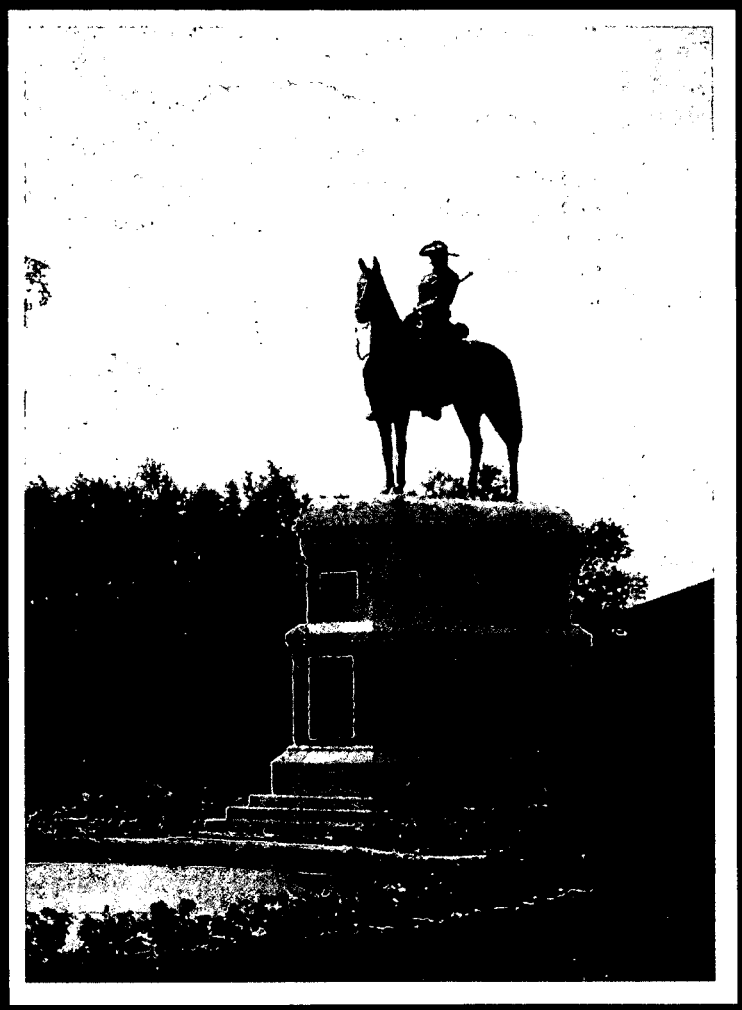
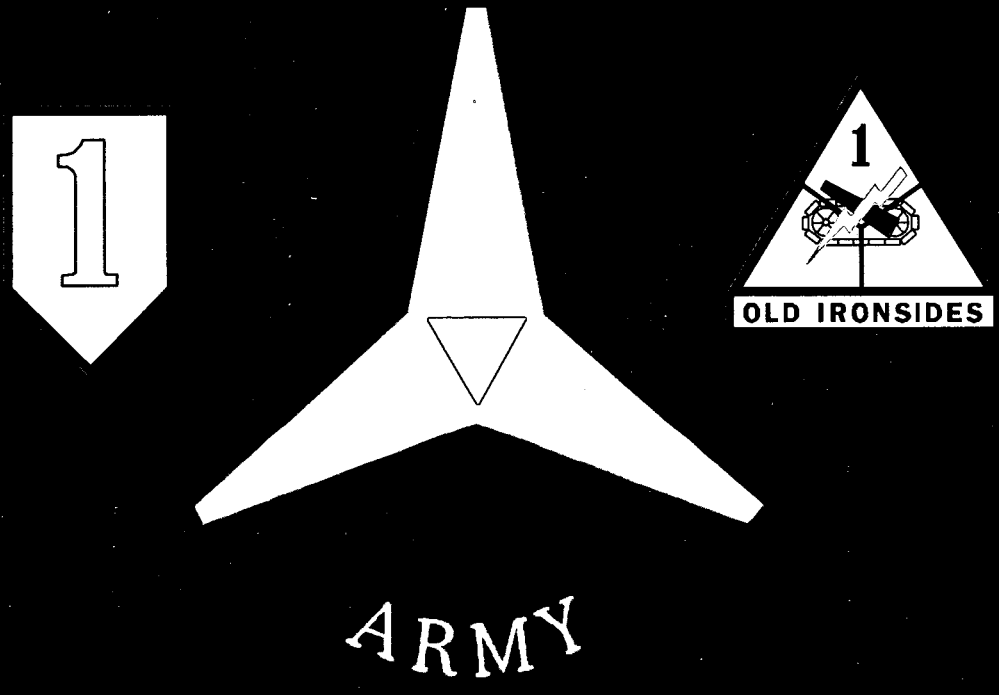
INSTALLATION RESTORATION PROGRAM
INSTALLATION ACTION PLAN



