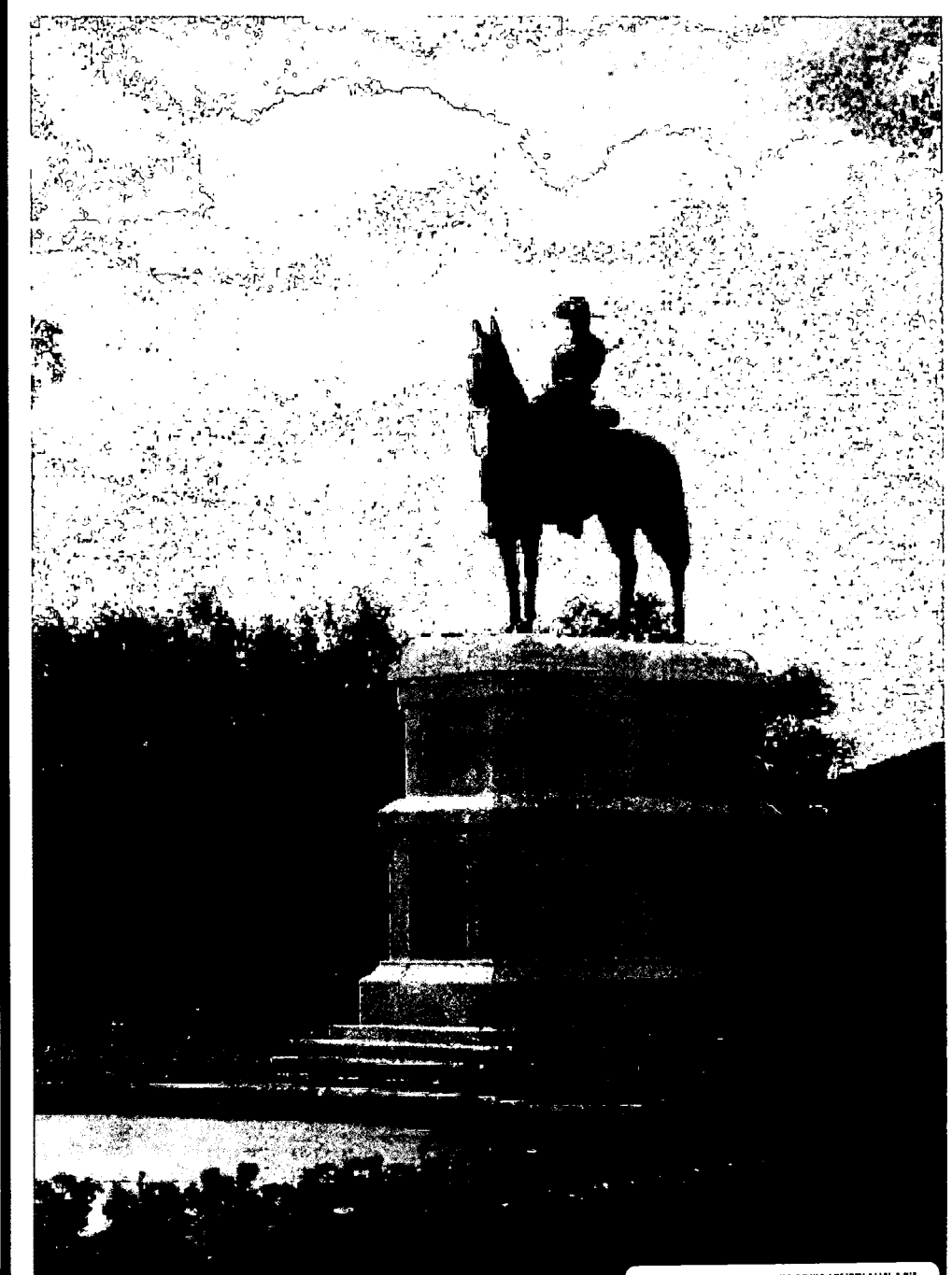


FY04 as of September 2003

Fort Riley

Installation Action Plan



Sept 2003

Fort Riley
Kansas
Installation Action Plan

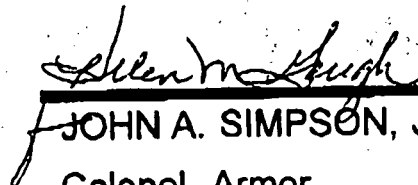


Approval

**Fort Riley
Installation Action Plan
FY04 as of September 2003**



CRAIG PHILLIPS
Remedial Project Manager



JOHN A. SIMPSON, JR.
Colonel, Armor
Garrison Commander

KENNETH E. WIGGANS

Chief, Northern Restoration Management Branch

U.S. Army Environmental Center



RANDALL J. CERAR

Chief, Restoration Management Division

U.S. Army Environmental Center

Approval

**Fort Riley
Installation Action Plan
FY04 as of September 2003**

CRAIG PHILLIPS
Remedial Project Manager

JOHN A. SIMPSON, JR.
Colonel, Armor
Garrison Commander

Kenneth E. Wiggans

KENNETH E. WIGGANS
Chief, Oversight Branch North
U.S. Army Environmental Center

Randall J. Cerar

RANDALL J. CERAR
Chief, Cleanup Division
U.S. Army Environmental Center

Thru: C, CDN *RWH*

Date

To: C, CD

From: *Bob Wheelove Jr.*Subject: *FT. RILEY* Installation Action Plan dated *Sept 03*

1. I have reviewed the subject document and believe it reflects a credible approach that will be taken to cleanup environmentally contaminated sites and is consistent with data in AEDB-R.

2. The IAP was update based on:

FT. RILEY IAP Workshop held on *16-17 July 03*

FT. RILEY Annual update by installation completed on *23 Aug 03*

3. Recommend that AEC approve subject plan.

Robert W. Wheelove Jr.
Signature

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define all Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each IRP site at the installation and other areas of concern.

In an effort to coordinate planning information between the IRP managers, the Army Environmental Center (AEC), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for Fort Riley. The IAP is used to track requirements, schedules, and budgets for all major Army installation restoration programs.

This Fort Riley IAP was principally developed in July 2003 at a meeting in Overland Park, Kansas. Participants included representatives of the Kansas Department of Health and Environment, the EPA Region VII, Fort Riley's Restoration Advisory Board and the U.S. Army Environmental Center, as well as the Fort Riley Directorate of Environment and Safety and the Kansas City District Army Corps of Engineers. This IAP is updated and submitted to the AEC and the Department of the Army annually.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change. Under current project funding and regulatory schedules, Fort Riley will have all remedies in place by FY2007.

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

Walt Aucott	U.S. Geological Society
Andrea Austin	Fort Riley
Craig Bernstein	Environmental Protection Agency, Region 7
Steve Bryant	Tech Law Inc.
Randy Carlson	Kansas Department of Health and Environment
Jill Fraley	Army Corps of Engineers
Tiffany S. Gates-Tull	Engineering & Environment, Inc. for AEC
Gene Gunn	Environmental Protection Agency, Region 7
Leo Henning	Kansas Department of Health and Environment
Joe King	Army Environmental Center
Chuck Otte	Fort Riley, RAB
Craig Phillips	Fort Riley
Stanley Rasmussen	Army Environmental Center
Oral Saulters	Fort Riley
Steve Scandon	Army Environmental Center
Dick Shields	Fort Riley
John Shimp	Fort Riley
Natalie Tillman	Army Corps of Engineers
Rick Van Saun	Army Corps of Engineers
Joe Waring	IMA
Rob Weber	Kansas Department of Health and Environment
Sheryl Welch	Army Corps of Engineers
Bob Whelove, Jr.	Army Environmental Center

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Acronyms & Abbreviations

AC/RC	Active Component/Reserve Component
AEC	Army Environmental Center
AEHA	Army Environmental Hygiene Agency
AOC	Area of Concern
AR	Administrative Record
ARAR(s)	Applicable or Relevant and Appropriate Requirements
AST	Aboveground Storage Tank
Bldg	Building
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CA	Corrective Action
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
CMI	Corrective Measure Implementation
CMS	Corrective Measure Study
CY	cubic yards
DA	Department of the Army
DASA(ESOH)	Deputy Assistant Secretary of Army (Environmental Safety and Occupational Health)
DCE	Dichloroethylene / Dichloroethene
DCFA	Dry Cleaning Facilities Area
DCP	Data Collection Platform
DD	Decision Document
DEH	Directorate of Engineering and Housing (now Public Works)
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DES	Directorate of Environment and Safety
DM	Decision Memorandum
DOD/DoD	Department of Defense
DOL	Directorate of Logistics
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Sites Environmental Restoration Tracking System
DS/GS	Direct Support / General Support
EAB	Enhanced Anaerobic Bioremediation
EE/CA	Engineering Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
ER,A	Environmental Restoration, Army (formally known as DERA)
FFA	Federal Facility Agreement
FFTA/MAAF	Former Fire Training Area/Marshall Army Airfield
FORSCOM	U.S. Army Forces Command
FS	Feasibility Study
FTRI	Fort Riley
FY	Fiscal Year
GMS	Groundwater Modeling System
GW	Groundwater
HRS	Hazard Ranking System
HW	Hazardous Waste
IAP	Installation Action Plan
IFI	Initial Field Investigation

Acronyms & Abbreviations

IRA	Interim Remedial Action or Interim Response Action
IRP	Installation Restoration Program
IWSA	Installation Wide Site Assessment
JP-4	Jet Propellant Number Four
JP-8	Jet Propellant Number Eight
KCD-CoE	Kansas City District, Corps of Engineers
KDHE	Kansas Department of Health and Environment
KDWP	Kansas Department of Wildlife and Parks
KSU	Kansas State University
LTM	Long-Term Monitoring
LTO	Long-Term Operation
MACOM	Major Army Command
MATES	Mobilization and Training Equipment Site
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NE	Not Evaluated
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NOV	Notice of Violation
NPL	National Priorities List
OB/OD	Open Burning / Open Detonation
OMA	Operations and Maintenance, Army
OU	Operable Unit
OWS	Oil and Water Separator
PA	Preliminary Assessment
PAOC	Potential Areas of Concern
PCB	Polychlorinated Biphenyl
PCE	Perchloroethylene Perchloroethene (Tetrachloroethylene/Tetrachoroethene)
POL	Petroleum, Oil, and Lubricants
PP	Proposed Plan
PPB	parts per billion
PPM	parts per million
PRB	Permeable Reactive Barrier
PSF	Pesticide Storage Facility
PX	Post Exchange
PY	Prior Year
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RAP	Remedial Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
Rem	Removal
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation

Acronyms & Abbreviations

S&A	Supervision and Administration
SARA	Superfund Amendments and Reauthorization Act
SE	Southeast
SEFL	Southeast Funston Landfill
SFL	Southwest Funston Landfill
SI	Site Inspection or Site Investigation
S&R	Supervision and Review
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TMP	Transportation Motor Pool
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USATHAMA	United States Army Toxic and Hazardous Materials Agency (now AEC)
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plant

Summary

STATUS: Fort Riley was placed on the National Priorities List in 1990. HRS Score is 33.8 which exceeds the 28.5 minimum score for listing on the NPL.

TOTAL # OF DSERTS SITES: 72 DSERTS sites
ACTIVE ER,A SITES: 8 = FTRI-09, 11, 19, 27, 31, 53, 56, 57
REMEDY IN PLACE with LTM: 9 = FTRI-03, 30, 36, 38, 54, 62, 63, 66, 68
RESPONSE COMPLETE SITES: 55

DIFFERENT SITE TYPES:

3 Fire/Crash Training Areas	1 Contaminated Building
2 Contaminated Groundwater	1 Surface Disposal Area
1 Disposal Pit/Dry Well	1 Dip Tank
1 Firing Range	1 Industrial Discharge
4 Incinerators	7 Landfills
1 POL Lines	2 Pesticide Shops
4 Storage Areas	2 Surface Impoundments/Lagoons
2 Small Arms Range	11 Spill Site Areas
4 Sewage Treatment Plants	4 Above Ground Storage Tanks
17 Underground Tank Farms	1 Explosive Ordnance Disposal Area
1 Unexploded Munitions/Ordnance Area	
1 Soil Contamination after Tank Removal	

CONTAMINANTS OF CONCERN: Chlorinated Solvents, Pesticides, Petroleum Hydrocarbons, Metals, Explosives

MEDIA OF CONCERN: Groundwater, Soil, Surface Water, Sediment

COMPLETED Rem/IRA/RA:

- REM - Excavation of lead contaminated soils at FTRI-035 (FY94, \$533K)
- REM - Excavation of pesticide contaminated soils at FTRI-030 (FY94, \$788K)
- REM - Replacement of leaking sewers at FTRI-027 (FY94 & FY96, \$100K)
- For a complete list see the 'Remediation Activities' Section

CURRENT IRP PHASES: RI/FS at 8 sites IRA at 1 site LTM at 6 sites

PROJECTED IRP PHASES: RI/FS at 3 sites RD at 2 sites RA at 1 site
RA(O) at 2 sites LTM at 13 sites

IDENTIFIED POSSIBLE REM/IRA/RA:

- FTRI-19, 27, 31

FUNDING:

PRIOR YEAR THROUGH 2001:	\$ 60,671,674
FY04:	\$ 1,852,000
FUTURE REQUIREMENTS:	\$ 16,525,000
TOTAL:	\$ 78,775,674

DURATION:

YEAR OF IRP INCEPTION:	1989
YEAR OF IRP COMPLETION EXCLUDING LTM:	2007
YEAR OF IRP COMPLETION INCLUDING LTM:	2034

Installation Information

SITE DESCRIPTION: Fort Riley is located on 100,656 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. Fort Riley is west of Manhattan (population 38,000). Milford Lake (16,020 acres) bounds part of the western side of the installation.

IRP EXECUTING AGENCY:

- U.S. Army Corps of Engineers, Kansas City District
- U.S. Geological Society

REGULATORY PARTICIPATION:

FEDERAL: U.S. Environmental Protection Agency (EPA), Region VII
STATE: Kansas Department of Health and Environment (KDHE), Bureau of Environmental Remediation and Bureau of Environmental Field Services - North Central District Office

REGULATORY STATUS:

- NPL Installation (entire installation), 1990, CERCLIS Site KS6214020756
- CERCLA/RCRA Federal Facility Agreement (FFA), Effective June 1991
- RCRA Part B Permit, 1998
- No Notices Of Violations have been issued for any of Fort Riley's IRP sites

MAJOR CHANGES TO IAP FROM PREVIOUS YEAR:

- Change estimated technology from PRB to other technologies (most likely EAB/MNA) for FTRI-027 as a result of new data.

Installation Description

LOCATION: Fort Riley is located in the Flint Hills region of Kansas along I-70 about 125 miles west of Kansas City, between Junction City and Manhattan. As the fourth largest employer in the state of Kansas, Fort Riley's economic impact exceeded \$688,518,714 in FY2002. Fort Riley has a daytime population of over 22,000 and is home to over 3,000 families. This population makes Fort Riley the 16th largest city in Kansas. The reservation covers 100,656 acres, of which 70,926 acres are used for maneuver training.

HISTORY: In an 1843 expedition, Captain John C. Fremont, "The Pathfinder," camped at the junction of the Smoky Hill and Republican Rivers. He reported great numbers of elk and Indians. Within a few years, the "Great Migration" along the Oregon Trail and trade along the Santa Fe Trail brought thousands of pioneers through Indian Territory, as Kansas was formerly known.

In 1852, Major E.A. Ogden established a temporary camp north of the Kansas River in the area where Fort Riley's Main Post is now located. The encampment was originally known as "Camp Center" because it was thought to be the geographic center of the United States. A permanent post was authorized the following year and the new installation was named Fort Riley in honor of Major General Bennett Riley, who had been a distinguished veteran of the Mexican War and commander of the first military escort along the Santa Fe Trail. Fort Riley was designated a Cavalry Headquarters in 1885 resulting in the post becoming known as the "Cradle of the Cavalry." Fort Riley stood as the major horse cavalry training school in our country and boasted a position as one of the best cavalry training schools in the world.

