

FORT RILEY

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

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

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

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

The following persons contributed to the formulation and completion of this Installation Action Plan for FORT RILEY:

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FORT RILEY Installation Action Plan Approval Signatures

Acronyms

A/I	Active/Inactive
AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AEDB-R	Army Environmental Database - Restoration
AGL	Abandoned Gasoline Line
AOC	Area of Concern
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFI	NW Camp Funston WWI Incinerator
CHLF	Custer Hill Sanitary Landfill
CMI(C)	Corrective Measures Implementation (Construction)
COC	Contaminant of Concern
CR	Compliance Restoration
CS	Confirmatory Sampling
CTT	Closed, Transferred, Transferring
cu yd	cubic yard
DCE	Dichloroethylene
DCF	Dry Cleaning Facility
DCFA	Dry Cleaning Facilities Area
DD	Decision Document
DDESB	Department of Defense Explosives Safety Board
DES	Design
DPE	Dual-Phase Extraction
DPW	Department of Public Works
DS/GS	Direct Support/General Support
EE/CA	Engineering Evaluation/Cost Analysis
EOD	Explosive Ordnance Disposal
EPR	Environmental Program Requirments
ER,A	Environmental Restoration, Army
ESD	Explanation of Significant Differences
ESS	Explosive Safety Submissions
FFA	Federal Facility Agreement
FORSCOM	US Army Forces Command
FRA	Final Remedial Action
FS	Feasibility Study
FTRI	Fort Riley (AEDB-R site designation)
FY	Fiscal Year
HRR	Historical Records Review
HRS	Hazard Ranking System
HSWA	Hazardous and Soil Waste Amendments
IAP	Installation Action Plan
	Identification
IMCOM	Installation Management Command

IMP(O) Implementation (Operation)

Acronyms

INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Plan
ISC	Initial Site Characterization
К	thousand
KDHE	Kansas Department of Health and Envronment
KDWP	Kansas Department of Wildlife and Parks
kg	kilogram
KRBCA	Kansas Risk Based Corrective Action
KS	Kansas
LF	Landfill
LTM	Long-Term Management
LUC	Land Use Control
MAAF	Marshall Army Airfield
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MEC	Munitions and Explosives of Concern
mg	milligrams
mm	millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MOGAS	Motor Gasoline
MRA	Munitions Response Area
MRS	Munitions Response Site
N/A	Not Applicable
NCDO	North Central District Office
NFA	No Further Action
NPL	National Priorities List
O&M	Operation and Maintenance
OB	Open Burning
OD	Open Detonation
ODUSD(I&E)	Office of Deputy Undersecretary of Defense (Installation and Environment)
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene (Perchloroethylene)
POL	
PP	Proposed Plan
ppb	parts per billion
PSF	Pesticide Storage Facility
RA	Remedial Action
RA(C)	Remdial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	
RACR	Remedial Action Completion Report

Acronyms

RAP	Remedial Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Decision
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RSK	Risk-Based Standards for Kansas
SEFL	Southeast Funston Landfill
SFL	Southwest Funston Landfill
SHSAR	Sherman Heights Small Arms Range
SI	Site Inspection
SVE	Soil Vapor Extraction
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichlorothylene
TRC	Technical Review Committee
ug/L	micrograms per Liter
UPRR	Union Pacific Railroad
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnance
VC	Vinyl Chloride
VOC	Volatile Organic Compound
WWI	World War I
WWII	World War II
XRF	X-ray Fluorescence

Installation Information

Installation Locale

Installation Size (Acreage): 100775 City: Junction City County: Clay, Geary, and Riley State: Kansas

Other Locale Information

Fort Riley is located west of Manhattan (population 38,000) on 100,775 acres of land in portions of Clay, Geary, and Riley Counties in northeast Kansas. Interstate 70, Junction City (population 20,000), and Ogden (population 1,600) bound the installation to the south. Milford Lake (16,020 acres) bounds part of the western side of the installation.

Installation Mission

The mission of Fort Riley, as an installation of excellence, is to:

- work in close partnership with local, regional, and state communities,
- provide trained and ready forces to meet joint force requirements across the full spectrum of current and future operations,
- transform and manage unit readiness as directed by the Army campaign plan,
- execute unit re-stationing as directed by US Army Forces Command (FORSCOM),
- execute garrison operations as directed by the IMCOM, and
- conduct homeland defense operations and support civil authorities.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Omaha District

USACE, Kansas City District

US Geological Survey

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region VII
State	Kansas Department of Health and Environment (KDHE), Bureau of Environmental Field Services
	- North Central District Office (NCDO)
	KDHE, Bureau of Environmental Remediation

National Priorities List (NPL) Status

A score of 33.8 was recorded on 01-AUG-90.

Date for RA(C) Completion:

201803

Date for NPL Deletion: TBD

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

RAB established 199709

Installation Information

Installation Program Summaries

IRP

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Future Requirements: \$847.0 K

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY	
Complete	201110	201209	2012	
Complete	200201	200207	2002	
Complete	200701	200707	2007	

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Dry Cleaning Facilities Study Area	FTRI-027
Dry Cleaning Facilities Study Area	FTRI-027
Former Fire Training Area - MAAF	FTRI-019
Former Fire Training Area - MAAF	FTRI-019
RECORD OF DECISION - SW FUNSTON LANDFILL	FTRI-003
RECORD OF DECISION - SW FUNSTON LANDFILL	FTRI-003
RECORD OF DECISION-PESTICIDE STORAGE FAC	FTRI-030
RECORD OF DECISION-PESTICIDE STORAGE FAC	FTRI-030
The 354 Area Solvent Detections	FTRI-031
The 354 Area Solvent Detections	FTRI-031

Results The EPA, Region VII has provided comments that are being addressed.

Actions Finalize the document & obtain the signature of the Garrison Commander.

Plans Do another 5-Year Review in 2017.

Recommendations and Implementation Plans:

Fort Riley's FY12 five-year review deferred the protectiveness determination for the 354 Area Solvent Detections (OU005) pending the completion of a technical memorandum to evaluate the vapor intrusion pathway at building 367. This memorandum is due by Sep. 30, 2013. The remedy is protective regarding the groundwater exposure pathways.

The remedies at the Southwest Funston Landfill (OU001) and the Dry Cleaning Facilities Area (OU003) are protective of human health and the environment.

The Pesticide Storage Facility (OU002) and the Former Fire Training Area - Marshall Army Air Field (OU004) received clean closure prior to the FY12 five-year review and were not reviewed.

Land Use Control (LUC) Summary

LUC Title: 354 Area Site(s): FTRI-031 ROD/DD Title: The 354 Area Solvent Detections Location of LUC FTRI-031 354 Area Solvent Detection site extends from near building 430 on the north to the Kansas River on the south. Land Use Restriction: Media specific restriction - restrict drinking water well installation, Restrict land use - No residential use Types of Engineering Controls: None Types of Institutional Controls: Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use Date in Place: 200607 Modification Date: N/A Date Terminated: N/A Inspecting Organization: Installation Record of LUC: Master Plan or Equivalent Documentation Date: 200607 LUC Enforcement: 5 Year Reviews Contaminants: VOC Additional Information N/A LUC Title: Dry Cleaning Facilities Site(s): FTRI-027

ROD/DD Title: Dry Cleaning Facilities Study Area

Location of LUC

The former Dry Cleaning Facilities Area (DCFA) is located in the southwest corner of the Main Post cantonment about 800 feet north of the Kansas River. The DCFA operated until 2002. The primary dry cleaning solvent was tetrachloroethylene (PCE). Land Use Restriction: Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media

specific restriction - restrict drinking water well installation

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 200802

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

LUC Title: SW Funston Ldfl Controls

Site(s): FTRI-003

ROD/DD Title: RECORD OF DECISION - SW FUNSTON LANDFILL

Location of LUC

Southwest Funston Landfill (Operable Unit 001) covers approximately 120 acres and is located in the southern portion of Fort Riley adjacent to the southwest corner of the Camp Funston cantonment area (Figure 1-1). It is bordered on the south by the Kansas River, on the north by Well House Road, on the west by a former meander bend in the Kansas River and on the east by Threemile Creek. The landfill lies entirely within the 100-year floodplain of the Kansas River.

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict access to the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Landfill restriction - Restrict plantings that interfere LF cap or cover system (roots that penetrate the cap or cover system), Landfill restriction - Restrict vehicular traffic, Media specific restriction - prohibit use of groundwater for consumption or domestic purposes, Media specific restriction - restrict drinking water well installation

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Notations in Master Plan, Restrictions on Groundwater Withdrawal, Restrictions on land use

Date in Place: 199710

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200708

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

Installation Historic Activity

The history of Fort Riley is closely linked to the history of American westward expansion and development. As early as the 1840s, travelers along the Oregon and Santa Fe Trails began a massive migration across the high plains of Kansas, which created the need for a series of military installations to protect them as they traveled west.

In 1852 Major E.A. Ogden established a temporary camp called Camp Center, north of the Kansas River, near the junction of the Smoky Hill and Republican Rivers. In 1853, the US Congress authorized establishment of a permanent installation there and renamed the encampment Fort Riley, in honor of Major General Bennett C. Riley who led the first military escort along the Santa Fe Trail in 1829.

Fort Riley evolved from a frontier outpost to a military training installation in the first 60 years following its inception in 1853. In the beginning, industry was limited to a few shops (e.g., blacksmiths) and storehouses. Early sewers dumped directly into the rivers. Military operations were limited to small arms, horse-mounted cavalry, and horse-drawn artillery. Practice ranges were located near the barracks areas in the lowlands, and river bluffs were used as natural backstops for the ranges.

During World War I (WWI), there was a build-up of forces at FTRI. Camp Funston was established during WWI and, in approximately three months, 1,401 temporary buildings were erected there to house troops. Camp Whitside was also built-up for WWI. Military training activities became more complex and the infrastructure more elaborate. Motor pools and auto repair shops replaced stables and blacksmith shops. Marshall Army Air Field became operational in 1921. The installation areas were electrified, and wastewater treatment plants were constructed.

Prior to World War II (WWII) and through the 1940s, Fort Riley expanded its transportation and industrial activities. Many motor pools were established in Camp Funston, Camp Whitside, Camp Forsyth, and the Main Post. Underground storage tanks (UST) were installed, and a gasoline pipeline was run from the rail spur on the north side of the Kansas River to Marshall Army Air Field (MAAF). The installation infrastructure included laundry and dry cleaning facilities, numerous vehicle repair shops, boiler plants, and an asphalt plant.

Through the early years of WWII, the installation included the last vestiges of horse-mounted troops, including an animal dip facility on the rail spur for animals brought onto the installation. In 1949, the horse-mounted cavalry was dissolved.

The heavy weapons training was focused on the main impact area, which was acquired in 1942, but small arms ranges were still prevalent along the river bluffs, especially in the Camp Forsyth, Camp Whitside, and Camp Funston areas. During the period between WWII and Vietnam, many of the temporary facilities built for WWII, especially those in Camp Forsyth, Camp Funston, and Camp Whitside, became obsolete and surplus, so they were demolished.

In 1955 the First Infantry Division was assigned to Fort Riley. Troop barracks and tactical equipment shops were built on Custer Hill and integrated with troop support facilities for health and recreational services. Family housing also expanded. Small arms training shifted to the ranges around the impact area.

During the Vietnam Era, environmental concerns came to the forefront. The wastewater treatment plants and controlled landfills were put into use. The older industrial activities were frequently upgraded or centralized. Transportation and industrial facilities that had been abandoned were demolished. A systematic review and upgrade of facilities focusing on several environmental concerns proceeded, including USTs, polychlorinated biphenyl (PCB)-containing transformers, and asbestos-containing materials used in buildings. With the passage of stricter federal and state laws governing air and water pollution, protection of natural resources, waste management, and environmental regulation progressively focused on the management of industrial and military activities.

Army personnel are trained at Fort Riley. The installation's history does not include large-scale manufacturing activities. Rather, development of Fort Riley included ancillary activities to support overall installation operations, including print shops, photographic processing facilities, laboratories, furniture repair, dry cleaning, paint shops, sewage treatment plants, and numerous vehicle maintenance and wash facilities.

Hazardous materials used include:

- Ordnance (of which there is no evidence of release of toxic chemical agents but there are indications that depleted uranium spotting rounds for the Davy Crockett weapon system may have been expended);
- Chlorinated solvents associated with furniture repair, dry cleaning, and cleaning of printing equipment;
- Pesticides for clearing of brush, pest and termite control, and routine maintenance of facility grounds;

Installation Historic Activity

- A variety of small quantities of chemicals associated with laboratories;
- Silver-bearing solutions from the photographic processing and x-ray facilities;
- PCB fluids in electrical equipment; and
- Large quantities of petroleum-based fuels and cleaners associated with vehicle use, maintenance, and repair.

In addition to the waste outlined above, throughout its operational life the installation has generated typical, nonhazardous municipal waste and construction debris.

Past activities at Fort Riley have environmentally impacted several areas of the installation, primarily as the result of spills and leaks, and from previously approved waste disposal and handling practices. Cleanup of Fort Riley began in 1990 - 1991 in response to the Army's Installation Restoration Program (IRP) and the federal facility agreement (FFA).

Major tenants at Fort Riley include the Kansas Army National Guard, the Army Reserve, and the Irwin Army Community Hospital. In 1990, the installation was placed on the national priorities list (NPL) with a hazard ranking system (HRS) score of 33.8. An FFA was signed by the USEPA, Region VII, KDHE, and the Army and became effective on Feb. 28, 1991. The FFA requires that the installation address all significant environmental releases under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act (RCRA).

Installation Program Cleanup Progress

IRP	
Prior Year Progress:	FTRI-001 - Conducted groundwater sampling event and cover inspection FTRI-003 - Conducted groundwater sampling event and cover and bank stabilization inspection FTRI-009 - Continued the remedial investigation (RI) site characterization work FTRI-027 - Conducted groundwater sampling event FTRI-031 - Conducted groundwater sampling event FTRI-056 - Continued oversight of the remediation effort FTRI-057 - Continued operating the recovery system at the three sites FTRI-074 - Continued the RI
Future Plan of Action:	FTRI-001 - Cover repair; groundwater sampling - 2013 and 2014 FTRI-003 - Cover and bank stabilization - 2013 FTRI-009 - RI/feasibility study (FS)/proposed plan (PP)/record of decision (ROD)- 2013 and 2014; remedial design (RD) - 2014 FTRI-027- Groundwater sampling - 2013 and 2014 FTRI-031 - Work with regulators - 2013 FTRI-056 - Continue oversight - 2013 and 2014 FTRI-057 - Operation of recovery systems - 2013 and 2014 FTRI-074 - Continue RI/FS/PP/ROD - 2013 and 2014; RD - 2014
MMRP	
Prior Year Progress:	FTRI-001-R-02 - Completed RI/FS reports FTRI-003-R-01 - Completed RI fieldwork
Future Plan of Action:	FTRI-001-R-02 - PP/ROD/RD/remedial action (construction) [RA(C)] in 2013 FTRI-001-R-01 - Complete RI/FS/PP/ROD in 2013
CR	
Prior Year Progress:	CC-FTRI-01 - Conducted groundwater sampling and semiannual free-product recovery by manual bailing CC-FTRI-09 - Buildings 388 and 5320: Defined the extent of the groundwater plume/free-product and continued groundwater monitoring and bailing at both sites
Future Plan of Action:	CC-FTRI-01 - Groundwater sampling and semiannual free-product recovery by manual bailing; Install three new bedrock wells to more accurately monitor the plume. CC-FTRI-09 - Buildings 388 and 5320: Awaiting decision on 5320s status before proceeding with further work - Analyze data from 388 work in 2012 to determine what is needed to develop proper corrective action effort.

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FORT RILEY

Army Defense Environmental Restoration Program Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 72/61

Installation Site Types with Future and/or Underway Phases

1	Explosive Ordnance Disposal Area
	(FTRI-009)
1	Incinerator
	(FTRI-074)
2	Landfill
	(FTRI-001, FTRI-003)
1	POL (Petroleum/Lubricants) Lines
	(FTRI-057)
1	Soil Contamination After Tank Removal
	(FTRI-056)
2	Spill Site Area
	(FTRI-027, FTRI-031)
3	Underground Tank Farm

(FTRI-063, FTRI-066, FTRI-068)

Most Widespread Contaminants of Concern

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

Media of Concern

Groundwater, Sediment, Soil, Surface Water

CAMP FUNSTON

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Action Remedy FY Site ID Site Name **FTRI-061** FORMER GAS SERVICE IRA WASTE REMOVAL - DRUMS, TANKS, 1990 STATION BLDG 354 **BULK CONTAINERS FTRI-008** PCB STORAGE CONEX FRA IN-SITU SOIL TREATMENT 1991 (BUILDING 348) **FTRI-059** REMOVE USTS FRA WASTE REMOVAL - DRUMS, TANKS, 1991 **BULK CONTAINERS FTRI-063** FMR BLDG 1044 DISPENSING IRA WASTE REMOVAL - DRUMS, TANKS, 1991 STATION **BULK CONTAINERS FTRI-066** FMR BLDG 1245 DISPENSING IRA WASTE REMOVAL - DRUMS, TANKS, 1991 **BULK CONTAINERS** STATION FMR BLDG 1539 DISPENSING IRA FTRI-067 WASTE REMOVAL - DRUMS, TANKS, 1991 STATION **BULK CONTAINERS FTRI-068** FMR BLDG 1637 DISPENSING IRA WASTE REMOVAL - DRUMS, TANKS, 1991 STATION **BULK CONTAINERS FTRI-069** FMR BLDG 1890 DISPENSING IRA WASTE REMOVAL - DRUMS, TANKS, 1991 STATION **BULK CONTAINERS FTRI-010** PESTICIDE (2-4D) UST AT FRA WASTE REMOVAL - SOILS 1992 CAMP FUNSTON ABANDONED VOC TANKS **FTRI-013** FRA WASTE REMOVAL - DRUMS, TANKS, 1992 NORTH OF IACH **BULK CONTAINERS** MERCURY CONTAMINATION FRA REMOVAL **FTRI-049** 1992 AREAS WASTE REMOVAL - DRUMS, TANKS, **FTRI-054** CUSTER HILL PX USTS BLDG IRA 1992 **BULK CONTAINERS** 5320 **FTRI-061** FORMER GAS SERVICE IRA WASTE REMOVAL - DRUMS, TANKS, 1992 STATION BLDG 354 **BULK CONTAINERS FTRI-003** SOUTHWEST FUNSTON OTHER 1994 IRA LANDFILL **FTRI-028** FMR FIRE TRAINING AREA FRA WASTE REMOVAL - SOILS 1994