FORT RILEY
MARCH 2000

FORT RILEY
INSTALLATION ACTION PLAN



MARCH 2000

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 manager, major army commands (MACOMs), 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 August 1999 at a meeting in Osage Beach, Mo. Participants included representatives of Kansas Department of Health and Environment, EPA Region VII, Fort Riley's Restoration Advisory Board, U.S. Army Environmental Center, U.S. Army Forces Command Headquarters, 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 FORSCOM and the Department of the Army annually in the spring.

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, Fort Riley will have all remedies in place by 2006.

CONTRIBUTORS TO THIS YEAR'S IAP

NAME	ORGANIZATION
Craig Bernstein	U.S. Environmental Protection Agency, Region VII
Randy Carlson	Kansas Department of Health and Environment
John Cook	Dynamac/Fort Riley
Carol Fittro	Fort Riley, DES
Tina Gassen	Dynamac/Fort Riley
Tiffany S. Gates-Tull	U.S. Army Forces Command, IRP Support
Kathy Brown George	Fort Riley Community Restoration Advisory Board Co-Chair
Michael Greene	U.S. Army Corps of Engineers, Kansas City District
George Gricius	U.S. Army Forces Command
Kevin Higgins	Tech Law, support to USAEPA, Region VII
Joe King	U.S. Army Environmental Center
Rick McCollim	U.S. Army Corps of Engineers, Kansas City District
Frank McStay	U.S. Army Corps of Engineers, Kansas City District
Cynthia Randall	Kansas Department of Health and Environment
Debora Richert	Fort Riley, Director of DES
Richard Van Saun	U.S. Army Corps of Engineers, Kansas City District
Janet Wade	Fort Riley, DES

APPROVAL

FORT RILEY

LARRY M. BROM
COL, ARMOR
Garrison Commander
Fort Riley Kansas

CONCURRENCE

FORCES COMMAND

MIKE FRNKA
Chief, Environmental Branch
HQ FORSCOM

ACRONYMS & ABBREVIATIONS

AC/RC	Active Component/ Reserve Component
AEC	Army Environmental Center
AOC	Area of Concern
AR	Administrative Record
AST	Aboveground Storage Tank
Bldg	Building
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CA	Corrective Action
CAP	Corrective Action Plan
CC	Construction Cost
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CENWK	U.S. Army Corps of Engineers, Kansas City District
CMI	Corrective Measure Investigation
CMS	Corrective Measure Study
CY	Cubic Yards
DA	Department of Army
DASA(ESOH)	Deputy Assistant Secretary of Army (Environmental Safety and Occupational Health)
DCE	Dichloroethyene
DCF	Dry Cleaning Facilities
DD	Decision Document
DEH	Directorate of Engineering and Housing
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DES	Directorate of Environment and Safety
DM	Decision Memorandum
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
DSGS	Direct Support General Support
EE/CA	Engineer Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
ER,A	Environmental Restoration, Army (formally known as DERA)
FFA	Federal Facility Agreement
FORSCOM	U.S. Army Forces Command
FS	Feasibility Study
FTRI	Fort Riley
FY	Fiscal Year
GW	Groundwater
GMS	Groundwater Modeling System
HRS	Hazard Ranking Score
HW	Hazardous Waste
IAP	Installation Action Plan
IAG	Interagency Agreement
IFI	Initial Field Investigation
IR	Information Repositories
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IWSA	Installation Wide Site Assessment
JP-4	Jet Propellant Number Four
JP-8	Jet Propellant Number Eight

ACRONYMS & ABBREVIATIONS

LIST OF ACRONYMS AND ABBREVIATIONS CONTINUED...