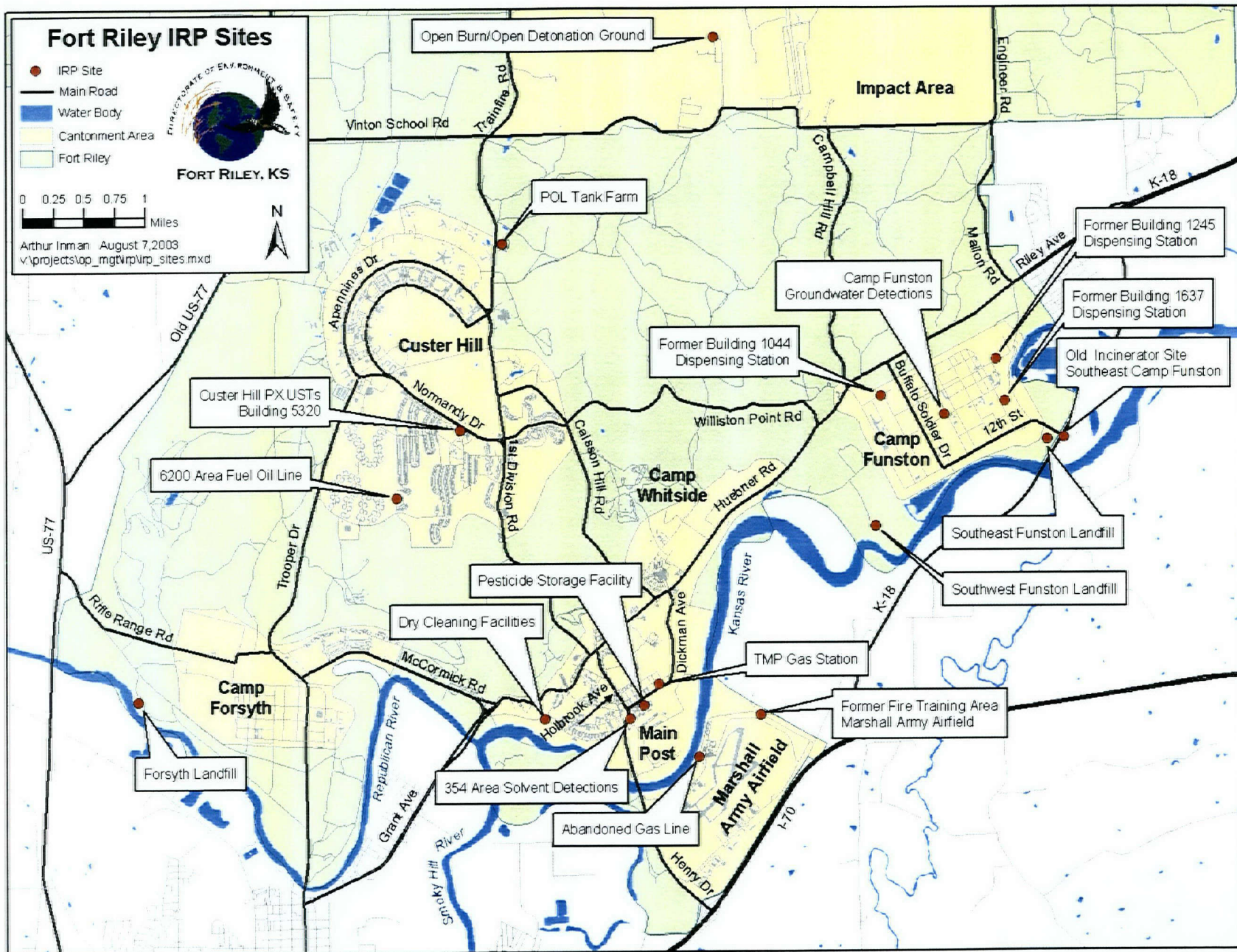
Fort Riley has trained and deployed military forces in virtually every major war of our nation's history.

For over 30 years, Fort Riley was home to the 1st Infantry Division, but world-wide commitments resulted in the 1st Infantry Division Headquarters deploying to Wuerzburg, Germany, in 1996. In 1999, Fort Riley became the headquarters of the 24th Infantry Division (Mech). Currently, Fort Riley is home to two combat brigades (1st Brigade, 1st Infantry Division, Mechanized and 3rd Brigade, 1st Armored Division) and an engineer group (937th).

The post has always been an integral part of the state of Kansas and American military history and is known as "America's Warfighting Center."

MISSION: The 24th Infantry Division (Mech) and Fort Riley provide training, readiness, and deployment support for two Brigade Combat Teams and one Engineer Group and other Corps forces; serves as higher headquarters providing training/readiness oversight, pre-and post-mobilization training, and mobilization validation for three enhanced Separate Brigades; provides planning, mobilization, validation, and demobilization for Active Component (AC) and Reserve Component (RC) units and individuals; and provides a safe and secure environment and exemplary well-being for soldiers, civilians, and their families.

The Directorate of Environment and Safety's (DES) mission is to protect life, property, and natural resources for use today and in the future, by integrating environment and safety programs with Fort Riley's missions.



Contamination Assessment

The Army initially began environmental restoration-related investigations as a result of the 1981 closure of the Southwest Funston Landfill where monitoring indicated groundwater contamination. Also, practices at a pesticide facility prior to the mid 1970s resulted in contamination in the soils and in sediments in the drainage way behind the building.

Fort Riley's placement on the National Priorities List was announced on 30 August 1990 with a Hazard Ranking System (HRS) score of 33.8. The minimum HRS score for NPL listing is 28.5. A Federal Facility Agreement (FFA) was signed by the Deputy Assistant Secretary of Army (Environmental Safety and Occupational Health) (DASA (ESOH)) and the 1st Infantry Division Commander in August, 1990. The Kansas Department of Health and Environment (KDHE) and the U. S. Environmental Protection Agency (USEPA or EPA) signed this agreement in February, 1991. The FFA, which incorporates both Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Resource Conservation and Recovery Act (RCRA) actions, became effective in June 1991. Project schedules are re-negotiated annually based on available resources or as needed due to project requirements.

Five IRP sites have been designated as Operable Units (OUs). Three OUs are currently the subject of Remedial Investigations/Feasibility Studies. Three Removal Actions were performed in 1994 with additional phases performed in FY95 at one site. Removal Actions were performed in FY99 and FY00 at 3 additional sites. Removal Actions have been completed at seven sites (FTRI-003, FTRI-029, FTRI-030, FTRI-057, FTRI-035, FTRI-036 and FTRI-038). Soil contamination has been removed through pilot treatment studies at two sites (FTRI-019 and FTRI-027) and free product has been recovered at two sites (FTRI-062 and FTRI-063). An Installation-Wide Site Assessment was performed in 1993 to identify additional potential areas of concern and several sites were investigated in phases under the Multiple Sites Investigations project. Two of these sites were designated as Operable Units in FY95 including one (FTRI-019) which is adjacent to the installation boundary and contamination is known to exist off post. Many of the sites have been determined to require no further action, while several warranted further investigation and/or action.

The Five Operable Units (OUs) are: FTRI-003 Southwest Funston Landfill (SFL), FTRI-030 Pesticide Storage Facility (PSF), FTRI-027 Dry Cleaning Facilities Area (DCFA), FTRI-019 Former Fire Training Area-Marshall Army Airfield (FFTA-MAAF), and FTRI-031 354 Area Solvent Detections site (354). These sites have been identified as sites with significant contamination due to past operational activities resulting in spills and releases to the environment. The primary contaminants of concern are chlorinated solvents and pesticides.

The Southwest Funston Landfill was operated from the mid-1950s through 1981. Post-closure monitoring and RI/FS sampling detected contaminants such as chlorinated solvents, petroleum hydrocarbons, and metals in the groundwater at low levels. A Removal Action was completed to stabilize the Kansas River bank and to reduce infiltration through an evapo-transpirative cover. The ROD was signed August 6, 1997. Institutional controls and long-term monitoring have been implemented. Because contamination is still present, five-year reviews will be conducted per the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Pesticides stored and mixed at the former PSF are believed to have been released to the environment through past operational and disposal practices. Pesticide and arsenic contamination in soils was the primary concern. A Removal Action to excavate and dispose of contaminated soils was taken in FY94. The RI/FS and a ROD for No Further Action for this site were completed in FY 97. Because residual contamination is still present, five-year reviews will be conducted per the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Per the FFA, Fort Riley is subject to stipulated penalties assessed by the EPA. If a deadline for a primary document is not met, stipulated penalties may be assessed. In June 1993, the Draft Final RI Report for the Pesticide Storage Facility was not submitted on its scheduled date. In December 1993, EPA assessed a penalty of \$65,000. Fort Riley disputed the method used to determine the amount assessed. A Dispute Agreement reduced the monetary penalty to \$34,000 and the completion of three removal actions (SFL Bank Stabilization, PSF, and Colyer Manor). The penalty was paid in FY97.

Perchloroethylene (PCE) has been used at the adjacent former and current Dry Cleaning Facilities Area. Chlori-

Contamination Assessment

nated solvent contamination of soils, sediments, and groundwater was confirmed in a Preliminary Assessment / Site Inspection (PA/SI) completed in the fall of 1992. Regulatory approval was received on RI/FS planning documents, and RI field activities occurred in the fall of 1993. A Pilot Study for soil vapor extraction was successful in removing much of the soil contamination (therefore, a formal Removal Action was not performed). Following review of the RI and the Draft FS it was determined, in concert with the EPA and the KDHE, that additional characterization of the adjacent alluvial aquifer ("The Island") was warranted. "The Island" characterization was performed in the spring of 1996. The RI was approved in April 1996 and an FS completed in April 1998. The proposed remedy included a Long-Term Monitoring (LTM) program focused on the Kansas River and the associated alluvial groundwater, institutional controls, and required periodic reviews as well as a contingency to develop and implement a future response action if necessary. The Proposed Plan was submitted in 1998. The EPA and the KDHE invoked dispute resolution over ARARs which were resolved. A revised Proposed Plan was submitted in May 1999, but new groundwater data in a downstream location prompted additional review of the site by the EPA and the KDHE. The former DCFA buildings were torn down in the summer of 2000 and additional soil and groundwater screening was performed at the building site and along the sewer line. The results of this screening were reviewed by Fort Riley and the regulators in 2001, resulting in the development of a plan to proceed to ROD by revising the RI and preparing a Feasibility Study focused on the objective of plume control. Building 183 was demolished in the summer 2002. Additional investigation will be performed at the former building location. Also, additional monitoring wells will be installed across the river in Training Area 2.

Extensive site characterization was performed at the FFTA-MAAF site under the Site Investigation. A pilot study was conducted to address soil contamination in the vicinity of the FFTA-MAAF in FY94-95. Additional groundwater investigations were conducted in FY97-99 to further characterize the off-post groundwater plume. Private wells in the area are being monitored. A Removal Action Engineering Evaluation/Cost Analysis (EE/CA) was prepared which recommended providing an alternate water source to two impacted properties and an Action Memorandum was prepared. A tracer study and a natural attenuation evaluation were performed in FY99-00. The RI Report was completed in FY01 to delineate and refine the fate and transport estimation and approved by the regulators with three contingencies. The FS is nearing completion with the identification of ARARs and Remedial Action Objectives. A federal lawsuit brought by the owners of an off-post property was decided in April 2001, in favor of the plaintiff. The Department of Justice appealed the Federal Tort Claims Act portion of the judgement and it was decided in favor of the Army. IRA alternate water supply project, for adjacent private properties, was completed in October 2002.

The 354 Area Solvent Detections site was discovered during investigations of a POL/UST site. Initial field investigations were conducted in 1997. The original RI/FS Work Plan was developed and received regulator approval in FY98. RI field investigations were initiated in FY99 and continued in FY00 that identified a significantly larger area of contamination than anticipated. Monitoring wells, piezometers, and data collection platforms (DCPs) were installed in FY00 to support the RI. Additional data needs were identified and additional RI investigations were performed in 2001 to include investigations along the sanitary sewer line in conjunction with a site investigation of the Abandoned Gas Line (FTRI-056). The RI Report was completed in FY03.

The Installation-Wide Site Assessment was performed in 1992 and the results presented in the Draft Final Installation-Wide Site Assessment (IWSA) for Fort Riley, Kansas, dated 7 December 1992 and revised on 16 February 1993. It identified 25 groups of potential areas of concern (PAOC), with 23 sites being identified for further Site Investigations. Contaminants associated with these sites vary greatly from potential lead-contaminated soils at old firing ranges to potential releases of solvents due to practices at furniture repair shops. The IWSA was conducted consistent with the EPA requirements for Preliminary Assessments under CERCLA. Based on EPA's Preliminary Assessment (PA) methodology, potential risk posed by the PAOCs was estimated using the Hazard Ranking System (HRS). The IWSA identified PAOCs subject to RCRA corrective actions and/or CERCLA where a release of hazardous substances to the environment has occurred or is considered likely, where migration pathways from the site exist, and where potential receptors are known to exist. Specifically, 23 PAOCs were identified and evaluated using the HRS PA SCORE methodology. As outlined in the NCP, the results of the PA were used to identify sites requiring further investigation of SIs.

Contamination Assessment

These PAOCs were addressed under the Multiple Site Investigations project which is further broken down into groupings including the Sensitive Receptor Lead Sites, the "High Priority" Sites, and the "Other Sites". The Sensitive Receptor Lead Sites were expedited due to the accessibility of the areas to the general public (especially children). Only one area near the Colyer Manor Family Housing Area was identified as having elevated levels of lead in the soils, and a removal action involving excavation and disposal of soils was performed. The High Priority Sites field investigations were completed in November, 1993. Results are indicated in the following site contamination summaries. The Former Fire Training Area-Marshall Army Airfield (FFTA-MAAF) was broken out as a separate site because of the magnitude of off-post contamination. The "Other Sites" grouping consisted of 14 sites which had very low PA HRS scores and have a low potential for release of contaminants to the environment. Field work for these "Other" sites occurred in the spring and summer of 1994. A joint review of the Multiple Sites with the EPA and the KDHE in the summer of 1995 resulted in concurrence on the designation of two sites as formal Operable Units (FFTA-MAAF and 354), on the recommendations of No Further Action on numerous sites, and identified several sites which warranted additional characterization or action. The Forsyth Landfill Area 2, the Southeast Funston Landfill and Incinerator sites, and the OB/OD range required additional work. No Further Action Decision Memoranda for many of the Multiple Sites were completed and approved by the EPA and the KDHE in 1998.

Phase I and II Site Investigations were completed at seven POL UST sites from 1992 to 1995. Remedial Action Plans were prepared for these sites and submitted to KDHE in FY97. The KDHE placed 5 sites into LTM status and 2 sites were approved for NFA. The Work Plan for investigation of the Abandoned Gas Line was completed in FY98. After completion of the fieldwork and analysis it was determined that further sampling was necessary to fill a data gap. This work was planned for FY03.

The Work Plan for POL Tank Farm was completed in FY99. Investigation field work for the POL Tank Farm was completed in 2002 and documented in the SI report. It was determined additional fieldwork was needed to fill data gaps. This work was planned for FY03.

Fort Riley's first Five-Year Review Report was due in August 2002. A schedule was developed and the review initiated in 2001. The draft version was provided to the EPA, the KDHE, and all interested RAB members. A regulatory review of the draft document was conducted. A public comment period ran from June 1 through July 1, 2002. The document was signed by the EPA on July 15, 2003.

Previous Studies

Title	Author	Date
Installation Assessment of the Headquarters, 1st Infantry Division (Mechanized) and Fort Riley, KS	Environmental Science and Engineering (for USATHAMA)	June-1983
Evaluation of Solid Waste Management Units, Fort Riley, KS	Army Environmental Hygiene Agency	June-1989
Installation-Wide Site Assessment	Louis Berger & Associates	Dec 1992 w/ Feb 1993 revisions
Impact Area Site Assessment Report	Louis Berger & Associates	March-1993
Site Investigation Report for High Priority Sites	Louis Berger & Associates	February-1994
Site Investigation Report for "Other Sites"	Louis Berger & Associates	April-1995

Southwest Funston Landfill (OU 001)

Engineering Evaluation / Cost Analysis w/ August 1993 Supplement	Law Environmental, Ft. Riley DEH, Environmental and Natural Resources	Jul 1993 w/ Aug-1993
Remedial Investigation Report	Law Environmental	April-1994
Feasibility Study Report	Law Environmental	April-1994
Proposed Plan	Law Environmental	November-1994
Record of Decision	Law Environmental / Ft Riley DES	August-1997
Operation and Maintenance Plan	Kansas City District, Corps of Engineers	September-1996
Long-term Groundwater Monitoring Plan	Kansas City District, Corps of Engineers	January-1997
Removal Action Report	Kansas City District, Corps of Engineers	June-1997
Institutional Controls Plan	Ft. Riley DES	November-1997
Annual Monitoring Report, Dec 1995 - Nov 1996	U.S Geological Survey, Lawrence, Kansas	August-1997
Annual Monitoring Report, 1997	U.S Geological Survey, Lawrence, Kansas	September-1998
Annual Monitoring Report, 1998	U.S Geological Survey, Lawrence, Kansas	September-1999
Annual Monitoring Report for 1999 and 2000	Burns & McDonnell	February-2002
Annual Monitoring Report for 2001	Environmental Chemical Corp	March-2002
Annual Monitoring Report for 2002	Environmental Chemical Corp	April-2003
Five-Year Review Report	Fort Riley, DES	July-2002
See Camp Funston Area Groundwater for USGS Modeling Report		

Pesticide Storage Facility (OU 002)

Engineering Evaluation / Cost Analysis	Ft. Riley DEH, Environmental and Natural Resources Division	August-1993
Remedial Investigation	Law Environmental	Jul 93 w/ Dec 93 revisions
Remedial Investigation Addenda	Law Environmental	Jun 1997 w/ Aug 1997 revisions
Proposed Plan	Ft Riley, DES	August-1997
Record of Decision	Law Environmental / Ft Riley DES	September-1997
Land Use Management Plan	Ft Riley, DES	July-1999
Five-Year Review Report	Fort Riley, DES	July-2002

Dry Cleaning Facilities, OU 003

Remedial Investigation Report	Louis Berger & Associates	March-1995
Draft Final Remedial Investigation Addendum / Monitoring Expansion Report	Louis Berger & Associates	April-1998
Draft Final Feasibility Study Report	Louis Berger & Associates	April-1998

Title	Author	Date
Draft Final Remedial Investigation/Feasibility Study Addendum Work Plan	Burns & McDonnell	March-2002
Building 183 Work Plan Addendum	Burns & McDonnell	July-2003

