft MDE screening criterion at four locations, and TPH-gasoline exceeded at one location. No dissolved metals exceeded their RBCs or Federal MCLs in the five samples tested. Seven total metals (arsenic, beryllium, cadmium, copper, nickel, lead, and thallium) exceeded their RBCs and MCLs in 17 locations.

At Bldg 2253 arsenic levels in the soil exceeded its RBC-residential at all eight locations tested; it exceeded the RBC- industrial at five locations and the background mean at seven locations. TPH-diesel at one location exceeded the MDE cleanup standard for UST sites. The herbicide MCPP at one location exceeded its RBC-residential, but not it's RBC-industrial. In the groundwater arsenic exceeded its RBC, but not its MCL at one of three locations tested. TPH-diesel at three locations exceeded the draft MDE screening criterion. The SVOC bis(2-ethylhexyl)phthalate and the herbicide MCPA each exceeded their RBCs at one location.

This site is located in the geographic boundary of FGGM-47. Refer to FGGM-47 for more information on the cleanup approach and phase schedule.

CLEANUP/EXIT STRATEGY

This site is being addressed under FGGM-47/OU-4 (Post Laundry). This project is currently in the RI/FS phase; however, groundwater is being addressed as a NTCRA. After completing the NTCRA and interim remedy a final remedy will be evaluated in the FS for OU-4. Based on the existing data the Army anticipates NFA for soil (FY14) and the groundwater will continued to be addressed under FGGM-47/OU4. See FGGM-47 for additional information.

Site ID: FGGM 93
Site Name: MANOR VIEW DUMP SITE

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater, Other (Soil Gas), Soil

Phases	Start	End
PA	200301	200302
SI	200303	200304
RI/FS	200307	201309
RD	200901	201309
IRA	200501	201212
RA(C)	200901	201309
LTM	201409	204409

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

While Picerne Military Housing was moving earth, as part of the construction of new Army family housing in the housing privatization initiative at FGGM, this 1940s vintage dump site was discovered immediately adjacent to the Manor View Elementary School. The subsequent spring FY03, a PA/SI discovered that the dump site extended beyond the planned limits of the housing area, and onto the Manor View Elementary School property. The waste from the site is mixed with black stained soil. Historic aerial photographs reportedly show an incinerator in the vicinity, so it's possible that ash may have been disposed of in the dump. Surface soil samples collected in the discovery area and the schoolyard revealed that benzo (a) pyrene and arsenic exceeded RBCs. TPH-Diesel Range Organics exceeded the MDE Cleanup Standard in both surface and subsurface soil. The soil mixed with the waste did not exhibit RCRA waste characteristics. The RBCs were exceeded at the surface and down to 12 feet below ground surface (bgs).

Since the PA/SI was limited to surface and subsurface soil in and around the dump area, an RI was competed to evaluate groundwater,
soil gas, sediment/surface water, soil, and air. The size of the dump is estimated at 10 acres. Preliminary groundwater sample results show that VOCs and metals exceed MCLs. The depth to groundwater averages 36 feet below bgs. Soil gas samples exceed vapor intrusion screening levels for VOCs near buildings, and methane levels are in the combustible range. Due to public safety concerns stemming from the soil gas data, additional sampling was performed, focusing on indoor air quality sampling, sub-slab air sampling, sub-slab vacuum testing, and ambient air quality sampling at the school near the site. Methane and other potential contaminants were not elevated in the sub-slab zone, or in the indoor air beyond background levels. Because the nature and extent of potential chemical contaminants have not been determined, the PP includes execution of a RI. Based on the current understanding of contaminant levels, viable RA consists of long term groundwater monitoring of the school's classrooms and offices. The school's concrete slab foundation appears to be acting as an effective barrier to vapor intrusion. Preliminary ambient (outdoor) air sample results show a VOC exceeding a screening level.

Preliminary constituents of potential concern include arsenic, PAH, TCE, and dioxin in the soil, and arsenic, PAHs, TCE, vinyl chloride, and dieldrin in the groundwater.