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
MAAF-FFTA	Marshall Army Airfield - Former Fire Training Area
MATES	Mobilization and Training Equipment Site
MCL	Maximum Contaminant Level
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 Biphenyls
PCE	Perchloroethylene (Tetrachloroethylene)
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
PPB	Parts Per Billion
PPM	Parts Per Million
PSF	Pesticide Storage Facility
PW	Public Works
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
S&A	Supervision and Administration
SARA	Superfund Amendments and Reauthorization Act
SE	Southeast
SFL	Southwest Funston Landfill
SEFL	Southeast Funston Landfill
SI	Site Inspection
S&R	Supervision and Review

ACRONYMS & ABBREVIATIONS

LIST OF ACRONYMS AND ABBREVIATIONS CONTINUED...

STP	Sewage Treatment Plant
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leachate Procedure
TMP	Transportation Motor Pool
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine (replaced AEHA)
USAEC	United States Army Environmental Center
USATHAMA	United States Army Toxic and Hazardous Materials Agency (replaced by AEC)
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

TABLE OF CONTENTS
INSTALLATION ACTION PLAN

SUMMARY

INSTALLATION INFORMATION & DESCRIPTION

CONTAMINATION ASSESSMENT

SITE DESCRIPTIONS

TABLE OF CONTENTS
INSTALLATION ACTION PLAN

SCHEDULE & DSERTS REPORTS

REMEDIATION ACTIVITIES

COST ESTIMATES

COMMUNITY INVOLVEMENT

SUMMARY

STATUS:

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

NUMBER OF DSERTS SITES:

71 DSERTS sites

18	Active DERA Eligible Sites
50	Response Complete DERA Eligible Sites
3	Response Complete Non-DERA Eligible Sites

DIFFERENT SITE TYPES:

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

CONTAMINANTS OF CONCERN:

Chlorinated solvents, Petroleum hydrocarbons, Metals

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED REM/IRA/RA:

- REM - Excavation of lead contaminated soils at FTRI-035 (FY94) (Construction Cost (CC) = $533,000)
- REM - Excavation of pesticide contaminated soils at FTRI-030 (FY94) (CC = $788,000)
- REM - Replacement of leaking sewers at FTRI-027 (FY94 & FY96) (CC = $100,000)
- REM - Numerous UST removals (FY90 - 95) (CC = $1,500,000)
- REM - Bank stabilization and landfill cover repair and cover improvement at FTRI-003 (FY94 and FY96) (CC = $4,000,000)
- Pilot Study - Soil vapor extraction at FTRI-027 (FY95) (CC = $500,000)
- Pilot Study - Soil vapor extraction and bio-venting at FTRI-019 (FY95) (CC = $900,000)
- REM - Fuel lines and contaminated soil removed at FTRI-057 (FY96-97) (CC = $2,300,000)
- REM - Free Product Recovery at FTRI-062 and -063 (FY95) (CC = $37,500)
- REM - Soil Removal at FTRI-029 FY99 (CC=$269,590)
- REM - Cover Improvement at FTRI-036 (CC=$217,560)

CURRENT IRP PHASES:

RI/FS (11 sites) IRA (4 sites) LTM (6 sites) RA(O) (1 site)

PROJECTED IRP PHASES:

RI/FS (0 sites) IRA (2 sites) RD (2 sites) RA (1 sites)
RA (O)/LTO (2 sites) LTM (10 sites)

IDENTIFIED POSSIBLE REM/IRA/RA:
(in addition to current)

Soil Treatment at FTRI-019, 031
Groundwater Treatment at FTRI-027, 031
Bank Stabilization at FTRI-038
Pipeline Removal at FTRI-056

FUNDING:

PRIOR YEAR THROUGH 1998:	$	44,750,000
FY 1999:	$	3,500,000
FY 2000:	$	3,566,000
FUTURE REQUIREMENTS:	$	29,068,000
TOTAL:	$	80,884,000