Former Fire Training Area-Marshall Army Airfield, OU 004

Expanded Site Investigation Sampling and Analysis Plan (includes reporting of data to-date)	Louis Berger & Associates	May-1994
Site Investigation Report	Louis Berger & Associates	Aug 1995 w/
Pilot Study Report	Louis Berger & Associates	March-1999
Remedial Investigation / Feasibility Study Work Plan	Burns & McDonnell	April-1997
Engineering Evaluation / Cost Analysis, Exposure Control Action	Louis Berger & Associates	December-1997
Action Memorandum, Exposure Control	Louis Berger & Associates	April-1998
Institutional Control Evaluation	DPRA	June-2000
Remedial Investigation Report	Burns & McDonnell	April-2001

354 Area Solvent Detection Site, OU 005

Preliminary Evaluation of Data	Kansas City District, Corps of Engineers	June-1995
Initial Field Investigations Sampling and Analysis Plan	Burns & McDonnell	July-1997
Initial Field Investigations Report	Burns & McDonnell	March-1998
RI/FS Work Plan	Burns & McDonnell	January-1999
Monitoring Well Installation Report	Kansas City District, Corps of Engineers	May-2000
Draft Final Data Evaluation Technical Memorandum and Work Plan Addendum for the RI/FS	Burns & McDonnell	April-2001
Tech Memo canceling EE/CA	Burns & McDonnell	December-2002

Custer Hill Sanitary Landfill (activities performed under DERA only)

Data Summary and Evaluation Report	Kansas City District, Corps of Engineers	August-1992
Data Summary and Evaluation Supplement	Louis Berger & Associates	June-1993
Interim Sampling Data Report for the Custer Hill Sanitary Landfill	Louis Berger & Associates	December-1993
Interim Sampling Data Report for the Custer Hill Sanitary Landfill	Louis Berger & Associates	July-1994

Camp Funston Area Groundwater

Monitoring Well Installation Report	Kansas City District, Corps of Engineers	August-1997
Camp Funston Annual Report: Hydrogeological Data for Digital Groundwater Flow Model	U. S. Geological Survey, Lawrence, Kansas	September-1997
Chemical and Isotope Evaluation Report	Dept. of Geology, Kansas State University	November-1997
Work Plan for Hydrologic Evaluation of the Camp Funston Area	U. S. Geological Survey, Lawrence, Kansas	September-1998
Annual Groundwater Monitoring Report, 1997	U. S. Geological Survey, Lawrence, Kansas	October-1998
Annual Groundwater Monitoring Report, 1998	U. S. Geological Survey, Lawrence, Kansas	October-1999
Monitoring Well Installation Report	Kansas City District, Corps of Engineers	November-2000
Characterization and Simulation of Groundwater Flow in the Kansas River Valley at Fort Riley, Kansas 1990-1998	U. S. Geological Survey, Lawrence, Kansas	March-2000
Annual Groundwater Monitoring Report 1999/2000	Burns & McDonnell	March-2002
Annual Groundwater Monitoring Report 2001/2002	Environmental Chemical Corp.	April-2003

Title	Author	Date
Multiple Sites Follow-On Investigations		
Site Investigation Report Addendum, Former Wherry Substation and DRMO Area 1 Drainage Ditch	Louis Berger & Associates	February-1997
Site Investigation Report Addendum, Open Burn/Open Detonation Area	Louis Berger & Associates	August-1998
Site Investigation Report Addendum, Southeast Funston Landfill Incinerator Area	Louis Berger & Associates	July-1997
Decision Memorandum - Multiple Sites	Louis Berger & Associates	September-1998
Decision Memorandum - DRMO Area 1	Louis Berger & Associates	April-1998
Decision Memorandum - Building 727 Former Service Pit	Louis Berger & Associates	May-1999

Forysth Landfill

Engineering Evaluation / Cost Analysis	Corps of Engineers, Kansas City District	June-1998
Action Memorandum	Corps of Engineers, Kansas City District	March-1999
Removal Action Report	Wenck Associates Inc	August-2001

Southeast Funston Lanfill

Engineering Evaluation / Cost Analysis	Corps of Engineers, Kansas City District	January-1999
Action Memorandum	Corps of Engineers, Kansas City District	June-1999
Removal Action Report	Wenck Associates Inc	August-2000
Decision Memorandum	Fort Riley	February-2002
Memorandum of Agreement with the KDWP	Fort Riley	December-2002

Petroleum / Underground Storage Tanks

Remedial Action Plan and Final Site Investigation Report for POL/UST Site 5390, Fort Riley, KS.	Dames & Moore	August-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1890, Fort Riley, KS.	Dames & Moore	June-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1637, Fort Riley, KS.	Dames & Moore	July-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1539, Fort Riley, KS.	Dames & Moore	July-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1044, Fort Riley, KS.	Dames & Moore	July-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1245, Fort Riley, KS.	Dames & Moore	July-1997
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 388, Fort Riley, KS.	Dames & Moore	June-1997
Annual Groundwater Sampling Report	Hydrogeologic, Inc	March-1999
Annual Groundwater Sampling Report	Hydrogeologic, Inc	May-1999
Annual Groundwater Sampling Report	Hydrogeologic, Inc	June-2000
Annual Groundwater Sampling Report	Hydrogeologic, Inc	October-2000
Annual Groundwater Sampling Report	Environmental Chemical Corporation	May-2002
Annual Groundwater Sampling Report	Environmental Chemical Corporation	Oct-02

Abandoned Gas Line

AGL Site Investigation	Dames & Moore	Mar-96
Tech Memo Site Specific Work Plan	Burns & McDonnell	Apr-98
Tech Memo Work Plan	Burns & McDonnell	Aug-01

FTRI-003 (OU 001) SOUTHWEST FUNSTON LANDFILL

SITE DESCRIPTION

Southwest Funston Landfill is located in the southern portion of Fort Riley, adjacent to the southwest corner of the Camp Funston cantonment area. This approximately 120 acre landfill was closed in 1981. The RI indicated sporadic detections of volatile organic compounds. A Bank Stabilization action was accomplished in the winter/spring of 1994 and cover repairs were performed in 1995. Another action consisting of regrading and improving the native soil cover was completed in the spring of 1997. Minor bank stabilization repairs, re-seeding and monitoring well abandonment were accomplished in 1998.

Although vinyl chloride has been detected in groundwater (above MCLs), the site does not present significant risk to human health and the environment under current conditions. The ROD includes a contingency for future action, the completed native soil cover, institutional controls to prevent on-site groundwater use, long-term groundwater monitoring, and further hydrogeologic characterization of surface water/groundwater interaction in conjunction with LTM efforts.

Groundwater monitoring is performed semi-annually and site inspections are performed annually. A one-time surface water sampling of the Kansas River was conducted in FY01, and resulted in all non-detects.

A cover repair project was completed in 2002 after a spring inspection revealed that more settlement had occurred than expected. In 2003, the repaired areas were seeded with native grasses to support the evapotranspirative cover.

The first 5-Year Review Report was completed in July 2002; no changes in the remedy were needed.

PROPOSED PLAN

Groundwater monitoring is continuing on a semi-annual basis.

Since some contamination will remain on-site, statutory reviews will be required at least every 5 years and planned through 2027. The USGS will continue to collect hydrogeologic data for use in those reviews in 2007.

Annual inspections and periodic maintenance and repair of the bank stabilization and cover will be conducted. Monitoring well pump replacement may be necessary, and unnecessary monitoring wells may be removed in the future.

STATUS

RRSE RATING:

High

CONTAMINANTS:

VOCs (primarily Vinyl Chloride)

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI, RI/FS, 3 IRA, RD, RA

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS				
IRA				
RD				
RA				
RA(O)				
LTM	166	166	166	4500
Total	4,998,000			



FTRI-009 OPEN BURNING/ OPEN DETONATION GROUND (RANGE 16)

SITE DESCRIPTION

Range 16 is used to destroy defective ordnance. Historical practices included use of chlorinated solvents in an open burn area. This practice was discontinued in the early 1980s. In 1993, TCE was detected in the groundwater. Due to its remote location, there are no nearby receptors. Eight surface soil samples, eight deep borings, two surface water, and three sediment samples were collected and analyzed for explosives, VOCs, SVOCs, and depleted uranium. Four monitoring wells were installed and sampled for the same analytes. The open burn pit has not been used since approximately 1993.

Site hydrogeology is complex and, therefore, additional characterization was needed. In 1997, four additional groundwater monitoring wells and five nested piezometers were installed and sampling results indicated VOC contamination.

A hand dug well (part of a historic farmstead) was converted to a permanent groundwater monitoring well. In 1998, 5 surface water samples from the ephemeral streams onsite were collected and analyzed. The results were non-detect for contaminants of concern.

Additional monitoring and data collection is being performed to better understand this complex site and to aid in potential future investigation scoping activities. This includes the sampling of surface water using an automated surface water collection system designed and installed by the USGS in 1999. Data collection platforms are in place to remotely monitor groundwater levels, surface water flow, and groundwater to surface water interaction. The system may be removed in FY04, as the stream has been dry and remains so except for high rainfall episodes. In 1999, a Stratigraphic/Structural Evaluation of the area was completed by KSU, Department of Geology. An Ecological Risk Screening Evaluation was performed in 1998 and found low risk to ecological receptors.

PROPOSED PLAN

Complete a Technical Memorandum compiling all of the site data (funded in FY03).

Continue to monitor stream flow and surface water quality to determine if groundwater is surfacing (started in 1998). One additional round of groundwater samples will be taken to be included in the Tech Memo report.

Prepare data reports as needed and prepare decision document in consultation with regulators.

STATUS

RRSE RATING:

Medium

CONTAMINANTS:

VOCs

MEDIA OF CONCERN:

Soils, Groundwater, Surface Water

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

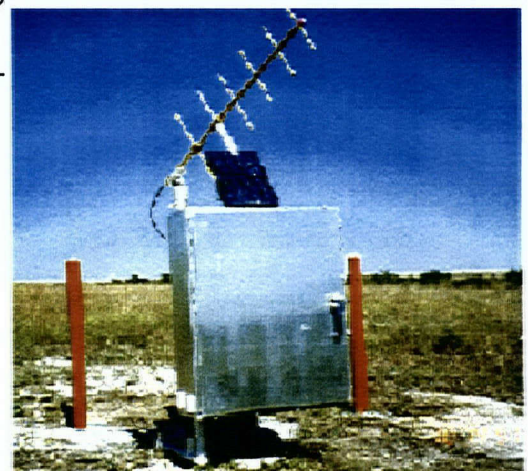
RI/FS

FUTURE IRP PHASE:

LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS	86			
IRA				
RD				
RA				
RA(O)				
LTM		18	18	103
Total	225,000			



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Site Descriptions - Page 2*

CAMP FUNSTON GROUNDWATER DETECTIONS

SITE DESCRIPTION

For additional information, see SE Funston Landfill, DRMO Area 2, Former DS/GS site and Funston Area (1000 Area) POL/UST sites.

Groundwater screening and monitoring well sampling data indicate that analyte concentration in groundwater throughout the CFA have historically been less than the SDWA MCLs, SMCLs or action levels for drinking water. Semi-annual sampling and analyses have occurred in April and September of each year since 1998. The Camp Funston groundwater monitoring reports for April 2001, September 2001 and April 2002 indicate no VOCs, SVOCs or metals are present above SDWA MCLs. Hydrogeology of the area is variable due to alluvial deposits and influence of oxbow lakes as well as the fluctuating and meandering Kansas River. The installation boundary is nearby and the city of Ogden is immediately adjacent. A well field in Ogden supplies not only the city, but a large rural water district. Sampling of private wells does not show groundwater contamination. Additional groundwater monitoring wells have been installed to fill data gaps and relocate monitoring wells.

The USGS has performed data evaluation and developed a groundwater model. A Groundwater Modeling report was issued in 2000 which indicated that Camp Funston Area contamination would not likely impact public or private water supplies.

PROPOSED PLAN

Prepare the FY03 Groundwater Monitoring report.

Prepare decision document in consultation with regulators. Perform LTM of key wells upgradient of public and private supply wells and include in future Five-Year Reviews.

STATUS	
RRSE RATING:	High
CONTAMINANTS:	VOCs, Metals
MEDIA OF CONCERN:	Groundwater
COMPLETED IRP PHASE:	PA/SI
CURRENT IRP PHASE:	RI/FS
FUTURE IRP PHASE:	LTM

Constrained Cost to Complete				
	2004	2005	2006	2007+
RI/FS	49			
IRA				
RD				
RA				
RA(O)				
LTM		35	35	260
Total	379,000			

FTRI-019 (OU 004) FORMER FIRE TRAINING AREA-MARSHALL ARMY AIRFIELD

SITE DESCRIPTION

This site consists of a former fire training area and former drum storage area located at Marshall Army Airfield (MAAF) near the installation boundary. The former fire training pit consisted of an unlined pit filled with crushed stone. The fire training area operated from the mid 1960s to 1984. A drum of tetrachloroethene (PCE) was accidentally released into the fire training pit in 1982. Efforts were made to recover the spilled material; however, only a portion was recovered.

The Installation-Wide Site Assessment (dated 1992) indicated that the activities at FFTA-MAAF site potentially impacted the soils and groundwater in the vicinity of the site. Site Investigation activities conducted from 1993 through 1995 indicated off-post groundwater contamination above regulatory limits which was confirmed by analyses taken from private wells. A Soil Vapor Extraction (SVE) and Bioventing Pilot Study was completed in 1994/1995 to address the source area. Remedial Investigations have been performed and characterized the fate and transport of the contaminants. Off-site groundwater contamination has impacted private wells, which have been plugged and abandoned in conjunction with the 2002 IRA. Based on sampling results, the Army feels that the TCE/DCE plume is stable or decreasing.

An EE/CA was performed (Dec 97) to assess the need for a Removal Action for Exposure Control, and an Action Memorandum was completed.

A second EE/CA was performed (1998) to evaluate groundwater "hot spot" removal. The evaluation concluded that natural degradation was occurring faster than the available technologies could effectively accomplish a removal, and the EE/CA was discontinued.

A Natural Attenuation bench scale study and an Aquifer Tracer Study were completed in FY99.

The RI prepared in FY00 and was finalized in April 2001, including a groundwater model. The KDHE's approval of the RI was contingent on further data ranges being added to the groundwater model, installation of one nested pair of groundwater monitoring wells on the north side of the Kansas River, and completion of a surface water sample transect. Except for the installation of the nested pair of monitoring wells across the river these are complete. This issue has been complicated because the Army cannot get access to the land to install the well.

The 1997 Exposure Control Removal Action decision proposed two replacement wells to supply domestic water to two off-post properties, which have been installed (Sept 2002).

The Draft Final FS Report was submitted in Sept 2003.

As a result of the FFTA-MAAF operation, off-post contamination occurred that impacted the Plaza Speedway water supply wells. The owner filed a law suit against the installation as a result of the groundwater contamination. The Federal District Court found against the installation in April 2001. The Federal Court of Appeals reversed the district court's finding, that pertained to the Federal Tort Claims Act. Therefore the Army will not be responsible for the \$150,000 monetary award. The CERCLA portion has been settled (in 2002) by the installation of an alternate water supply for the affected parties.

PROPOSED PLAN

Finalize the FS and complete a PP and ROD.

Periodic groundwater monitoring will continue, estimated at 2 times per year.

The anticipated remedy is enhanced anaerobic biodegradation and monitored natural attenuation.

Long-term monitoring is assumed for 10 years following completion of the RA. Five-Year Reviews will be required.

STATUS

RRSE RATING:

High

CONTAMINANTS:

VOCs, TPH, Napthalene

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI, 2 IRA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RI/FS, RD, RA, RA(O)

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS	306	242		
IRA				
RD		130		
RA			845	
RA(O)				2437
LTM				
Total	3,960,000			

FTRI-027 (OU 003) DRY CLEANING FACILITIES AREA

SITE DESCRIPTION

The former Dry Cleaning Facilities Area is located in the southwest corner of the Main Post cantonment area, about 800 feet north of the Kansas River. A PA/SI was completed for the former DCFA in September 1992 and a RI/FS initiated. Chlorinated solvent contamination was found in soils and groundwater. A Pilot Study for Dual-Phase Groundwater and Soil Vapor Extraction (SVE) was completed. The dual-phase vapor extraction tests were unsuccessful. SVE rates were low, but yielded enough contaminant removal to extend the study to further assess sustainable removal rates. The SVE was successful in removing much of the soil contamination known at that time. Leakage from a nearby sewer servicing the laundry was corrected in 1994 and 1996 (non-ER,A).

Following review of the RI and the Draft FS in 1995 it was determined, in concert with the EPA and the KDHE, that additional characterization of the adjacent alluvial aquifer ("The Island") was warranted. This work, accomplished in the spring of 1996, showed that contaminant levels exceeded MCLs, and the results were reported in a RI addendum (1998).

The baseline risk assessment indicates minimal risk associated with the site under current and anticipated land use. Exposure to impacted groundwater has not occurred and is not expected to occur. A 1998/1999 Proposed Plan included a Long-Term Monitoring Program with sentinel wells focusing on the Kansas River and associated alluvial groundwater, institutional controls, periodic reviews, and a contingency to develop and implement a future response action, if necessary. The sentinel wells installed in 1999 indicated a need for additional investigations.