Data collected near the neighborhood, to the west of the site, showed increased levels of methane in the soil. This has led to the installation of a passive vent trench and subsequent upgrade to an active system on the west side of the dump area to vent methane as an interim measure. In the winter of 2005 and 2006, families were evacuated from 20 military housing units. A NTCRA/EECA of the buried methane generating waste have been completed and a draft EE/CA is under development. When complete an RI/FS through ROD will be completed to establish the final remedy. As all the apparent methane generating trash has been removed a likely final remedy will be LUCs. The Army is seeking a variance for the remaining part of the landfill as no additional actions will increase the level of protectiveness offered by the current soil cover.

Site ID: FGGM 93
Site Name: MANOR VIEW DUMP SITE

CLEANUP/EXIT STRATEGY

The USEPA approved the Army's proposal for a non-time critical removal action (NTCRA) to address the buried trash generating methane as it meets the criteria in the Nation Contingency Plan for doing a NTCRA. The methane generating waste has been removed and the data generally show the levels of residual methane are decreasing. The site has been restored to a flat grasss field. Soil gas samples are being collected but the frequency will drcrease with the declining levels of soil-gas methane. Work on the FS continues and the Army anticipates a further action ROD in FY13 with LTM in FY14 for 30 years.

Site ID: FGGM-95
Site Name: LANDFILL SITES (Former)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Semi-volatiles (SVOC)

Media of Concern: Groundwater

Phases	Start	End
PA	200406	200712
SI	200906	201311
RI/FS	201311	201511

RIP Date: N/A

RC Date: 201511

SITE DESCRIPTION

FGGM-95 initially included 23 AOIs where data from the 2007 PA/SI and other studies identified site features indicative of past landfill and related activities. The AOIs covered in FGGM-95 are: - Possible Dump Site 1957-A, - Possible Dump Site 1957-B, - Possible Dump Site 1957-C, - Possible Dump Site 1957-D, - Possible Dump Site 1957-E, - Possible Dump Site 1957-F, - Possible Dump Sites 1970, - Site M Parcel 1, - Site M Parcel 2, - Site M Parcel 3, - Site M Parcel 4, - Site M Parcel 5, - Site M Parcel 6, - Site M Parcel 7, - Site M Parcel 8, - Site M Parcel 9, - Former Burning Waste Site 1957, - Inactive Landfill 4, - Pre-World War II Laundry on the Architect of the Capitol property, - Taylor Avenue Buried Drum Site, - Waste Storage Disposal Area 1938, - Fill 1988, Small Pit 1952, Site Y, and buried asphalt at Bldg 2490. None of these AOIs are currently in operation. These AOI have been combined into a single site (FGGM-95) due to their proximity and/or similarity in contaminants and affected media. Based on existing data the AOIs fall into two categories; NFA or further action. For AOIs where the data supports a determination of NFA, the Army prepared Consensus Letters describing the AOIs and proposed NFA. The Army prepared and submitted numerous Consensus Letters to the USEPA and many were approved.

For those sites where the data supports additional data collection activities, the Army prepared PA/SI work plans describing the types of data needed to determine if a CERCLA release occurred or not. These data collection activities have occurred at many sites, but at this time not all the data is available for evaluation; however, preliminary indications are that one site (Inactive Landfill No. 4) will likely advance to the RI/FS phase through NFA ROD.

CLEANUP/EXIT STRATEGY

As of this date, the only site expected to continue through the CERCLA process is Inactive Landfill No.4. Applying typical phase duration timelines, the Army anticipates a NFA ROD in FY16.