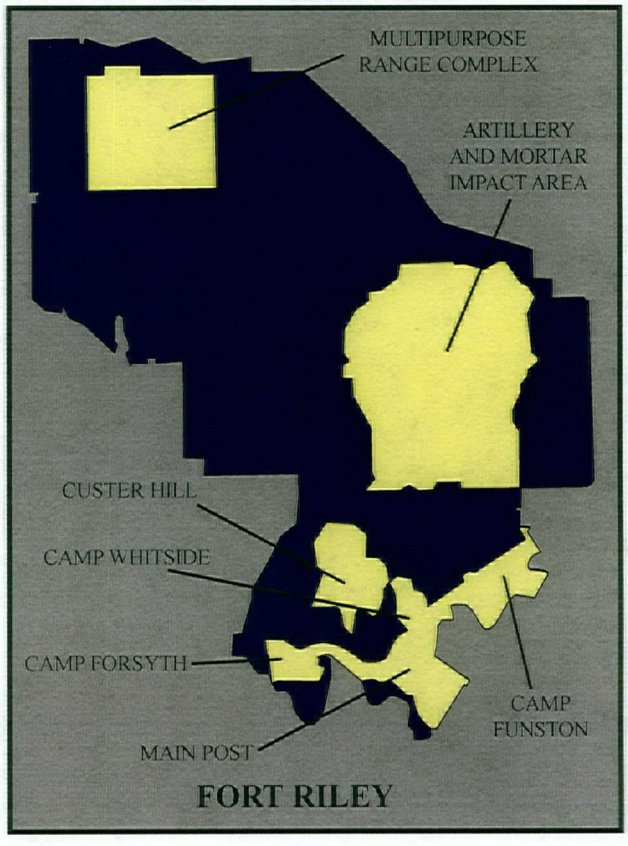
DURATION:

YEAR OF IRP INCEPTION:	1989
YEAR OF IRP COMPLETION EXCLUDING LTM (Remedy in Place):	2006
YEAR OF IRP COMPLETION INCLUDING LTM:	2034

INSTALLATION INFORMATION

LOCALE

Fort Riley is located on 100,671 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 Reservoir bounds the majority of the western side of the installation.



COMMAND ORGANIZATION

MAJOR COMMAND:
United States Army Forces Command (FORSCOM)

INSTALLATION:
Fort Riley, Directorate of Environment and Safety

IRP EXECUTING AGENCY

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

REGULATOR 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 District Operations

REGULATORY STATUS

- NPL Installation (entire installation), CERCLIS Site KS6214020756
- CERCLA/RCRA Federal Facility Agreement (FFA or IAG), 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 ACTION PLAN FROM PREVIOUS YEAR (FY 99)

- Performed RI field investigations at 354 Area Solvent Detection Site (FTRI-031)
- Deleted early GW action for MAAF (FTRI-019) and revised RI/FS, PP and ROD schedule
- Expanded RI/FS at DCF Area (FTRI-027)
- Performed removal action for Old SEFL and Incinerator Areas (FTRI-036, -029)

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 second largest employer in the state of Kansas, Fort Riley's economic impact exceeded $556,000,000 in 1998. Fort Riley has a daytime population of over 21,000 and is home to over 3,000 families. This population makes Fort Riley the 13th largest city in Kansas. The reservation covers 100,671 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, antelope 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 Bennet 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. In 1996 alone, Fort Riley deployed over 8,800 soldiers to 11 different countries.

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 the "Home of America's Army."

MISSION

Fort Riley's Mission is to provide training, readiness, and deployability for three active component combat brigades; mobilizes and deploys active and reserve component units; and provides effective support for soldiers and families during peace and war.

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 missions.

CONTAMINATION ASSESSMENT

The Army initially began environmental 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 1970's resulted in contamination in the soils and in sediments in the drainage way behind the building.

Fort Riley was formally placed on the National Priorities List 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 Facilities Agreement (FFA or IAG) was signed by the DASA (ESOH) and the 1st Infantry 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 IAG, which incorporates both Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the Resource Conservation and Recovery Act (RCRA) actions, became effective in June 1991. Project schedules are re-negotiated annually based on available resources.