IRP Summary

Completed R	emedial Actions (Interim Reme		s/ Final Remedial Actions (IRA/FRA))	
Site ID	Site Name	Action	Remedy	FY
FTRI-030	PESTICIDE STORAGE FACILITY (MIXING)	IRA	WASTE REMOVAL - SOILS	1994
FTRI-035	NON-IMPACT AREA SMALL ARMS RANGES	IRA	WASTE REMOVAL - SOILS	1994
FTRI-060	MAINPOST PX GAS STATION / 218	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1994
FTRI-001	CUSTER HILL SANITARY	FRA	CAPPING	1995
FTRI-027	DRY CLEANING FACILITIES	IRA	SOIL VAPOR TREATMENT	1995
FTRI-064	FMR BLDG 1090 DISPENSING	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1995
FTRI-065	FMR BLDG 1190 DISPENSING STATION	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1995
FTRI-073	BLDG 8360 FUEL OIL UST	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1995
FTRI-003	SOUTHWEST FUNSTON	IRA	CAPPING	1996
FTRI-019	FORMER FIRE TRAINING AREA FFTA-MAAF	IRA	BIOREMEDIATION	1996
FTRI-019	FORMER FIRE TRAINING AREA FFTA-MAAF	IRA	SOIL VAPOR TREATMENT	1996
FTRI-070	FMR BLDG 2341 DISPENSING	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1996
FTRI-003	SOUTHWEST FUNSTON	FRA	CAPPING	1997
FTRI-003	SOUTHWEST FUNSTON	IRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	1997
FTRI-057	6200 AREA FUEL OIL LINE (ANCHOR)	IRA	WASTE REMOVAL - SOILS	1997
FTRI-062	TMP GAS STATION BLDG 388	3 IRA	FREE PRODUCT RECOVERY	1997
FTRI-063	FMR BLDG 1044 DISPENSING STATION	BIRA	FREE PRODUCT RECOVERY	1997
FTRI-029	OLD INCINERATOR SITE SE- CAMP FUNSTON	IRA	WASTE REMOVAL - SOILS	2000
FTRI-036	SOUTHEAST FUNSTON LANDFILL (ANCHOR)	IRA	CAPPING	2001
FTRI-038	FORSYTH LANDFILL(S)	IRA	OTHER	2001
FTRI-019	FORMER FIRE TRAINING AREA FFTA-MAAF	IRA	ALTERNATE WATER SUPPLY/WATER SUPPLY TREATMENT	2003
FTRI-019	FORMER FIRE TRAINING AREA FFTA-MAAF	FRA	NATURAL ATTENUATION	2005
FTRI-057	6200 AREA FUEL OIL LINE (ANCHOR)	IRA	FREE PRODUCT RECOVERY	2005
FTRI-027	DRY CLEANING FACILITIES	IRA	EX SITU SOIL TREATMENT	2006
FTRI-027	DRY CLEANING FACILITIES AREA	IRA	CHEMICAL REDUCTION/OXIDATION	2006
FTRI-027	DRY CLEANING FACILITIES AREA	IRA	BIOREMEDIATION - IN SITU GROUNDWATER	2006
FTRI-031	354 AREA SOLVENT DETECTIONS (354)	FRA	NATURAL ATTENUATION	2007

IRP Summary

Completed R Site ID	emedial Actions (Interim Reme Site Name	edial Action Action	s/ Final Remedial Actions (IRA/FRA)) Remedy	FY
FTRI-027	DRY CLEANING FACILITIES AREA	FRA	INSTITUTIONAL CONTROLS	2008
FTRI-027	DRY CLEANING FACILITIES AREA	FRA	NATURAL ATTENUATION	2008
FTRI-056	ABANDONED GASOLINE LINE	IRA	BIOREMEDITATION - IN SITU	2009
FTRI-063	FMR BLDG 1044 DISPENSING STATION	GFRA	DUAL-PHASE EXTRACTION	2010
FTRI-066	FMR BLDG 1245 DISPENSING STATION	3 FRA	DUAL-PHASE EXTRACTION	2010
FTRI-068	FMR BLDG 1637 DISPENSING STATION	3 FRA	DUAL-PHASE EXTRACTION	2010
FTRI-056	ABANDONED GASOLINE LINE	FRA	BIOREMEDIATION - IN SITU GROUNDWATER	2011
FTRI-074	WWI INCINERATOR, NW CAMP FUNSTON	IRA	REMOVAL	2011
FTRI-056	ABANDONED GASOLINE LINE	FRA	REMOVAL	2012

Total Environmental Restoration, Army (ER,A) Funding

Prior Funding:	\$77,767.4 K
Current Requirements:	\$.0 K
Future Requirements:	\$6,010.0 K

Duration of IRP

Date of IRP Inception:198312Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):201803/202503Date of IRP completion including Long Term Management (LTM):204003

IRPContamination Assessment

Contamination Assessment Overview

The Army initially began environmental restoration-related investigations as a result of the 1982 closure activities of the Southwest Funston Landfill (SFL) where monitoring indicated groundwater contamination.

The installation was evaluated for placement on the NPL with an HRS score of 33.8. The placement on the NPL was announced in 1990. An FFA was signed in August 1990 to address the CERCLA and RCRA mandates. These seven IRP sites have been designated as operable units (OUs):

- FTRI-003 SFL (OU001),
- FTRI-030 Pesticide Storage Facility (PSF)(OU002),
- FTRI-027 DCFA (OU003),
- FTRI-019 Former Fire Training Area-Marshall Army Airfield (MAAF) (OU004),
- FTRI-031 354 Area Solvent Detections (OU005),
- FTRI-009 Open Burning (OB)/Open Detonation (OD) Ground (Range 16) (OB/OD)(OU006), and
- FTRI-074 WWI Incinerator, NW Camp Funston WWII Incinerator (CFI) (OU007).

These sites have been identified as sites with contamination due to past operational activities which resulted in spills and releases to the environment. The primary contaminants of concern (COC) are chlorinated solvents and pesticides.

The SFL was operated from the mid-1950s through 1981. Post-closure monitoring and RI/FS sampling efforts detected contaminants such as chlorinated solvents, petroleum hydrocarbons, and metals in the groundwater at low levels. On Aug. 6, 1997, the ROD was signed, and institutional controls and LTM have been implemented. The remedy has achieved the required reduction in the risk by meeting the USEPA maximum contaminant levels (MCLs). A remedial action completion report (RACR) was signed by the USEPA in February 2010 after vinyl chloride (VC), the last COC, dropped below regulatory levels. Ongoing LTM is required to document that contaminant levels remain below the MCLs.

The USEPA approved an explanation of significant differences (ESD) and site closure for the PSF in 2010. The site is now unlimited use/unrestricted exposure (UU/UE) and no further action (NFA) is required.

The DCFA has two sites with soil and groundwater contamination from dry cleaning operations using PCE. The PCE degradation products, trichloroethylene (TCE), dichloroethylene (DCE) and VC, are present in the groundwater. Dry cleaning occurred at Buildings 180/181 (demolished in 2000) and Building 183 (demolished in 2002). There is minimal contamination at the Building 183 location. The eastern groundwater plume originates at the former site of Building 180/181 with two hot spots: one east of the building centered on a sewer manhole and one at the southwest corner of the building. A utility trench appears to be the conduit for transporting PCE to the west, with the western groundwater plume centered on well DCF02-42. Both plumes move off the terrace into the alluvium and are not further degrading Kansas River water quality. The ROD has been signed and a RD/remedial action plan (RAP) has been approved. The alternative of monitored natural attenuation (MNA) with institutional controls is being implemented. The ROD required conducting annual groundwater sampling in fiscal year (FY)08, FY09, and FY10. By FY09, the groundwater bioremediation at the eastern plume showed signs of stalling out. In 2010 this groundwater was retreated and four quarterly sampling events were completed in 2011. The additional injection was successful in accelerating the decrease in groundwater contaminant levels in the eastern plume. Fort Riley is conducting annual sampling.

The USEPA approved a RACR and site closure for the former fire training area-MAAF in 2010. The original COCs were PCE and its degradation products. The site is now UU/UE and NFA is required.

The 354 Area Solvent Detections site has contamination that was discovered during investigations of a POL/UST site. There are VOCs that include PCE, TCE, DCE and benzene. The ROD was signed in 2006 and the RD/RAP was approved. The site is in MNA with institutional control. No contaminants were above the MCLs in the alluvial aquifer of the Kansas River for the three years post-ROD. Contamination remains in place as groundwater is above the MCLs in the terrace aquifer.

At the OB/OD site, TCE is the current COC in the groundwater, soil, and surface water. The RI fieldwork was conducted in 2012 to be followed by four quarterly groundwater sampling events.

At the CFI site, arsenic is the current COC in the groundwater, soil, and surface water. The RI fieldwork was conducted in 2012 to be followed by four quarterly groundwater sampling events.

Contamination Assessment Overview

At the non-OU sites, pre-RCRA-I petroleum releases occurred at FTRI-056 Abandoned Gas Line (AGL) and FTRI-057 6200 Area Fuel Oil Line (Anchor). Arsenic is the COC at the FTRI-001 Custer Hill Sanitary Landfill (CHLF).

Cleanup Exit Strategy

The principal objectives of the Fort Riley IRP are to protect human health and the environment while working toward the ultimate goal of delisting the installation from the NPL. There is the potential that some of the sites will not reach UU/UE but they will be monitored and under the installation's control. The installation's real property master plan will preclude their utilization for unacceptable land uses. In order to accomplish these objectives, the following efforts have been determined to be essential and must be achieved:

- Complete RI/FS, PP, and ROD for OB/OD and CFI.

- Conduct LTM for the OUs as described in the PPs, documented by the RODs, and determined to be required by the analysis of the data from the sampling events.

- Develop RACRs for those OUs that have attained the RA objectives defined in the PPs and RODs. Fort Riley will then request partial deletion of those sites.

- Perform the five-year review requirements as required under the CERCLA for all sites that have hazardous substances left in place that do not allow for UU and UE. Site closure will be requested when a site attains UU/UE.

- Conduct remediation efforts to include operations of the dual-phase extraction (DPE) systems to address fuels-related soil and groundwater contamination at FTRI-063 (1044), -066 (1245), and -068 POL (1637) sites. These three sites are located in Camp Funston, and are covered under FTRI-057 (Anchor site). Once the soil and groundwater contaminants have reached concentrations that ensure no restrictions to a site's use, closeout approval will be sought.

- FTRI-056 AGL has undergone in situ treatment for fuels-related soil and groundwater contamination. Based on posttreatment monitoring additional remediation was conducted. Excavation of the contaminated soil, landfarming, and treatment of

groundwater was performed in 2011. Once the soil and groundwater contaminants have reached concentrations that ensure no restrictions on the site's use, closeout approval will be sought.

- Develop the final RACR to begin the procedures for requesting delisting of the installation from the NPL.

- Well abandonment will occur at each site when groundwater monitoring is complete.

	Title	Author	Date
993			
	Remedial Investigation for Remedial Investigation/Feasibility Study Pesticide Storage Facility	Law Environmental	DEC-1993
994		1	
	Remedial Investigation Report for Southwest Funston Landfill	Law Environmental	APR-1994
	Feasibility Study Report for Remedial Investigation/Feasibility Study Southwest Funston Landfill	Law Environmental	APR-1994
	Proposed Plan Southwest Funston Landfill	Fort Riley	NOV-1994
995		1	
	Remedial Investigation Addendum and Feasibility Study Report for Remedial Investigation/Feasibility Study Pesticide Storage Facility	Law Environmental	MAY-1995
	Pre-Design Work Plan Bioventing and Soil Vapor Extraction POL UST Investigation/Remedial Action Plans Fort Riley, Kansas (1245)	Dames & Moore	AUG-1995
	Pre-Design Activity Report - Former Building 1245 Bioventing and Soil Vapor Extraction POL UST Investigation/Remedial Action Plans Fort Riley, Kansas	Dames & Moore	NOV-1995
	Record of Decision Southwest Funston Landfill	Fort Riley	NOV-1995
	Final Groundwater Pre-Design Investigation Work Plan POL/UST Remedial Design Fort Riley, Kansas (Bldgs 218, 354, 388, 1044, 1245, 1539, 1637, 1890, 2345, 5320, 6232, 8340, AGL, POL Tank Farm)	HydroGeoLogic	DEC-1995
996	5520, 0252, 0540, AGE, I GE Talik I allij		
	Results of the Free Product Investigation Work Plan POL/UST Sites Fort Riley Military Reservation, Fort Riley, Kansas (388, 1044, 1637, 5320, Pond)	HydroGeoLogic	MAY-1996
997		1	
	Final Site Investigation Report POL UST Sites 1044, 1245, and 1637 Fort Riley, Kansas	Dames & Moore	JUL-1997
	Proposed Plan Pesticide Storage Facility	Fort Riley	AUG-1997
	Remedial Investigation Addenda Pesticide Storage Facility	Law Environmental	AUG-1997
	Record of Decision Pesticide Storage Facility	Fort Riley	SEP-1997
001			
	Remedial Investigation Report for Former Fire Training Area Marshall Army Airfield	Burns & McDonnell	MAR-2001
	Draft Project Report Field Investigation Former Incinerator Site Ft. Riley, Kansas	Arrowhead	APR-2001
002			
	Five-Year Review Report	DPW Environmental Fort Riley, KS	AUG-2002
003			
	Site-Specific Sampling and Analysis Plan Long Term Monitoring Fort Riley Southwest Funston Landfill	Environmental Chemical Corporation	JAN-2003
	Installation-Wide Site Investigation Derived Waste Management Plan for Environmental Investigations at Fort Riley, Kansas	Burns & McDonnell	APR-2003

	Title	Author	Date
2003			
	Feasibility Study FFTA-MAAF	Burns & McDonnell	SEP-2003
2004			
004			
	Installation-Wide Sampling and Analysis Plan for	Burns & McDonnell	FEB-2004
	Environmental Investigations at Fort Riley, Kansas Remedial Investigation Addendum for the Dry Cleaning	Burns & McDonnell	APR-2004
	Facilities Area	Burns & McDonnen	AFK-2004
	Draft Final Proposed Plan FFTA-MAAF	Burns & McDonnell	MAY-2004
	Abandoned Gas Line, Site Investigation Report AGL	McKinzie	SEP-2004
	Terminus Area		
	Technical Memorandum for Open Burning/Open	Burns & McDonnell	OCT-2004
	Detonation Ground Range 16 at Fort Riley, Kansas 354 Area Solvent Detection Site, Feasibility Study	Burns & McDonnell	DEC-2004
	Report 354	Burns & McDonnen	DEC-2004
005		1	
	KRBCA Checklists for POL/UST Sites 1044, 1245, &	ECC/Burns & McDonnell	FEB-2005
	1637 Fort Riley, Kansas Feasibility Study Addendum for the Dry Cleaning	Burns & McDonnell	MAR-2005
	Feasibility Study Addendum for the Dry Cleaning Facilities Study Area		IVIAR-2005
	Site-Specific Field Sampling Plan for Groundwater,	Burns & McDonnell	MAY-2005
	Spring, and Seep Sampling With Addendum - Spring	Burns & MeDonnen	MAT-2003
	2005 for Open Burning/Open Detonation Ground		
	(Range 16)		
	354 Area Solvent Detection Site, Soil-Gas Investigation	Burns & McDonnell	MAY-2005
	Report 354 Area Solvent Detection		
	354 Area Solvent Detection Site, Proposed Plan 354	Burns & McDonnell	MAY-2005
	Area Solvent Detection		
	Pilot Study Report Pilot Study for Soil Remediation 354	Burns & McDonnell	JUN-2005
	Area Solvent Detections		
	Site Investigation Work Plans for the Petroleum, Oil,	ECC/Burns & McDonnell	JUN-2005
	and Lubricant Sites 1044, 1245, & 1637 at Main Post		
	Fort Riley, Kansas		
	Record of Decision Former Fire Training Area -	Burns & McDonnell	JUL-2005
	Marshall Army Airfield		
	Draft Final EE/CA Report Non-Time Critical Removal	McKinzie	AUG-2005
	Action Abandoned Gas Line/Terminus Fort Riley,		
	Kansas Community Involvement Plan Fort Riley Superfund Site	DPW Environmental Fort	AUG-2005
	Fort Riley, Kansas	Riley, KS	AUG-2005
	Action Memorandum Non-Time Critical Removal Action	McKinzie	DEC-2005
	Abandoned Gas Line/Terminus Fort Riley, Kansas		
2006		1	1
	Remedial Design/Remedial Action Plan Former Fire	Burns & McDonnell	JAN-2006
	Training Area - Marshall Army Airfield		JAIN-2000
	Former Fire Training Area-Marshall Army Airfield, Draft	Burns & McDonnell	JAN-2006
	Final Remedial Design/Remedial Action Plan		0711-2000
	Work Plan Expanded Site Investigation (Multiple Sites)	Burns & McDonnell	MAY-2006
	at Fort Riley, Kansas		
	Record of Decision 354 Area Solvent Detections	Burns & McDonnell	JUN-2006
	Work Plan Removal Action AGL Terminus Area	McKinzie	JUN-2006
	Marshall Army Airfield Fort Riley Kansas		
	Site Specific Sampling Plans for Groundwater	EA Engineering	AUG-2006
	Monitoring Activities Building 354		

	Title	Author	Date
2006			
	Site Specific Sampling Plans for Groundwater Monitoring Activities Former Fire Training Area- Marshall Airfield	EA Engineering	AUG-2006
	Quality Control Summary Report June 2006 Sampling Event Pesticide Storage Facility	Corps of Engineers - Kansas City District	AUG-2006
	Site-Specific Sampling Plans for Groundwater Monitoring Activities Dry Cleaning Facility Area	EA Engineering	AUG-2006
	Work Plan Pilot Study for Soil and Groundwater Remediation DCF Study Area	Burns & McDonnell	SEP-2006
	Quality Control Summary Reports Summer 2006 Sampling Events for the Expanded Site Investigation (Multi-Sites) at Fort Riley, Kansas	Burns & McDonnell	SEP-2006
	2007 Feasibility Study Addendum for the Dry Cleaning Facilities Study Area	Burns & McDonnell	OCT-2006
	Work Plan Camp Funston Incinerator Fort Riley, Kansas	Corps of Engineers - Kansas City District	NOV-2006
	Magnetometer Anomaly Investigation Work Plan for the Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 at Camp Funston Fort Riley, Kansas	ECC/Burns & McDonnell	NOV-2006
2007			1
	Quality Control Summary Report December 2006 Sampling Event Camp Funston Incinerator Fort Riley, Kansas	Corps of Engineers - Kansas City District	FEB-2007
	Draft Final Remedial Design/Remedial Action Plan 354 Area Solvent Detections	Burns & McDonnell	MAR-2007
	Report for Sampling at Camp Funston Incinerator December 2006	Corps of Engineers - Kansas City District	MAR-2007
	Magnetometer Anomaly Investigation Report for the Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 at Camp Funston Fort Riley, Kansas	ECC/Burns & McDonnell	MAR-2007
	Quality Control Summary Report for April 2007 Groundwater Sampling Event 354 Site	EA Engineering	MAY-2007
	Design Addendum Investigation Work Plan for the Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 at Camp Funston Fort Riley, Kansas	ECC/Burns & McDonnell	MAY-2007
	Quality Control Summary Report March 2007 Sampling Event Former Fire Training Area - Marshall Army Airfield	EA Engineering	MAY-2007
	Quality Control Summary Report March 2007 Sampling Event Southwest Funston Landfill	Environmental Chemical Corporation	MAY-2007
	Quality Control Summary Report for the April 2007 Groundwater Sampling Event at the Dry Cleaning Facilities Area	EA Engineering	JUN-2007
	2007 Annual Sampling Report 354 Solvent Detections Site	EA Engineering	JUL-2007
	2007 Annual Sampling Report Dry Cleaning Facilities Area	EA Engineering	JUL-2007
	2007 Annual Sampling Report FFTA-MAAF	EA Engineering	JUL-2007
	Real Property Master Plan Digest (Institutional Controls)	Black & Veatch	AUG-2007
	Quality Control Summary Report Air Site Investigation for the Petroleum , Oil, and Lubricant Sites 1044, 1245, and 1637 Pilot Study Camp Funston Fort Riley, Kansas	ECC/Burns & McDonnell	SEP-2007
	Long Term Monitoring Report 2007 Southwest Funston	Environmental Chemical	SEP-2007