The former DCFA buildings (180/181) were removed in 2000 (OMA). Additional soil and groundwater screening was performed at the building site and along the sewer line at the request of the regulators.

The RI/FS Addendum Work Plan was completed in March 2002, with additional field work conducted in May-July 2002. This report included information on Building 183 that was removed in 2002 and investigation of the deep hydrology in transition & island areas.

The RI/FS field work at Building 180, 181 and 183 areas was completed in summer 2003. Additional wells (DCFA-03-50-A & -C) were installed in June 2003. The first Five-Year Review was completed in July 2002.

PROPOSED PLAN

Complete FS Addendum, Proposed Plan and ROD.

Implement residual contamination and plume control actions (on the terrace and Island) potentially using enhanced biodegradation for both residual source areas and areas of alluvial contamination. This will be followed by monitored natural attenuation on the Island and long-term groundwater monitoring.

STATUS

RRSE RATING:

Medium

CONTAMINANTS:

VOCs

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI, IRA

CURRENT IRP PHASE:

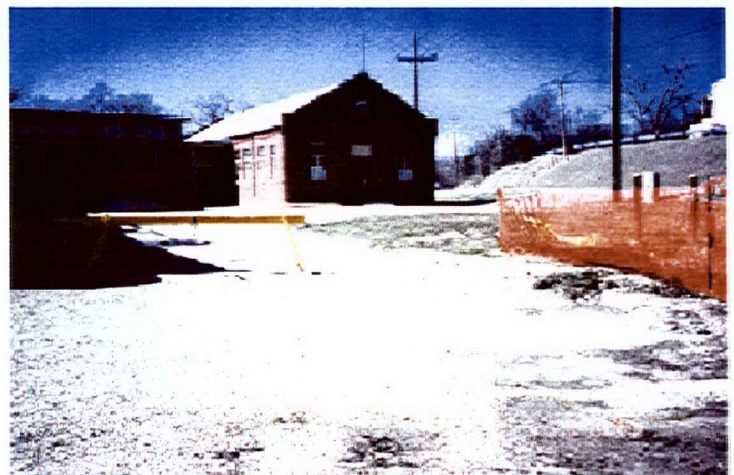
RI/FS

FUTURE IRP PHASE:

RI/FS, RD/RA, RA(O), LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS	217	301	236	236
IRA				
RD				150
RA				
RA(O)				2687
LTM				650
Total	4,477,000			



FTRI-030 (OU 002) PESTICIDE STORAGE FACILITY (MIXING)

SITE DESCRIPTION

Sampling conducted in 1983-1984 detected pesticide contamination in the soils in the area behind the building and in sediments in the lined channel behind the building. It has been determined that prior to the mid 1970s, pesticide wastewaters and inadvertent spills that occurred when mixing pesticides were allowed to run onto the ground in the equipment-washing area behind the facility. A removal action consisting of excavation and off-site disposal occurred in the spring of 1994, followed by the performance of a residual risk assessment and issuance of a RI Addendum.

A No Further Action ROD was signed in September 1997. This decision was based on continued industrial land use and was annotated in the installation master plan for consideration if land use changes.

A Land Use Management Plan was prepared in 1999.

The first Five-Year Review was completed in July 2002.

PROPOSED PLAN

Additional Five-Year Reviews are anticipated.

STATUS

RRSE RATING: Low

CONTAMINANTS: Pesticides (Chlor-dane, DDT, Dieldrin, Heptachlor), PAHs, Metals (Arsenic)

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, IRA, RI

CURRENT IRP PHASE:

None

FUTURE IRP PHASE:

LTM (Five-year reviews)

Constrained Cost to Complete				
	2004	2005	2006	2007+
RI/FS				
IRA				
RD				
RA				
RA(O)				
LTM			20	100
Total	120,000			



FTRI-031 (OU 005)

354 AREA SOLVENT DETECTIONS

SITE DESCRIPTION

Fuel and solvent storage and dispensing occurred near building 354 in the Public Works (PW) yard. USTs used to store fuel were removed in 1990/91. Solvents were assumed to be stored in drums, however, it was rumored that a UST or AST was used for storage. No records exist to confirm this.

Investigations to determine the extent of fuel contamination were performed from 1992 through 1995. Perchloroethylene (PCE) and its breakdown products were detected above MCLs in samples collected from monitoring wells. An Initial Field Investigation was performed in FY97 but was not successful in delineating the extent of solvent contamination.

A RI Work Plan was developed in 1998 and RI fieldwork was conducted from June 1999 through April 2000. Monitoring wells, piezometers, and data collection platforms were installed to support the RI. Fieldwork was expanded to include the Point Bar along the Kansas River and a former motor pool area approximately 2 blocks north of PW. Potential source areas for the PCE and its breakdown products were identified near buildings 332 and 367. In addition to the PCE and its breakdown products, carbon tetrachloride (CCl₄) was identified in laboratory confirmation samples collected during fieldwork. This phase of the investigation was not successful at delineating the northern and western extents of CCl₄.

An addendum to the RI work plan was developed in FY00/01 and approved by the regulators. Fieldwork continued in 2001 to include investigations around Bldg 430 and along a sanitary sewer line in conjunction with the site investigation at the Abandoned Gasoline Line (FTRI-056). The northern and western extent of the CCl₄ and PCE were identified as a result of an extensive soil boring effort at Bldgs 430 and 367. Four groundwater sampling events were conducted for the Baseline Risk Assessment to be incorporated into the RI/FS. The Draft RI Report was submitted to KDHE and EPA in Aug 2003.

STATUS

RRSE RATING:

High

CONTAMINANTS:

VOCs, Fuels

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS, IRA

FUTURE IRP PHASE:

RI/FS, LTM

Constrained Cost to Complete				
	2004	2005	2006	2007+
RI/FS	379	429	329	114
IRA	521			
RD				
RA				
RA(O)				
LTM				1250
Total	3,022,000			

PROPOSED PLAN

Complete the FS, Proposed Plan, ROD and LTM plan.

A complete evaluation of the air pathway could show an unacceptable exposure to human health. It is also possible that there could be contaminant migration above the MCLs to the alluvial aquifer. Both possibilities are being evaluated. Should either prove to be so, then a combination of soil removal in the source area and placement of a reductive compound, followed by monitored natural attenuation could be an acceptable and effective remedy.

Groundwater sampling will be performed semi-annually until the ROD is signed and annually for 10 years thereafter.



FTRI-036 SOUTHEAST FUNSTON LANDFILL

SITE DESCRIPTION

This former municipal solid waste landfill, 50 acres, is located in the southeast portion of the installation. Operations ceased in the mid 1950s. Soil-gas sampling locations indicated no VOC contamination. Three groundwater screening samples were collected during the SI. Organic contaminants were detected below MCLs. Initial analysis showed levels of lead in soil (below residential risk levels). Groundwater sampling and analysis conducted from 1995 to 1999 have not shown groundwater contamination.

In FY98-99, an EE/CA, Action Memorandum/Responsiveness Summary and Design were completed for cover improvements to 10 acres of the western portion of the landfill to correct for subsidence and improve drainage. This project was combined with the soil removal at the nearby Southeast Funston Landfill Incinerator (FTRI-29) and performed in 1999. The soil, removed from the incinerator site and placed at the landfill, contained lead in excess of residential risk levels. A Removal Action Report for landfill cover repair and incinerator area contamination material removal was issued in Aug 2000. A Decision Memorandum, proposing no additional action, was completed and submitted to EPA and KDHE in 2002.

PROPOSED PLAN

Five-Year Reviews will be required.

STATUS

RRSE RATING:

Medium

CONTAMINANTS:

Metals (including lead)

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI/FS, IRA

CURRENT IRP PHASE:

None

FUTURE IRP PHASE:

LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS				
IRA				
RD				
RA				
RA(O)				
LTM			15	125
Total	140,000			



FTRI-038 FORSYTH LANDFILL(S)

SITE DESCRIPTION

Located south and west of Camp Forsyth, five separate areas have been identified as former landfill areas. One area can be observed in aerial photos as early as 1936. Investigations conducted in 1994 did not identify contaminants of concern in either soil or groundwater in four of the five sites. Landfill Areas 1, 3, 4, and 5 and the groundwater media of Area 2 are documented as requiring "no further action" in the Multiple Sites Decision Document. In Area 2, landfill materials were exposed on the surface in a drainage swale and along the Republican River bank. Landfill trenches were observed from the riverbed. UXO was found on a sandbar adjacent to Area 2 following the 1993 flood.

In 1997, the Army entered into a license agreement with Junction City, Kansas, to allow construction of a trail, Linear Trail, for pedestrian and recreational access along the Republican River adjacent to Area 2.

Review of aerial photos and land surveys shows that erosion from the Republican River has removed an area approximately 800 x 100 ft along Area 2 since 1982. In 1998 an EE/CA and design to stabilize Area 2 were prepared. The Action Memorandum was completed in 1999. Construction of a revetment and baffles, a stabilization structure, was completed in two phases. The first 500 ft were completed in the summer of 2000 and the remaining 1000 ft were constructed in the spring of 2001. A Removal Action Report was approved by KDHE in January 2002. Fort Riley posted (May 2002) a series of warning signs between the Riverbank Stabilization Area and the nature trail to notify the public of the site conditions.

Semi-annual UXO surveys were initiated in January 2002 as part of discussions between Fort Riley and KDHE. Surveys performed in 2002 resulted in a disposal action executed in June 2002.

PROPOSED PLAN

Prepare documentation of additional activities and incorporation into a multi-site ROD.

Conduct LTM including inspection and repairs to revetment, UXO surveys and Five-Year Reviews will be required.

STATUS

RRSE RATING:

Medium

CONTAMINANTS:

Metals, Explosives

MEDIA OF CONCERN:

Soil, Surface Water

COMPLETED IRP PHASE:

PA/SI, RI/FS, IRA

CURRENT IRP PHASE:

None

FUTURE IRP PHASE:

LTM

Constrained Cost to Complete				
	2004	2005	2006	2007+
RI/FS				
IRA				
RD				
RA				
RA(O)				
LTM				600
Total	600,000			



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Site Descriptions - Page 9*

FTRI-053 POL TANK FARM

SITE DESCRIPTION

The POL Tank Farm is an active consolidated storage facility located on 1st Division Road, Custer Hill. Contamination is due to documented surface releases and piping leakage from past operations. Limited site investigations have found free product (from current activities) and high levels of BTEX and PAHs. Any groundwater contamination found in the shale formation may be impractical to remediate because of relatively small amounts of groundwater in a fractured bedrock formation.

A Site Investigation work plan was completed and approved by KDHE in FY99. Site Investigation field work commenced in spring 2001. Trenching activities found no petroleum hydrocarbon contamination in fill material within the POL Tank Farm facility or along utility trenches. Contaminants were found in sediment samples collected from the stream drainage southwest of the POL Tank Farm. Further investigation of sediment in the streambed was completed. Seven groundwater monitoring wells were installed in FY02 to obtain bedrock and groundwater flow information. The SI Report was completed in Aug 2002. Free product was detected, BTEX was detected in groundwater above MCLs and chlorinated hydrocarbons were detected in groundwater below MCLs.

A free-phase hydrocarbon pilot study has been ongoing since 1999. A Work Plan Addendum to the Phase II SI was completed in Feb 2003 to determine: the presence of free-phase hydrocarbon in the formation; the maximum extent of free-phase hydrocarbon at the Fort Riley Limestone-Holmesville Shale interface; and to establish a groundwater analytical baseline and seasonal groundwater flow patterns.

PROPOSED PLAN

A Phase II SI was started in June 2003 and is expected to be completed in March 2004.

Based upon the recommendations and conclusions of the Phase II SI, it will be determined if future ER,A funding to complete the nature and extent of past contamination is required.

Since this site is still an active tank farm, non-ER,A funds will continue to be used for free product recovery.

STATUS

RRSE RATING:

High

CONTAMINANTS:

BTEX, PAHs, VOCs

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RC

Constrained Cost to Complete				
	2004	2005	2006	2007+
RI/FS	20			
IRA				
RD				
RA				
RA(O)				
LTM				
Total	20,000			



FTRI-054 CUSTER HILL PX USTS BLDG 5320

SITE DESCRIPTION

This site was closed and 5 USTs, along with most of the piping, were removed in 1991. Hydrocarbon-contaminated soil and uncontaminated backfill material were used to fill the UST pits. The pump islands were removed in 1996 and a new product distribution system with ASTs was installed. Soil contamination was documented during the tank removal. Site investigations have found moderate to high levels of BTEX in groundwater and low levels of BTEX in soils. Groundwater contamination in the shale formation may be impractical to remediate because of relatively small amounts of groundwater in a fractured bedrock formation.

A Remedial Action Plan was approved by KDHE-NCDO in 1997 for intrinsic remediation with no further action for soil and groundwater. KDHE has placed the site in "on hold" status for closure pending additional groundwater data to support "closure". Quarterly sampling was conducted in FY98. Annual sampling events were conducted from 1999 through 2002. No groundwater samples were collected in April 2002 due to the presence of free product in the monitoring well (0.1 ft). It appears probable that from 1998 through 2002, there has been a migration of residual VOCs from the UST area's fractured bedrock resulting in a buildup of BTEX and naphthalene concentration and eventual appearance (in April 2002) of free product in the well.

The results of the April 2003 sampling, indicated BTEX that exceeded KDHE risk-based levels. The fifth annual report, which followed one year of quarterly reports, was completed in FY03.

PROPOSED PLAN

The Final Report of Findings, including a comprehensive evaluation of data and proposed recommendations for continued actions for KDHE review, is expected to be complete in FY04.

Continue annual sampling until free product is no longer measurable in the well.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

STATUS

RRSE RATING:

Low

CONTAMINANTS:

BTEX, 1,2-dichloroethane, methyl-t-butyl ether, Naphthalene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, IRA

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
R/FS				
IRA				
RD				
RA				
RA(O)				
LTM	10	10	10	
Total	30,000			

FTRI-056 ABANDONED GASOLINE LINE

SITE DESCRIPTION

The site consists of an abandoned 1.1-mile gasoline pipeline (4-inch diameter) and three former underground storage tanks at the terminus. The galvanized steel pipeline buried in ~4-5 ft bgs for most of its length was gravity fed. The USTs were 25,000 gallons and stored aviation gasoline. The pipeline was abandoned in place in 1951 and the USTs subsequently were used to store No. 2 diesel fuel. The USTs and dispensing islands were removed in 1987. Preliminary assessment conducted by the Corps did not identify any releases along the pipeline in the areas explored. Evidence of releases were identified in the terminus area that most likely resulted from the USTs. Preliminary investigation of the terminus area shows contamination in the soil and groundwater.

A SI was conducted in 1994. In FY98, a survey located and identified gaps in the gasoline line. A work plan for future investigation was completed in FY98. An additional investigation conducted in summer FY01 included Geoprobe investigation of soils, temporary and permanent monitoring well installation, subsurface soil sampling, and also included investigations along a sanitary sewer line to support the RI for the 354 Area Solvent Detection Site (FTRI-031). Further investigations have shown localized contamination of BTEX, VOCs and TPH near the pipeline, at the terminus area, and at a small area just north of Bldg 319. There is soil contamination at the two locations and limited groundwater contamination at the terminus area.

An EE/CA Report for non-time critical Removal Action for the AGL was submitted in Jan 2003. A Scope of Work for the Site Assessment deemed necessary to complete the EE/CA and a non-time critical RA was modified in March 2003.

STATUS

RRSE RATING:
Medium

CONTAMINANTS:
BTEX, VOCs

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE:
RC

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS	52			
IRA				
RD				
RA				
RA(O)				
LTM				
Total	52,000			

PROPOSED PLAN

As a result of the analysis, it was determined that further sampling was required to properly clarify whether removal action is necessary, then complete SI (EE/CA) Report (funded in FY03).

If any future action is needed at this site it will be funded with non-IRP funds.



FTRI-057 6200 AREA FUEL OIL LINE

SITE DESCRIPTION

This former heating oil dispensing system consisted of two underground storage tanks and a pump house. The heating oil was distributed through underground piping which serviced 100 housing units. Heating oil was released within the tankhold and along piping trenches which also held the water lines and other utilities serving the housing units. The tanks and the piping have been removed. Source removal of contaminated trench backfill materials and surrounding soils was completed in 1997.

Groundwater contamination in the limestone formation is impractical to remediate because of relatively small amounts of groundwater in a fracture-controlled formation. The Removal Action Report was submitted in FY99. Fort Riley formally requested KDHE-NCDO re-review the CHPPM Risk Assessment and the Removal Action Report in context with their new guidance, "Risk-Based Standards for Kansas" and "Clean-up Levels for Total Petroleum Hydrocarbons" published in 1999 and 2001 respectively, and consider closure of the site.