Five IRP sites have been designated as operable units (OUs). Three OUs are currently the subject of Remedial Investigation / Feasibility Studies. Three Removal Actions were performed in 1994 with additional phases performed in FY95 at one site. Removal Actions have been completed at four sites (FTRI-003, FTRI-030, FTRI-057, and FTRI-035). An Installation-Wide Site Assessment was performed for identification of 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 warrant further investigation.

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

The Southwest Funston Landfill was operated from the mid-1950's through 1981. Post-closure monitoring and RI/FS sampling detected contaminants such as vinyl chloride, petroleum hydrocarbons, and metals in the groundwater at low levels. A Removal Action was completed to stabilize the Kansas River bank and reduce infiltration. The ROD was finalized in FY96. Institutional controls and long-term monitoring have been implemented.

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 was completed in FY97. The ROD for No Further Action for this site was completed in FY 97. Because residual contamination is still present, a five year review will be conducted, per the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Per the IAG, 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 the amount 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 & Colyer Manor). The penalty was paid in FY97.

Perchloroethylene (PCE) has been and is being used at the adjacent former and current Dry Cleaning Facilities, respectively. Organic contamination of soils, sediments and groundwater was confirmed in a Preliminary Assessment / Site Investigation (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 most 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 EPA and 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 the FS completed in April 1998. The proposed remedy includes 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 neccessary.

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 in FY94-95. Additional groundwater investigations were conducted in FY97-99 to further characterize the off-post groundwater plume. Private wells in the area have been monitored. An Engineering Evaluation/Cost Analysis (EE/CA) proposes providing an alternate water source to two impacted property owners with field activities scheduled for the fall of FY99. Access to the property has not been granted by the owners to implement this. A Tracer study and Natural Attenuation evaluation are in progress to evaluate remediation technologies and refine fate and transport estimation.

The 354 Area Solvent site was discovered during investigations of a POL/UST site. A source has not been determined and understanding of the nature and extent of contamination is limited. However, there are no nearby receptors and the contamination is not expected to migrate significantly in the near future. Initial field investigations were conducted in 1997 which defined the eastern limit of contamination. The RI/FS Workplans were developed and received regulator approval in FY98. RI field investigations were iniated in FY99.

The Installation-Wide Site Assessment was performed in 1992 with the results presented in the Draft Final Installation-Wide Site Assessment (IWSA) for Fort Riley, Kansas, dated 7 December 1992, as revised on 16 February 1993. It identified 25 groups of potential areas of concern (PAOC), with 23 sites being scheduled for further Site Investigations. Contaminants associated with these sites vary greatly from potentially lead-contaminated soils at old firing ranges to potential releases of solvents due to practices at furniture repair shops. Information was collected on the PAOCs to evaluate their eligibility under CERCLA and RCRA pathways and potentially exposed populations. The IWSA was conducted consistent with 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 SI's.

These PAOCs are being 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 has been 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) has been broken out as a separate site because of the magnitude of detected contamination and off-post contamination. The "Other" Multiple Site grouping consists 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 1994. A joint review of the Multiple Sites with EPA & KDHE in the summer of 1995 resulted in concurrence on the designation of two sites as formal Operable Units (MAAF-FFTA and 354-Solvent), on the recommendations of No Further Action on numerous sites, and identified several sites which warranted additional characterization or action. Only two sites, Forsyth Landfill Area 2 and the Southeast Funston Landfill, may require additional work. A NFA Decision Memorandum for many of the Multiple Sites has been prepared.

Phase I and II Site Investigations have been completed at 7 POL UST sites from 1992 to 1995. Remedial Action Plans were prepared for these sites and submitted to KDHE in FY97. KDHE placed 5 sites into LTM status and 2 sites were approved for NFA. The Work Plan for the investigation of the POL Tank Farm (FTRI-053) was completed in FY99. A workplan for investigation along the Abandoned Gas Line (FTRI-056) was complated in FY98.