Site ID: FGGM-96
Site Name: MOTOR POOLS, WASHRACKS, BLDGS (FMR)

STATUS

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Metals, Pesticides, Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Sediment, Surface Water

Phases	Start	End
PA	200409	200712
SI	200906	201311
RI/FS	201311	201511
RD	201511	201605
RA(C)	201605	201705
LTM	201705	204705

RIP Date: N/A

RC Date: 201705

SITE DESCRIPTION

FGGM-96 includes 59 AOIs where records, including the USEPA 1996 historic aerial photograph study of FGGM, also referred to as the Epic Study, show the presence of motor pools, washracks and buildings with some indication a release may have occurred. Many, but not all of these AOI have undergone some level of investigation. Due to their proximity and/or anticipated similarity in contaminants and affected media, the AOIs have been combined into a single site (FGGM-96). The AOIs included in this site are: - MP-1/WR-4, MP2, MP3/WR2, MP4, MP5, MP6, MP7/WR6, MP8, MP9, MP10, MP11/WR7, MP12/WR8, MP13/WR9, MP14, MP15/WR10, MP17, MP18/WR12, MP19/WR13, Washrack 3, Washrack 5, Debris and Stain 1975, Chisholm Ave and 6th Street, Buildings (1007, 2213, 2227, 2224, 2266, 2276, 2288, 2724, 2728, 4587, 4680, 8480, 8485, 8486, 8549, 8551, 8860, 8870, 8880, 8890, 8890A, 8891, 8881, and 9581), Former Incinerator Bldg 1943, Oil Tanks, Possible Vehicle Service Area A - 1943, Possible Vehicle Service Area B - 1943, Possible Vehicle Storage Area 1957, and Stained Soils along 3rd Street.

Based on existing data the AOIs fall into two categories; NFA or further action. For AOIs where the data supports a determination of NFA, the Army prepared Consensus Letters describing the AOIs and proposed NFA. The Army prepared and submitted numerous Consensus Letters to the USEPA which approved many.

For those sites where the data supports additional data collection activities, the Army prepared PA/SI work plans describing the types of data needed to determine if a CERCLA release occurred or not. These data collection activities have occurred at many sites, but at this time not all the data is available for evaluation; however, preliminary indications are that 20 sites will likely advance to the RI/FS phase through site cleanup.

CLEANUP/EXIT STRATEGY

Of the remaining areas of interest (AOIs) that comprise FGGM-96, the Army expects 25 AOIs will proceed through the CERCLA process. Applying typical phase duration timelines the Army anticipates further action RODs in FY16 with MNA and LUCs beginning in FY16 with an expected 30 year duration.

Site ID: PBC at Meade
Site Name: PBCs At Fort MEADE

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

Phases	Start	End
PA	199809	199810
RI/FS	200209	200709
RA(C)	200506	201402
RA(O)	200506	201412

RIP Date: 201402

RC Date: 201412

SITE DESCRIPTION

Performance-based contract PBC No. 1 included FGGM-07, -83, and -87 was awarded on May 2005. The contract has come to term. The remaining work on these sites will continue under a different contract.

Performance based contract No. No. 2 was awarded in August 2009. FGGM sites covered under this contract are FGGM-13, -17, -47, -74, -93, and -003-R-01, 003-R-02. FGGM-47 includes FGGM-33, -49, -51, -86, -89, -90, -91, and -92. The performance objectives for these sites generally include RIP/RC through the RA(O)/LTM phase.

CLEANUP/EXIT STRATEGY

Please refer to the individual site descriptions for the cleanup/exit strategy.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FGGM 03	WATER TREATMENT PLT. BLDG 8688	201207	
FGGM 101	SITE M PARCEL 8	200712	
FGGM 14	HAZARDOUS WASTE STORAGE (former)	201109	
FGGM 19	ADV. WASTEWATER TREATMENT FACILITY	201208	
FGGM 75	USTS PRIOR TO 1984	201202	
FGGM 78	GRANITE NIKE	200401	No further action letter from State.