Title

Author

Date

2008

Landfill	Corporation	
Second Five-Year Review Report Fort Riley, Kansas	Corps of Engineers - Kansas City District	SEP-2007
Quality Control Summary Report August 2007 Groundwater Sampling Event at the Open Burning/Open Detonation (Range 16)	Burns & McDonnell	OCT-2007
Proposed Plan for the Dry Cleaning Facilities Area	Burns & McDonnell	OCT-2007
Quality Control Summary Report for the September 2007 Groundwater Sampling Event at the Dry Cleaning Facilities Area (Pilot Study)	Burns & McDonnell	OCT-2007
2007 Annual Inspection Report Southwest Funston Landfill	Corps of Engineers - Kansas City District	OCT-2007
Reports for Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas	Burns & McDonnell	OCT-2007
Quality Control Summary Report Air Sample Data for the POL Sites 1044, 1245, and 1637 Pilot Study Camp Funston Fort Riley, Kansas	ECC/Burns & McDonnell	NOV-2007
Pilot Study Report for the Dry Cleaning Facilities Area	Burns & McDonnell	JAN-2008
Record of Decision Dry Cleaning Facilities Area	Burns & McDonnell	JAN-2008
Site-Specific Plans for Groundwater Monitoring Activities Southwest Funston Landfill Fort Riley, Kansas	СТІ	MAR-2008
Quality Control Summary Report for February 2008 Sampling Event Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	APR-2008
Quality Control Summary Report for March 2008 Sampling Event 354 Area Solvent Detections Site Fort Riley, Kansas	EA Engineering	MAY-2008
Quality Control Summary Report for Groundwater Monitoring Activities Southwest Funston Landfill Fort Riley, Kansas	СТІ	MAY-2008
Draft Final Work Plan Addendum Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas	Burns & McDonnell /Malcolm Pirnie	MAY-2008
Engineering Design Report for the Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 at Camp Funston Volumes I & 2 Fort Riley, Kansas	ECC/Burns & McDonnell	JUN-2008
Quality Control Summary Report for April 2008 Sampling Event at the Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	JUN-2008
2008 Annual Sampling Report Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	JUN-2008
Remedial Design/Remedial Action Plan Dry Cleaning Facilities Area (Operable Unit 003) at Main Post Fort Riley, Kansas	Burns & McDonnell	JUN-2008
Removal Action Final Report - Volumes I & 2 AGL Terminus Area Marshall Army Air Field Fort Riley, Kansas	McKinzie	JUL-2008
Final 2008 Annual Groundwater Sampling Report Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	JUL-2008
Long Term Monitoring Report Southwest Funston Landfill Fort Riley, Kansas 2008	СТІ	JUL-2008

	Title	Author	Date
2008			
	Quality Control Summary Report July 2008 Sampling Event Custer Hill Landfill Fort Riley, Kansas	Environmental Chemical Corporation	AUG-2008
	Quality Control Summary Report July 2008 Groundwater Sampling Event at the Open Burning/Open Detonation (Range 16) at Fort Riley,	Burns & McDonnell /Malcolm Pirnie	SEP-2008
	Kansas Quality Control Summary Report Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas	Burns & McDonnell /Malcolm Pirnie	SEP-2008
	2008 Maintenance and Repair Report and Annual Inspection Report Southwest Funston Landfill Operable Unit 001 Fort Riley, Kansas	Corps of Engineers - Kansas City District	OCT-2008
	Draft Final Report Addendum Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas	Burns & McDonnell /Malcolm Pirnie	DEC-2008
	Draft Final Building 1693 Report Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas	Burns & McDonnell /Malcolm Pirnie	DEC-2008
009			1
	Quality Control Summary Report for March 2009 Sampling Event 354 Area Solvent Detections Site Fort Riley, Kansas	EA Engineering	APR-2009
	Quality Control Summary Report for February 2009 Sampling Event Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	APR-2009
	Quality Control Plan Final POL/UST Contaminated (Prior to 1984) Sites Remediation Services at Fort Riley, Kansas (1044, 1245, 1637)	Conti/CH2MHill	MAY-2009
	Project Management Plan Final POL/UST Contaminated (Prior to 1984) Sites Remediation Services at Fort Riley, Kansas (1044, 1245, 1637)	Conti/CH2MHill	MAY-2009
	Quality Control Summary Report for April 2009 Sampling Event at the Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	MAY-2009
	Quality Control Summary Report for Groundwater Monitoring Activities Southwest Funston Landfill Fort Riley, Kansas	СТІ	JUN-2009
	Quality Control Summary Report for Groundwater Monitoring Activities Abandoned Gasoline Site Fort Riley, Kansas	СТІ	JUN-2009
	2009 Annual Sampling Report Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	JUN-2009
	2009 Annual Sampling Report 354 Solvent Detections Site Fort Riley, Kansas	EA Engineering	JUN-2009
	2009 Maintenance and Repair Report and Annual Inspection Report Southwest Funston Landfill Fort Riley, Kansas	Corps of Engineers - Kansas City District	JUN-2009
	Final 2009 Annual Groundwater Sampling Report Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	JUL-2009
	Quality Control Summary Report 2009 Groundwater Resampling Event Southwest Funston Landfill Fort Riley, Kansas	СТІ	AUG-2009
	Quality Control Summary Report for June 2009 Supplemental Sampling Event Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	AUG-2009
	Design Implementation Work Plan for Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 Fort Riley, Kansas	Conti/CH2MHill	SEP-2009

	Title	Author	Date
2009			
	Quality Control Summary Report August 2009 Groundwater Sampling Event at the Open Burning/Open Detonation (Range 16) at Fort Riley,	Burns & McDonnell /Malcolm Pirnie	NOV-2009
	Kansas Quality Control Summary Report for September 2009 Supplemental Sampling Event Former Fire Training Area - Marshall Army Airfield Fort Riley, Kansas	EA Engineering	NOV-2009
	Long Term Monitoring Report Southwest Funston Landfill Fort Riley, Kansas 2009	СТІ	NOV-2009
	Draft Final Remedial Action Completion Report Southwest Funston Landfill Site, OU001 Fort Riley, Kansas December 2009	DPW Environmental Fort Riley, KS	DEC-2009
2010		·	
	Technical Memorandum Pre-Excavation Soil Sampling Event NW Camp Funston WWI Incinerator Fort Riley, Kansas	СТІ	MAR-2010
	Quality Control Summary Report Soil and Groundwater Investigation Abandoned Gas Line Site (AGL) Fort Riley, Kansas	СТІ	APR-2010
	Technical Memorandum Soil and Groundwater Investigation Abandoned Gas Line (AGL) Site Fort Riley, Kansas	СТІ	APR-2010
	Explanation of Significant Difference Pesticide Storage Facility Fort Riley, Kansas	DPW Environmental Fort Riley, KS	APR-2010
	Operations and Maintenance Manual Remediation of Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 Fort Riley, Kansas	Conti/CH2MHill	MAY-2010
	2010 Maintenance and Repair Report and Annual Inspection Report Southwest Funston Landfill Fort Riley, Kansas	Corps of Engineers - Kansas City District	JUN-2010
	Draft Final Remedial Action Completion Report Former Fire Training Area (Operable Unit 004) at - Marshall Army Airfield Fort Riley, Kansas	Louis Berger/ Burns & McDonnell	AUG-2010
	Construction Completion Report Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 Fort Riley, Kansas Volumes 1 and 2	Conti/CH2MHill	AUG-2010
	Quality Control Summary Report for June 2010 Sampling Event Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	AUG-2010
	Quality Control Summary Report August 2010 Groundwater Sampling Event at the Open Burning/Open Detonation (Range 16) at Fort Riley, Kansas	Burns & McDonnell /Malcolm Pirnie	SEP-2010
	Camp Funston WWI Incinerator (CFI) Remediation Ft. Riley, KS	СТІ	OCT-2010
	Final 2010 Annual Groundwater Sampling Report Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	OCT-2010
	Quality Control Summary Report for September 2010 Supplemental Sampling Event Dry Cleaning Facilities Area Fort Riley, Kansas	EA Engineering	NOV-2010
	Quality Control Summary Report May 2010 Sample Event Post Closure Groundwater Monitoring Custer Hill Landfill Fort Riley, Kansas	СТІ	DEC-2010
	Quality Control Summary Report October 2010 Confirmation Sample Event Post Closure Groundwater	СТІ	DEC-2010

2010

2011

Title

Author

Date

Final Project Management Plan Quality Assurance Surveillance Plan Environmental Remediation Services Abandoned Gasoline Line	Саре	FEB-2011
Draft Final Long-Term Management and Care Plan Southwest Funston Landfill Site, OU001 Fort Riley, Kansas	DPW Environmental Fort Riley, KS	MAR-201
2011 Maintenance and Repair Report and Annual Inspection Report for Southwest Funston Landfill Fort Riley, Kansas	Corps of Engineers - Kansas City District	JUN-2011
Final Work Plan Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	JUL-2011
Final Technical Memorandum Part I: Technical Memorandum: EE/CA Addendum Part II: Action Memorandum Addendum Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	JUL-2011
Final Exit Strategy Plan Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	JUL-2011
Final Site-Specific Site Safety and Health Plan for RI/FS Environmental Investigations for the Open Burning-Open Detonation Grounds (Range 16) at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	SEP-2011
Final Site-Specific Investigation Derived Waste Management Plan for RI/FS Environmental Investigations for the Open Burning-Open Detonation Grounds (Range 16) at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	SEP-2011
Quality Control Summary Report August 2011 Sample Event Post Closure Groundwater Monitoring Custer Hill Landfill Fort Riley, Kansas	СТІ	OCT-2017
Quality Control Summary Report 354 Area Solvent Detections August 2011 Groundwater Sample Event Fort Riley, Kansas	СТІ	OCT-2017
Final Groundwater Sampling Report - August 2011 354 Area Solvent Detections Fort Riley, Kansas	СТІ	NOV-201
Final Remedial Investigation/Feasibility Study Work Plan for the Open Burning/Open Detonation Ground (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	NOV-201
Final Munitions and Explosives of Concern Avoidance Plan Remedial Investigation/Feasibility Study and Related Activities Open Burning-Open Detonation Grounds (OB/OD) (Range 16) - Operable Unit 006 Fort Riley, Kansas	Louis Berger and ARCADIS/Malcolm Pirnie	NOV-201
Quality Control Summary Report Long-Term Groundwater Monitoring October 2011 Groundwater Sampling Event Southwest Funston Landfill Fort Riley, Kansas	СТІ	DEC-201
Quality Control Summary Report August and October 2011 Groundwater Sampling Events Dry Cleaning Facilities Area - OU003 Fort Riley, Kansas	СТІ	DEC-2017

	Title	Author	Date
2011			
	Final Installation-Wide Sampling and Analysis Plan (Including UFP-Quality Assurance Project Plan) for the Fort Riley CERCLA Process Support at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	DEC-2011
	Draft Final 2010 Remedial Action (Operations) Report Petroleum, Oil, and Lubricant Sites 1044, 1245, and 1637 Fort Riley, Kansas	Conti/CH2MHill	DEC-2011
	Quality Control Summary Report Long-Term Groundwater Monitoring October 2011 Groundwater Sampling Event Southwest Funston Landfill Fort Riley, Kansas	СТІ	DEC-2011
	Draft Final Site-Specific Investigative-Derived Waste Management Plan for RI/FS Environmental Investigations for the WWI Incinerator, NW Camp Funston (CFI) - Operable Unit 007 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	DEC-2011
2012		·	
	Final Addendum No. 1 to Installation-Wide Accident Prevention Plan (APP) for Open Burning-Open Detonation Grounds (Range 16) Environmental Investigations at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2012
	Quality Control Summary Report Open Burning-Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2012
	Final Installation-Wide Accident Prevention Plan For Environmental Investigations at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2012
	Draft Final Addendum No. 2 to Installation-Wide Accident Prevention Plan for the WWI Incinerator, NW Camp Funston (CFI) - Operable Unit 007 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2012
	2011 Annual Groundwater Sampling Report Dry Cleaning Facilities Area OU-003 Fort Riley, Kansas	СТІ	FEB-2012
	Long Term Monitoring Report Southwest Funston Landfill Fort Riley, Kansas 2011	СТІ	FEB-2012
	Quality Control Summary Report Remedial Investigation/Feasibility Study Phase One Sediment and Soil Sampling at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	FEB-2012
	Quality Control Summary Report Remedial Investigation/Feasibility Study Phase Two Multi- Incremental Soil Sampling at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	MAR-2012
	Quality Control Summary Report Remedial Investigation/Feasibility Study Phase Four Quarterly Groundwater Sampling Event at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	MAY-2012
	Quality Control Summary Report May 2012 Sample Event Post Closure Groundwater Monitoring Custer Hill Landfill Fort Riley, Kansas	СТІ	JUN-2012
	Quality Control Summary Report April 2012 Groundwater Sample Events Dry Cleaning Facilities Area - OU003 Fort Riley, Kansas	СТІ	JUN-2012

Fitle	Author	Date
Quality Control Summary Report Post Closure Groundwater Monitoring - April 2012 Building 354 Fort Riley, Kansas	СТІ	JUN-2012
2012 Maintenance and Repair Report and Annual Inspection Report Southwest Funston Landfill Fort Riley, Kansas	Corps of Engineers - Kansas City District	JUL-2012
Quality Control Summary Report Remedial Investigation/Feasibility Study Phase One Sediment and Soil Sampling at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JUL-2012
Final Long-Term Monitoring Report No. 1 Baseline and First Quarterly Sampling Events (October 2011 - January 2012) Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	AUG-2012
Final Construction Completion Report for Environmental Remediation Services Abandoned Gas Line Terminus Area Fort Riley, Kansas	Саре	AUG-2012
Quality Assurance Project Plan Soil Removal FTRI 057 - 6200 Area, Custer Hill Fort Riley, Kansas	Prudent Technolgies	AUG-2012
Quality Control Summary Report Remedial Investigation/Feasibility Study Phase Three Quarterly Groundwater Sampling Second Quarter Groundwater Sampling Event at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	AUG-2012
Final Work Plan Addendum - Second Groundwater Treatment Event Fort Riley Abandoned Fas Line Terminus Area, Fort Riley, Kansas	Cape	SEP-2012
Long Term Monitoring Field Sampling Modification Fort Riley Abandoned Fas Line Terminus Area, Fort Riley, Kansas	Саре	SEP-2012
Corrective Action Plan - Work Plan Soil Removal FTRI 057 - 6200 Area, Custer Hill Fort Riley, Kansas	Prudent Technologies	SEP-2012
2012 Annual Sampling Report 354 Solvent Detections Site Fort Riley, Kansas	СТІ	NOV-2012
Final Long-Term Monitoring Report No. 2 Second Quarterly Sampling Events (March 2012) Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	NOV-2012
Final Long-Term Monitoring Report No. 3 Third Quarterly Sampling Events (June 2012) Environmental Remediation Services Abandoned Gasoline Line Terminus Area Fort Riley, Kansas	Саре	NOV-2012
Quality Control Summary Report Remedial Investigation/Feasibility Study Phase Three Quarterly Groundwater Sampling Third Quarter Groundwater Sampling Event at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	NOV-2012
2012 Annual Groundwater Sampling Report Dry Cleaning Facilities Area OU-003 Fort Riley, Kansas	СТІ	DEC-2012
Quality Control Summary Report (QCSR) Soil Removal FTRI 057 - 6200 Area, Custer Hill Fort Riley, Kansas	Prudent Technologies	DEC-2012

	Title	Author	Date
2013			
	Final Technical Memorandum Work Plan Addendum for the Push Soil Investigation at the Metal Debris Pits Open Burning-Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2013
	Quality Control Summary Report Remedial Investigation/Feasibility Study Phase Three Quarterly Groundwater Sampling Fourth Quarter Groundwater Sampling Event at the Open Burning/Open Detonation Grounds (Range 16) Operable Unit 006 at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	FEB-2013

FORT RILEY

Installation Restoration Program

Site Descriptions

Site ID: FTRI-001 Site Name: CUSTER HILL SANITARY LANDFILL



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

Phases	Start	End
RFA	198706	198909
CS	198706	198909
RFI/CMS	198909	199307
DES	199308	199311
CMI(C)	199312	199502
CMI(O)	199503	202503
RIP Date:	199503	
RC Date:	202503	



The Custer Hill Landfill operated from 1981 to 1994. KDHE issued a consent order in 1996 to provide for post-closure care to include landfill cover maintenance and groundwater monitoring for 30 years. The post-closure monitoring plan was revised in January 2006. Site progress was tracked under the environmental program requirements (EPR) process from October 1993 to March 2005 and by CC-FTRI-08 from April 2005 to September 2009. The site has been shifted from Army Environmental Database-Compliance-related Cleanup (AEDB-CC) to the Compliance Restoration (CR) Program.

Arsenic is currently detected above regulatory groundwater levels in two wells. No completed pathways or ecological impacts are known. Groundwater is not a drinking water resource. The last cover repair was conducted in 2008.

A five-year groundwater sampling was conducted in 2010. A new detect of arsenic above MCLs in CH91-7 triggered annual sampling. Annual sampling is limited to four wells for arsenic only.

Invasive weed control, spot repairs and reseeding are conducted annually. Prescribed burns or mowing are conducted annually to provide for cover inspection and to enhance the native grass cover.



The post-closure monitoring plan requires site-wide groundwater sampling of nine wells in 2015, 2020, and 2025, otherwise, annual groundwater sampling of four wells for arsenic must be conducted.

Additional landfill cover repair may be performed in 2014, 2018, and 2023. Well abandonment will occur when all groundwater monitoring is completed. The regulatory required 30-year post-closure monitoring ends in 2025.

Site ID: FTRI-003 Site Name: SOUTHWEST FUNSTON LANDFILL



Regulatory Driver: CERCLA RRSE: MEDIUM Contaminants of Concern: Volatiles (VOC) Media of Concern: Groundwater

Phases	Start	End
PA	198312	198412
SI	198706	198909
RI/FS	199101	199603
RD	199510	199603
IRA	199312	199708
RA(C)	199601	199709
RA(O)	199710	201002
LTM	201003	204003
RIP Date:	199710	

RC Date: 201002

SITE DESCRIPTION

The SFL is a closed municipal landfill of approximately 120 acres located in the southern portion of Fort Riley. The landfill operated from the mid-1950s until 1981. The landfill closure was approved by the KDHE in a letter dated Oct. 25, 1983.

In 1993 an engineering evaluation/cost analysis (EE/CA) was performed. The proposed response action was executed between 1994 and 1997 in three construction projects to address the immediate risks at the landfill. Access controls were implemented; river-bank stabilization was performed; and the native soil cover was repaired. Post-closure activities were required under the SFL ROD that was signed in 1997. These activities include maintaining the access controls, repairing the river-bank stabilization structure and landfill cover, groundwater monitoring, and a contingency for future active remediation.

Groundwater monitoring results since 1997 provide clear evidence of a decreasing trend in the COCs. In 2010 and 2011, all detected contaminants were below their MCLs. An inspection of the landfill cover, river-bank stabilization, and signage is performed annually. The most recent cover repair was conducted in 2009. Prescribed burning and mowing are conducted annually. The inspection in 2010 identified the areas requiring future cover repairs which are planned to be accomplished in FY13 as well as bank stabilization repairs.

The five-year review reports in 2002, 2007, and 2012 did not reveal any threats to human health and the environment.

The RACR was signed by the USEPA in February 2010. The landfill was determined to be functionally stable and to have reached the "site completion" milestone under CERCLA. The site is now eligible for deletion from the NPL.

An operation and maintenance (O&M)/LTM plan to implement the LTM of the site activities presented in the RACR was completed in April 2011. Groundwater sampling and landfill cover repair is expected to be completed in late 2013/early 2014.

CLEANUP/EXIT STRATEGY

The SFL is a restricted use site that requires indefinite five-year reviews in the LTM phase until the USEPA approves discontinuing the reviews.

The next groundwater sampling is planned in 2016 for the 2017 five-year review. The O&M/LTM plan involves controlled site access and land use institutional controls; annual inspections; prescribed burns of vegetative cover; as needed repairs of the landfill vegetative soil cover and bank stabilization structure; and groundwater monitoring for the five-year review.

Well abandonment will occur when all groundwater monitoring is completed.