PREVIOUS STUDIES

Title	Author	Date
Installation Assessment of the Headquarter, 1st Infantry Division (Mechanized) and Fort Riley, KS	Environmental Science and Engineering (for USATHAMA)	Jun-83
Evaluation of Solid Waste Management Units, Fort Riley, KS	Army Environmental Hygiene Agency	Jun-89
Installation-Wide Site Assessment	Louis Berger & Associates	Dec 92 w/ Feb 93 revisions
Impact Area Site Assessment Report	Louis Berger & Associates	Mar-93
Site Investigation Report for High Priority Sites	Louis Berger & Associates	Feb-94
Site Investigation Report for "Other Sites"	Louis Berger & Associates	Apr-95

Southwest Funston Landfill (OU 001)

Engineering Evaluation / Cost Analysis w/ August 1993 Supplement	Law Environmental, Ft. Riley DEH, Environmental and Natural Resources Division	Jul 93 w/ Aug 93 Supplement
Remedial Investigation Report	Law Environmental	Apr-94
Feasibility Study Report	Law Environmental	Apr-94
Proposed Plan	Law Environmental	Nov-94
Record of Decision	Law Environmental / Ft Riley DES	Dec-95
Operation and Maintenance Plan	Kansas City District, Corps of Engineers	Sep-96
Longterm Groundwater Monitoring Plan	Kansas City District, Corps of Engineers	Jan-97
Removal Action Report	Kansas City District, Corps of Engineers	Jun-97
Institutional Controls Plan	Ft. Riley DES	Nov-97
Annual Monitoring Report, Dec 1995 - Nov 1996	U.S Geological Survey, Lawrence, Kansas	Aug-97
Annual Monitoring Report, 1997	U.S Geological Survey, Lawrence, Kansas	Sep-98
Annual Monitoring Report, 1998	U.S Geological Survey, Lawrence, Kansas	Sep-99

Pesticide Storage Facility (OU 002)

Engineering Evaluation / Cost Analysis	Ft. Riley DEH, Environmental and Natural Resources Division	Aug-93

PREVIOUS STUDIES

Title	Author	Date
Remedial Investigation/	Law Environmental	Jul 93 w/ Dec 93 revisions
Remedial Investigation Addenda	Law Environmental	Jun 97 w/ Aug 97 revisions
Record of Decision	Law Environmental / Ft Riley DES	Sep-97
Proposed Plan	Ft Riley, DES	Aug-97
Dry Cleaning Facilities, OU 003		
Remedial Investigation Report	Louis Berger & Associates	Mar-95
Draft Final Remedial Investigation Addendum / Monitoring Expansion Report	Louis Berger & Associates	Apr-98
Draft Final Feasibility Study Report	Louis Berger & Associates	Apr-98
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-94
Site Investigation Report	Louis Berger & Associates	Aug 95 w/ revisions
Pilot Study Report	Louis Berger & Associates	Mar-99
Remedial Investigation / Feasibility Study Work Plan	Burns & McDonnell	Apr-97
Engineering Evaluation / Cost Analysis, Exposure Control Action	Louis Berger & Associates	Dec-97
Action Memoranda, Exposure Control	Louis Berger & Associates	Apr-98
Building 354 Area Solvent Detection Site, OU 005		
Preliminary Evaluation of Data	Kansas City District, Corps of Engineers	Jun-95
Sampling and Analysis Plan	Burns & McDonnell	Jul-97
Draft Initial Field Investigations Report	Burns & McDonnell	Dec-97
RI/FS Work Plan	Burns & McDonnell	Jan-99
Custer Hill Sanitary Landfill		
Data Summary and Evaluation Report	Kansas City District, Corps of Engineers	Aug-92
Data Summary and Evaluation Supplement	Louis Berger & Associates	Jun-93
Interim Sampling Data Report for the Custer Hill Sanitary Landfill	Louis Berger & Associates	Dec-93
Interim Sampling Data Report for the Custer Hill Sanitary Landfill	Louis Berger & Associates	Jul-94