IRP Schedule

Date of IRP Inception: 198011

Past Phase Completion Milestones

1982	
PA	(FGGM 03 - WATER TREATMENT PLT. BLDG 8688, FGGM 14 - HAZARDOUS WASTE STORAGE (former), FGGM 19 - ADV. WASTEWATER TREATMENT FACILITY)
1990	
PA	(FGGM 47 - POST LAUNDRY (OPERABLE UNIT 4))
SI	(FGGM 47 - POST LAUNDRY (OPERABLE UNIT 4))
1992	
RFI/CMS	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
RFA	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
CS	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
1993	
PA	(FGGM 17 - CLOSED SANITARY Landfill, FGGM 33 - BATTERY SHOP BLDG. 2283)
SI	(FGGM 17 - CLOSED SANITARY Landfill)
DES	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
1994	
PA	(FGGM 07 - DRMO DRUM SITE (OPERABLE UNIT 5))
IRA	(FGGM 03 - WATER TREATMENT PLT. BLDG 8688, FGGM 33 - BATTERY SHOP BLDG. 2283)
SI	(FGGM 07 - DRMO DRUM SITE (OPERABLE UNIT 5))
1996	
SI	(FGGM 49 - DOL BUILDINGS 2286, 2246, FGGM 74 - ARCHITECT OF THE CAPITOL)
CMI(C)	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
PA	(FGGM 08 - COMP AMMO SUPPLY POINT #1, FGGM 36 - PHOTO LAB'S BLDG 4553, 6530, FGGM 37 - KIMBROUGH ARMY HOSPITAL, FGGM 45 - CALIBRATION LAB BUILDING 2220, FGGM 49 - DOL BUILDINGS 2286, 2246, FGGM 51 - BUILDING 2217, FGGM 70 - BLDG 6513 INDOOR RANGE, FGGM 71 - BLDG 6512 EX INDR RNG, FGGM 74 - ARCHITECT OF THE CAPITOL)
1997	
IRA	(FGGM 07 - DRMO DRUM SITE (OPERABLE UNIT 5))
RFA	(FGGM 78 - GRANITE NIKE)
PA	(FGGM 11 - GAS TRAINING BUILDING (former), FGGM 13 - PEST. SHOP BLDG. 6621)
SI	(FGGM 13 - PEST. SHOP BLDG. 6621, FGGM 51 - BUILDING 2217)
1998	
PA	(FGGM 75 - USTS PRIOR TO 1984)
1999	
PA	(FGGM 83 - TRAP AND SKEET RANGE, FGGM 86 - MOTORPOOL FAC (OPERABLE UNIT 4), FGGM 87 - NIKE CONTROL SITE (OPERABLE UNIT 3), FGGM 88 - TANK MNT FAC. SHOP-1 (OP UNIT 4), FGGM 89 - TANK MAIN. FAC. SHOP-2 (OP UNIT 4), FGGM 90 - TANK CLEANING SUPPLY (OP UNIT 4), FGGM 91 - MISSILE REPAIR SHOP (OP UNIT 4), FGGM 92 - HEAVY GUN CLEAN/REPAIR (OP UNIT 4), PBC at Meade - PBCs At Fort MEADE)
SI	(FGGM 83 - TRAP AND SKEET RANGE, FGGM 86 - MOTORPOOL FAC (OPERABLE UNIT 4), FGGM 87 - NIKE CONTROL SITE (OPERABLE UNIT 3), FGGM 88 - TANK MNT FAC. SHOP-1 (OP UNIT 4), FGGM 89 - TANK MAIN. FAC. SHOP-2 (OP UNIT 4), FGGM 90 - TANK CLEANING SUPPLY (OP UNIT 4), FGGM 91 - MISSILE REPAIR SHOP (OP UNIT 4), FGGM 92 - HEAVY GUN CLEAN/REPAIR (OP UNIT 4))
IRA	(FGGM 08 - COMP AMMO SUPPLY POINT #1, FGGM 17 - CLOSED SANITARY Landfill)
2000	
CS	(FGGM 78 - GRANITE NIKE)
2001	
RFI/CMS	(FGGM 78 - GRANITE NIKE)