PROPOSED PLAN

Re-request KDHE-NCDO to review site information and consider closure for this site.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

STATUS

RRSE RATING:

Low

CONTAMINANTS:

TPH, BTEX, PAHs

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI, IRA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RC

Constrained Cost to Complete

	2004	2005	2006	2007+
RI/FS	1			
IRA				
RD				
RA				
RA(O)				
LTM				
Total	1,000			

FTRI-062 TMP GAS STATION (BUILDING 388)

SITE DESCRIPTION

This TMP site is located in the southern portion of the Main Post area. Contamination is due to past leakage from dispensing lines which have been replaced. Site investigations have identified a limited amount of free product and high levels of BTEX in groundwater. Free-product recovery was performed in FY95. Soil contamination is limited. KDHE-NCDO has approved the Remedial Action Plan (RAP) for intrinsic remediation of soil with no further action and intrinsic remediation of groundwater with long-term monitoring. The USTs were removed and replaced with ASTs in April 1998.

LTM was initiated in FY98. Annual LTM reports have been prepared and submitted to KDHE-NCDO. BTEX (above MCLs) is no longer present in groundwater. No free product is currently being detected.

STATUS

RRSE RATING:

High

CONTAMINANTS:

Benzene, Toluene, Xylene, 1-2 DCA

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, IRA

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RC

PROPOSED PLAN

Long-Term Monitoring and annual reports will continue.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

Constrained Cost to Complete

	2004	2005	2006	2007+
R/FS				
IRA				
RD				
RA				
RA(O)				
LTM	10			
Total	10,000			

FORMER BUILDING 1044 DISPENSING STATION

SITE DESCRIPTION

This site is located in the northwest portion of Camp Funston. The dispensing stations dated from WWII and were used into the 1980s. The USTs were removed in the early 1990s. Site investigations have found soil and groundwater contamination, including a limited amount of free product. Free product recovery was performed. KDHE has approved the Remedial Action Plan (RAP) for intrinsic groundwater remediation with long-term monitoring.

LTM started in FY98. Annual LTM reports have been prepared and submitted to KDHE-NCDO. BTEX (above MCLs) and free product are still present in groundwater in the monitoring well.

PROPOSED PLAN

Long-Term Monitoring and annual reports will continue. Additional evaluation and well replacement may be needed. Remove free product as needed.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

STATUS

RRSE RATING: High

CONTAMINANTS: Benzene, Toluene, Xylene, 1,2-DCA, Naphthalene

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

Tank Removal (IRA), Free Product Removal (IRA), PA/SI, RI

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
R/FS				
IRA				
RD				
RA				
RA(O)				
LTM	10	10		
Total	20,000			

FORMER BUILDING 1245 DISPENSING STATION

SITE DESCRIPTION

This site is located near the eastern boundary of Camp Funston. The city of Ogden is approximately 4,000 ft east of this site. Five 12,000 gallon steel USTs were removed in the July 1990 along with some of the associated underground piping, although ~600 ft to the dispenser units remains in place. Petroleum hydrocarbon-contaminated soil encountered during the removal of the USTs was excavated and treated prior to disposal at the Camp Whitside construction debris landfill. The tanks were partially above the ground and were used to store diesel and leaded and unleaded gasoline. Site investigation results indicated areas with medium to high levels of TPH and BTEX, which do not appear to be migrating. VOC contamination continues to be centered in an area of the former tank hold.

KDHE has approved the Remedial Action Plan (RAP) for intrinsic remediation with no further action for soil and intrinsic remediation with no further long-term monitoring for groundwater.

LTM started in FY98. Annual LTM reports have been prepared and submitted to KDHE-NCDO. BTEX (above MCLs) and free product are still present in groundwater.

PROPOSED PLAN

Long-Term Monitoring and annual reports will continue. Remove free product as needed.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

STATUS

RRSE RATING:

High

CONTAMINANTS: TPH, Benzene, Toluene, Xylene, 1,2-DCA, Napthalene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, IRA (Tank Removal)

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
R/FS				
IRA				
RD				
RA				
RA(O)				
LTM	15	15		
Total	30,000			

FORMER BUILDING 1637 DISPENSING STATION

SITE DESCRIPTION

This site is located in the eastern portion of Camp Funston. The dispensing stations dated from WWII and were used into the 1980s for military vehicles. Seven 12,000-gallon USTs (steel) were installed in 1942 to store diesel fuel and used oil. The tanks were removed in the summer of 1990 along with some of the associated piping, although ~720 ft of underground piping to the dispenser unit remains in place. Petroleum hydrocarbon-contaminated soil was excavated, treated and removed for disposal at the Camp Whitside construction debris landfill. Site investigations have identified moderate BTEX groundwater contamination. Contamination appears to be centered in the former tank area and appears to decrease to the east. Soil contamination is low (BTEX). KDHE has approved the Remedial Action Plan (RAP) for intrinsic soil and groundwater remediation with long-term monitoring.

LTM started in FY98. Annual LTM reports have been prepared and submitted to KDHE-NCDO. BTEX (exceed MCLs) are still present in groundwater and free product is currently being detected.

PROPOSED PLAN

Long-Term Monitoring and annual reports will continue. Remove free product as needed.

Prepare documentation of no additional activities and incorporate into a multi-site ROD.

STATUS

RRSE RATING:

High

CONTAMINANTS: Benzene, Toluene,

Xylene, 1,2 DCA, Napthalene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, IRA (Tank Removal)

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

Constrained Cost to Complete

	2004	2005	2006	2007+
R/FS				
IRA				
RD				
RA				
RA(O)				
LTM	10	10		
Total	20,000			

Response Complete Sites

FTRI-029 OLD INCINERATOR SITE SOUTHEAST CAMP FUNSTON

SITE DESCRIPTION

This site is located adjacent to the southeast portion of the installation entirely within the boundaries of the Southeast Funston Landfill. The land was transferred to the Kansas Department of Wildlife and Parks in 1991. The SEFL and incinerator were abandoned in the mid 1950s or earlier. Incinerator ash with high lead content was detected over a wide area within the site. Ten of 78 surface soil sample locations analyzed by X-Ray Fluorescence (XRF) indicated high concentrations of lead (up to 5600 ppm). Additional sampling in FY97 identified three localized areas of high lead concentration. UXO (a mortar shell and canonball) have been encountered during previous investigations. An ecological risk screening was conducted in 1998 showing minor risk from metals contamination in soil. The incinerator building posed a safety hazard. KDWP accomplished safety repairs in 2000.

In 1999-2000, metals-contaminated soil (1,351 cy) and debris were removed targeting lead "hot spots", placed in the landfill [SEFL (FTRI-036)], compacted and covered with clean fill. The excavated areas were back-filled with clean fill for a minimum 2-ft cover. A Removal Action Report was submitted and approved by the regulators in FY00. Confirmation sampling showed lead above action levels existed after the soil removal primarily at depths greater than 2ft below the surface. A Memorandum of Agreement (MOA) between Fort Riley and KDWP became effective in Dec 2002. The MOA outlines land use scenarios and controls to ensure continued protection of human health and the environment.

Five-Year Reviews will be performed in conjunction with FTRI-036.

STATUS

RRSE RATING:

Medium

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI, IRA, RI

CURRENT IRP PHASE:

RC

OTHER SITES THAT ARE RESPONSE COMPLETE UNDER THE IRP

<u>ID Number</u>	<u>Title</u>	<u>RRSE</u>	<u>RC Date</u>
FTRI-001	Custer Hill Sanitary Landfill	NE	199308
FTRI-002	Whiteside C/D Landfill Closed	Low	199803
FTRI-004	Main Post Landfill	Low	199712
FTRI-005	Custer Hill Road Rubble Dump	NE	199305
FTRI-006	DRMO Stroage Area	Low	199809
FTRI-007	PCB Stoarge Building 343	NE	198909
FTRI-008	PCB Storage Conex (Building 348)	NE	199012
FTRI-010	Pesticide (2-4D) UST at Camp Funston	NE	199204
FTRI-012	Waste Storage DRMO Secondary Area	Low	199509
FTRI-013	Abandoned VOC Tanks North of IACH	NE	199202
FTRI-014	Hospital Incinerator- Irwin Ach	NE	198909
FTRI-015	Former DRMO Location (DRMO Area 2)	Med	199509
FTRI-016	Waste Oil AST 3rd Battery	NE	198909
FTRI-017	Waste Oil AST 4th Battery	NE	198909
FTRI-018	Fire Training Area Facility (892)	NE	198909
FTRI-020	Industrial Wastewater System (Cluster HL)	Med	199803
FTRI-022	Former WWTP and Sludges Beds- Camp Funston	NE	199305
FTRI-023	Custer Hill WWTP and Sludge Beds	NE	199305
FTRI-024	Forsyth WWTP and Sludge Beds	NE	199305
FTRI-025	Main Post WWTP and Sludge Beds	NE	199305
FTRI-026	Range Complex WW Lagoons	NE	199305
FTRI-028	Fmr Fire Training Area Camp Funston	NE	199402
FTRI-029	Old Incinerator Site SE-Camp Funston	Med	200309
FTRI-032	Impact Zone	Med	199309
FTRI-033	Douthit Range	NE	199305
FTRI-034	Impact Area Perimeter Small Arm Ranges	NE	199612
FTRI-035	Non-Impact Area Small Arms Ranges	Med	200007
FTRI-037	Old Whiteside Incinerator Area	Med	199507
FTRI-039	Consolidated Maintenance Facility	NE	199305
FTRI-040	Former Oil Testing Lab (Bldg 1022)	NE	199305
FTRI-041	Furniture Repair Shops (3)	NE	199507
FTRI-042	TAC Vehicle Maintenance Shops	NE	199305
FTRI-043	Former Gas Stations/Garages	NE	199305
FTRI-044	Former Asphalt Plant (near Bldg 354)	NE	199509
FTRI-045	Photo and Print Plants	Low	199507
FTRI-046	Fmr DS/GS Bldg 1693 Adj Areas	Med	199507
FTRI-047	Former Livestock Dipping Facility	Low	199507
FTRI-048	Former Pesticides Facility	NE	199507
FTRI-049	Mercury Contamination Areas	NE	199305
FTRI-050	PCB Spill Areas/Transformer	Low	199803
FTRI-051	Bldg 727 Waste Pit	Low	199903
FTRI-052	Inactive Landfills - Camp Whiteside	NE	199507
FTRI-055	Milford Lake Campground/Marina Wells	Low	199507
FTRI-059	Remove USTs	NE	199012
FTRI-060	Main Post PX Gas Station / 218	Low	199506
FTRI-061	Former Gas Service Station Bldg 254	Med	199510
FTRI-064	Fmr Bldg 1090 Dispensing Station	NE	199506
FTRI-065	Fmr Bldg 1190 Dispensing Station	NE	199506
FTRI-067	Fmr Bldg 1539 Dispensing Station	Med	199708
FTRI-069	Fmr Bldg 1890 Dispensing Station	Med	199708

OTHER SITES THAT ARE RESPONSE COMPLETE UNDER THE IRP

FTRI-070	Fmr Bldg 2341 Dispensing Station	NE	199601
FTRI-071	Fmr Bldg 2345 Dispensing Station	NE	199411
FTRI-072	Bldg 8340 Fuel Oil UST	NE	199411
FTRI-073	Bldg 8360 Fuel Oil UST	NE	199505
FTRI-074	WWI Incinerator, NW Camp Funston	Low	200109

PAST MILESTONES

- 1983-1984** - Installation Assessment (By USATHAMA)
- 1988-1989** - Solid Waste Management Unit Survey (By AEHA)
- IRP Initiation
- 1990** - NPL Listing Published
- IAG - Dept. Army and Fort Riley Signature
- 1991** - IAG - EPA Region VII and KDHE Signature
- IAG - Effective Date
- 1993**
PA/SI - Installation Wide Site Assessment
SI/SA - FTRI-001, Custer Hill Sanitary Landfill
- FTRI-032, Impact Zone
RI/FS - FTRI-003, Southwest Funston Landfill
- FTRI-030, Pesticide Storage Facility
RI/FS (PA/SI) - FTRI-027, Dry Cleaning Facilities Area
RI/FS (SI) - FTRI-019, Former Fire Training Area-Marshall Army Airfield
- 1994**
RI/FS - FTRI-003, Southwest Funston Landfill
- FTRI-027, Dry Cleaning Facilities Area
- FTRI-030, Pesticide Storage Facility
RI/FS (SI) - FTRI-019, Former Fire Training Area-Marshall Army Airfield
REM - FTRI-030, Pesticide Storage Facility, Excavation of pesticide contaminated soils
- FTRI-035, Non-Impact Area Small Arms Ranges, Excavation of lead contaminated soils, Colyer Manor
IRA - FTRI-003, Southwest Funston Landfill, Riverbank stabilization and cover repair/improvements (FY 94-96)
- FTRI-027, Dry Cleaning Facilities Area, Sewer line replacement-OMA funded (FY 94-96)
- 1995**
RI/FS - FTRI-003, Southwest Funston Landfill
- FTRI-027, Dry Cleaning Facilities Area
- FTRI-030, Pesticide Storage Facility
RI/FS (SI) - FTRI-019, Former Fire Training Area-Marshall Army Airfield, Site Investigation Report
REM - FTRI-019, Former Fire Training Area-Marshall Army Airfield, Soil vapor extraction & bioventing pilot study
- FTRI-027, Dry Cleaning Facilities Area, Soil vapor extraction pilot study
- FTRI-062, TMP Gas Station(Bldg 388), Free Product Recovery
- FTRI-063, Former Bldg 1044 Dispensing Station, Free Product Recovery
- 1996**
RI/FS - FTRI-003, Southwest Funston Landfill, ROD
- FTRI-027, Dry Cleaning Facilities Area
- FTRI-030, Pesticide Storage Facility
RI/FS (SI) - FTRI-019, Former Fire Training Area-Marshall Army Airfield

PAST MILESTONES

REM - FTRI-057, 6200 Area, Soil Removal

FY1997

IRA - FTRI-003, Southwest Funston Landfill, Removal Action Report
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, Exposure Control EE/CA initiated

RI/FS - FTRI-006, DRMO & Wherry Substation, Site Investigations
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, RI/FS Work Plan
- FTRI-027, Dry Cleaning Facilities Area, Draft Revised FS
- FTRI-030, Pesticide Storage Facility, RI Addendum, Proposed Plan, ROD (Sep 97)
- FTRI-031, 354 Area Solvent Detections Site, Initial Field Investigations

RI/FS - FTRI-067 and FTRI-069, No Further Action required

RI/FS, LTM - FTRI-054, -063, -066, -068, Remedial Action Plans

LTM - FTRI-003, Southwest Funston LF, Long Term Monitoring & Operations & Maintenance Plans

RAB Formation (Sept 97)

FY 1998

Decision Memorandum - FTRI-various, Multi-Sites and DRMO
- FTRI-004 (MPLF), -051 (727), and multiple UST sites

RI/FS - FTRI-009, Open Burn/Open Detonation, SI Addendum Report
- FTRI-011, Camp Funston Groundwater Detections, Annual (Investigation) Monitoring Report
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, RI/FS Work Plan (Final Oct)
- Basic Plans (Final Jul 98), Plume Characterization, Natural Attenuation Work Plan
- FTRI-027, Dry Cleaning Facilities Area, RI Addendum/FS (Approved May 98)
- FTRI-029, Southeast Funston Incinerator, SI Addendum Report
- FTRI-031, 354 Area Solvent Detections Site, Initial Field Investigations Report

IRA - FTRI-019, Former Fire Training Area-Marshall Army Airfield, Exposure Control EE/CA (Jan 98),
Action Memo Signature (Apr 98)
- FTRI-019, Marshall Army Airfield-Former Fire Training Area, Groundwater Action EE/CA,
(Draft Apr 98, Discontinued)
- FTRI-029 Southeast Funston Landfill Incinerator, EE/CA, Preliminary IRA Design
- FTRI-036, Southeast Funston Landfill, EE/CA, Preliminary IRA Design
- FTRI-038, Forsyth Bank Stabilization, EE/CA (Aug 98)

PP - FTRI-027, Dry Cleaning Facilities Area, Draft Proposed Plan (Aug 98)

LTM - FTRI-003, Southwest Funston Landfill, Final Institutional Controls Plan, 1997 Annual Monitoring
Report, 1997 Inspection Report
- FTRI-054, -063, -066, -068, POL/UST Sites

FY 1999

RI/FS - FTRI-009, Open Burn/Open Detonation, Risk Screening Report (Final Apr 99)
- FTRI-011, Camp Funston Groundwater Detections, 1997 Annual (Investigation) Monitoring
Report (Final Dec 98), Groundwater Isotope Report (Final Mar 99), 1998 Annual (Investigation)
Monitoring Report (Sep 99)
- FTRI-019 Former Fire Training Area-Marshall Army Airfield, Tracer Study, Microcosm Study
- FTRI-027, Dry Cleaning Facilities Area, Draft Proposed Plan (Aug 98, May 99), Dispute
Resolution (Jan - Apr 99)
- FTRI-031, 354 Area Solvent Detections, RI/FS Work Plans (Final Mar 99), Phase I Field
Investigations
- FTRI-038, Forsyth Landfill(s), Data Review