Site ID: FTRI-009 Site Name: OB/OD GROUND (RANGE 16)



Regulatory Driver: CERCLA

RRSE: LOW Contaminants of Concern: Metals, Perchlorate, Volatiles (VOC) Media of Concern: Groundwater, Soil, Surface Water

Phases	Start	End
PA	198312	198412
-	199111	
RI/FS	199303	201406
RD	201407	201407
RA(C)	201408	201410
RA(O)	201411	202009
LTM	202010	202609
RIP Date:	201411	
RC Date:	202009	



The OB/OD Ground (Range 16) is used for emergency ordnance disposal and training (no public access is permitted). There is a suspicion that TCE was utilized as a limited attempt to serve as an accelerant based on its presence in the groundwater at the site, but was not done as a normal practice. The normal practice was to use kerosene or diesel as the accelerant to burn the gun powder. In 1993, TCE was detected in the groundwater.

Groundwater sampling events were conducted in 2010 and 2011.

Due to the continued presence of TCE in the groundwater and the complex site hydrogeology, the site has been placed in the RI/FS phase.

RI fieldwork began in January 2012 based on the approved December 2011 work plan. In 2012, soil sampling and four quarterly groundwater sampling events were conducted. TCE and perchlorate are present in the soil and groundwater.

The final RI Report is expected to be completed in late 2013/early 2014.

The site was addressed in the 2002, 2007, and 2012 five-year review reports.



Future actions will be based on the RI results.

Site ID: FTRI-027 Site Name: DRY CLEANING FACILITIES AREA



Regulatory Driver: CERCLA RRSE: MEDIUM Contaminants of Concern: Volatiles (VOC) Media of Concern: Groundwater, Soil

Phases	Start	End
PA	198312	198412
SI	198706	198909
RI/FS	199106	200803
RD	200804	200806
IRA	199411	200609
RA(C)	200806	200806
RA(O)	200807	201709
LTM	201710	201804
RIP Date:	200807	

RC Date: 201709

SITE DESCRIPTION

The former Dry Cleaning Facilities Area (DCFA) is located in the southwest corner of the main post cantonment area, about 800 feet north of the Kansas River. The DCFA operated until 2002. The primary dry cleaning solvent was PCE. Chlorinated solvent contamination above regulatory standards was found in soil and groundwater.

The RI baseline risk assessment indicates minimal risk associated with the site under current and anticipated land use; however, the PCE-contaminated groundwater had degraded the Kansas River alluvial aquifer.

In 2006, a successful pilot study that addressed soil contamination using excavation and land farming was conducted. It also addressed groundwater contamination through enhanced bioremediation and chemical oxidation.

In March 2008, the ROD was approved and had MNA with institutional controls as the selected remedy. The RD was completed in June 2008. The 2010 annual sampling event concluded the pilot study evaluation.

An additional bioremediation injection of the eastern groundwater plume was completed in 2010 followed by four quarterly sampling events.

Groundwater was sampled in 2012 to support the third five-year review.

The five-year review reports in 2002, 2007, and 2012 did not reveal any threats to human health and the environment.

CLEANUP/EXIT STRATEGY

The PCE groundwater contaminant levels in the alluvium need to drop from the current 20 parts per billion (ppb) to below the MCL of 5 ppb before proceeding with a RACR.

Groundwater sampling is scheduled for 2013, 2014, 2015, and 2016. A five-year review is planned for 2017.

Well abandonment will occur when all groundwater monitoring is completed.

Site ID: FTRI-031 Site Name: 354 AREA SOLVENT DETECTIONS (354)



Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater

Phases	Start	End
PA	199111	199305
SI	199312	199507
RI/FS	199609	200608
RD	200608	200703
RA(C)	200703	200703
RA(O)	200704	201709
LTM	201710	201806
RIP Date:	200704	
RC Date:	201709	



Fuel and solvent storage/dispensing occurred near former Building 354 in the public works yard. The USTs were used to store fuel and removed in 1990 and 1991. There are no records to determine if solvents were stored in drums, USTs, or aboveground storage tanks (ASTs). The PCE, its degradation products, carbon tetrachloride, and fuel-related hydrocarbons are present. The site extends from just north of Building 430 (the Main Post fire station) to the "point bar" on the north bank of the Kansas River. At building 430, the only contaminant is carbon tetrachloride below the MCL.

The ROD was signed in 2006 and the site remedy was MNA with institutional controls. The RD was completed in March 2007.

The results of the 2009 groundwater sampling event showed no COC above the MCLs in the alluvial aquifer of the Kansas River for the three years post-ROD as specified in the ROD. The course of action was to make a recommendation to discontinue sampling and close out the site.

Currently, PCE is the only contaminant above the MCL in groundwater samples in three terrace wells. It does not pose a risk and do not present an impact to the Kansas River alluvial aquifer. One well in the transition zone had benzene at 3.3 micrograms/Liter (ug/L) in 2012. Limited groundwater sampling in four wells was conducted in 2011 and 2012 with decreasing concentrations of PCE each sampling event.

This site was addressed in the site-wide five-year review reports completed in 2002, 2007, and 2012. Vapor intrusion at Building 367, an was identified as a potential issue in the 2012 five-year review, was resolved in 2013.

CLEANUP/EXIT STRATEGY

Fort Riley will work with regulators on the development of an ESD to close the site. Two semiannual groundwater sampling events are planned for FY 2014.

The next groundwater sampling (if needed) is planned in 2016 for the 2017 five-year review. Well abandonment will occur when all groundwater monitoring is completed.

Site ID: FTRI-056 Site Name: ABANDONED GASOLINE LINE



Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	199111	199409
INV	199408	199603
CAP	199803	201107
DES	201103	201108
IRA	200609	200909
IMP(C)	201103	201110
IMP(O)	201110	201809
RIP Date:	201110	
RC Date:	201809	



The USTs and a 1.1 mile steel pipeline that make up the AGL were installed in 1937 to transfer aviation gasoline from the railroad siding at the Main Post to the MAAF. The AGL terminus area associated with the pipeline is located between Buildings 754 and 748B at the airfield. In 1951, the pipeline was removed from service after a portion of the line was destroyed during the flooding of the Kansas River. In 1987, the USTs, where diesel and aviation gasoline were stored, were removed. An investigation of the abandoned pipeline in 1998 showed that it had been cut in several places at the terminus area during installation of utilities. Thus far, the investigation and cleanup process outlined in CERCLA is followed for this site since Fort Riley is an NPL site (1990) and most of the releases occurred pre-1984 Hazardous and Soil Waste Amendment (HSWA) (RCRA-I). The regulatory agency, the KDHE, has broad authority to accept the CERCLA process to achieve cleanup goals for a site contaminated with petroleum-related hazardous constituents, in spite of the CERCLA petroleum exclusion.

A preliminary assessment (PA) investigation was performed at the former terminus area in 1993 that showed possible benzene contamination. An SI field investigation in 2001 revealed soil and groundwater contamination related to the former USTs exceeding risk-based standards. The hazardous substance, 1,2-DCA, and petroleum-related constituents were detected. Sampling along the pipeline did not reveal any contamination. Further assessment of the site occurred in August 2004. The soil and groundwater results revealed concentrations of benzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene well above risk-based standards.

An EE/CA and action memorandum to document the selection of the removal alternative was approved in February 2006. The remedial response was initiated in August 2006 and involved the injection of a chemical oxidant and an oxygen source in the contaminated zones. The fieldwork was performed in October to November 2006 and July to August 2007. Post-treatment groundwater monitoring to analyze the effectiveness was performed in 2007, 2008, and 2009. An RI-like investigation to evaluate the extent of the remaining mass of contaminants in the soil and groundwater was completed in February 2010. Proposals were then solicited from remediation contractors to address this contamination. A contract for environmental remediation services was awarded in September 2010.

Addenda to the original EE/CA and action memorandum to document the additional response action were made and a public notice published in the spring of 2011. This decision document (DD) was approved by June 2011. This response action is expected to be the final action for the AGL site. The response activities include excavation and land farming of the contaminated soil, two injections of an oxygen source to treat the contaminated groundwater, followed by performance sampling, then MNA until the cleanup goals are met for site closeout. The RA(C) activities began in mid-August and continued through October 2011. The remedy-in-place (RIP) was achieved on Oct. 28, 2011 to be followed by remedial action (operation) [RA(O)]. The RA(O) will continue at least to the end of 2013. The RA(O) includes groundwater monitoring, soil sampling at the land-farm area, treatment of the groundwater at the AGL site, and treatment of the soil at the land-farm area.

The land-farm was restored in June 2013.

Site ID: FTRI-056 Site Name: ABANDONED GASOLINE LINE

CLEANUP/EXIT STRATEGY

If IMP(O) cleanup goals are achieved and approved by the regulator (KDHE), the exit ramp-down strategy will be implemented from September 2013 to June 2014.

Monitoring well plug and abandonment will occur in December 2013. The project closure report will be submitted in May 2014. Project closeout is scheduled for August 2014.

If IMP(O) goals are not met in 2013, five years of annual groundwater sampling will be conducted to monitor MNA. Then IMP(O) is expected to end in September 2018 with site-closeout approval by KDHE.

The LTM will start in approximately October 2018 and end in October 2021 when the monitoring wells are plugged and abandoned if goals are met.

Site ID: FTRI-057 Site Name: 6200 AREA FUEL OIL LINE (ANCHOR)



Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	199010	199012
INV	199312	199502
CAP	199606	200806
DES	200806	200901
IRA	199601	200505
IMP(C)	200902	201803
IMP(O)	201003	201803
LTM	201804	201812
RIP Date:	201803	

201803

RC Date:

SITE DESCRIPTION

FTRI-057 is the open site being used as the anchor for the POL sites in Camp Funston [FTRI-063 (1044), FTRI-066 (1245), and FTRI-068 (1637)]. The sites are former fuel dispensing stations, where steel USTs (17 total) were installed in 1942 during WWII and the leaking USTs were removed in 1990. Thus far, the investigation and cleanup process outlined in CERCLA has been followed since Fort Riley is a NPL site (August 1990) and most of the releases occurred pre-1984 HSWA (RCRA-I). The regulatory agency, KDHE, has broad authority to accept the CERCLA process to achieve cleanup goals for a site contaminated with petroleum-related hazardous constituents, in spite of the CERCLA petroleum exclusion.

A PA was performed in November 1992 to January 1993. An SI was performed from 1994-1995 indicating extensive soil and groundwater contamination. Free-product recovery occurred in 1995. The RA plans for the sites were generated in 1997. Intrinsic remediation with groundwater monitoring followed by an evaluation of the effectiveness of the intrinsic remediation in five years was selected as the IRA in 1997. Groundwater monitoring was performed until 2006. The monitoring results indicated elevated concentrations of contaminants in the groundwater above risk-based standards and the presence of free-product.

From April 2006 to October 2007, an investigation was performed to determine the extent of contamination. The study included a magnetometer survey, installation of free phase hydrocarbon borings, well installations, sampling, and SVE)/DPE pilot studies. The results revealed that the sites could not reach the site-closeout milestone without active remediation. An FS-like review that included a RD discussion of several alternatives and selection of a remedy was performed in December 2007-January 2008. An engineering design report was completed in June 2008. A remediation contract was awarded in February 2009 and the design implementation work plan was completed in September 2009. The fieldwork for construction of the DPE systems began in September 2009 and was completed in February 2010. The full-scale startup operation of the systems began in March 2010 achieving RIP.

In a letter dated June 14, 2010, RIP was approved by the regulator (KDHE). The construction completion report was finalized in July 2010. Ongoing RA(O) activities with maintenance and monitoring began in March 2010.

Major system upgrades were completed in December 2010 to address iron and manganese precipitation. This action improved system operations.

Free-product recovery was initiated at 1044 and 1245 in April 2012. Free-product continues to be recovered from both sites.

CLEANUP/EXIT STRATEGY

Conduct IMP(O) until March 2018 (i.e. systems O&M and groundwater monitoring followed by MNA or another technology). An

Site ID: FTRI-057 Site Name: 6200 AREA FUEL OIL LINE (ANCHOR)

LTM/well abandonment (April 2018 to July 2018) will occur when all groundwater monitoring is complete and the sites are considered closed by KDHE.

Site ID: FTRI-063 Site Name: FMR BLDG 1044 DISPENSING STATION



Phases	Start	End
ISC	199001	199012
INV	199001	199510
CAP	199603	199706
DES	200901	201003
IRA	199001	199707
IMP(C)	200901	201003
IMP(O)	201003	201809
RIP Date:	201003	
RC Date:	201809	



In the 1994-1995 time frame Fort Riley conducted a limited bio-venting/vapor extraction study at the site. The site was granted LTM status by the Kansas Department of Health & Environment North Central District Office. The site was improperly placed in Response Complete without regulatory acceptance. The site is located in Camp Funston. Analysis of data from a pilot study revealed high levels of soil and ground-water contamination at FTRI-063 (former building 1044). This site requires extensive remediation in order to avoid potential mission impacts or human health issues. A performance-based contract (PBC) was issued on 20 January 2009 to cover the work. A work plan to remediate the extensive contamination from fuels-related petroleum hydrocarbons in the soils and ground water was instituted. The efforts include a dual-phase extraction and free-product recovery. The operation of the system at the site was implemented as of March 2010.



Site ID: FTRI-066 Site Name: FMR BLDG 1245 DISPENSING STATION



Phases	Start	End
ISC	199001	199012
INV	199001	199503
CAP	199603	199707
DES	200901	201003
IRA	199001	199012
IMP(C)	200901	201003
IMP(O)	201003	201809
RIP Date:	201003	
RC Date:	201809	



Site Background ¿ In the 1994-1995 time frame Fort Riley conducted a limited bio-venting/vapor extraction study at the site. The site was granted LTM status by the Kansas Department of Health & Environment North Central District Office. The site was improperly placed in Response Complete without regulatory acceptance. The site is located in Camp Funston. Analysis of data from a pilot study revealed high levels of soil and ground-water contamination at FTRI-066 (former building 1245). This site requires extensive remediation in order to avoid potential mission impacts or human health issues. A performance-based contract (PBC) was issued on 20 January 2009 to cover the work. A work plan to remediate the extensive contamination from fuels-related petroleum hydrocarbons in the soils and ground water was instituted. The efforts include dual-phase extraction and free-product recovery. The operation of the system at the site was implemented as of March 2010.

CLEANUP/EXIT STRATEGY

Site ID: FTRI-068 Site Name: FMR BLDG 1637 DISPENSING STATION



Phases	Start	End
ISC	199001	199012
INV	199001	199503
CAP	199603	199707
DES	200901	201003
IRA	199001	199012
IMP(C)	200901	201003
IMP(O)	201003	201809
RIP Date:	201003	
RC Date:	201809	



Site Background ¿ In the 1994-1995 time frame Fort Riley conducted a limited bio-venting/vapor extraction study at the site. The site was granted LTM status by the Kansas Department of Health & Environment North Central District Office. The site was improperly placed in Response Complete without regulatory acceptance. The site is located in Camp Funston. Analysis of data from a pilot study revealed high levels of soil and ground-water contamination at FTRI-068 (former building 1637). This site requires less extensive remediation in order to avoid potential mission impacts or human health issues. A performance-based contract (PBC) was issued on 20 January 2009 to cover the work. A work plan to remediate the extensive contamination from fuels-related petroleum hydrocarbons in the soils and ground water was instituted. The efforts include a dual-phase extraction. The operation of the system at the site is now being implemented as of March 2010.



Site ID: FTRI-074 Site Name: WWI INCINERATOR, NW CAMP FUNSTON



Regulatory Driver: CERCLA RRSE: LOW Contaminants of Concern: Metals Media of Concern: Soil

Phases	Start	End
PA	200102	200104
• • • • • • • • • • • • • • • • • • • •	200104	
RI/FS	201102	201706
RD	201706	201711
IRA	201009	201010
RA(C)	201712	201801
RA(O)	201802	201809
RIP Date:	201802	
RC Date:	201809	



FTRI-074 was discovered as part of a 2000 effort evaluating potential wastewater plant locations. Foundation and slab remnants were found at the site. No information about the operational practices at the site are available.

In 2001, x-ray fluorescence (XRF) and lab confirmation sampling identified elevated levels of lead and arsenic soil contamination above regulatory levels. Due to its isolated location adjacent to the rail tracks, further action was not taken.

In 2006, as part of the expanded site investigation effort to obtain site closures, a more extensive soil sampling effort was conducted. Thirty-six locations consisting of three soil horizons in the top two feet of soil were sampled. This effort showed a higher level of contamination and a more extensive area of contamination than the 2001 sampling event. Arsenic averaged 9.2 mg/kg with 23 points above the KDHE risk-based standards for Kansas (RSK) residential soil standard and three points above the KDHE RSK non-residential soil standard. Lead averaged 99 milligrams/kilograms (mg/kg) with four points above the KDHE RSK residential soil standard and one point above the KDHE RSK non-residential soil standard and one point above the KDHE RSK non-residential soil standard.

In 2010, Fort Riley decided to construct a rail spur that would cover a portion of the incinerator site, which required an emergency removal. Concurrently, the KDHE promulgated a new definition of uncontaminated soil that required disposal of the arsenic/lead contaminated soil as special waste. In September and October 2010, the incinerator foundation and associated contaminated soil on the terrace was excavated and disposed as special waste (323 cubic yards [cu yds]); however, a deeper subsurface arsenic-contaminated ash/soil layer was discovered on the slope (2390 cu yds) and in the alluvial soil south of the site (an estimated 190 cu yds under 540 cu yds of clean soil). Eight trenches were dug to characterize the ash layer. Lab results from composite soil samples from six of the trenches varied from 16.2 to 34.4 mg/kg arsenic. The limits of the alluvial ash layer were not completely defined during the 2010 effort.

Based on the unknown thickness and horizontal extent of the ash disposal area, the project to remove the soil and ash was suspended. The Army elected to open an RI phase at the site. The final Technical Memorandum was submitted in April 2013. The technical memorandum addressed EPA's request to collect additional analytes that increased the scope of the RI. The revised RI work plan and FFA schedule were submitted in July 2013. The revised RI broke out the sampling into two phases.



RI fieldwork is scheduled for the first quarter 2014. Future actions will be based on the RI results.

Site ID	Site Name	NFA Date	Documentation
FTRI-002	WHITSIDE C/D LANDFILL-CLOSED	199803	Landfill closed and inspected by the KDHE in 2002. This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-004	MAIN POST LANDFILL	199712	This site was investigated under the FTRI-031 354 Area Solvent Detection site and is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-005	CUSTER HILL ROAD RUBBLE DUMP	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-006	DRMO STORAGE AREA	199809	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-007	PCB STORAGE BUILDING 343	198909	This site is part of the overall effort to address improperly closed out sites. It required additional sampling to be conducted in FY08. Received regulatory closure from EPA, Region VII and the KDHE in January 2009.
FTRI-008	PCB STORAGE CONEX (BUILDING 348)	199012	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-010	PESTICIDE (2-4D) UST AT CAMP FUNSTON	199204	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-011	CAMP FUNSTON GW DETECTIONS	200501	Received regulatory closure from the KDHE on 11/9/07 & the EPA, Region VII on 11/26/07.
FTRI-012	WASTE STORAGE DRMO SECONDARY AREA	199509	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-013	ABANDONED VOC TANKS NORTH OF IACH	199202	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-014	HOSPITAL INCINERATOR-IRWIN ACH	198909	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-015	FORMER DRMO LOCATION (DRMO AREA 2)	199509	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-016	WASTE OIL AST-3RD BATTERY	198909	This site is part of the overall effort to address improperly closed out sites.