IRP Schedule

2002	
DES	(FGGM 78 - GRANITE NIKE)
CMI(C)	(FGGM 78 - GRANITE NIKE)
2003	
SI	(FGGM 93 - MANOR VIEW DUMP SITE)
IRA	(FGGM 83 - TRAP AND SKEET RANGE)
PA	(FGGM 93 - MANOR VIEW DUMP SITE)
2004	
LTM	(FGGM 78 - GRANITE NIKE)
2007	
RI/FS	(PBC at Meade - PBCs At Fort MEADE)
2008	
RFA	(FGGM 101 - SITE M PARCEL 8)
PA	(FGGM-95 - LANDFILL SITES (Former), FGGM-96 - MOTOR POOLS, WASHRACKS, BLDGS (FMR))
2009	
CMI(O)	(FGGM 05 - TROOP BOILER PLT (OPERABLE UNIT 2))
2011	
SI	(FGGM 14 - HAZARDOUS WASTE STORAGE (former))
2012	
SI	(FGGM 03 - WATER TREATMENT PLT. BLDG 8688, FGGM 08 - COMP AMMO SUPPLY POINT #1, FGGM 19 - ADV. WASTEWATER TREATMENT FACILITY, FGGM 33 - BATTERY SHOP BLDG. 2283, FGGM 45 - CALIBRATION LAB BUILDING 2220, FGGM 75 - USTS PRIOR TO 1984)
RI/FS	(FGGM 13 - PEST. SHOP BLDG. 6621)

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: 201912

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of IRP at Installation (including LTM phase): 204912

FORT GEORGE G MEADE IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 07	DRMO DRUM SITE (OPERABLE UNIT 5)	RI/FS						
		RD						
		RA(C)						
		RA(O)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 13	PEST. SHOP BLDG. 6621	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 17	CLOSED SANITARY Landfill	RD						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 33	BATTERY SHOP BLDG. 2283	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 45	CALIBRATION LAB BUILDING 2220	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 47	POST LAUNDRY (OPERABLE UNIT 4)	RI/FS						
		RD						
		IRA						
		RA(C)						
		RA(O)						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 49	DOL BUILDINGS 2286, 2246	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 51	BUILDING 2217	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 74	ARCHITECT OF THE CAPITOL	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 83	TRAP AND SKEET RANGE	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM 86	MOTORPOOL FAC (OPERABLE UNIT 4)	RI/FS						

FORT GEORGE G MEADE IRP Schedule

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 87	NIKE CONTROL SITE (OPERABLE UNIT 3)	RI/FS	■	■	■			
		RD	■	■	■			
		RA(C)	■	■	■	■	■	■
		RA(O)						■
		LTM						■
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 88	TANK MNT FAC. SHOP-1 (OP UNIT 4)	RI/FS	■					
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 89	TANK MAIN. FAC. SHOP-2 (OP UNIT 4)	RI/FS	■					
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 90	TANK CLEANING SUPPLY (OP UNIT 4)	RI/FS	■					
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 91	MISSILE REPAIR SHOP (OP UNIT 4)	RI/FS	■					
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 92	HEAVY GUN CLEAN/REPAIR (OP UNIT 4)	RI/FS	■					
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM 93	MANOR VIEW DUMP SITE	LTM		■	■	■	■	■
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM-95	LANDFILL SITES (Former)	SI	■					
		RI/FS	■	■	■			
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM-96	MOTOR POOLS, WASHRACKS, BLDGS (FMR)	SI	■					
		RI/FS	■	■	■			
		RD			■			
		RA(C)			■	■		
		LTM				■	■	■
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
PBC at Meade	PBCs At Fort MEADE	RA(C)	■					
		RA(O)	■	■				

FORT GEORGE G MEADE

Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 6/3

Installation Site Types with Future and/or Underway Phases

1 Maneuver Area
(FGGM-003-R-02)

2 Unexploded Munitions/Ordnance
(FGGM-003-R-01, FGGM-007-R-01)

Most Widespread Contaminants of Concern

Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Soil

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

Site ID	Site Name	Action	Remedy	FY
FGGM-007-R-01	Inactive Landfill 2	FRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	2000
FGGM-003-R-01	MORTAR RANGE	FRA	INSTITUTIONAL CONTROLS	2013

Duration of MMRP

Date of MMRP Inception 198905

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201309/201309

Date of MMRP completion including Long Term Management (LTM): 204403

MMRP Contamination Assessment

Contamination Assessment Overview

In June 2003 a Phase 3 Army range inventory was completed at FGGM. The inventory identified six sites as eligible for the Military Munitions Response Program (MMRP), though two of the sites (FGGM-001-R-01 and FGGM-002-R-01) have since been determined to be BRAC sites, not MMRP sites. The Phase 3 range inventory serves as the PA under CERCLA. These sites were investigated as part of a SI.