PAST MILESTONES

- IRA
- FTRI-053, POL Tank Farm, RI/FS Work Plan
 - FTRI-029, Southeast Funston Landfill Incinerator, EE/CA (Feb 99), Action Memo Signature (Jun 99), Construction Award for Soil Removal (Jun 99)
 - FTRI-036, Southwest Funston Landfill, EE/CA (Feb 99), Action Memo Signature (Jun 99), Construction Award for Cover Improvements (Jun 99)
 - FTRI-038, Forsyth Landfill, Area 2 Action Memo Signature (Apr 99), Bank Stabilization Design
- LTM
- FTRI-057, 6200 Area Fuel Oil System, Removal Action Report
 - FTRI-030, Pesticide Storage Facility, Land Use Management Plan
 - FTRI-054, Custer Hill PX USTs
 - FTRI-062, TMP Gas Station (Bldg 388)
 - FTRI-063, Former Building 1044 Dispensing Station
 - FTRI-066, Former Building 1245 Dispensing Station
 - FTRI-068, Former Building 1637 Dispensing Station
 - FTRI-003, SFL, 1998 Annual Monitoring Report (Sep 99), 1998 Inspection Report, Maintenance, Contract Award (Sep 99)
- FY 2000**
- RI/FS
- FTRI-009, Open Burn/Open Detonation, Surface Water monitoring
 - FTRI-011, Camp Funston Groundwater Detections, Groundwater Modeling Report
 - FTRI-019, Former Fire Training Area-Marshall Army Airfield, Draft Remedial Investigation Report
 - FTRI-027, Dry Cleaning Facilities Area, Additional site evaluation
 - FTRI-031, 354 Area Solvent Detections, Remedial Investigations, preliminary evaluation
- IRA
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, Construction of Exposure Controls pending real estate issues
- LTM
- FTRI-003, Southwest Funston Landfill, Maintenance Construction (Oct 99), 1999 Annual Inspection Report (Nov 99)
 - FTRI-054, Custer Hill PX USTs
 - FTRI-062, TMP Gas Station (Bldg 388)
 - FTRI-063, Former Building 1044 Dispensing Station
 - FTRI-066, Former Building 1245 Dispensing Station
 - FTRI-068, Former Building 1637 Dispensing Station
- FY2001**
- RI
- FTRI-009, Open Burn/Open Detonation, Surface water monitoring
 - FTRI-011, Camp Funston Groundwater, Groundwater monitoring
 - FTRI-029, Southeast Funston Landfill Incinerator, Land use control development
 - FTRI-036, Southeast Funston Landfall, Draft Decision Memorandum
 - FTRI-053, POL Tank Farm, Site Investigations
 - FTRI-056, Abandoned Gasoline Line, Site Investigations
- RI/FS
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, Initiated FS
 - FTRI-027, Dry Cleaning Facilities Area, Investigations
 - FTRI-031, 354 Area Solvent Detections Area, Additional Investigations
- IRA
- FTRI-038, Forsyth Landfill
- LTM
- FTRI-003, Southwest Funston Landfill
 - FTRI-054, Custer Hill PX USTS (5320)

PAST MILESTONES

- FTRI-062, TMP Gas Station (Bldg 388)
- FTRI-063, Former Building 1044 Dispensing Station
- FTRI-066, Former Building 1245 Dispensing Station
- FTRI-068, Former Building 1637 Dispensing Station

Initiate Five-Year Review - FTRI-003, Southwest Funston Landfill
 - FTRI-030, Pesticide Storage Facility

FY2002

- RI/FS - FTRI-009, Open Burn/Open Detonation, Surface water sampling/reporting
- FTRI-011, Camp Funston Groundwater Detections, Complete Groundwater Study
- FTRI-019, Former Fire Training Area-Marshall Army Airfield, Treatability Study
- FTRI-027, Dry Cleaning Facilities Area, Perform additional investigations
- FTRI-029, Southeast Funston Landfill Incinerator, Develop land use controls
- FTRI-031, 354 Area Solvent Detections, draft RI Report
- FTRI-053, POL Tank Farm, Review data
- FTRI-056, Abandoned Gasoline Line, review data
- IRA - FTRI-019, Former Fire Training Area-Marshall Army Airfield, Implemented exposure control
- LTM - FTRI-003, Southwest Funston Landfill, cover repair, inspection
- FTRI-036, Southeast Funston Landfill, Maintenance every 2 years for about 15 years
- FTRI-038, Forsyth Landfill(s), Bank stabilization inspection
- FTRI-054, Custer Hill PX USTs (5320)
- FTRI-057, 6200 Area UST, Initiate 5 years of LTM if needed
- FTRI-062, TMP Gas Station (Bldg 388)
- FTRI-063, Former Building 1044 Dispensing Area
- FTRI-066, Former Building 1245 Dispensing Station
- FTRI-068, Former Building 1637 Dispensing Area
- Five-Year Review
-FTRI-003, 030 and all other CERCLA sites

FY2002

- RI/FS - FTRI-009, Open Burn/Open Detonation, Surface water sampling/reporting
- FTRI-019, Former Fire-Training Area - Marshall Army Airfield, Produced draft
- Final FS Report, Groundwater sampling
- FTRI-027, Dry Cleaning Facilities Area, Performed additional investigations, groundwater sampling
- FTRI-029, Southeast Funston Landfill Incinerator, Memorandum of Agreement signed by the KDWP
- FTRI-031, 354 Area Solvent Detections, Produced Draft RI Report, groundwater sampling
- FTRI-053, POL Tank Farm, Performed additional study, groundwater sampling
- FTRI-056, Abandoned Gasoline Line, Reviewed data and determined need for additional study
- IRA - FTRI-019, Former Fire-Training Area, Produced Final Report on Alternate Water Supply
- LTM - FTRI-003, 011, 062, 063, 066, 068, Groundwater sampling
- FTRI-038, Forsyth Landfill(s), Bank Stabilization inspection and ordnance disposal

FUTURE MILESTONES

Five Year Reviews – FY 07, 12, 17, 22, 27, 32, 36

Remedy-in-Place - Completion of Construction of final remedial action:	2009
Deletion from NPL	2009
IRP Completion Date Includes LTM	2034

NO FURTHER ACTION

The following sites currently require no further action by the Installation Restoration Program:

FTRI-001	CUSTER HILL SANITARY LANDFILL
FTRI-002	WHITSIDE CONSTRT. DEBRIS LANDFILL-ACTIVE
FTRI-004	MAIN POST LANDFILL
FTRI-005	CUSTER HILL ROAD RUBBLE DUMP
FTRI-006	DRMO STORAGE AREA
FTRI-007	PCB STORAGE BUILDING 343
FTRI-008	PCB STORAGE CONEX (BUILDING 348)
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-014	HOSPITAL INCINERATOR-IACH
FTRI-015	FORMER DRMO LOCATION (DRMO AREA 2)
FTRI-016	WASTE OILAST-3RD BATTERY
FTRI-017	WASTE OILAST-4TH BATTERY
FTRI-018	FIRE TRAINING AREA FACILITY (892)
FTRI-020	INDUSTRIAL WASTEWATER SYSTEM (CUSTER HILL)
FTRI-022	FORMER WWTP AND SLUDGE BEDS-CAMP FUNSTON
FTRI-023	CUSTER HILL WWTP AND SLUDGE BEDS
FTRI-024	FORSYTH WWTP AND SLUDGE BEDS
FTRI-025	MAIN POST WWTP AND SLUDGE BEDS
FTRI-026	RANGE COMPLEX WW LAGOONS
FTRI-028	FMR FIRE TRAINING AREA CAMP FUNSTON
FTRI-032	IMPACT ZONE
FTRI-033	DOUTHIT RANGE
FTRI-034	IMPACT AREA PERIMETER SMALL ARM RANGES
FTRI-035	NON-IMPACT AREA SMALL ARMS RANGES
FTRI-037	OLD WHITSIDE INCINERATOR AREA
FTRI-039	CONSOLIDATED MAINTENANCE FACILITY
FTRI-040	FORMER OIL TESTING LAB (BLDG 1022)
FTRI-041	FURNITURE REPAIR SHOPS (3)
FTRI-042	TAC VEHICLE MAINTENANCE SHOPS
FTRI-043	FORMER GAS STATIONS/GARAGES
FTRI-044	FORMER ASPHALT PLANT (NEAR BLDG 354)
FTRI-045	PHOTO AND PRINT PLANTS
FTRI-046	FORMER DS/GS - BLDG 1693 AND ADJACENT AREAS

NO FURTHER ACTION

FTRI-047	FORMER LIVESTOCK DIPPING FACILITY
FTRI-048	FORMER PESTICIDES FACILITIES
FTRI-049	MERCURY CONTAMINATION AREAS
FTRI-050	PCB SPILL AREAS/TRANSFORMER SITES
FTRI-051	BUILDING 727 FORMER SERVICE PIT
FTRI-052	INACTIVE LANDFILLS - CAMP WHITSIDE
FTRI-054	CUSTER HILL PX USTS BLDG 5320
FTRI-055	MILFORD LAKE CAMPGROUND/MARINA WELLS
FTRI-059	REMOVE USTS
FTRI-060	MAINPOST PX GAS STATION/218
FTRI-061	FORMER GAS SERVICE STATION BLDG 354
FTRI-064	FMR BLDG 1090 DISPENSING STATION
FTRI-065	FMR BLDG 1190 DISPENSING STATION
FTRI-067	FMR BLDG 1539 DISPENSING STATION
FTRI-069	FMR BLDG 1890 DISPENSING STATION
FTRI-070	FMR BLDG 2341 DISPENSING STATION
FTRI-071	FMR BLDG 2345 DISPENSING STATION
FTRI-072	BLDG 8340 FUEL OIL UST
FTRI-073	BLDG 8360 FUEL OIL UST
FTRI-074	WWI INCINERATOR, NW CAMP FUNSTON

Schedule

Based on Current Funding

		FY04	FY05	FY06	FY07	FY08	FY09+
FTRI-003	LTM						
FTRI-009	RI/FS						
	LTM						
FTRI-011	RI/FS						
	LTM						
FTRI-019	RI/FS						
	RD						
	RA						
	RA(O)						
	RA(O)						
FTRI-027	RI/FS						
	RD						
	RA(O)						
	LTM						
FTRI-030	LTM						
FTRI-031	RI/FS						
	IRA						
	LTM						
FTRI-036	LTM						
FTRI-038	LTM						
FTRI-053	RI/FS						
FTRI-054	LTM						
FTRI-056	RI/FS						
FTRI-057	RI/FS						
FTRI-062	LTM						
FTRI-063	LTM						
FTRI-066	LTM						
FTRI-068	LTM						

Phase Summary

This report identifies the number of approved sites in each remedial action phase, action and remedy status. Information is derived from data stored in the AEDB Restoration Module.

Phase/Status/Sites

PA				SI				RI/FS			
C	F	U	RC	C	F	U	RC	C	F	U	RC
72	0	0	4	66	0	0	17	34	0	8	30
RD				IRA				RA(C)			
C	F	U	RC	C	F	U	RC	C	F	U	RC
4	2	0	0	18	1	0	0	13	2	0	13
RA(O)				LTM							
C	F	U	RC	C	F	U	RC				
0	2	0	0	0	4	9	0				

Remedy/Status/Actions(Sites)

FRA						IRA					
C	F		U			C	F		U		
13	(13)	2	(2)	0	(0)	24	(18)	1	(1)	0	(0)

RC Total: 64
RIP Total: 0

United States Army

Site Summary Chart

Army
Environmental
Database

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Oversight:		NORTHWEST																	
MSC:																			
Installation:		FORT RILEY	State: KS																
FFID:		KS214020756																	
Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	RD	RA (C)	RA (O)	LTM	IRA	IRA (C)	IRA (U)	RIP	RC
FTRI-001	FTRI-001	A	Landfill	CUSTER HILL SANITARY LANDFILL		C	C	C							0	0			199308
FTRI-002	FTRI-002	A	Landfill	WHITSIDE C/D LANDFILL-CLOSED	LOW	C	C	C							0	0			199803
FTRI-003	FTRI-003	A	Landfill	SOUTHWEST FUNSTON LANDFILL	HIGH	C	C	C	C	C				U	3	0			199709
FTRI-004	FTRI-004	A	Landfill	MAIN POST LANDFILL	LOW	C	C	C							0	0			199712
FTRI-005	FTRI-005	A	Surface Disposal Area	CUSTER HILL ROAD RUBBLE DUMP		C									0	0			199305
FTRI-006	FTRI-006	A	Spill Site Area	DRMO STORAGE AREA	LOW	C	C	C							0	0			199809
FTRI-007	FTRI-007	A	Storage Area	PCB STORAGE BUILDING 343		C	C								0	0			198909
FTRI-008	FTRI-008	A	Storage Area	PCB STORAGE CONEX (BUILDING 348)		C	C		C	C					0	0			199012
FTRI-009	FTRI-009	A	Explosive Ordnance Disposal Area	OB/OD GROUND (RANGE 16)	MEDIUM	C	C	U						F	0	0			200410
FTRI-010	FTRI-010	A	Underground Tank Farm	PESTICIDE (2-4D) UST AT CAMP FUNSTON		C	C		C	C					0	0			199204
FTRI-011	FTRI-011	A	Contaminated Ground Water	CAMP FUNSTON GW DETECTIONS	HIGH	C	C	U						F	0	0			200410

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Site Summary Chart

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Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	RD	RA (C)	RA (O)	LTM	IRA (C)	IRA (U)	RIP	RC
FTRI-012	FTRI-012	A	Storage Area	WASTE STORAGE DRMO SECONDARY AREA	LOW	C	C	C						0	0			199509
FTRI-013	FTRI-013	A	Above Ground Storage Tank	ABANDONED VOC TANKS NORTH OF IACH		C	C			C		C		0	0			199202
FTRI-014	FTRI-014	A	Incinerator	HOSPITAL INCINERATOR- IRWIN ACH		C	C							0	0			198909
FTRI-015	FTRI-015	A	Storage Area	FORMER DRMO LOCATION (DRMO AREA 2)	MEDIUM	C	C	C						0	0			199509
FTRI-016	FTRI-016	A	Above Ground Storage Tank	WASTE OIL AST-3RD BATTERY		C	C							0	0			198909
FTRI-017	FTRI-017	A	Above Ground Storage Tank	WASTE OIL AST-4TH BATTERY		C	C							0	0			198909
FTRI-018	FTRI-018	A	Fire/Crash Training Area	FIRE TRAINING AREA FACILITY (892)		C	C							0	0			198909
FTRI-019	FTRI-019	A	Fire/Crash Training Area	FORMER FIRE TRAINING AREA FFTA-MAAF	HIGH	C	C	U	F	F	F			3	0	200610	201510	
FTRI-020	FTRI-020	A	Surface Impoundment/Lagoon	INDUSTRIAL WASTEWATER SYSTEM (CUSTER	MEDIUM	C	C	C						0	0			199803

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United States Army

Site Summary Chart

Army
Environmental
Database

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Oversight: NORTHWEST

MSC:

Installation: FORT RILEY **State:** KS

FFID: KS214020756

Site	Alias	Status	Site Type	Description	RRSE	PASI	RI	RD	RA (C)	RA (O)	LTM	IRA	IRA (C)	IRA (U)	RIP	RC
FTRI-022	FTRI-022	A	Sewage Treatment Plant	HL) FORMER WWTP AND SLUDGE BEDS- CAMP FUNSTON		C	C					0	0			199305
FTRI-023	FTRI-023	A	Sewage Treatment Plant	CUSTER HILL WWTP AND SLUDGE BEDS		C	C					0	0			199305
FTRI-024	FTRI-024	A	Sewage Treatment Plant	FORSYTH WWTP AND SLUDGE BEDS		C	C					0	0			199305
FTRI-025	FTRI-025	A	Sewage Treatment Plant	MAIN POST WWTP AND SLUDGE BEDS		C	C					0	0			199305
FTRI-026	FTRI-026	A	Surface Impoundment/Lagoon	RANGE COMPLEX WW LAGOONS		C	C					0	0			199305
FTRI-027	FTRI-027	A	Spill Site Area	DRY CLEANING FACILITIES AREA	MEDIUM	C	C	U	F	F	F	F	1	0	200805	201707
FTRI-028	FTRI-028	A	Fire/Crash Training Area	FMR FIRE TRAINING AREA CAMP FUNSTON		C	C	C	C			0	0			199402
FTRI-029	FTRI-029	A	Incinerator	OLD INCINERATOR SITE SE-CAMP FUNSTON	MEDIUM	C	C	C				1	0			200308
FTRI-030	FTRI-030	A	Pesticide Shop	PESTICIDE STORAGE FACILITY (MIXING)	LOW	C	C	C			U	1	0			199709

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Site Summary Chart

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Oversight: NORTHWEST**MSC:****Installation:** FORT RILEY **State:** KS**FFID:** KS214020756

Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	I	R	D	RA (C)	RA (O)	LTM	I	R	A	I	R	A	RIP (C) (U)	RC
FTRI-031	FTRI-031	A	Contaminated Buildings	354 AREA SOLVENT DETECTIONS	HIGH	C	C	U								F	0	0					200702	
FTRI-032	FTRI-032	A	Unexploded Munitions/Ordnance	IMPACT ZONE	MEDIUM	C	C	C									0	0					199309	
FTRI-033	FTRI-033	A	Firing Range	DOUTHIT RANGE		C	C										0	0					199305	
FTRI-034	FTRI-034	A	Small Arms Range	IMPACT AREA PERIMETER SMALL ARM RANGES		C	C										0	0					199612	
FTRI-035	FTRI-035	A	Small Arms Range	NON-IMPACT AREA SMALL ARMS RANGES	MEDIUM	C	C	C									1	0					200007	
FTRI-036	FTRI-036	A	Landfill	SOUTHEAST FUNSTON LANDFILL	MEDIUM	C	C	C								U	1	0					200301	
FTRI-037	FTRI-037	A	Incinerator	OLD WHITSIDE INCINERATOR AREA	MEDIUM	C	C	C									0	0					199507	
FTRI-038	FTRI-038	A	Landfill	FORSYTH LANDFILL(S)	MEDIUM	C	C	C								U	1	0					200109	
FTRI-039	FTRI-039	A	Industrial Discharge	CONSOLIDATED MAINTENANCE FACILITY		C	C										0	0					199305	
FTRI-040	FTRI-040	A	Spill Site Area	FORMER OIL TESTING LAB (BLDG. 1022)		C											0	0					199305	