Site ID	Site Name	NFA Date	Documentation
			Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-017	WASTE OIL AST-4TH BATTERY	198909	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the
			EPA, Region VII & the KDHE in 2007.
FTRI-018	FIRE TRAINING AREA FACILITY (892)	198909	This site is part of the overall effort to address improperly closed out sites. It required additional sampling to be conducted in FY08. Received regulatory closure from EPA, Region VII and the KDHE in January 2009.
FTRI-019	FORMER FIRE TRAINING AREA FFTA-MAAF	201209	The site was closed with regulator approval of a September 2010 Remedial Action Completion Report.
FTRI-020	INDUSTRIAL WASTEWATER SYSTEM (CUSTER HL)	199803	This site is part of the overall effort to addrress improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-022	FORMER WWTP & SLUDGE BEDS (ANCHOR)	200705	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-023	CUSTER HILL WWTP AND SLUDGE BEDS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-024	FORSYTH WWTP AND SLUDGE BEDS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-025	MAIN POST WWTP AND SLUDGE BEDS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-026	RANGE COMPLEX WW LAGOONS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-028	FMR FIRE TRAINING AREA CAMP FUNSTON	199402	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-029	OLD INCINERATOR SITE SE-CAMP FUNSTON	200308	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-030	PESTICIDE STORAGE FACILITY (MIXING)	201005	The site was closed with regulator approval of an April 2010 Explanation of Significant Differences.
FTRI-032	IMPACT ZONE	199309	This site is an active range and therefore ineligible for ER,A funding.
FTRI-033	DOUTHIT RANGE	199305	This site is an active range and therefore ineligible for ER,A funding.

Site ID	Site Name	NFA Date	Documentation
FTRI-034	IMPACT AREA PERIMETER SMALL ARM RANGES	199612	This site is an active range and therefore ineligible for ER,A funding.
FTRI-035	NON-IMPACT AREA SMALL ARMS RANGES	200007	This site is an active range and therefore ineligible for ER,A funding.
FTRI-036	SOUTHEAST FUNSTON LANDFILL (ANCHOR)	200901	This site is part of the overall effort to address improperly closed out sites. It required additional sampling to be conducted in FY08. Received regulatory closure from EPA, Region VII and the KDHE in January 2009.
FTRI-037	OLD WHITSIDE INCINERATOR AREA	199507	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-038	FORSYTH LANDFILL(S)	200708	Received regulatory closure from the EPA, Region VII & the KDHE for IRP in August 2007.
FTRI-039	CONSOLIDATED MAINTENANCE FACILITY	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-040	FORMER OIL TESTING LAB (ANCHOR)	200711	Received regulatory closure from the EPA, Region VII & the KDHE in November 2007.
FTRI-041	FURNITURE REPAIR SHOPS (3)	199507	This site is part of the overall effort to address improperly closed out sites. Two of the three sites received regulatory closure from the EPA, Region VII & the KDHE in 2007. One site (bldg 1605) required additional sampling in FY08 and received regulatory closure from EPA, Region VII and the KDHE in January 2009.
FTRI-042	TAC VEHICLE MAINTENANCE SHOPS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-043	FORMER GAS STATIONS/GARAGES	199305	This site is part of the overall effort to address improperly closed out istes. Received regulatory closure from the KDHE in 2008 and the EPA, Region VII in 2009, except one site at Forsyth I Street that was sampled in FY08.
FTRI-044	FORMER ASPHALT PLANT (NEAR BLDG 354)	199509	This is site was addressed in the 354 Area Solvent Detections RI/FS/PP and will fall under the ROD developed for FTRI-031.
FTRI-045	PHOTO AND PRINT PLANTS	199507	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-046	FRMR DS/GS Bldg 1693 Adj Areas	199507	This site is part of the overall effort to address improperly closed out sites. The site was closed with regulator approval of a December 2008 Expanded Site Investigation Report.

Site ID	Site Name	NFA Date	Documentation
FTRI-047	FORMER LIVESTOCK DIPPING FACILITY	200711	Received regulatory closure from the EPA, Region VII & the KDHE in November 2007.
FTRI-048	FORMER PESTICIDES FACILITIES	199507	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-049	MERCURY CONTAMINATION AREAS	199305	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-050	PCB SPILL AREAS /TRANSFORMER SITES	199803	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-051	BLDG. 727 WASTE PIT	199903	This site is part of the overall effort to address improperly closed out sites. It required additional sampling to be conducted in FY08. Received regulatory closure from EPA, Region VII and the KDHE in January 2009.
FTRI-052	INACTIVE LANDFILLS - CAMP WHITSIDE	199507	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-053	POL TANK FARM	200505	This site has been transferred to the Compliance-Related Cleanup Program under CC-FTRI-01.
FTRI-054	CUSTER HILL PX USTS BLDG 5320	199709	This site is part of the overall effort to address improperly closed out sites. It is being addressed in CC-FTRI-09 Fuel Dispensing Stations.
FTRI-055	MILFORD LAKE CAMPGROUND/MARINA WELLS	199507	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-059	REMOVE USTS	199012	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-060	MAINPOST PX GAS STATION / 218	199506	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-061	FORMER GAS SERVICE STATION BLDG 354	199510	This site was closed under the FTRI-031 354 Area Solvent Detection site ROD.
FTRI-062	TMP GAS STATION BLDG 388	200501	This site is part of the overall effort to address improperly closed out sites. It is being addressed in CC-FTRI-09 Fuel Dispensing Stations.
FTRI-064	FMR BLDG 1090 DISPENSING STATION	199506	This site is part of the overall effort to address improperly closed out sites.

Site ID	Site Name	NFA Date	Documentation
			Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-065	FMR BLDG 1190 DISPENSING STATION	199506	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-067	FMR BLDG 1539 DISPENSING STATION	199708	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-069	FMR BLDG 1890 DISPENSING STATION	199708	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-070	FMR BLDG 2341 DISPENSING STATION	199601	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-071	FMR BLDG 2345 DISPENSING STATION	199411	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-072	BLDG 8340 FUEL OIL UST	199411	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.
FTRI-073	BLDG 8360 FUEL OIL UST	199505	This site is part of the overall effort to address improperly closed out sites. Received regulatory closure from the EPA, Region VII & the KDHE in 2007.

IRP Schedule

Date of IRP Inception: 198312

Past Phase Completion Milestones

	ompletion milestones
1985	
ΡΑ	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL, FTRI-004 - MAIN POST LANDFILL, FTRI-009 - OB/OD GROUND (RANGE 16), FTRI-023 - CUSTER HILL WWTP AND SLUDGE BEDS, FTRI-024 - FORSYTH WWTP AND SLUDGE BEDS, FTRI-025 - MAIN POST WWTP AND SLUDGE BEDS, FTRI-027 - DRY CLEANING FACILITIES AREA, FTRI-030 - PESTICIDE STORAGE FACILITY (MIXING), FTRI-032 - IMPACT ZONE, FTRI-033 - DOUTHIT RANGE, FTRI-034 - IMPACT AREA PERIMETER SMALL ARM RANGES, FTRI- 035 - NON-IMPACT AREA SMALL ARMS RANGES)
SI	(FTRI-032 - IMPACT ZONE)
RFA	(FTRI-008 - PCB STORAGE CONEX (BUILDING 348), FTRI-039 - CONSOLIDATED MAINTENANCE FACILITY)
1989	
ISC	(FTRI-018 - FIRE TRAINING AREA FACILITY (892))
CS	(FTRI-001 - CUSTER HILL SANITARY LANDFILL, FTRI-007 - PCB STORAGE BUILDING 343, FTRI-008 - PCB STORAGE CONEX (BUILDING 348), FTRI-010 - PESTICIDE (2-4D) UST AT CAMP FUNSTON, FTRI- 013 - ABANDONED VOC TANKS NORTH OF IACH, FTRI-016 - WASTE OIL AST-3RD BATTERY, FTRI-017 - WASTE OIL AST-4TH BATTERY)
INV	(FTRI-018 - FIRE TRAINING AREA FACILITY (892))
DES	(FTRI-008 - PCB STORAGE CONEX (BUILDING 348))
SI	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL , FTRI-014 - HOSPITAL INCINERATOR-IRWIN ACH, FTRI- 022 - FORMER WWTP & SLUDGE BEDS (ANCHOR) , FTRI-023 - CUSTER HILL WWTP AND SLUDGE BEDS, FTRI-024 - FORSYTH WWTP AND SLUDGE BEDS, FTRI-025 - MAIN POST WWTP AND SLUDGE BEDS, FTRI-027 - DRY CLEANING FACILITIES AREA , FTRI-030 - PESTICIDE STORAGE FACILITY (MIXING), FTRI-034 - IMPACT AREA PERIMETER SMALL ARM RANGES, FTRI-035 - NON-IMPACT AREA SMALL ARMS RANGES)
RFA	(FTRI-001 - CUSTER HILL SANITARY LANDFILL, FTRI-002 - WHITSIDE C/D LANDFILL-CLOSED, FTRI-007 - PCB STORAGE BUILDING 343, FTRI-010 - PESTICIDE (2-4D) UST AT CAMP FUNSTON, FTRI-012 - WASTE STORAGE DRMO SECONDARY AREA, FTRI-013 - ABANDONED VOC TANKS NORTH OF IACH, FTRI-016 - WASTE OIL AST-3RD BATTERY, FTRI-017 - WASTE OIL AST-4TH BATTERY, FTRI-036 - SOUTHEAST FUNSTON LANDFILL (ANCHOR), FTRI-038 - FORSYTH LANDFILL(S), FTRI-041 - FURNITURE REPAIR SHOPS (3), FTRI-045 - PHOTO AND PRINT PLANTS, FTRI-046 - FRMR DS/GS Bldg 1693 Adj Areas, FTRI-050 - PCB SPILL AREAS /TRANSFORMER SITES)
ΡΑ	(FTRI-014 - HOSPITAL INCINERATOR-IRWIN ACH, FTRI-019 - FORMER FIRE TRAINING AREA FFTA- MAAF, FTRI-020 - INDUSTRIAL WASTEWATER SYSTEM (CUSTER HL), FTRI-022 - FORMER WWTP & SLUDGE BEDS (ANCHOR) , FTRI-026 - RANGE COMPLEX WW LAGOONS, FTRI-028 - FMR FIRE TRAINING AREA CAMP FUNSTON, FTRI-029 - OLD INCINERATOR SITE SE-CAMP FUNSTON)
1990	
DES	(FTRI-013 - ABANDONED VOC TANKS NORTH OF IACH)
1991	
IMP(C)	(FTRI-059 - REMOVE USTS)
IRA	(FTRI-066 - FMR BLDG 1245 DISPENSING STATION, FTRI-067 - FMR BLDG 1539 DISPENSING STATION, FTRI-068 - FMR BLDG 1637 DISPENSING STATION, FTRI-069 - FMR BLDG 1890 DISPENSING STATION)
DES	(FTRI-010 - PESTICIDE (2-4D) UST AT CAMP FUNSTON)
INV	(FTRI-064 - FMR BLDG 1090 DISPENSING STATION, FTRI-065 - FMR BLDG 1190 DISPENSING STATION)
ISC	(FTRI-057 - 6200 AREA FUEL OIL LINE (ANCHOR), FTRI-059 - REMOVE USTS, FTRI-061 - FORMER GAS SERVICE STATION BLDG 354, FTRI-063 - FMR BLDG 1044 DISPENSING STATION, FTRI-064 - FMR BLDG 1090 DISPENSING STATION, FTRI-065 - FMR BLDG 1190 DISPENSING STATION, FTRI-066 - FMR BLDG 1245 DISPENSING STATION, FTRI-067 - FMR BLDG 1539 DISPENSING STATION, FTRI-068 - FMR BLDG 1637 DISPENSING STATION, FTRI-069 - FMR BLDG 1890 DISPENSING STATION, FTRI-070 - FMR BLDG 2341 DISPENSING STATION)
CMI(C)	(FTRI-008 - PCB STORAGE CONEX (BUILDING 348))

1992	
RFA	(FTRI-049 - MERCURY CONTAMINATION AREAS)
CMI(C)	(FTRI-010 - PESTICIDE (2-4D) UST AT CAMP FUNSTON, FTRI-013 - ABANDONED VOC TANKS NORTH OF IACH, FTRI-049 - MERCURY CONTAMINATION AREAS)
ISC	(FTRI-054 - CUSTER HILL PX USTS BLDG 5320, FTRI-072 - BLDG 8340 FUEL OIL UST, FTRI-073 - BLDG 8360 FUEL OIL UST)
IRA 1993	(FTRI-054 - CUSTER HILL PX USTS BLDG 5320, FTRI-061 - FORMER GAS SERVICE STATION BLDG 354)
RFI/CMS	(FTRI-001 - CUSTER HILL SANITARY LANDFILL)
RFA	(FTRI-005 - CUSTER HILL ROAD RUBBLE DUMP, FTRI-006 - DRMO STORAGE AREA, FTRI-015 - FORMER DRMO LOCATION (DRMO AREA 2), FTRI-042 - TAC VEHICLE MAINTENANCE SHOPS, FTRI-047 - FORMER LIVESTOCK DIPPING FACILITY, FTRI-048 - FORMER PESTICIDES FACILITIES, FTRI-051 - BLDG. 727 WASTE PIT, FTRI-052 - INACTIVE LANDFILLS - CAMP WHITSIDE, FTRI-055 - MILFORD LAKE CAMPGROUND/MARINA WELLS)
SI	(FTRI-004 - MAIN POST LANDFILL, FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF, FTRI-020 - INDUSTRIAL WASTEWATER SYSTEM (CUSTER HL), FTRI-026 - RANGE COMPLEX WW LAGOONS, FTRI- 028 - FMR FIRE TRAINING AREA CAMP FUNSTON, FTRI-029 - OLD INCINERATOR SITE SE-CAMP FUNSTON, FTRI-033 - DOUTHIT RANGE, FTRI-037 - OLD WHITSIDE INCINERATOR AREA)
PA	(FTRI-011 - CAMP FUNSTON GW DETECTIONS, FTRI-031 - 354 AREA SOLVENT DETECTIONS (354), FTRI-037 - OLD WHITSIDE INCINERATOR AREA, FTRI-040 - FORMER OIL TESTING LAB (ANCHOR), FTRI-044 - FORMER ASPHALT PLANT (NEAR BLDG 354))
RI/FS	(FTRI-028 - FMR FIRE TRAINING AREA CAMP FUNSTON, FTRI-032 - IMPACT ZONE)
ISC	(FTRI-043 - FORMER GAS STATIONS/GARAGES, FTRI-053 - POL TANK FARM, FTRI-060 - MAINPOST PX GAS STATION / 218)
CS	(FTRI-002 - WHITSIDE C/D LANDFILL-CLOSED, FTRI-006 - DRMO STORAGE AREA, FTRI-012 - WASTE STORAGE DRMO SECONDARY AREA, FTRI-015 - FORMER DRMO LOCATION (DRMO AREA 2), FTRI-036 - SOUTHEAST FUNSTON LANDFILL (ANCHOR), FTRI-038 - FORSYTH LANDFILL(S), FTRI-039 - CONSOLIDATED MAINTENANCE FACILITY, FTRI-041 - FURNITURE REPAIR SHOPS (3), FTRI-045 - PHOTO AND PRINT PLANTS, FTRI-046 - FRMR DS/GS Bidg 1693 Adj Areas, FTRI-047 - FORMER LIVESTOCK DIPPING FACILITY, FTRI-048 - FORMER PESTICIDES FACILITIES, FTRI-050 - PCB SPILL AREAS /TRANSFORMER SITES, FTRI-051 - BLDG. 727 WASTE PIT, FTRI-052 - INACTIVE LANDFILLS - CAMP WHITSIDE, FTRI-055 - MILFORD LAKE CAMPGROUND/MARINA WELLS)
1994	
DES	(FTRI-001 - CUSTER HILL SANITARY LANDFILL)
IRA	(FTRI-030 - PESTICIDE STORAGE FACILITY (MIXING), FTRI-035 - NON-IMPACT AREA SMALL ARMS RANGES, FTRI-060 - MAINPOST PX GAS STATION / 218)
ISC	(FTRI-056 - ABANDONED GASOLINE LINE, FTRI-062 - TMP GAS STATION BLDG 388, FTRI-071 - FMR BLDG 2345 DISPENSING STATION)
INV	(FTRI-070 - FMR BLDG 2341 DISPENSING STATION, FTRI-072 - BLDG 8340 FUEL OIL UST)
RA(C)	(FTRI-028 - FMR FIRE TRAINING AREA CAMP FUNSTON)
1995	
CMI(C)	(FTRI-001 - CUSTER HILL SANITARY LANDFILL)
SI	(FTRI-011 - CAMP FUNSTON GW DETECTIONS, FTRI-031 - 354 AREA SOLVENT DETECTIONS (354),
CAP	FTRI-044 - FORMER ASPHALT PLANT (NEAR BLDG 354)) (FTRI-064 - FMR BLDG 1090 DISPENSING STATION, FTRI-065 - FMR BLDG 1190 DISPENSING STATION)
INV	(FTRI-057 - 6200 AREA FUEL OIL LINE (ANCHOR), FTRI-060 - MAINPOST PX GAS STATION / 218, FTRI- 061 - FORMER GAS SERVICE STATION BLDG 354, FTRI-062 - TMP GAS STATION BLDG 388, FTRI-066 - FMR BLDG 1245 DISPENSING STATION, FTRI-067 - FMR BLDG 1539 DISPENSING STATION, FTRI-068 - FMR BLDG 1637 DISPENSING STATION, FTRI-069 - FMR BLDG 1890 DISPENSING STATION, FTRI-071 - FMR BLDG 2345 DISPENSING STATION, FTRI-073 - BLDG 8360 FUEL OIL UST)
RI/FS	(FTRI-037 - OLD WHITSIDE INCINERATOR AREA)

IRP Schedule

IMP(C)	(FTRI-064 - FMR BLDG 1090 DISPENSING STATION, FTRI-065 - FMR BLDG 1190 DISPENSING STATION, FTRI-071 - FMR BLDG 2345 DISPENSING STATION, FTRI-072 - BLDG 8340 FUEL OIL UST, FTRI-073 - BLDG 8360 FUEL OIL UST)
RFI/CMS	(FTRI-002 - WHITSIDE C/D LANDFILL-CLOSED, FTRI-012 - WASTE STORAGE DRMO SECONDARY AREA, FTRI-015 - FORMER DRMO LOCATION (DRMO AREA 2), FTRI-041 - FURNITURE REPAIR SHOPS (3), FTRI-045 - PHOTO AND PRINT PLANTS, FTRI-046 - FRMR DS/GS Bldg 1693 Adj Areas, FTRI-047 - FORMER LIVESTOCK DIPPING FACILITY, FTRI-048 - FORMER PESTICIDES FACILITIES, FTRI-052 - INACTIVE LANDFILLS - CAMP WHITSIDE, FTRI-055 - MILFORD LAKE CAMPGROUND/MARINA WELLS)
1996	
RD	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL)
IMP(C)	(FTRI-070 - FMR BLDG 2341 DISPENSING STATION)
INV	(FTRI-053 - POL TANK FARM, FTRI-056 - ABANDONED GASOLINE LINE, FTRI-063 - FMR BLDG 1044 DISPENSING STATION)
RI/FS	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL)
1997	
INV	(FTRI-054 - CUSTER HILL PX USTS BLDG 5320)
CAP	(FTRI-062 - TMP GAS STATION BLDG 388, FTRI-063 - FMR BLDG 1044 DISPENSING STATION, FTRI-066 - FMR BLDG 1245 DISPENSING STATION, FTRI-067 - FMR BLDG 1539 DISPENSING STATION, FTRI-068 - FMR BLDG 1637 DISPENSING STATION, FTRI-069 - FMR BLDG 1890 DISPENSING STATION)
RA(C)	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL)
IRA	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL , FTRI-062 - TMP GAS STATION BLDG 388, FTRI-063 - FMR BLDG 1044 DISPENSING STATION)
RI/FS	(FTRI-004 - MAIN POST LANDFILL, FTRI-030 - PESTICIDE STORAGE FACILITY (MIXING))
1998	
RFI/CMS	(FTRI-006 - DRMO STORAGE AREA, FTRI-050 - PCB SPILL AREAS /TRANSFORMER SITES, FTRI-051 - BLDG. 727 WASTE PIT)
SI	(FTRI-009 - OB/OD GROUND (RANGE 16))
RI/FS	(FTRI-020 - INDUSTRIAL WASTEWATER SYSTEM (CUSTER HL))
2000	
RI/FS	(FTRI-035 - NON-IMPACT AREA SMALL ARMS RANGES)
IRA	(FTRI-029 - OLD INCINERATOR SITE SE-CAMP FUNSTON)
2001	
IRA	(FTRI-036 - SOUTHEAST FUNSTON LANDFILL (ANCHOR), FTRI-038 - FORSYTH LANDFILL(S))
PA	(FTRI-074 - WWI INCINERATOR, NW CAMP FUNSTON)
RFI/CMS	(FTRI-038 - FORSYTH LANDFILL(S))
2003	
IRA	(FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF)
RI/FS	(FTRI-029 - OLD INCINERATOR SITE SE-CAMP FUNSTON)
2005	
LTM	(FTRI-011 - CAMP FUNSTON GW DETECTIONS, FTRI-062 - TMP GAS STATION BLDG 388)
RA(C)	(FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF)
RI/FS	(FTRI-011 - CAMP FUNSTON GW DETECTIONS, FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF)
CAP	(FTRI-053 - POL TANK FARM)
IRA	(FTRI-057 - 6200 AREA FUEL OIL LINE (ANCHOR))
2006	
IRA	(FTRI-027 - DRY CLEANING FACILITIES AREA)