In 2007 the SI, which focused on military munitions, was conducted. Based on the results of the SI, only one munitions response area (MRA), FGGM-003-R-01 Former Mortar Range, was recommended for an RI. The RI of the Former Mortar Range began in 2007 and is currently underway. Intrusive investigations conducted as part of the RI have found two and three inch stokes mortars, 60millimeter (mm) mortars, 81mm mortars, Mark II hand grenades, and land mines; all were determined to be practice rounds. Small arms rounds were also found including .20 caliber (cal), .30 cal, and .50 cal rounds.

The RI is currently under regulatory review but based on the munitions items detected and the patterns of detection the site has been split into two separate Munitions Response Sites (MRS): the Former Mortar Range Firing and Impact site (FGGM-003-R-01) and the Former Mortar Range Training and maneuver Area (FGGM-003-R-02).

The second active MRA is Inactive Landfill Number 2 located at the southern tip of the Tipton Army Airfield south of Rte 32 in Odenton, Maryland. Initially a BRAC site for transfer to Anne Arundel County as part of the Tipton Army Airfield transfer, the site was retained by FGGM due to the excessive number of magnetic anomalies. The LUCs for this site are based on a BRAC July 1998, Decision Document (DD) and include the installation and maintenance of a fence.

Cleanup Exit Strategy

The installation finalized the RI in 2011 and began an FS to evaluate potential RA alternatives. A ROD was signed in September 2012 for the Former Mortar Range MRA (FGGM-003-R-01 and -02. The selected remedy includes LUCs involving annual site sweeps, educational/awareness activities and the placement of signs. The installation will continue to maintain the fence surrounding Inactive Landfill Number 2.

MMRP Previous Studies

	Title	Author	Date
2003			
	Final Closed, Transferring, Transferred Range/Site Inventory Report for Fort George G. Meade,	Malcolm Pirnie	NOV-2003
2006			
	Historical Records Review	Malcolm Pirnie	MAY-2006
2007			
	Site Inspection	Baltimore District Corps of Engineers	APR-2007
	Geophysical Prove-out Plan, Former Mortar Range	Baltimore District, Corps of Engineers	SEP-2007
	Geophysical Prove-out Letter Report	Baltimore District, Corps of Engineers	OCT-2007
2008			
	Work Plan, Former Mortar Range	Baltimore District Corps of Engineers	MAR-2008
2009			
	Draft Final Addendum to Work Plan: Sampling and Analysis Plan	Baltimore District Corps of Engineers	MAR-2009
2010			
	Draft Remedial Investigation Report	Malcolm Pirnie	JUL-2010
2011			
	Final Remedial Investigation Report, Former Mortar Range	Arcadis	SEP-2011
2012			
	Revised Draft Feasibility Study, Former Mortar Range	Arcadis	MAR-2012

FORT GEORGE G MEADE

Military Munitions Response Program

Site Descriptions

Site ID: FGGM-003-R-01
Site Name: MORTAR RANGE

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 07

Contaminants of Concern: Munitions constituents (MC), White Phosphorous

Media of Concern: Soil

Phases	Start	End
PA	200208	200306
SI	200509	200704
RI/FS	200707	201209
RD	200908	201304
RA(C)	200908	201309
LTM	201401	204401

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

The Mortar Range MRA is approximately 291 acres located in the southwest portion of the installation. The range was identified on a 1924 War Game Map. It was in use from 1924 until the mid-1940s. Until recently the land was used as the golf course, but is now administrative buildings and open space. During the early-1990s the explosive ordnance division reported a white phosphorous mortar was found on the course. The 2004 environmental baseline study (EBS), for Site M (golf course), stated that spent bullets, training mortar rounds, and pieces of exploded grenades were found as part of routine use and maintenance. The EBS also documented detections of explosives above laboratory detection limits, but below regulatory screening levels in soil and groundwater, at areas within the Safety Danger Zone of the mortar range.