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Site Summary Chart

Fall 2003/ Working

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Oversight: NORTHWEST**MSC:****Installation:** FORT RILEY **State:** KS**FFID:** KS214020756

Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	I	R	D	RA (C)	RA (O)	L	T	M	I	R	A	I	R	A	R	A	RIP (C)	RC (U)
FTRI-041	FTRI-041	A	Spill Site Area	FURNITURE REPAIR SHOPS (3)		C	C	C								0	0										199507	
FTRI-042	FTRI-042	A	Spill Site Area	TAC VEHICLE MAINTENANCE SHOPS		C										0	0										199305	
FTRI-043	FTRI-043	A	Spill Site Area	FORMER GAS STATIONS/GARAGES		C										0	0										199305	
FTRI-044	FTRI-044	A	Spill Site Area	FORMER ASPHALT PLANT (NEAR BLDG 354)		C	C									0	0										199509	
FTRI-045	FTRI-045	A	Spill Site Area	PHOTO AND PRINT PLANTS	LOW	C	C	C								0	0										199507	
FTRI-046	FTRI-046	A	Spill Site Area	FRMR DS/GS Bldg 1693 Adj Areas	MEDIUM	C	C	C								0	0										199507	
FTRI-047	FTRI-047	A	Dip Tank	FORMER LIVESTOCK DIPPING FACILITY	LOW	C	C	C								0	0										199507	
FTRI-048	FTRI-048	A	Pesticide Shop	FORMER PESTICIDES FACILITIES		C	C	C								0	0										199507	
FTRI-049	FTRI-049	A	Spill Site Area	MERCURY CONTAMINATION AREAS		C								C		0	0										199305	
FTRI-050	FTRI-050	A	Spill Site Area	PCB SPILL AREAS /TRANSFORMER	LOW	C	C	C								0	0										199803	

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United States Army

Site Summary Chart

Army
Environmental
Database

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Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	I	R	D	RA (C)	RA (O)	LTM	IR	IRA (C)	IRA (U)	RIP	RC
Oversight: NORTHWEST																					
MSC:																					
Installation: FORT RILEY State: KS																					
FFID: KS214020756																					
SITES																					
FTRI-051	FTRI-051	A	Disposal Pit/Dry Well	BLDG. 727 WASTE PIT	LOW	C	C	C										0	0		199903
FTRI-052	FTRI-052	A	Landfill	INACTIVE LANDFILLS - CAMP WHITESIDE		C	C	C										0	0		199507
FTRI-053	FTRI-053	A	Above Ground Storage Tank	POL TANK FARM	HIGH	C	C	U										0	0		200412
FTRI-054	FTRI-054	A	Underground Tank Farm	CUSTER HILL PX USTS BLDG 5320	LOW	C	C	C								U		1	0		199709
FTRI-055	FTRI-055	A	Contaminated Ground Water	MILFORD LAKE CAMPGROUND/MARI NA WELLS	LOW	C	C	C										0	0		199507
FTRI-056	FTRI-056	A	Soil Contamination After Tank Removal	ABANDONED GASOLINE LINE	MEDIUM	C	C	U										0	0		200412
FTRI-057	FTRI-057	A	POL (Petroleum/Lubricants) Lines	6200 AREA FUEL OIL LINE	LOW	C	C	U										1	0		200410
FTRI-059	FTRI-059	A	Underground Tank Farm	REMOVE USTS		C								C				0	0		199012
FTRI-060	FTRI-060	A	Underground Tank Farm	MAINPOST PX GAS STATION / 218	LOW	C	C											1	0		199506
FTRI-061	FTRI-061	A	Underground Tank Farm	FORMER GAS SERVICE STATION BLDG 354	MEDIUM	C	C											2	0		199510

Site Summary Chart

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Oversight: NORTHWEST

MSC:

Installation: FORT RILEY State: KS

FFID: KS214020756

Site	Alias	Status	Site Type	Description	RRSE	P	A	S	I	R	D	RA (C)	RA (O)	LTM	IRA (C)	IRA (U)	RIP	RC
FTRI-062	FTRI-062	A	Underground Tank Farm	TMP GAS STATION BLDG 388	HIGH	C	C	C						U	1	0		199710
FTRI-063	FTRI-063	A	Underground Tank Farm	FMR BLDG 1044 DISPENSING STATION	HIGH	C	C	C						U	2	0		199710
FTRI-064	FTRI-064	A	Underground Tank Farm	FMR BLDG 1090 DISPENSING STATION		C	C	C			C				0	0		199506
FTRI-065	FTRI-065	A	Underground Tank Farm	FMR BLDG 1190 DISPENSING STATION		C	C	C			C				0	0		199506
FTRI-066	FTRI-066	A	Underground Tank Farm	FMR BLDG 1245 DISPENSING STATION	HIGH	C	C	C						U	1	0		199708
FTRI-067	FTRI-067	A	Underground Tank Farm	FMR BLDG 1539 DISPENSING STATION	MEDIUM	C	C	C							1	0		199708
FTRI-068	FTRI-068	A	Underground Tank Farm	FMR BLDG 1637 DISPENSING STATION	HIGH	C	C	C						U	1	0		199708
FTRI-069	FTRI-069	A	Underground Tank Farm	FMR BLDG 1890 DISPENSING STATION	MEDIUM	C	C	C							1	0		199708
FTRI-070	FTRI-070	A	Underground Tank	FMR BLDG 2341		C	C				C				0	0		199601

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Site Summary Chart

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Oversight: NORTHWEST

MSC:

Installation: FORT RILEY **State:** KS

FFID: KS214020756

Site	Alias	Status	Site Type	Description	RRSE	PA	SI	RI	RD	RA (C)	RA (O)	LTM	IRA	IRA (C)	IRA (U)	RIP	RC
FTRI-071	FTRI-071	A	Farm Underground Tank Farm	DISPENSING STATION FMR BLDG 2345 DISPENSING STATION		C	C			C			0	0			199411
FTRI-072	FTRI-072	A	Farm Underground Tank Farm	BLDG 8340 FUEL OIL UST		C	C			C			0	0			199411
FTRI-073	FTRI-073	A	Farm Underground Tank Farm	BLDG 8360 FUEL OIL UST		C	C			C			0	0			199505
FTRI-074	FTRI-074	A	Incinerator	WWI INCINERATOR, NW CAMP FUNSTON	LOW	C	C						0	0			200109

Remediation Activities

Past REM/IRA/RA

Dry Cleaning Facilities Area (FTRI-027) - FY94

The possibility of "slip-lining" the sanitary and storm sewers to reduce or eliminate a driving force moving contamination from soils to the groundwater was evaluated. Camera inspection of the lines indicated, however, that the sanitary sewer line contained too much mineral scaling (from nearby boiler plant) to allow slip-lining. The storm sewer is very steep, circuitous and in pretty good shape, making slip-lining difficult and unnecessary. Therefore, replacement of the one damaged sanitary sewer line was performed. Remaining lines, suspected to leak also, were assessed and a project was completed in 1996 to abandon in-place and construct new lines. Soil vapor extraction and groundwater extraction and treatment pilot studies were initiated in August 1994. Pumping tests performed on the groundwater extraction wells indicated extremely low flow rates and determined the impracticality of this technology as a remedial action. The test was extended to determine if the mass removal rates would be sustainable (they were not) and because volatiles, (albeit low levels), were being extracted from the soils. The system operated until March 1995, when vapor analysis indicated no detections of VOCs. The action directed at remediating soils was implemented to address this media as a continuing source for groundwater contamination, not because of any determined risk due to exposure to the soils. Had the extraction been sustainable, an EE/CA would have been prepared and a Removal Action undertaken. However, the pilot test removed much of the soil contamination.

Custer Hill Sanitary Landfill (FTRI-001) - FY93/94

Low level contamination was revealed by the site investigation. Rather than carry the site through the CERCLA/ IAG process, the site was addressed under the state-administered RCRA subtitle D program for closure and post-closure monitoring.

Former Fire Training Area-Marshall Army Airfield (FTRI-019) - FY94/95 Total Construction Cost = \$900,000

Initial Site Investigations and off-post private well data indicated there was soil contamination in two areas on post and groundwater contamination likely existed on-post and extended off-post. Since the soil contamination was a potential source for additional groundwater contamination, soil treatment options were considered for implementation of an early action. Pilot Studies were developed for Bioventing and/or SVE in each of the two areas respectively and implemented in the winter 1994/95. These proved successful and were extended to gain additional design information while an EE/CA was being prepared to evaluate performance of these technologies as Removal Actions. The EE/CA was terminated because evaluation of field data (including drop off of removal rates) indicated that much of the contamination had been removed and continued operation was not cost effective.

Numerous UST Removals Total Construction Cost = \$1,500,000

Numerous additional tank removals have been conducted under OMA tank management program

Southwest Funston Landfill (FTRI-003) - FY94/96/97 Total Construction Cost = \$ 4,000,000

Settlement and minimal maintenance of the closure cover has resulted in ponding and otherwise poor drainage. Landfilling occurred along and near the Kansas River bank. Erosion of materials into the river has occurred. A "Non-time Critical" Removal Action has been completed. The Engineering Evaluation/Cost Analysis (EE/CA) for cover improvements and bank stabilization was issued for public comment on 16 August 1993. Design was initiated concurrent with preparation of the EE/CA with the intent that the design be complete by the time the Decision Document is completed. However, in light of the stipulated penalties, the Bank Stabilization removal action was expedited and substantially completed by 9 April 1994. It was fully completed by June 1994. The cover portion of the removal action was contracted for 4th quarter FY94. Construction of the cover repairs was completed 1995, however it was discovered that insufficient cover existed in some places and a 2nd contract was developed to correct this situation. Additional cover improvements were completed in 1997. LTM was initiated at the site in FY96.

Remediation Activities

Past REM/IRA/RA

Pesticide Storage Facility (FTRI-030) - FY94 Total Construction Cost = \$788,000

Removal of contaminated soils was completed in May 1994. Sampling during the removal action revealed significantly greater volumes of contaminated soil than identified in the RI. The amount of soil removed was approximately 2700 tons. This IRA allowed the Final Remedial Action to be No Further Action based on anticipated industrial land use.

Sensitive Receptor Lead Sites (FTRI-035) - FY94 Total Construction Cost = \$533,000

An "expedited" removal assessment performed in June 1993 revealed that a small area near a housing and recreation area was a "hot spot" of lead contamination. Removal of lead contaminated soils was completed May 1994. The amount of soil removed was 1338 tons.

6200 Area Fuel Oil Line (FTRI-057) - FY96 Total Construction Cost = \$2,300,000

This former heating oil dispensing system consisted of two underground storage tanks and a pump house. The heating oil was distributed through underground piping which serviced 100 housing units. Heating oil was released within the tankhold and along piping trenches which hold water lines and other utilities serving the housing unit. The tanks and the piping have been removed. Source removal of contaminated trench backfill materials and surrounding soils was completed in 1997.

Southeast Funston Landfill – Incinerator (FTRI-29) - FY99 Total Construction Cost = \$269,585

In FY98 an EE/CA, Design, and Action Memorandum with public comment and RAB involvement were completed for excavation of ash/metals contaminated soil. The incinerator Removal Action was combined with the cover improvements for the SE Funston Landfill (SEFL) where the soils were re-buried in the western portion of the SEFL site. Construction activities were conducted from early Oct 99 through early Nov 99.

Southeast Funston Landfill – Inactive (FTRI-036) - FY99/00 Total Construction Cost = \$349,000

In FY98 an EE/CA, Design and Action Memorandum, with public comment and RAB involvement, were completed for landfill cover improvements to the western portion of the SEFL. The cover improvements were designed to control surface runoff and to address landfill trench subsidence problems. The construction contract award amount was \$218K with FY00 modification of \$131K. Construction was performed Oct-Nov 1999.

Forsyth Landfill Area 2 (FTRI-038) - FY00 Total Construction Cost = \$826,743

Evaluations show that approximately a 100 ft. width of riverbank along an 800 foot section of the Landfill Area 2 had been eroded by the Republican River. Therefore, an IRA was conducted that includes riverbank stabilization and erosion control (eroded material has in the past included UXO). In 1998 and 1999 an EE/CA and an Action Memorandum (respectively) were completed. The stabilization was completed in FY01.

Former Fire Training Area-Marshall Army Airfield (FTRI-019)

Private wells in the area have been monitored since this site was discovered. Because private wells have been impacted, an Engineering Evaluation/Cost Analysis (EE/CA) was performed (completed December 1997) to assess the need for a Removal Action aimed at Exposure Control. New wells outside the plume have been installed for two off-post properties.

Current REM/IRA/RA

Forsyth Landfill Area 2 (FTRI-038) - started in FY00 Total Construction Cost = \$826,743

Construction completed. Removal Action Report developed.

Remediation Activities

Future REM/IRA/RA

FY2004
IRA - FTRI-031

FY2006
RA - FTRI-019

FY2008
RA - FTRI-027

Cost Estimates

PRIOR YEAR FUNDS

FY89-96

\$ 38,660,000

FY97

FTRI-003	IRA	\$ 14,069	
FTRI-003	LTM	\$ 261,097	
FTRI-003	LTO	\$ 3,905	
FTRI-003	PY M/SR	\$ 18,327	
FTRI-003	PY RA/SA	\$ 40,590	
FTRI-006	PY RI/SR	\$ 11,171	
FTRI-009	PY RI/SR	\$ 81,400	
FTRI-009	RI/FS	\$ 61,677	
FTRI-011	RI/FS	\$ 339,464	
FTRI-019	IRA	\$ 317,763	
FTRI-019	PY RA/SA	\$ 26,000	
FTRI-019	PY RI/SR	\$ 172,333	
FTRI-019	RI/FS	\$ 814,529	
FTRI-027	PY FS/SR	\$ 121,531	
FTRI-027	RI/FS	\$ 28,398	
FTRI-029	PY RI/SR	\$ 34,889	
FTRI-029	RI/FS	\$ 24,915	
FTRI-030	PY RI/SR	\$ 29,400	
FTRI-030	RI/FS	\$ 34,000	
FTRI-030	RI/FS	\$ 36,701	
FTRI-031	PY RI/SR	\$ 40,398	
FTRI-031	RI/FS	\$ 12,126	
FTRI-038	IRA	\$ 3,131	
FTRI-053	RI/FS	\$ 447	
FTRI-054	PY RI/SR	\$ 4,964	
FTRI-057	PY RA/SA	\$ 103,042	
FTRI-057	RA	\$ 126,899	
FTRI-060	PY RI/SR	\$ 4,870	
FTRI-062	PY RI/SR	\$ 5,584	
FTRI-062	RI/FS	\$ 781	
FTRI-063	PY RI/SR	\$ 7,789	
FTRI-063	RI/FS	\$ 464	
FTRI-066	PY RI/SR	\$ 7,494	
FTRI-066	RI/FS	\$ 595	
FTRI-067	PY RI/SR	\$ 4,447	
FTRI-068	PY RI/SR	\$ 3,482	
FTRI-069	PY RI/SR	\$ 3,000	
Restoration Advisory Board		\$ 2,328	\$ 2,804,000

FY98

FTRI-003	IRA	\$ 7,708.32
FTRI-003	LTM	\$ 226,970.52
FTIR-003	LTO	\$ 35,286.44
FTRI-006	RI/FS	\$ 25,524.46
FTRI-009	RI/FS	\$ 250,451.07
FTRI-011	RI/FS	\$ 251,366.46