IRP Schedule

RI/FS	(FTRI-031 - 354 AREA SOLVENT DETECTIONS (354))
2007	
RA(C)	(FTRI-031 - 354 AREA SOLVENT DETECTIONS (354))
LTM	(FTRI-022 - FORMER WWTP & SLUDGE BEDS (ANCHOR) , FTRI-038 - FORSYTH LANDFILL(S))
RD	(FTRI-031 - 354 AREA SOLVENT DETECTIONS (354))
2008	
RA(C)	(FTRI-027 - DRY CLEANING FACILITIES AREA)
RI/FS	(FTRI-027 - DRY CLEANING FACILITIES AREA)
LTM	(FTRI-040 - FORMER OIL TESTING LAB (ANCHOR), FTRI-047 - FORMER LIVESTOCK DIPPING FACILITY)
CAP	(FTRI-057 - 6200 AREA FUEL OIL LINE (ANCHOR))
RD	(FTRI-027 - DRY CLEANING FACILITIES AREA)
2009	
RFI/CMS	(FTRI-036 - SOUTHEAST FUNSTON LANDFILL (ANCHOR))
IRA	(FTRI-056 - ABANDONED GASOLINE LINE)
DES	(FTRI-057 - 6200 AREA FUEL OIL LINE (ANCHOR))
2010	
RA(O)	(FTRI-003 - SOUTHWEST FUNSTON LANDFILL)
IMP(C)	(FTRI-063 - FMR BLDG 1044 DISPENSING STATION, FTRI-066 - FMR BLDG 1245 DISPENSING STATION,
	FTRI-068 - FMR BLDG 1637 DISPENSING STATION)
LTM	(FTRI-030 - PESTICIDE STORAGE FACILITY (MIXING))
DES	(FTRI-063 - FMR BLDG 1044 DISPENSING STATION, FTRI-066 - FMR BLDG 1245 DISPENSING STATION, FTRI-068 - FMR BLDG 1637 DISPENSING STATION)
2011	
SI	(FTRI-074 - WWI INCINERATOR, NW CAMP FUNSTON)
DES	(FTRI-056 - ABANDONED GASOLINE LINE)
IRA	(FTRI-074 - WWI INCINERATOR, NW CAMP FUNSTON)
RA(O)	(FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF)
CAP	(FTRI-056 - ABANDONED GASOLINE LINE)
2012	
LTM	(FTRI-019 - FORMER FIRE TRAINING AREA FFTA-MAAF)
IMP(C)	(FTRI-056 - ABANDONED GASOLINE LINE)
Projected Phase	e Completion Milestones
See attache	ed schedule
Projected Reco Site ID	rd of Decision (ROD)/Decision Document (DD) Approval Dates Site Name ROD/DD Title ROD/DD Date
Final PA(C) Co	mpletion Date: 201803

Final RA(C) Completion Date: 201803

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of IRP at Installation (including LTM phase): 204003

FORT RILEY IRP Schedule

							= phase ι	
SITE ID		PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-001	CUSTER HILL SANITARY LANDFILL	CMI(O)						
SITE ID FTRI-003		PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
	SOUTHWEST FUNSTON LANDFILL	LTM						
SITE ID FTRI-009	SITE NAME OB/OD GROUND (RANGE 16)	PHASE RI/FS	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-009	OB/OD GROUND (RANGE 10)	RD						
		RA(C)						
		RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-027	DRY CLEANING FACILITIES AREA	RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-031	354 AREA SOLVENT DETECTIONS	RA(O)						
	(354)	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-056	ABANDONED GASOLINE LINE	IMP(O)						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-057	6200 AREA FUEL OIL LINE	IMP(C)						
	(ANCHOR)	IMP(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-063	FMR BLDG 1044 DISPENSING	IMP(O)						
SITE ID	STATION SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-066	FMR BLDG 1245 DISPENSING	IMP(O)	F 1 14	FTIS	FTIO	FII/	FIIO	F119+
	STATION							
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-068	FMR BLDG 1637 DISPENSING STATION	IMP(O)						
SITE ID	STATION SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-074	WWI INCINERATOR, NW CAMP	RI/FS						
	FUNSTON	RD						
		RA(C)						
		RA(O)						

IRP Costs

Prior Funding Site ID FY Phase Obligations FY Total 2005 LTM **FTRI-003** \$49.0 K \$2,076.4 K **FTRI-009** \$224.2 K FTRI-011 \$21.0 K FTRI-022 \$14.1 K FTRI-040 \$83.2 K **FTRI-047** \$40.1 K **RAB/TAPP** RAB/TAPP \$1.4 K RD **FTRI-019** \$46.6 K RI **FTRI-019** \$90.0 K **FTRI-027** \$981.4 K FTRI-031 \$79.0 K **FTRI-036** \$68.0 K FTRI-053 \$15.0 K **FTRI-056** \$22.0 K FTRI-057 \$341.4 K 2006 LTM **FTRI-003** \$163.0 K \$2,189.0 K **FTRI-009** \$140.0 K **FTRI-019** \$207.0 K FTRI-022 \$5.0 K **FTRI-030** \$20.0 K FTRI-031 \$25.0 K **RAB/TAPP RAB/TAPP** \$3.0 K RD FTRI-031 \$10.0 K RI **FTRI-027** \$458.0 K \$74.0 K FTRI-031 **FTRI-036** \$12.0 K **FTRI-056** \$386.0 K **FTRI-057** \$686.0 K 2007 LTM **FTRI-003** \$123.0 K \$1,095.0 K **FTRI-009** \$91.0 K **FTRI-019** \$65.0 K **FTRI-022** \$25.0 K FTRI-031 \$81.0 K RD **FTRI-027** \$2.0 K RI/FS FTRI-027 \$121.0 K **FTRI-036** \$40.0 K **FTRI-056** \$140.0 K **FTRI-057** \$407.0 K 2008 LTM **FTRI-003** \$338.0 K \$1,250.0 K **FTRI-009** \$102.0 K **FTRI-019** \$71.0 K

Total Funding through FY 2004:

\$63,841.0 K

IRP Costs

		FTRI-031	\$79.0 K	
		FTRI-040	\$50.0 K	
		FTRI-047	\$100.0 K	
	RAB/TAPP	RAB/TAPP	\$1.0 K	
	RD	FTRI-027	\$63.0 K	
	RI/FS	FTRI-027	\$47.0 K	
		FTRI-036	\$54.0 K	
		FTRI-056	\$15.0 K	
		FTRI-057	\$330.0 K	
2009	LTM	FTRI-003	\$147.0 K	\$4,129.0 K
		FTRI-009	\$110.0 K	
		FTRI-019	\$68.0 K	
		FTRI-027	\$61.0 K	
		FTRI-030	\$76.0 K	
		FTRI-031	\$75.0 K	
	RAB	RAB/TAPP	\$2.0 K	
	RI/FS	FTRI-056	\$155.0 K	
		FTRI-057	\$3,435.0 K	
2010	IRA	FTRI-056	\$25.0 K	\$1,080.0 K
		FTRI-057	\$498.0 K	
	LTM	FTRI-003	\$100.0 K	
		FTRI-009	\$103.0 K	
		FTRI-019	\$118.0 K	
		FTRI-027	\$67.0 K	
		FTRI-031	\$123.0 K	
	RI/FS	FTRI-057	\$46.0 K	
2011	IRA	FTRI-056	\$50.0 K	\$933.0 K
		FTRI-057	\$531.0 K	
	LTM	FTRI-001	\$2.0 K	
		FTRI-003	\$51.0 K	
		FTRI-009	\$106.0 K	
		FTRI-019	\$15.0 K	
		FTRI-027	\$175.0 K	
		FTRI-031	\$3.0 K	
2012	RA(O)	FTRI-001	\$18.0 K	\$1,174.0 K
		FTRI-027	\$116.0 K	
		FTRI-027	\$116.0 K	
		FTRI-031	\$78.0 K	
		FTRI-056	\$15.0 K	
		FTRI-057	\$684.0 K	
	RI/FS	FTRI-003	\$118.0 K	
		FTRI-074	\$29.0 K	

TOTAL PRIOR FUNDING:

IRP Costs

\$77,767.4 K

Current Require	ements				
FY	Phase	Site	ID	Requirements	FY Total
TOTAL CURRE	NT REQUIREMENTS:	\$.0 K			
TOTAL FUTURE		\$6,010.0 K			

TOTAL PROGRAM COST: \$83,777.4 K

Required Cost-to-Complete

SITE ID	Phase	E NAME FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
RI-001	CU	STER HILL	SANITAR	Y LANDFILI							
	CMI(O)	29	41	29	29	29	29	41	29		256
_andfill cov	ver inspection	ons, ground	water moni	itoring, and	cover repa	air.			Sit	e Total	256
TRI-003	SO	UTHWEST	FUNSTON	I LANDFILL							
	LTM	10	10	71	50	10	10	10	10		181
Landfill/rive	erbank inspe	ections & re	pairs, grou	ndwater mo	onitoring, a	and reques	t partial NF	L deletion.	. Sit	e Total	181
TRI-009	OB/	OD GROU	ND (RANG	E 16)							
	RI/FS	125									125
	RD	40									40
	RA(C)		17								17
	RA(O)			104	17	17	17	104			259
	LTM								117		117
Groundwat	er monitorir	ng and com	plete RI/FS	S.					Sit	e Total	558
TRI-027	DR	Y CLEANIN	G FACILIT	IES AREA							
	RA(O)	49	44	53	61						207
	LTM					139					139
MNA with g	groundwate	r monitoring	, a final RA	ACR, and re	equest inst	allation NP	L deletion.		Sit	e Total	346
TRI-031	354	AREA SOL	VENT DE	TECTIONS	(354)						
	RA(O)	85		50							135
	LTM					50					50
Groundwat	er monitorir	ng, a RACR	, and reque	est partial N	IPL deletic	n.			Sit	e Total	185
TRI-056	ABA	ANDONED	GASOLINE	E LINE							
	IMP(O)	15	15	37	20						87
MNA with g	roundwate	r monitoring	and close	-out report.				I	Sit	e Total	87
TRI-057	620	0 AREA FL		NE (ANCHO	DR)						
	IMP(O)	541	530	513	513	513					2610
	LTM						275				275
O&M of trea	atment syst	tems and si	te close-ou	t reports.		I	I	1	Sit	e Total	2885
TRI-074	WW		ATOR, NW	CAMP FU	NSTON						
	RI/FS	472	90	60	10						632
	RD				60						60
	RA(C)					17					17
	RA(O)					803					803
Initiate RI/F	S followed	by quarterly	y GW samp	bling.		<u>I</u>	<u> </u>	1	sit	e Total	1512
otals											
		1366	747	917	760	1578	331	155	156		6010
								I		e Total	6010

Programmed Cost-to-Complete

SITE ID	Phase	E NAME FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
TRI-001	CUS	STER HILL	SANITAR	/ LANDFIL	L						
	CMI(O)	29	41	29	29	29	29	41	29		256
_andfill cov	ver inspection	ons, ground	water moni	itoring, and	cover rep	air.			Sit	e Total	256
TRI-003	SO	UTHWEST	FUNSTON	LANDFILL							
	LTM	10	10	71	50	10	10	10	10		181
Landfill/rive	erbank inspe	ections & re	pairs, grou	ndwater me	onitoring, a	and reques	t partial NF	L deletion	Sit	e Total	181
TRI-009	OB/	OD GROU	ND (RANG	E 16)							
	RI/FS	125									125
	RD	40									40
	RA(C)		17								17
	RA(O)			104	17	17	17	104			259
	LTM								117		117
Groundwat	er monitorir	ng and com	plete RI/FS	5.					Sit	e Total	558
TRI-027	DR	Y CLEANIN	IG FACILIT	IES AREA							
	RA(O)	49	44	53	61						207
	LTM					139					139
MNA with g	groundwate	r monitoring	g, a final RA	CR, and re	equest inst	allation NF	L deletion.	1	Sit	e Total	346
TRI-031	354	AREA SOI	LVENT DE	TECTIONS	(354)						
	RA(O)	85		50							135
	LTM					50					50
Groundwat	er monitorir	ng, a RACR	, and reque	est partial N	IPL deletio	on.			Sit	e Total	185
TRI-056	ABA	ANDONED	GASOLINE	E LINE							
	IMP(O)	15	15	37	20						87
MNA with c	groundwate	r monitoring	and close	-out report.					Sit	e Total	87
TRI-057	620	0 AREA FL			DR)						
	IMP(O)	541	530	513	513	513					2610
	LTM						275				275
O&M of tre	atment syst	ems and si	te close-ou	t reports.					sit	e Total	2885
TRI-074	-	/I INCINER		-	NSTON				510		
	RI/FS	472	90	60	10						632
	RD				60						60
	RA(C)				-	17					17
	RA(O)					803					803
Initiate RI/F	S followed	by quarterly	y GW sam	l oling.			<u> </u>		sit	e Total	1512
otals			- ·	-							
		1366	747	917	760	1578	331	155	156		6010
			1	1		1	1	1	si+	e Total	6010

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FORT RILEY

Army Defense Environmental Restoration Program Military Munitions Response Program

MMRP Summary

4/2

1 Landfill (FTRI-003-R-01) 1 Small Arms Range (FTRI-001-R-02) Most Widespread Contaminants of Concern Munitions and explosives of concern (MEC), Munitions constituents (MC) 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 N/A
1 Small Arms Range (FTRI-001-R-02) Most Widespread Contaminants of Concern Munitions and explosives of concern (MEC), Munitions constituents (MC) Media of Concern Groundwater, Sediment, Soil, Surface Water Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Site ID Site Name
(FTRI-001-R-02) Most Widespread Contaminants of Concern Munitions and explosives of concern (MEC), Munitions constituents (MC) 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 Final Remedial Actions (IRA/FRA))
Most Widespread Contaminants of Concern Munitions and explosives of concern (MEC), Munitions constituents (MC) Media of Concern Groundwater, Sediment, Soil, Surface Water Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Site ID Site Name
Munitions and explosives of concern (MEC), Munitions constituents (MC) Media of Concern Groundwater, Sediment, Soil, Surface Water Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Site ID Site Name
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
Groundwater, Sediment, Soil, Surface Water Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Site ID Site Name Action Remedy FY
Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA)) Site ID Site Name Action Remedy FY
Site ID Site Name Action Remedy FY
Site ID Site Name Action Remedy FY
N/A
Total Environmental Restoration, Army (ER,A) Funding
Prior Funding: \$3,535.8 K
Current Requirements: \$.0 K
Future Requirements: \$837.0 K
Future Requirements: \$837.0 K Duration of MMRP

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

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201509/201509 Date of MMRP completion including Long Term Management (LTM): 202109

MMRPContamination Assessment

Contamination Assessment Overview

The Military Munitions Response Program (MMRP) manages the environmental and health issues associated with MC and MEC. In 2000, Fort Riley completed the advance range survey followed by an active/inactive (A/I) range inventory in 2002. The closed, transferring, and transferred range (CTT)/site inventory report was completed in 2003. That report identified the Sherman Heights Small Arms Range (SHSAR) and the Southeast Funston Landfill (SEFL) incinerator site as inactive ranges requiring further investigation. In April 2005 the historical records review (HRR) on these two sites was completed. The SI work plan was completed July 1, 2005, and the SI was initiated in 2005.

There is a low potential for MEC, MC or unexploded ordnance (UXO) at the two sites. Sherman Heights is a small arms range that is wholly contained on the installation. In 1994, lead-contaminated soil was removed from Sherman Heights (Colyer Manor) under CERCLA. The SEFL incinerator site was transferred to the Kansas Department of Wildlife and Parks (KDWP). In 1999, lead-contaminated soil and UXO were removed from the SEFL incinerator site. In summer 2008, the state of Kansas performed UXO clearance in association with road construction and found no UXO.

There is a third site near the Camp Forsyth Landfill Area 2 contained in the sandbars within the Republican River. The site contains munitions debris. There have been three occasions where UXO removal or blow-in-place was conducted. The site is on the installation boundary and can be accessed by the general public in a relatively uncontrolled manner.

Cleanup Exit Strategy

Future actions will be determined on the basis of the results of the RI/FS. An MC and MEC soil removal, off-site soil disposal, institutional controls, and monitoring may be required.