Intrusive investigations conducted as part of the RI have found two and three inch stokes mortars, 60mm mortars, 81mm mortars, Mark II hand grenades, and land mines; all were determined to be practice rounds. Small arms rounds were also found, including .22cal (casings only), .30cal, and .50cal rounds.

Based on the results of the RI, safety hazards associated with MEC and MPPEH may exist at the Mortar Range MRA (Mortar Range MRS (FGGM-003-R-01) and the Training Area MRS (FGGM-003-R-02)). Although the probability of MEC or MPPEH being encountered is low and slightly different between the two MRSs, the acute nature of the hazard warrants consideration of a munitions response action. Based on the result of HHRA and SLERA, no further investigation or munitions response actions related to MC are warranted as there are no unacceptable risks. Therefore, the MEC / MPPEH presents the only known safety hazard. The proposed Remedial Action Objective (RAO) for both of the MRSs include: control and minimize the potential for contact of receptors with possible MEC at the surface and within the subsurface by controlling the specific exposure pathways identified at the two MRSs. The September 2012, ROD shows the selected remedy as LUCs with LTM. The two types of LUCs will be used: institutional controls (IC) and engineering controls (ECs).

ICs are administrative measures put in place to restrict human activity, in order to control future land use including, governmental controls, proprietary controls, enforcement and permitting, and informational devices. ECs include a variety of engineered constructed barriers to restrict human activity, in order to control future land use including MRS-specific signage describing restrictions of site use at key locations on the site. Annual inspections will be performed to establish that all on-site LUCs (e.g., MRS-specific signage) are in good condition, to confirm that the land use of the site has not changed, and to confirm through instrument-assisted surface sweep that no MEC / MPPEH/munitions debris has been exposed through erosion or frost heave. The LUCs are incorporated into the master plan and included in the installations Geographical Information System (GIS) and dig permit process. The remedial design has been approved and will be implemented in 2013, and reviewed as part of the CERCLA 5-yr review process.

CLEANUP/EXIT STRATEGY

This site is included in the PBA awarded in August 2009. The Army anticipates a further action ROD in FY12 with LUCs and the

subsequent maintenance (MEC institutional controls) for the foreseeable future.

Site ID: FGGM-003-R-02
Site Name: Training Area MRS

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 08

Contaminants of Concern: Munitions constituents (MC), White Phosphorous

Media of Concern: Soil

Phases	Start	End
PA	200301	200311
SI	200312	200704
RI/FS	200704	201210
RD	200908	201304
RA(C)	200908	201309

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

This 260-acre Training Area MRS, part of the Mortar Range MRA, was used as a training area from the early-1920s to the early 1940s. Five munitions debris items were found throughout the entire 260-acre Training Area MRS during the MEC fieldwork. These items include practice grenades, an expended flare, and a small arms ammunition casings disposal pit. The practice grenades and expended flare are indicative of general troop training, and the small arms ammunition casings disposal pit is indicative of disposal. Five soil samples were collected during the fieldwork and tested for metals and explosives.

Because the Mortar Range MRS (FGGM-003-R-01) is very similar to this MRS all the CERCLA documents prepared have included this MRS. For more information on the CERCLA process at this MRS and the selected remedy, please refer to FGGM-003-R-01.

CLEANUP/EXIT STRATEGY

The cleanup/exit strategy is the same as FGGM-003-R-01 as this is a MRS within the Mortar Range Munitions Response Area (FGGM-003-R-01).

Site ID: FGGM-007-R-01
Site Name: Inactive Landfill 2

STATUS

Regulatory Driver: CERCLA

MRSPP Score: No longer required

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

Media of Concern: Soil

Phases	Start	End
PA	198905	198911
SI	198905	198911
RI/FS	198911	199801
RD	199801	199806
RA(C)	200001	200006
LTM	201103	204403

RIP Date: N/A

RC Date: 200006

SITE DESCRIPTION

The 23-acre Inactive Landfill No. 2 (IAL2) is part of the Tipton Maneuver and Buffer Area located immediately south of the Tipton Airfield. Historically, the site was addressed under FGGM-85, a BRAC property; however, it was not transferred and remains under Fort Meade accountability. Other portions of FGGM-85 are addressed as a BRAC site.