PREVIOUS STUDIES

Title	Author	Date
Camp Funston Area Groundwater		
Monitoring Well Installation Report	Kansas City District, Corps of Engineers	Aug-97
Camp Funston Annual Report: Hydrogeological Data for Digital Groundwater Flow Model	U. S. Geological Survey, Lawrence, Kansas	Sep-97
Chemical and Isotope Evaluation Report	Dept. of Geology, Kansas State University	Nov-97
Work Plan for Hydrologic Evaluation of the Camp Funston Area	U. S. Geological Survey, Lawrence, Kansas	Sep-98
Annual Groundwater Monitoring Report, 1997	U. S. Geological Survey, Lawrence, Kansas	Oct-98
Annual Groundwater Monitoring Report, 1998	U. S. Geological Survey, Lawrence, Kansas	Oct-99
Site Investigation Report Addendum, Former Wherry Substation and DRMO Area 1 Drainage Ditch	Louis Berger & Associates	Feb-97
Site Investigation Report Addendum, Open Burn/ Open Detonation Area	Louis Berger & Associates	Aug-98
Site Investigation Report Addendum, Southeast Funston Landfill Incinerator Area	Louis Berger & Associates	Jul-97
Petroleum / Underground Storage Tanks		
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 5390, Fort Riley, KS.	Dames & Moore	26 Aug 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1890, Fort Riley, KS.	Dames & Moore	31 Jul 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1637, Fort Riley, KS.	Dames & Moore	29 Jul 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1539, Fort Riley, KS.	Dames & Moore	28 Jul 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1044, Fort Riley, KS.	Dames & Moore	24 Jul 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 1245, Fort Riley, KS.	Dames & Moore	16 Jul 97
Remedial Action Plan and Final Site Investigation Report for POL/UST Site 388, Fort Riley, KS.	Dames & Moore	Jun-05
Forysth Landfill		
Engineering Evaluation / Cost Analysis	Corps of Engineers, Kansas City District	Jun-98
Action Memorandum	Corps of Engineers, Kansas City District	Mar-99
Southeast Funston Lanfill		
Engineering Evaluation / Cost Analysis	Corps of Engineers, Kansas City District	Jan-99
Action Memorandum	Corps of Engineers, Kansas City District	Jun-99

OPERABLE UNITS/ INDIVIDUAL SITE PROJECTS

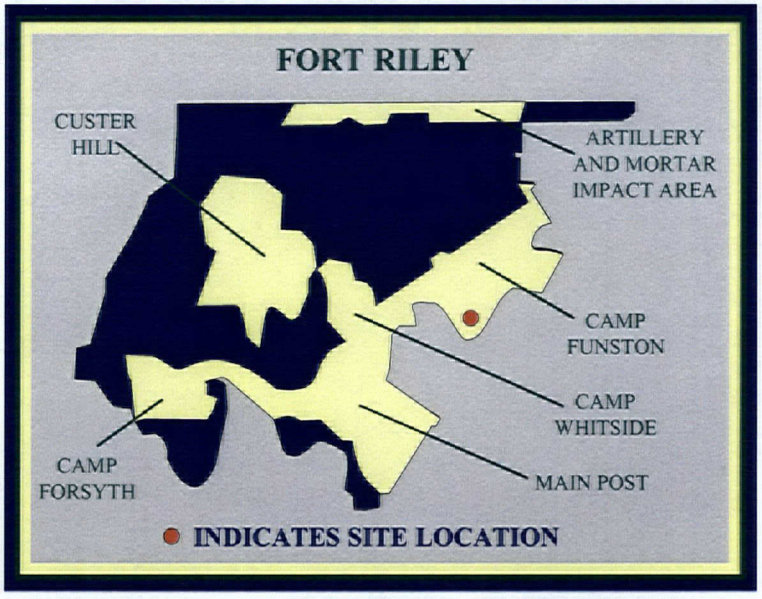
FTRI-003 (OPERABLE UNIT 001)
SOUTHWEST FUNSTON LANDFILL

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 hits of low level organic contamination. 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.

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 and site inspections were performed in 1999.



PROPOSED PLAN

Groundwater monitoring is continuing on a semi-annual basis under an indefinite delivery contract.

The USGS has prepared annual monitoring reports including hydrogeologic evaluations. The 1999 and subsequent monitoring reports will be prepared by a contractor.