MMRP Previous Studies

TitleAuthorDate1993Action Memorandum for Removal Action Sensitive- Receptor Lead Site - Colyer Manor Area, Fort RileyFort RileyDEC-191994Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, KansasOHM CorporationJAN-19920022003Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, KansasColorado State University/FORSCOMMAR-202005Stakeholder Final of the Military Munitions Response Work Plan Military Munitions Response Program Sitee2mAPR-202005)4)4 02
Action Memorandum for Removal Action Sensitive- Receptor Lead Site - Colyer Manor Area, Fort Riley Military Installation, Fort Riley, Kansas Fort Riley DEC-19 1994 Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas OHM Corporation JAN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas OHM Corporation JUN-199 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20)4)4 02
1994 Receptor Lead Site - Colyer Manor Area, Fort Riley Military Installation, Fort Riley, Kansas OHM Corporation JAN-199 1994 Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas OHM Corporation JAN-199 2002 Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20)4)4 02
1994 Receptor Lead Site - Colyer Manor Area, Fort Riley Military Installation, Fort Riley, Kansas OHM Corporation JAN-199 1994 Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas OHM Corporation JAN-199 2002 Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
1994 Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas OHM Corporation JAN-199 Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
Work Plan for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, KansasOHM CorporationJAN-1982002Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes),OHM CorporationJUN-1982002US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, KansasColorado State University/FORSCOMMAR-202003Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansase2MOCT-202005Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansase2mAPR-20	02
Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas OHM Corporation JUN-199 Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
Colver Manor Sites, Fort Riley, Kansas OHM Corporation JUN-199 Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colver Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
Project Report for Rapid Response Removal of Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), OHM Corporation JUN-199 2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
2002 Contaminated Soils Pesticide Storage Facility and Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), MAR-20 2003 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	02
2002 Colyer Manor Sites, Fort Riley, Kansas (5 Volumes), MAR-20 2003 US Army Active/Inactive (A/I) Range Inventory Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	
2002 US Army Active/Inactive (A/I) Range Inventory Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	
2003 US Army Active/Inactive (A/I) Range Inventory Range Inventory Binder Fort Riley, Kansas Colorado State University/FORSCOM MAR-20 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	
2003 Inventory Binder Fort Riley, Kansas University/FORSCOM 2003 Closed, Transferring, and Transferred Range/Site Inventory Report Fort Riley, Kansas e2M OCT-20 2005 Stakeholder Final of the Military Munitions Response Program Historical Records Review Fort Riley, Kansas e2m APR-20	
2003 Closed, Transferring, and Transferred Range/Site e2M OCT-20 Inventory Report Fort Riley, Kansas Stakeholder Final of the Military Munitions Response e2m APR-20 Program Historical Records Review Fort Riley, Kansas)3
Closed, Transferring, and Transferred Range/Site e2M OCT-20 Inventory Report Fort Riley, Kansas Stakeholder Final of the Military Munitions Response e2m APR-20 Program Historical Records Review Fort Riley, Kansas)3
2005 Stakeholder Final of the Military Munitions Response e2m APR-20 Program Historical Records Review Fort Riley, Kansas	03
2005 Stakeholder Final of the Military Munitions Response e2m APR-20 Program Historical Records Review Fort Riley, Kansas	
Stakeholder Final of the Military Munitions Response e2m APR-20 Program Historical Records Review Fort Riley, Kansas	
Program Historical Records Review Fort Riley, Kansas	
Program Historical Records Review Fort Riley, Kansas)5
Work Plan Military Munitions Response Program Site e2m	
	5
Inspection Munitions Response Sites Fort Riley -	
Kansas	
2006	
Site Inspection Report Military Munitions Response e2m MAY-20	06
Program Site Inspection Fort Riley, Kansas	
2010	
Work Plan MMRP RI/FS Sherman Heights Small Arms Bay West APR-20	10
Range Impact Slope (FTRI-001-R-02) Junction City,	
Kansas	
2011	-
MC Site Characterization Sampling Addendum MMRP Bay West NOV-20	11
Remedial Investigation and Feasibility Study (RI/FS)	
Sherman Heights Small Arms Range Impact Slope	
(FTRI-001-R-02) Fort Riley, Kansas	
2012	
Final MMRP Historical Records Review Fort Riley, Bay West OCT-20	12
Kansas Camp Forsyth Landfill Area 2 MRS Junction	14
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MMRP Installation Map(s)



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FORT RILEY

Military Munitions Response Program

Site Descriptions

Site ID: FTRI-001-R-02 Site Name: SHSAR Impact Slope



Regulatory Driver: OTHER

MRSPP Score: 04 Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200303	200310
SI	200406	200605
RI/FS	200708	201310
RD	201311	201401
RA(C)	201402	201410
LTM	201411	202109
RIP Date:	N/A	
RC Date:	201410	



The SHSAR Impact Slope munitions response site (MRS) covers approximately 52 acres and is located above the Colyer Manor housing area in Camp Forsyth. Small arms ranges were operational from the 1880s until the 1980s. Nine millimeter (mm), .22 caliber, .38 caliber, and .45 caliber pistols, small caliber anti-tank machine gun, and .22 caliber (subcaliber) anti-aircraft machine guns were used on these ranges. During the 2005 site investigation fieldwork, four-inch practice Stokes mortars were discovered. Lead contamination was the focus at the SHSAR Firing Points MRS, which is co-located with the Colyer Manor housing. In 1994 under the IRP, 1500 cu yds of lead-contaminated soil were removed from a target area near Building 3135. This site received clean closure in a 1994 SI report. Negative lead detections from confirmation soil sampling conducted during the 2005 MMRP SI fieldwork resulted in clean closure under the MMRP.

In 2010, an MMRP RI work plan for the SHSAR Impact Slope MRS was approved by the USEPA and the KDHE.

In 2010 and 2011, the site was characterized for MEC using a combination of digital and analog geophysical technologies.

Three MEC items were found on the west end of the slope: a 3-inch Hotchkiss projectile, a 3-inch common projectile, and a 2.36-inch anti-tank rocket. No live practice 4-inch Stokes mortars, the munitions of concern, were found.

A five-acre area of lead-contaminated soil was delineated on the eastern end of the SHSAR Impact Slope.

In 2013, the RI/FS report was completed.



Future actions will be based on the RI results. A PP and ROD will be prepared in 2014.

Site ID: FTRI-003-R-01 Site Name: Camp Forsyth Landfill Area 2 MRS



Regulatory Driver: OTHER

MRSPP Score: 04 Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Sediment, Surface Water

Phases	Start	End
PA	200303	200310
SI	200406	200605
RI/FS	200708	201309
RD	201310	201403
RA(C)	201404	201509
LTM	201510	201809
RIP Date:	N/A	
RC Date:	201509	



The Camp Forsyth Landfill Area 2 MRS lies along the southwestern boundary of Fort Riley and covers approximately 30 acres of sandbars and riverbed in the Republican River. The River Walk, a nature trail, passes by the site. A series of warning signs are posted between the site and the River Walk to warn the public of the possible presence of munitions. During the winter months, bald eagles pass over the site as they travel between their roosting site downstream on the Kansas River and their feeding areas upstream on Milford Lake.

Munitions debris was found on a downstream sandbar after the 1993 regional flood. In 1994, munitions debris consisting of 3.5and 2.36-inch rockets, M1 land mines, and expended small arms ammunitions was destroyed. In 2000 and 2001, a 1500-foot revetment was constructed to stabilize the bank on the Fort Riley side of the river. Between 2002 and 2009, 2.36-inch rockets, and expended small arms ammunition were found on the sandbar adjacent to the revetment during annual inspections.

In 2011, an MMRP RI work plan was submitted to the USEPA and KDHE. Later that year, the revetment was extended upriver to prevent erosion into the landfill, the River Walk was rerouted outside the hazardous fragmentation zone, and the site was characterized for MEC using a combination of digital and analog geophysical technologies.

Nine MEC items were found on Republican River sandbars. They included smoke grenades, rifle grenades, 2.36-inch anti-tank rockets, a slap flare, and an M-6 anti-tank land mine. A stick of TNT was also found.

No munitions constituents or lead contamination was found. Based on the discovery of multiple MEC items, it was decided that additional fieldwork was required. To identify areas with a high probability of containing MEC, an HHR was completed in 2012.

CLEANUP/EXIT STRATEGY

In late-2013 and early-2014, additional site characterization and anomaly excavation will be conducted based on a revised RI work plan. Future actions will be based on the RI results.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FTRI-001-R- 01	SHERMAN HEIGHTS SMALL ARMS	200605	Made RC after the June 2006 Site Investigation based on no MEC or MC Contamination.
FTRI-002-R- 01	SOUTHEAST FUNSTON LANDFILL	200605	Made RC after the June 2006 Site Investigation based on no MEC or MC Contamination.

MMRP Schedule

Date of MMRP Inception 200303

Past Phase Completion Milestones

2004

PA

(FTRI-001-R-01 - SHERMAN HEIGHTS SMALL ARMS , FTRI-001-R-02 - SHSAR Impact Slope, FTRI-002-R-01 - SOUTHEAST FUNSTON LANDFILL, FTRI-003-R-01 - Camp Forsyth Landfill Area 2 MRS)

2006

SI

(FTRI-001-R-01 - SHERMAN HEIGHTS SMALL ARMS , FTRI-001-R-02 - SHSAR Impact Slope, FTRI-002-R-01 - SOUTHEAST FUNSTON LANDFILL, FTRI-003-R-01 - Camp Forsyth Landfill Area 2 MRS)

Additional Past Phase Completion Milestones

2003

Preliminary Assessment, Sites FTRI-001-R-01, FTRI-001-R-02, FTRI-002-R-01, FTRI-003-R-01, October

2005

Site Investigation, Sites FTRI-001-R-01, FTRI-001-R-02, FTRI-002-R-01, FTRI-003-R-01, December

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
FTRI-001-R-02	SHSAR Impact Slope	SHSAR Impact Slope Decision	20130930
		Document	
FTRI-003-R-01	Camp Forsyth Landfill Area 2 MRS	CFLA2 Decision Document	20130930
Final PA(C) Complet	tion Data: 201500		

Final RA(C) Completion Date: 201509

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of MMRP at Installation (including LTM phase): 202109

FORT RILEY MMRP Schedule

							= phase u	Inderway
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-001-R-02	SHSAR Impact Slope	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
FTRI-003-R-01	Camp Forsyth Landfill Area 2 MRS	RD						
		RA(C)						
		LTM						

MMRP Costs

Total Funding t	hrough FY 2004: \$268	8.7 K			
Prior Funding					
FY	Phase		Site ID	Obligations	FY Total
2005	SI		MMRP Sites	\$17.0 K	\$17.0 K
2006	SI		FTRI-001-R-01	\$3.0 K	\$6.0 K
			FTRI-003-R-01	\$3.0 K	
2007	RI		FTRI-001-R-02	\$600.0 K	\$1,236.1 K
			FTRI-003-R-01	\$616.1 K	
	SI		FTRI-003-R-01	\$20.0 K	
2008	RI/FS		FTRI-001-R-02	\$22.0 K	\$43.0 K
			FTRI-003-R-01	\$21.0 K	
2010	RI/FS		FTRI-001-R-02	\$94.0 K	\$168.0 K
			FTRI-003-R-01	\$74.0 K	
2011	RA(C)		FTRI-001-R-02	\$876.0 K	\$1,247.0 K
			FTRI-003-R-01	\$269.0 K	
	RD		FTRI-001-R-02	\$26.0 K	
			FTRI-003-R-01	\$10.0 K	
	RI/FS		FTRI-001-R-02	\$32.0 K	
			FTRI-003-R-01	\$34.0 K	
2012	RA(C)		FTRI-001-R-02	\$169.0 K	\$550.0 K
			FTRI-003-R-01	\$273.0 K	
	RD		FTRI-001-R-02	\$10.0 K	
			FTRI-003-R-01	\$10.0 K	
	RI/FS		FTRI-001-R-02	\$55.0 K	
			FTRI-003-R-01	\$33.0 K	
TOTAL PRIOR	FUNDING: \$3,535.8 K				
Current Require	ements				
FY	Phase		Site ID	Requirements	FY Total
TOTAL CURRE		\$.0 K			
TOTAL FUTUR	E REQUIREMENTS: \$	337.0 K			
TOTAL PROGR	AM COST: \$4,372.8 K				

Required Cost-to-Complete

SITE ID	SITI	E NAME									
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
TRI-001-R-	-02 SHS	SAR Impact	Slope								
	RD	14									14
	RA(C)	80	10								90
	LTM		32								32
Complete F	RI/FS Repoi	rt, followed	by PP, RO	D, RD, and	RA(C).	1		1	Sit	te Total	136
TRI-003-R-	01 Can	np Forsyth	Landfill Are	ea 2 MRS							
	RD	14									14
	RA(C)	468	39								507
	LTM					180					180
Complete F	RI/FS field w	vork and Re	eport, follov	ved by PP,	ROD, RD,	and RA(C).	1	Sit	te Total	701
otals											
		576	81			180					837
			1	1	1	1			I		837

Programmed Cost-to-Complete

SITE ID	SITE	NAME									
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
TRI-001-R-	02 SHS	SAR Impact	Slope								
	RD	14									14
	RA(C)	80	10								90
	LTM		32								32
Complete R	RI/FS Repor	t, followed	by PP, RO	D, RD, and	d RA(C).				si	te Total	136
TRI-003-R-	01 Carr	np Forsyth I	Landfill Are	a 2 MRS							
	RD	14									14
	RA(C)	468	39								507
	LTM					180					180
Complete F	RI/FS field w	ork and Re	port, follov	ved by PP,	ROD, RD,	and RA(C).	1	si	te Total	701
otals											
		576	81			180					837
	L		1	1	1	1		1	si	te Total	837

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FORT RILEY

Army Defense Environmental Restoration Program Compliance Restoration

CR Summary

4/1

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: Installation Site Types with Future and/or Underway Phases 1 Contaminated Ground Water (CC-FTRI-01) 2 Underground Storage Tank (CC-FTRI-09, CC-FTRI-11) Most Widespread Contaminants of Concern Petroleum, Oil and Lubricants (POL)					
Media of Concern Groundwater, Soil					
Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))Site IDSite NameActionRemedyFYN/A					
Total Environmental Restoration, Army (ER,A) Funding					
Prior Funding: \$66.0 K					
Current Requirements: \$.0 K					
Future Requirements:\$847.0 K					
Duration of CRDate of CR Inception:199104Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC):202109/202109Date of CR completion including Long Term Management (LTM):202109					

CR Contamination Assessment

Contamination Assessment Overview

The POL tank farm is an active facility with six ASTs consisting of motor gasoline (MOGAS), diesel, and slop oil (recyclable liquid petroleum products). Spills varying in magnitude have occurred since the facility began operations. Free-product recovery events have resulted in only partial recovery. The POL tank farm has undergone several phases of an ongoing site investigation that found measurable free-product and levels of benzene that exceed MCL in the groundwater.

Building 388 is an active transportation motor pool dispensing station with two 8000-gallon ASTs for gasoline and diesel. In 2008, 32 gallons of free-product were recovered from the site.

Building 5320 is an Army/Air Force Exchange Services service station with four 6000-gallon gasoline ASTs.

Building 388 has free-product and both sites have benzene contaminated groundwater above regulatory levels.

Cleanup Exit Strategy

CC-FTRI-01: Monitor and bail semiannually until the tank farm ceases operations; develop and implement a regulatorapproved corrective action.

CC-FTRI-09:

Bldg. 388 - Sample groundwater and soil, complete investigation for the free-product source, and develop regulator-approved corrective action.

Bldg. 5320 - Conduct groundwater sampling, determine removal schedule for tanks, pipes and pumps; develop and implement regulator-approved corrective action.

CC-FTRI-11:

Bldg. 700 - Further investigation/remediation will be conducted in 2014.

CR Previous Studies

	Title	Author	Date
1995			
	Final Letter Report POL Tank Farm Site Investigation POL UST Site Investigations/Remedial Action Plans Fort Riley, Kansas	Dames & Moore	NOV-1995
1998			
	Data Summary Report for the POL Tank Farm Investigation Fort Riley, Kansas	Corps of Engineers - Kansas City District	JUL-1998
	Letter Report - Custer Hill POL Facility Fractured Limestone Analysis	Burns & McDonnell	SEP-1998
999			
	Draft Site Specific Safety and Health Plan Phase II Site Investigation at POL Tank Farm Custer Hill Fort Riley, Kansas	Burns & McDonnell	AUG-1999
	Quality Control Plan Phase II Site Investigations at POL Tank Farm Custer Hill Fort Riley, Kansas	Burns & McDonnell	AUG-1999
	Tracer Integrity Test 500' IW Sewer Line Fort Riley Manhattan Kansas September 1999	Tracer Research Corporation	SEP-1999
	Draft Final Site Specific Sampling and Analysis Plan Phase II Site Investigations at POL Tank Farm Custer Hill Fort Riley, Kansas	Burns & McDonnell	OCT-1999
2002		1	
	Draft Final Phase II Assessment Addendum for the Petroleum Tank Farm Facilities Area at Fort Riley, Kansas	Burns & McDonnell	AUG-2002
	Draft Final Phase II Site Investigation Report for the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	AUG-2002
003			
	Draft Final Work Plan Addendum Phase II Site Investigation for the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	FEB-2003
	Quality Control Summary Report June 2003 Groundwater Sampling Event at the POL Tank Farm at Main Post Fort Riley, Kansas	Burns & McDonnell	JUL-2003
004	· · · · · · · · · · · · · · · · · · ·	1	
	Quality Control Summary Report June 2004 Groundwater Sampling Event at the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	AUG-2004
	Field Technical Memorandum for the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	SEP-2004
	Quality Control Summary Report October 2004 Groundwater Sampling Event at the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	OCT-2004
	Boring Logs Phase II Site Investigation POL Tank Farm Fort Riley, Kansas	Burns & McDonnell	DEC-2004
005			
	Quality Control Summary Report February 2005 Groundwater Sampling Event at the POL Tank Farm at Fort Riley, Kansas	Burns & McDonnell	MAR-2005
	Data Summary Report Phase II Site Investigation for the POL Tank Farm Investigation Fort Riley, Kansas	Burns & McDonnell	JUN-2005
	Draft Final Site Investigation Work Plan for the Petroleum, Oil, and Lubricant Site 388 at Main Post Fort Riley, Kansas	ECC/Burns & McDonnell	JUN-2005

CR Previous Studies

	Title	Author	Date
2005			
	Draft Final Site Investigation Work Plan for the	ECC/Burns & McDonnell	JUN-2005
	Petroleum, Oil, and Lubricant Site 5320 at Main Post		
	Fort Riley, Kansas		
2008		1	
	Droject Submittele for the Detroloum, Oil, and Lubricent	ECC/Burne & MeDennell	
	Project Submittals for the Petroleum, Oil, and Lubricant	ECC/Burns & McDonnell	JAN-2008
	Tank Farm Custer Hill Fort Riley, Kansas Quality Control Summary Report May 2008	ECC/Burns & McDonnell	
		ECC/Burns & MicDonnell	JUN-2008
	Groundwater Sampling Event at the Petroleum, Oil, and Lubricant Site 5320 Fort Riley, Kansas		
	Quality Control Summary Report SVE/DPE and	ECC/Burns & McDonnell	DEC-2008
	November 2008 Groundwater Sampling Event at the	ECC/Burns & MicDonnell	DEC-2006
	Petroleum, Oil, and Lubricant Site 388 Fort Riley,		
	Kansas		
009	Nalisas		
003			
	Data Summary Report for the SVE/DPE Pilot Test and	ECC/Burns & McDonnell	MAR-2009
	the November 2008 Groundwater Sampling Event for		
	the POL Site 388 at Fort Riley, Kansas		
	2008 Data Summary Report Product Recovery	ECC/Burns & McDonnell	JUN-2009
	Remediation System for the POL Tank Farm Custer Hill		
	Fort Riley, Kansas		
:010			
	Site-Specific Safety and Health Plan Fuels Sites	Malcolm Pirnie/Burns &	JAN-2010
	Environmental Investigation (Multiple Sites) at Fort	McDonnell	
	Riley, Kansas (388, 1460, 2597, & 5320)		
	Plan Addenda Fuels Sites Environmental Investigation	Malcolm Pirnie/Burns &	FEB-2010
	(Multiple Sites) at Fort Riley, Kansas Sampling and	McDonnell	
	Analysis Plan Addendum Volume I - FSP Addendum		
	Volume II QAPP Addendum Investigative Derived		
	Waste Management Plan Addendum (388, 1460, 2597,		
	& 5320)		
	Work Plan Fuels Sites Environmental Investigation	Malcolm Pirnie/Burns &	FEB-2010
	(Multiple Sites) at Fort Riley, Kansas (388, 1460, 2597,	McDonnell	
	& 5320)		
	Quality Control Summary Report Fuels Sites	Louis Berger/Burns &	MAY-2010
	Environmental Investigation (Multiple Sites) at Fort	McDonnell	
	Riley, Kansas (388, 1460, 2597, & 5320)		
	Quality Control Summary Report June 2010	ECC/Burns & McDonnell	AUG-2010
	Groundwater Sampling Event at the Petroleum, Oil, and		
	Lubricant Tank Farm Site Fort Riley, Kansas		
	Site Recommendation Reports Building 388 Building	Louis Berger/Burns &	SEP-2010
	1460 Building 2597 Data Summary Report Buildings	McDonnell	
	388 and 5320 Fuels Sites Environmental Investigation		
	at Fort Riley, Kansas		
	2010 Data Summary Report for the Product Recovery	ECC/Burns & McDonnell	OCT-2010
	Remediation System and Groundwater Sampling Event		
	at the POL Tank Farm Custer Hill Fort Riley, Kansas		
011			
	Draft Final Building 388 Site Additional Investigation	Louis Berger/Burns &	AUG-2011
	Work Plan at Main Post Fort Riley, Kansas	McDonnell	
	Quality Control Summary Report June 2011	ECC/Burns & McDonnell	OCT-2011
	Groundwater Sampling Event at the Petroleum, Oil, and		
	Lubricant Tank Farm Site Fort Riley, Kansas		
012		1	

2012

CR Previous Studies

	Title	Author	Date
2012			
	Final Site Investigation Work Plan Building 700 Fuels Site at Fort Riley, Kansas	Burns & McDonnell	JAN-2012
	2011 Data Summary Report for the Product Recovery Remediation System Deactivation, Streamlined Risk Assessment and Groundwater Sampling Event at the POL Tank Farm Custer Hill Fort Riley, Kansas	ECC/Burns & McDonnell	JAN-2012
	Draft Final Additional Field Investigation Report Building 388 at Main Post Fort Riley, Kansas	Louis Berger/Burns & McDonnell	JAN-2012
	Quality Control Summary Report Building 700 Fuels Site, Site Investigation at Fort Riley, Kansas	Burns & McDonnell	APR-2012
	Final Site Recommendation Report Building 700 Fuels Site at Fort Riley, Kansas	Burns & McDonnell	JUN-2012
	Quality Control Summary Report Groundwater Monitoring - Former AAFES Gasoline Station Building 5320, Fort Riley, Kansas	CTI	OCT-2012
	Final Addendum No.3 to the Installation-Wide Accident Prevention Plan for the POL Tank Farm at Fort Riley, Kansas	Avatar/Burns & McDonnell	DEC-2012
	Final Work Plan for the POL Tank Farm at Fort Riley, Kansas	Avatar/Burns & McDonnell	DEC-2012
2013		·	
	Final Data Summary Report - July 2012 Building 5320, Former AAFES Gasoline Station Fort Riley, Kansas	СТІ	JAN-2013
	Final Project Management Plan and Quality Control Plan for Groundwater Monitoring and Related Activities at the Building 388 Site at Main Post Fort Riley, Kansas	Louis Berger/Burns & McDonnell	FEB-2013
	Final Addendum No.4 to the Installation-Wide Accident Prevention Plan for the Building 388 Site at Fort Riley, Kansas	Louis Berger/Burns & McDonnell	FEB-2013
	Final Work Plan for Groundwater Monitoring and Related Activities at the Building 388 Site at Main Post Fort Riley, Kansas	Louis Berger/Burns & McDonnell	FEB-2013
	Quality Control Summary Report December 2012 Groundwater Sampling Event at the POL Tank Farm Site Fort Riley, Kansas	Avatar/Burns & McDonnell	FEB-2013

FORT RILEY

Compliance Restoration

Site Descriptions

Site ID: CC-FTRI-01 Site Name: POL Tank Farm Site



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

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	199104	200509
INV	199809	202109
IRA	200709	202107
RIP Date:	N/A	
RC Date:	202109	



CC-FTRI-01 (alias FTRI-053) is an active POL Tank Farm, located on First Division Road on the eastern side of the Custer Hill troop area. The construction of the POL Tank Farm began in 1987 and was completed in 1989. The facility was constructed to consolidate storage of petroleum products for the Custer Hill troop area. The products currently stored at the POL Tank Farm in six ASTs consist of MOGAS, diesel, and slop oil (recyclable liquid petroleum products).