Historical aerial photographs show that IAL2 was initially operated as a soil borrow area from 1938 and 1943. According to the 1989 Enhanced Preliminary Assessment Report sometime after 1952 the area was operated as an unlined rubble disposal area that reached its maximum extent by 1963. IAL2 was used sparingly between the years 1963 and 1970 when aerial photographs show the area was being increasingly re-vegetated. A single north-northwest trending trench was reported visible along the east side of the access road in 1970. Continued disposal activities occurred after 1980 in the northern portion of IAL2 where graded and disturbed areas are visible in 1986. During the remedial investigation fieldwork, piles of rubble (brush, concrete, and asphalt debris) which appear to be of more recent origin were observed in a pond/wetland area on the north side of IAL2. No buildings or structures are present at the IAL2. In 1998, a Decision Document was signed which states that an engineering control, a perimeter fence (with warning signs), be installed around an approximately 10-acre portion of the ILF2 and that the fence be inspected annually and any damage be repaired. To facilitate the annual inspections vegetation around the fence is cleared annually (5 feet inside the outside the fence).

CLEANUP/EXIT STRATEGY

Annual inspections of the security fence and signage will continue and are programmed under LTM. Maintenance of the vegetation will also be conducted to facilitate the annual requirement to visually inspect the fence.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FGGM-004-R-01	GRENADE & BAYONET RANGE	200704	April 2007 Final Site Inspection Report, Fort George G. Meade
FGGM-005-R-01	PISTOL RANGE A	200704	April 2007 Final Site Inspection Report, Fort George G. Meade
FGGM-006-R-01	PISTOL RANGE B	200704	April 2007 Final Site Inspection Report, Fort George G. Meade

MMRP Schedule

Date of MMRP Inception 198905

Past Phase Completion Milestones

1990	
PA	(FGGM-007-R-01 - Inactive Landfill 2)
SI	(FGGM-007-R-01 - Inactive Landfill 2)
1998	
RD	(FGGM-007-R-01 - Inactive Landfill 2)
RI/FS	(FGGM-007-R-01 - Inactive Landfill 2)
2000	
RA(C)	(FGGM-007-R-01 - Inactive Landfill 2)
2003	
PA	(FGGM-003-R-01 - MORTAR RANGE, FGGM-004-R-01 - GRENADE & BAYONET RANGE, FGGM-005-R-01 - PISTOL RANGE A, FGGM-006-R-01 - PISTOL RANGE B)
2004	
PA	(FGGM-003-R-02 - Training Area MRS)
2007	
SI	(FGGM-003-R-01 - MORTAR RANGE, FGGM-003-R-02 - Training Area MRS, FGGM-004-R-01 - GRENADE & BAYONET RANGE, FGGM-005-R-01 - PISTOL RANGE A, FGGM-006-R-01 - PISTOL RANGE B)
2012	
RI/FS	(FGGM-003-R-01 - MORTAR RANGE)

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: 201309

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of MMRP at Installation (including LTM phase): 204403

FORT GEORGE G MEADE MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FGGM-003-R-01	MORTAR RANGE	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
FGGM-007-R-01	Inactive Landfill 2	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 200903

Restoration Advisory Board (RAB): RAB established 199504

RAB Adjournment Date: N/A
RAB Adjournment Reason: None

Additional Community Involvement Information

FGGM has an active RAB which was established in 1995 and currently has 12 community members who meet every two months. The last meeting of the RAB was in July 2013.

Administrative Record is located at

Fort George G. Meade Environmental Office
4215 Roberts Ave, Suite 320
Fort Meade, MD 20755-7068
301-677-9648

West County Public Library
1325 Annapolis Road
Odenton MD, 21113
410-222-6277

Information Repository is located at

Fort George G. Meade Environmental Office
2212 Chisholm Ave, Suite 5115
Fort Meade, MD 20755-7068
301-677-9648

West County Public Library
1325 Annapolis Road
Odenton MD, 21113
410-222-6277

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

TAPP Title: N/A

Potential TAPP: N/A