Cost Estimates

PRIOR YEAR FUNDS

	FTRI-019	IRA	\$ 148,134.83	
	FTRI-019	RI/FS	\$ 1,511,680.11	
	FTRI-027	RI/FS	\$ 274,711.33	
	FTRI-029	RI/FS	\$ 35,543.58	
	FTRI-031	RI/FS	\$ 199,753.53	
	FTRI-036	IRA	\$ 50,194.15	
	FTRI-038	IRA	\$ 64,099.43	
	FTRI-051	RI/FS	\$ 6,407.79	
	FTRI-053	RI/SR	\$ 63,995.27	
	FTRI-056	RI/FS	\$ 48,351.47	
	FTRI-057	RA	\$ 17,054.28	
	FTRI-062	LTM	\$ 9,026.81	
	FTRI-063	LTM	\$ 9,364.35	
	FTRI-066	LTM	\$ 7,817.53	
	FTRI-068	LTM	\$ 6,558.47	
	Restoration Advisory Board		\$ 26,000.00	\$ 3,276,000
FY99	FTRI-003	LTM	\$ 43,240.95	
	TRI-003	LTO	\$ 68,334.83	
	FTRI-009	RI/FS	\$ 112,474.37	
	FTRI-011	RI/FS	\$ 153,571.72	
	FTRI-019	RI/FS	\$ 1,132,184.29	
	FTRI-027	RI/FS	\$ 436,669.93	
	FTRI-029	IRA	\$ 280,927.67	
	FTRI-031	RI/FS	\$ 771,873.43	
	FTRI-036	IRA	\$ 256,638.61	
	FTRI-038	RI/FS	\$ 1,038.50	
	FTRI-038	IRA	\$ 34,478.04	
	FTRI-053	RI/SR	\$ 11,042.13	
	FTRI-054	LTM	\$ 1,848.40	
	FTRI-057	IRA	\$ 6,219.95	
	FTRI-062	LTM	\$ 20,606.43	
	FTRI-063	LTM	\$ 35,717.09	
	FTRI-066	LTM	\$ 16,939.15	
	FTRI-068	LTM	\$ 16,194.51	
	Restoration Advisory Board		\$ 10,000.00	\$ 3,510,000
FY00	FTRI-003	LTM	\$ 186,682.85	
	FTRI-003	LTO	\$ 32,720.91	
	FTRI-009	RI/FS	\$ 67,419.16	
	FTRI-011	RI/FS	\$ 118,593.74	
	FTRI-019	RI/FS	\$ 790,685.65	
	FTRI-019	IRA	\$ 2,499.99	
	FTRI-027	RI/FS	\$ 581,526.93	
	FTRI-029	IRA	\$ 20,369.16	
	FTRI-031	RI/FS	\$ 661,344.89	
	FTRI-036	IRA	\$ 161,868.77	
	FTRI-038	IRA	\$ 864,724.82	

Cost Estimates

PRIOR YEAR FUNDS

	FTRI-053	RI/FS	\$	2,479.11	
	FTRI-054	LTM	\$	3,837.38	
	FTRI-056	RI/FS	\$	1,869.84	
	FTRI-062	LTM	\$	4,209.51	
	FTRI-063	LTM	\$	21,591.54	
	FTRI-066	LTM	\$	17,463.99	
	FTRI-068	LTM	\$	17,711.76	
	Restoration Advisory Board		\$	8,000.00	\$ 3,575,600
FY01	FTRI-003	LTM	\$	490,512.29	
	FTRI-009	RI/FS	\$	52,845.70	
	FTRI-011	RI/FS	\$	82,768.75	
	FTRI-011	LTM	\$	5,055.62	
	FTRI-019	RI/FS	\$	647,413.11	
	FTRI-027	RI/FS	\$	814,298.54	
	FTRI-031	RI/FS	\$	1,258,142.20	
	FTRI-036	RI/FS	\$	11,770.82	
	FTRI-038	IRA	\$	15,538.02	
	FTRI-053	RI/FS	\$	187,337.56	
	FTRI-054	LTM	\$	4,528.89	
	FTRI-056	RI/FS	\$	214,023.19	
	FTRI-057	RI/FS	\$	589.54	
	FTRI-062	LTM	\$	10,879.41	
	FTRI-063	LTM	\$	20,159.05	
	FTRI-066	LTM	\$	12,284.83	
	FTRI-068	LTM	\$	10,852.48	
	Restoration Advisory Board		\$	8,000.00	\$ 3,839,000
FY02					\$ 3,011,074
FY03 (as of July 2003)					\$ 1,996,000
Prior Year Funding					\$ 60,671,674

Fort Riley Unconstrained Cost to Complete

DSERTS #	SITE TITLE	PHASE	FY04	FY05	FY06	FY07 5YR	FY08	FY09+	PHASE TOTAL	SITE TOTAL	ACTIVITY DESCRIPTION
FTRI-003	Southwest Funston Landfill	LTM	166	166	166	166	633	3,701	4,998	4,998	Monitoring ~9 wells semi-annual 76K/yr until FY11 then 38K/yr, Annual report 37K/yr, USGS ~23K/yr, quality assurance 5K/yr until FY11 then 3K/yr, 50K in FY11 to mod ROD to reduce LTM, COE 20K/yr; cover repairs & maintenance, bank stabilization= FY08 500K, FY12 200K & FY15+ 1M (H)
FTRI-009	OB/OD Grounds (Range 16)	RI/FS	86						86	225	complete Tech Memo, USGS
		LTM		18	18	88	15		139		surface water & GW sampling in FY07 70K, USGS 18K/yr, DD 15K
FTRI-011	Camp Funston GW Detections	RI/FS	49						49	379	GWM 15K ~5 wells annually, USGS database 15K, COE 18K, QA 1K
		LTM		35	35	40		220	330		GWM 15K/yr ~5 wells annually, USGS database 15K/yr until FY07, COE 5K/yr until FY07, 5 yr reviews 5K each, well abandon 200K in FY15+
FTRI-019	Former Fire Training Area (FFTA-MAAF)	RI/FS	306	242					548	3,960	FY04=2 GW sampling events ~40 wells semi-annual 204K, COE 50K, QA 8K, USGS 32K, real estate 12K, FY05= real estate leases 12K, USGS DCP maint 32K, Corp 40K, buy private property for access for required actions 150K, sampling 8K
		RD		130					130		design 90K, COE 40K
		RA			845				845		EAB installation 475K, COE 40K, GWM 258K, USGS 32K, real estate 40K
		RA(O)				64	64	448	576		USGS DCP maint 32K/yr, COE 20K/yr, real estate 12K/yr
		RA(O)				258	258	1,345	1,861		GWM ~36wells, semi-annual (start at 258K then 129K) performance assessment in FY10 24K, closure report in FY15+ 60K, well abandonment 100K in FY15+
FTRI-027	Dry Cleaning Facilities Area	RI/FS	282	236	236	236			990	4,477	2GW events (137K/yr), and Corps 65K/yr, QA 7K/yr, USGS DCP 33K in FY04 then 27K/yr, Tech Memo 40K in FY04
		RD				150			150		design 100K, abandon wells 50K
		RA(O)					347	2,340	2,687		injection of bioremediation enhancing compounds (assumes 10 yrs) (RACER) 205K/yr, USGS 27K/yr COE 20K/yr, QA 8K/yr
		LTM						650	650		GWM 20 wells annually 40K/yr, abandon wells 50K
FTRI-030	Pesticide Storage Facility (Mixing)	LTM			20			100	120	120	sampling (5 wells for pest & metals) for 5YR

Fort Riley Unconstrained Cost to Complete

DSERTS #	SITE TITLE	PHASE	FY04	FY05	FY06	FY07 5YR	FY08	FY09+	PHASE TOTAL	SITE TOTAL	ACTIVITY DESCRIPTION
FTRI-031	Building 354 Area Solvent Detections	RI/FS	379	429	329	114			1,251	3,022	FY04-COE 71K, GWM 115K, well abandonment 50K, USGS 31K, QA 12K, revised draft RI report 100K, FY05&06-COE 71K, GWM 315K, USGS 31K, QA 12K, FY07-USGS 31K, COE 71K, QA 12K
		IRA	521						521		soil removal ~4,700cy (120' x 105' x 10')
		LTM				120	120	1,010	1,250		GWM ~20 wells, annual 120K/yr, 5YR (no \$), well abandonment 50K in FY15+
FTRI-036	Southeast Funston Landfill -Inactive	LTM			15	50		75	140	140	sampling (3 wells for metals) for 5YRs, cover inspections & repairs in FY07
FTRI-038	Forsyth Landfill(s)	LTM						600	600	600	repairs to stabilization
FTRI-053	POL Tank Farm	RI/FS	20						20	20	PY S&R
FTRI-054	Custer Hill PX USTs Bldg 5320	LTM	10	10	10				30	30	3 wells annually, free product removal 10K/yr
FTRI-056	Abandoned Gasoline Line	RI/FS	52						52	52	PY S&R
FTRI-057	6200 Area Fuel Oil Line	RI/FS	1						1	1	request site closure
FTRI-062	TMP Gas Station (Bldg 388)	LTM	10						10	10	3 wells annually, COE
FTRI-063	Former Building 1044 Dispensing Station	LTM	10	10					20	20	2 wells, annually, free product removal
FTRI-066	Former Building 1245 Dispensing Station	LTM	15	15					30	30	4 wells, annually free product removal
FTRI-068	Former Building 1637 Dispensing Station	LTM	10	10					20	20	2 wells, annually free product removal
TOTALS IN THOUSANDS OF \$			1,917	1,301	1,674	1,286	1,437	10,489	18,104	18,104	

Fort Riley Constrained Cost to Complete

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FTRI-009	OB/OD Grounds (Range 16)	RI/FS	86						86	225	complete Tech Memo, USGS
		LTM		18	18	88	15		139		surface water & GW sampling in FY07 70K, USGS 18K/yr, DD 15K
FTRI-011	Camp Funston GW Detections	RI/FS	49						49	379	GWM 15K ~5 wells annually, USGS database 15K, COE 18K, QA 1K
		LTM		35	35	40		220	330		GWM 15K/yr ~5 wells annually, USGS database 15K/yr until FY07, COE 5K/yr until FY07, 5 yr reviews 5K each, well abandon 200K in FY15+
FTRI-019	Former Fire Training Area (FFTA-MAAF)	RI/FS	306	242					548	3,960	FY04=2 GW sampling events ~40 wells semi-annual 204K, COE 50K, QA 8K, USGS 32K, real estate 12K, FY05= real estate leases 12K, USGS DCP maint 32K, Corp 40K, buy private property for access for required actions 150K, sampling 8K
		RD		130					130		design 90K, COE 40K
		RA			845				845		EAB installation 475K, COE 40K, GWM 258K, USGS 32K, real estate 40K
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		RA(O)				258	258	1,345	1,861		GWM ~36wells, semi-annual (start at 258K then 129K) performance assessment in FY10 24K, closure report in FY15+ 60K, well abandonment 100K in FY15+
FTRI-027	Dry Cleaning Facilities Area	RI/FS	217	301	236	236			990	4,477	2GW events (137K/yr), and Corps 65K/yr, QA 7K/yr, USGS DCP 33K in FY04 then 27K/yr, Tech Memo 40K in FY04
		RD				150			150		design 100K, abandon wells 50K
		RA(O)					347	2,340	2,687		injection of bioremediation enhancing compounds (assumes 10 yrs) (RACER) 205K/yr, USGS 27K/yr COE 20K/yr, QA 8K/yr
		LTM						650	650		GWM 20 wells annually 40K/yr, abandon wells 50K
FTRI-030	Pesticide Storage Facility (Mixing)	LTM			20			100	120	120	sampling (5 wells for pest & metals) for 5YR

Fort Riley Constrained Cost to Complete

DSERTS #	SITE TITLE	PHASE	FY04	FY05	FY06	FY07 5YR	FY08	FY09+	PHASE TOTAL	SITE TOTAL	ACTIVITY DESCRIPTION
FTRI-031	Building 354 Area Solvent Detections	RI/FS	379	429	329	114			1,251	3,022	FY04-COE 71K, GWM 115K, well abandonment 50K, USGS 31K, QA 12K, revised draft RI report 100K, FY05&06-COE 71K, GWM 315K, USGS 31K, QA 12K, FY07-USGS 31K, COE 71K, QA 12K
		IRA	521						521		soil removal ~4,700cy (120' x 105' x 10')
		LTM				120	120	1,010	1,250		GWM ~20 wells, annual 120K/yr, 5YR (no \$), well abandonment 50K in FY15+
FTRI-036	Southeast Funston Landfill -Inactive	LTM			15	50		75	140	140	sampling (3 wells for metals) for 5YRs, cover inspections & repairs in FY07
FTRI-038	Forsyth Landfill(s)	LTM						600	600	600	repairs to stabilization
FTRI-053	POL Tank Farm	RI/FS	20						20	20	PY S&R
FTRI-054	Custer Hill PX USTs Bldg 5320	LTM	10	10	10				30	30	3 wells annually, free product removal 10K/yr
FTRI-056	Abandoned Gasoline Line	RI/FS	52						52	52	PY S&R
FTRI-057	6200 Area Fuel Oil Line	RI/FS	1						1	1	request site closure
FTRI-062	TMP Gas Station (Bldg 388)	LTM	10						10	10	3 wells annually, COE
FTRI-063	Former Building 1044 Dispensing Station	LTM	10	10					20	20	2 wells, annually, free product removal
FTRI-066	Former Building 1245 Dispensing Station	LTM	15	15					30	30	4 wells, annually free product removal
FTRI-068	Former Building 1637 Dispensing Station	LTM	10	10					20	20	2 wells, annually free product removal
TOTALS IN THOUSANDS OF \$			1,852	1,366	1,674	1,286	1,437	10,489	18,104	18,104	
POM - Forecasted ER-A Budget			1,852	3,204	2,299	3,353	14,199				
Difference			0	1,838	625	2,067	12,762			18,104	

Community Involvement

RESTORATION ADVISORY BOARD (RAB) STATUS

TECHNICAL REVIEW COMMITTEE

A Technical Review Committee was organized and met for the first time on January 16, 1992. The TRC charter was approved at the next meeting held on June 18, 1992. Meetings were held approximately twice a year. The TRC has not been active since the fall of 1994.

FORMATION OF FORT RILEY'S RESTORATION ADVISORY BOARD

Fort Riley held its orientation meeting September 30, 1997 for members of the community who may be interested in participating on a Restoration Advisory Board (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 (DES) were invited to the orientation meeting by direct mail. Newspaper advertisements and television and radio announcements were additional methods used to announce the formation of Fort Riley's RAB.

At the orientation meeting, interested community members were asked to complete an application, a biographic information form and a demographic information form, if they had not completed and returned an application to DES before the meeting. A Community Co-Chair was elected by community representatives in attendance. Due to the number of applications received at that time, everyone that applied to be a member of the RAB served. Approximately 20 people attended the orientation meeting.

RAB MEMBERSHIP

The current members include representatives from the Fort Riley military community, local environmental businesses, private business, Unified School District 475, Geary County Extension Office, Riley County Planning, Geary County (Commissioner), Clay County (Commissioner), Kansas State University, city of Ogden (former Mayor), the EPA, and the KDHE.

RAB ACTIVITIES

In July 2002 RAB members voted to alter the frequency of the meetings and newsletters from bimonthly to quarterly. Meetings are now held in January, April, July and October. Newsletters are written and sent to the RAB members in March, June, September and December.

In July 2003 RAB members voted to decrease the number and frequency of RAB newspapers advertisements. There will be one ad in the Sunday newspaper prior to the meeting. The two newspapers are in Junction City Daily Union and the Manhattan Mercury.

In July 2003 the members voted to not have meetings held in local communities as they have been annually in the past. All meetings will be held at the Directorate of Environmental and Safety Building 407 Pershing Court, Fort Riley, Kansas.

PROJECTIONS FOR THE RAB

Over the next year, the members will continue to gain knowledge of site characteristics and issues, review documents, provide technical advice, and participate in formal public comment period activities.

The DCFA has two sites with soil and groundwater contamination from dry cleaning operations using tetrachloroethylene/perchloroethylene (PCE). Dry cleaning occurred at building 180/181 (demolished in 2000) and building 183 (demolished in 2002). There is minimal contamination at building 183. The eastern groundwater plume originates at building 180/181 with two hotspots – 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 negatively impacting Kansas River water quality.

While the Preliminary Assessment/Site Inspection (PA/SI), confirming soil and groundwater contamination, was completed in a timely manner in late 1992, it was followed by three protracted remedial investigations. Each subsequent report revealed the complexity of the site as Fort Riley tried to define the extent of the PCE contamination.

The Remedial Investigation (RI) Report, dated March 1995, focused on the contamination on the terrace at building 180/181. The sewer lines were surveyed in an effort to determine the origin of the PCE contamination. In 1994, two actions were taken to reduce the contamination. First, east of building 180/181, a leaking sewer line was repaired and contaminated sediment (470 ppm) PCE from a sewer manhole was removed. Second, a soil vapor extraction pilot study next to the manhole recovered 20 pounds of PCE. With these efforts, groundwater contamination decreased, but not eliminated. This leaves open the possibility that contamination was moving south into the Kansas River alluvium.

The next effort, the Remedial Investigation Addendum Monitoring Expansion Report (RIAMER), dated March 1998, documented efforts to determine the extent of the contamination in the alluvial aquifer under “The Island”. As a result of drilling additional wells, the contaminant plume issuing from the terrace at building 180/181 was defined. However, newly drilled DCF96-25 on the western side of the Island had high levels of PCE in the groundwater. Later in March 2001, DCF96-36 in Training Area 2 (TA2) south of the Kansas River had a groundwater sample test 15 ppb PCE. These data gaps set up the next round of investigation.

The third document, the Remedial Investigation Addendum (RIA), dated May 2004, addresses efforts to determine the origin of the PCE contamination on the terrace and in the alluvium; and if contamination had migrated under the Kansas River.

By collecting soil samples and drilling additional wells, Fort Riley found contamination under the southwest corner of building 180/181 and that the groundwater plume in DCF96-25 originated to the northwest at DCF02-42 on the terrace. Based on a utility line survey, the western PCE contamination appears to be transported through a utility trench from the building 180/181 area. Sampling at building 183 showed no contamination. With the drilling of DCF03-

50 and no further PCE hits in DCF96-36 in TA2, PCE contamination does not appear to be crossing under the Kansas River.