The POL records indicate that releases varying in magnitude have occurred since the facility began operations. Free-product recovery events have resulted in only partial recovery. The POL Tank Farm has undergone several field activities that found measurable free-product and levels of benzene that exceed MCL in the groundwater. Low concentrations of fuel-related contaminants were also detected in some sediment samples collected from an adjacent ephemeral streambed.

Manual removal of free-product has reduced, but not eliminated, the presence of free-product within the POL Tank Farm.

An FY11 evaluation determined there was minimal current risk to human health and the environment.

CLEANUP/EXIT STRATEGY

Continue annual groundwater sampling as long as free-product is present. Conduct semiannual free-product recovery by manual bailing as needed.

Site ID: CC-FTRI-09 Site Name: Fuel Dispensing Stations



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

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	200810	200811
INV	200812	201809
RIP Date:	N/A	

RC Date: 201809



This site consists of two fuel dispensing stations.

Building 388 (FTRI-062) is an active transportation motor pool dispensing station. In 2008, approximately 32 gallons of freeproduct were recovered from the site and the groundwater has benzene contamination above the MCL of 5 ug/L. Conducted a full-scale site characterization investigation in 2013. Free-product is present in one well.

Building 5320 (FTRI-054) is an Army/Air Force Exchange Services service station that has been deactivated. It has benzene groundwater contamination above the MCL. A groundwater sampling event was conducted in 2012. The site is awaiting further deactivation activities prior to proceeding with developing a cleanup plan.

Both sites are in the "monitor" status in the KDHE's buried tank leak assessment database.

KDHE has requested additional work to address the conditions at both sites.

CLEANUP/EXIT STRATEGY

Building 388 - Groundwater and soil data from the full-scale site investigation will be analyzed to determine what cleanup actions are required.

Building 5320 - Utilize data from 2012 groundwater sampling event to formulate a plan of action once the site is released by installation property and the aboveground storage tanks are removed.

Site ID: CC-FTRI-11 Site Name: Former Building 700 Fuels Site



Phases	Start	End
ISC	201201	201206
INV	201303	201409
RIP Date:	N/A	

in Date. N/A

RC Date: 201409



The former Building 700 area had a total of nine USTs. Four 25,000-gal USTs were installed in 1964 and four 20,000-gal USTs were installed in 1987 for JP-8. There was one 550-gal used oil UST installed in 1987. All of the USTs were removed Dec. 30, 1997. In late-2010 during geotechnical drilling operations, the crew noticed hydrocarbon odors and a groundwater sample was obtained and tested. The analysis determined that there was contamination that warranted further investigation to define the levels of contamination. The report from the 2012 investigation recommended to fully define the extent of the soil and groundwater contamination and conduct a remedial action.

In 2013, an SI was conducted to further investigate soil and groundwater.



Complete full site characterization prior to determining course of action.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CC-FTRI-10	Fuel USTs (Active & Abandoned)	201009	The 2597 and 1460 sites were closed with regulator approval of a September 2010 Site Recommendation Report.

CR Schedule

Date of CR Inception: 199104

Past Phase Completion Milestones

2005	
ISC	(CC-FTRI-01 - POL Tank Farm Site)
2009	
ISC	(CC-FTRI-09 - Fuel Dispensing Stations, CC-FTRI-10 - Fuel USTs (Active & Abandoned))
2010	
INV	(CC-FTRI-10 - Fuel USTs (Active & Abandoned))
2012	
ISC	(CC-FTRI-11 - Former Building 700 Fuels Site)

Projected Phase Completion Milestones

See attached schedule

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

To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of CR at Installation (including LTM phase): 202109

FORT RILEY CR Schedule

							= phase u	Inderway
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
CC-FTRI-01	POL Tank Farm Site	INV						
		IRA						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
CC-FTRI-09	Fuel Dispensing Stations	INV						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
CC-FTRI-11	Former Building 700 Fuels Site	INV						



Total Fundi	ng through FY 2008:	\$.0 K			
Prior Fundi	ng				
FY	Phase		Site ID	Obligations	FY Total
2012	SI		CC-FTRI-01	\$29.0 K	\$66.0 K
			CC-FTRI-09	\$37.0 K	
TOTAL PRI	OR FUNDING: \$66.0	K			
Current Rec	uirements				
FY	Phase		Site ID	Requirements	FY Total
TOTAL CU	RRENT REQUIREMENTS:	\$.0 K			
TOTAL FUT		\$847.0 K			

TOTAL PROGRAM COST: \$913.0 K

Required Cost-to-Complete

SITE ID	SIT	E NAME									
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
CC-FTRI-01	PC	L Tank Farr	n Site								
	INV	39	40	41	41	41	41	41	41		325
Install three	GW mon	itoring wells	and continu	ue GW sar	npling/free-	product re	covery (ma	anual bailir	ng). si	te Total	325
CC-FTRI-09	Fu	el Dispensin	g Stations								
	INV	41	96			96					233
Groundwate	er samplin	g.							Si	te Total	233
CC-FTRI-11	Fo	rmer Buildin	g 700 Fuels	s Site							
	INV	289									289
									Si	te Total	289
Totals											
		369	136	41	41	137	41	41	41		847
	L					1			Si	te Total	847

Programmed Cost-to-Complete

SITE ID	SIT	E NAME									
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
CC-FTRI-01	PO	Tank Farn	n Site							·	
	INV	39	40	41	41	41	41	41	41		325
Install three	GW monit	oring wells	and continu	ue GW sar	npling/free-	product re	covery (ma	anual bailir	ng). sit	te Total	325
CC-FTRI-09	Fue	l Dispensin	g Stations								
	INV	41	96			96					233
Groundwate	er sampling] .							Sit	te Total	233
CC-FTRI-11	For	mer Building	g 700 Fuels	s Site							
	INV	289									289
L									Sit	te Total	289
Totals											
		369	136	41	41	137	41	41	41		847
L	L					1		,	sit	te Total	847

Costs - Combined Requirements Spreadsheet

PROGRAM	SITE		SITE N								
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY	ETDI	004	OLIOTE				-				
RP.	FTRI-			R HILL SA				1		1	
	CMI(O)	29	41	29	29	29	29	41	29		256
_andfill cov	er inspectio	ns, ground	water mon	itoring, and	l cover rep	air.					
RP.	FTRI-	003	SOUTH	IWEST FL	INSTON L	ANDFILL					
	LTM	10	10	71	50	10	10	10	10		181
_andfill/rive	erbank inspe	ections & re	pairs, grou	Indwater m	onitoring, a	and reques	t partial NF	L deletion	•		
RP.	FTRI-		OB/OD	GROUND	(RANGE	16)	•				
	RI/FS	125									125
	LTM								117		117
	RA(O)			104	17	17	17	104			259
	RA(C)		17								17
	RD	40									40
Groundwat	er monitorin		nlete RI/FS	 }		1					
RP	FTRI-			LEANING	FACILITIE	S AREA					
	RA(O)	49	44	53	61						207
	LTM					139					139
MNA with c	groundwater	monitoring	a final P/	CP and r	equest inst		l All deletion				
RP	FTRI-					CTIONS (3					
	RA(O)	85		50			,				135
	LTM					50					50
Croupdwat			and requi								
RP	er monitorin FTRI-			ONED GA							
	IMP(O)	15	15	37	20	1					87
				_	_						0.
<u>ivina with c</u> RP	proundwater FTRI-					(ANCHOR)				
	IMP(O)	541	530	513	513	513	, 				2610
	LTM	011		0.10	0.0	0.0	275				275
00M - 6 4							210				210
O&M of tre RP	atment syste				OR NW C	AMP FUN	STON				
	RA(O)	UT 1				803				1	803
	RD				60	000					60
					00	47					
	RA(C)	470			40	17					17
	RI/FS	472	90	60	10						632
Initiate RI/F	S followed	by quarterly	/ GW samp	oling.							
			=							ر	RP Tota
		1366	747	917	760	1578	331	155	156		6010

Costs - Combined Requirements Spreadsheet

PROGRAM	SITE	ID	SITE N	AME							
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
1MRP	FTRI-	001-R-02	SHSAF	R Impact Sl	ope						
	LTM		32								32
	RA(C)	80	10								90
	RD	14									14
Complete F	RI/FS Repor	t, followed k	by PP, RO	D, RD, and	RA(C).						
/MRP		003-R-01		Forsyth Lar		2 MRS					
	LTM					180					180
	RA(C)	468	39								507
	RD	14									14
Complete R	RI/FS field w	ork and Re	port, follov	ved by PP.	ROD. RD.	and RA(C).				
										MM	RP Tota
						1			1	1	
		576	81			180					837
						180					837
CR		TRI-01	POL Ta	ank Farm S							
CR	CC-F			ank Farm S 41	ite 41	180 41	41	41	41		837 325
Install three	INV	TRI-01 39	POL Ta	41	41	41			41		
CR Install three bailing). CR	INV GW monito	TRI-01 39	POL Ta 40 and contin	41	41 npling/free	41			41		
Install three bailing).	INV GW monito	TRI-01 39 pring wells a	POL Ta 40 and contin	41 ue GW san	41 npling/free	41			41		
Install three bailing). CR	GW monite CC-F	TRI-01 39 pring wells a TRI-09 41	POL Ta 40 and contin	41 ue GW san	41 npling/free	41 -product re			41		325
Install three bailing).	GW monite CC-F INV er sampling	TRI-01 39 pring wells a TRI-09 41	POL Ta 40 and contin Fuel Di 96	41 ue GW san	41 npling/free itations	41 -product re 96			41		325
Install three bailing). CR Groundwate	GW monite CC-F INV er sampling	TRI-01 39 bring wells a TRI-09 41	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325
Install three bailing). CR Groundwate	GW monito GW monito CC-F INV er sampling CC-F	TRI-01 39 pring wells a TRI-09 41 TRI-11	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325 233 289
Install three bailing). CR Groundwate	GW monito GW monito CC-F INV er sampling CC-F	TRI-01 39 pring wells a TRI-09 41 TRI-11	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325 233
Install three bailing). CR Groundwate	GW monito GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11 289	POL Ta 40 and contin Fuel Di 96 Former	41 ue GW san spensing S Building 7	41 npling/free tations 00 Fuels S	41 -product re 96 ite	covery (ma	anual			325 233 289 CR Tota
Install three bailing). R Groundwate	GW monito GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11 289	POL Ta 40 and contin Fuel Di 96 Former	41 ue GW san spensing S Building 7	41 npling/free tations 00 Fuels S	41 -product re 96 ite	covery (ma	anual			325 233 289 CR Tota

Costs - Combined Programmed Spreadsheet

PROGRAM	SITE	ID	SITE N	AME							
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY RP	FTRI-	001	CUST	R HILL SA							
.г 	CMI(O)	29	41	29	29	29	29	41	29		256
							29	41	29		200
Landfill cov	ver inspectio	ns, ground	water mon	itoring, and	cover rep	air.					
RP	FTRI-	003	SOUTH	HWEST FU	NSTON L/	ANDFILL					
	LTM	10	10	71	50	10	10	10	10		181
Landfill/rive	erbank inspe	ctions & re	pairs, arou	I Indwater m	onitorina, a	and reques	t partial NF	L deletion			
RP	FTRI-		OB/OD	GROUND	(RANGE	16)					
	RI/FS	125									125
	LTM								117		117
	RA(O)			104	17	17	17	104			259
	RA(C)		17								17
	RD	40									40
Groundwat	er monitorin	g and com	plete RI/FS	۰ــــــــــــــــــــــــــــــــــــ	I	1	I	1	I		
RP	FTRI-			LEANING	FACILITIE	S AREA					
	RA(O)	49	44	53	61						207
	LTM					139					139
MNA with g	groundwater	monitoring	, a final RA	ACR, and r	equest inst	allation NF	L deletion.				
RP	FTRI-	031	354 AR	REA SOLVE	INT DETE	CTIONS (3	854)				
	RA(O)	85		50							135
	LTM					50					50
	er monitorin										
RP	FTRI-	056	ABAND	DONED GA	SOLINE L	INE					
	IMP(O)	15	15	37	20						87
	groundwater							•			
RP	FTRI-			REA FUEL		•)				
	IMP(O)	541	530	513	513	513					2610
	LTM						275				275
	atment syste										
RP	FTRI-	074			UR, NW C		STON	1	I	1 1	
	RA(O)				-	803					803
	RD				60						60
	RA(C)					17					17
	RI/FS	472	90	60	10						632
Initiate RI/F	S followed I	by quarterly	y GW sam	pling.							
	[_ ·=			·				Ţ	RP Tota
		1366	747	917	760	1578	331	155	156		6010

Costs - Combined Programmed Spreadsheet

PROGRAM	SITE	ID	SITE N	AME							
	Phase	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Out Yrs	Total
ACTIVITY											
IMRP	FTRI-	001-R-02	SHSAF	Impact SI	ope						
	LTM		32								32
	RA(C)	80	10								90
	RD	14									14
Complete R	RI/FS Repor	t, followed b	by PP, RO	D, RD, and	RA(C).				1		
IMRP	FTRI-	003-R-01	Camp I	orsyth Lar	dfill Area 2	2 MRS					
	LTM					180					180
	RA(C)	468	39								507
	RD	14									14
Complete R	RI/FS field w	ork and Re	port, follov	ved by PP,	ROD, RD,	and RA(C).		•		
-							-				
										MM	IRP Tota
		576	81			180					837
						180					837
R	CC-F	576 TRI-01		ank Farm S	ite	180					837
R	CC-F			ank Farm S 41	ite 41	180 41	41	41	41		837
Install three	INV	TRI-01 39	POL Ta	41	41	41			41		
CR Install three bailing). CR	INV GW monite	TRI-01 39	POL Ta 40 and contin	41	41 npling/free	41			41		
Install three bailing).	INV GW monite	TRI-01 39 oring wells a	POL Ta 40 and contin	41 ue GW san	41 npling/free	41			41		
Install three bailing). R	GW monite CC-F	TRI-01 39 oring wells a TRI-09 41	POL Ta 40 and contin	41 ue GW san	41 npling/free	41 -product re			41		325
Install three bailing).	GW monite CC-F INV er sampling	TRI-01 39 oring wells a TRI-09 41	POL Ta 40 and contin Fuel Di 96	41 ue GW san	41 npling/free itations	41 -product re 96			41		325
Install three bailing). R Groundwate	GW monite CC-F INV er sampling	TRI-01 39 oring wells a TRI-09 41	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325
Install three bailing). CR Groundwate	GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325 233 289
Install three bailing). R Groundwate	GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11	POL Ta 40 and contin Fuel Di 96	41 ue GW san spensing S	41 npling/free itations	41 -product re 96			41		325 233
Install three bailing). R Groundwate	GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11 289	POL Ta 40 and contin Fuel Di 96 Former	41 ue GW san spensing S Building 7	41 npling/free tations 00 Fuels S	41 -product re 96 ite					325 233 289 CR Tota
Install three bailing). R Groundwate	GW monito CC-F INV er sampling CC-F	TRI-01 39 oring wells a TRI-09 41 TRI-11 289	POL Ta 40 and contin Fuel Di 96 Former	41 ue GW san spensing S Building 7	41 npling/free tations 00 Fuels S	41 -product re 96 ite				Gra	325 233 289 CR Tota

Community Involvement

Technical Review Committee (TRC): 199201

Community Involvement Plan (Date Published): 200509

Restoration Advisory Board (RAB): RAB established 199709

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

Additional Community Involvement Information

On Sept. 30, 1997, Fort Riley held its orientation meeting for members of the community who were interested in participating on a RAB. Adjacent landowners, local environmental groups, local college professors, mayors and other public officials, members of the local Chambers of Commerce, and select individuals recommended to the Directorate of Environment and Safety were invited to the orientation meeting by direct mail. Newspaper advertisements and television and radio announcements were also used to announce the formation of the RAB.

Approximately 20 people attended the orientation meeting. If they had not completed and returned an application beforehand, interested community members were asked to complete an application, a biographical information form and a demographic information form. A community co-chair was elected by the community representatives who were in attendance. The low number of applications received at that time made it possible to appoint everyone that applied to be a member of the RAB.

The current RAB members include citizens from Riley and Geary Counties, USEPA, KDHE, and representatives from the Geary County Extension Office and the city of Ogden (former mayor).

The RAB meets on an as-needed basis or once per year. There are no off-installation repositories at this time. An updated community involvement plan will be completed in 2012. RAB meetings were held in April 2008, April 2009, May 2010, January 2011, and March 2012. The main topics in 2011 were Camp Forsyth Landfill Area 2, FTRI-003-R-01; the remediation project at FTRI-057, and the proposed remediation activities at FTRI-056.

Over the next year RAB members will continue to gain knowledge of FTRI's sites and regulatory issues, review documents, provide technical advice, and participate in formal public comment period activities.

Administrative Record is located at

407 Pershing Court Fort Riley, KS 66442 (785) 239-3194/8536/3343

Information Repository is located at

Federal Document Repository Hale Library Kansas State University

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

Potential TAPP: N/A

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