Since some contamination will remain on-site, statutory reviews will be required at 5 year intervals. Five year reviews are planned through 2027. The USGS will continue to collect hydrogeologic data for use in 5 year reviews in 2002 & 2007.

Annual inspections and periodic maintenance of bank stabilization and cover will be conducted. Groundwater monitoring well pump replacement may be necessary. In the future, additional RI/FS monitoring wells and closure monitoring wells will be abandoned.

IRP STATUS

RRSE RATING: High Risk
CONTAMINANTS OF CONCERN:
Metals, VOCs (primarily Vinyl Chloride)
MEDIA OF CONCERN: Groundwater
COMPLETED IRP PHASE:
PA/SI, RI/FS, IRA, Proposed Plan, ROD
CURRENT IRP PHASE: LTM, LTO
FUTURE IRP PHASE: LTM, LTO

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
LTO	140	40	10	485	55	10	870
IRA							
LTM	185	134	235	80	65	65	1365

PROJECTED TOTAL: $3,739,000

FTRI-019 (OPERABLE UNIT 004)
FORMER FIRE TRAINING AREA FFTA - MAAF

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.

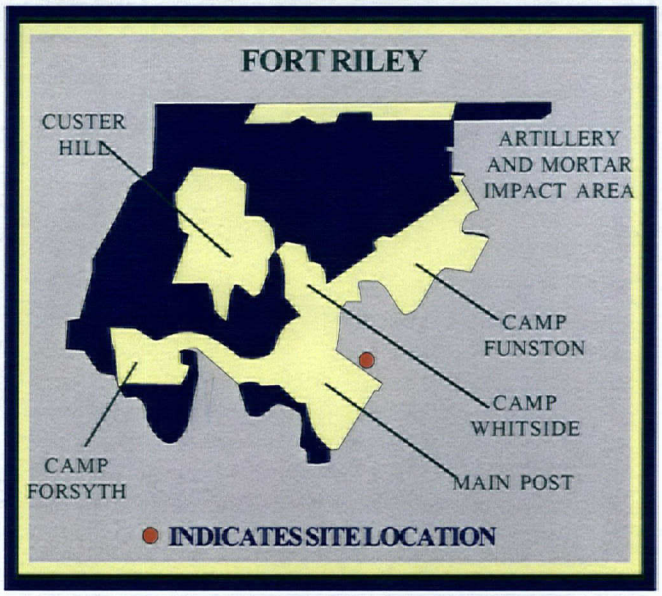
The Installation Wide Site Assessment (dated 1992) indicated that the activities at FFTA-MAAF site potentially impacted the soils and groundwater in the vicinity of the site. SITE INVESTIGATIONS (SI) activities conducted from 1993 through 1995 indicated off-post contamination which was confirmed by analyses 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 (RI) have been ongoing since 1996 to establish plume characterization and fate and transport.

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 occuring 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 intitiated in FY99.

A groundwater model is being developed using Groundwater Modeling System software and integrated into the Kansas River valley model being prepared by USGS.



PROPOSED PLAN

New wells outside of the plume (proposed in the Exposure Control EE/CA) will be installed for two off-post properties (delayed due to litigation and property access).

The RI/FS document preparation began in FY99. Monitored Natural Attenuation is under evaluation. Periodic Groundwater Monitoring to continue, estimated 2 times per year.

After the RI/FS report is completed, a PP/ROD will be prepared.

Remedial Design will start in FY03 and Remedial Action will start in FY04. Remedial Action will be implemented according to the best technology demononstrated in the FS.

IRP STATUS

RRSE RATING: High Risk
CONTAMINANTS OF CONCERN: VOCs, TPH, Napthalene
MEDIA OF CONCERN: Groundwater, Soil
COMPLETED IRP PHASE: PA/SI, IRA (Pilot Study, VE/SVE)
CURRENT IRP PHASE: RI/FS, IRA
FUTURE IRP PHASE: ROD, RD, RA, RA(O), LTM

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	1068	995	737	20			
RD						250	
RA							2000
RA(O)							1600
IRA	20		500				
LTM				395	395	395	3160

PROJECTED TOTAL: $11,535,300

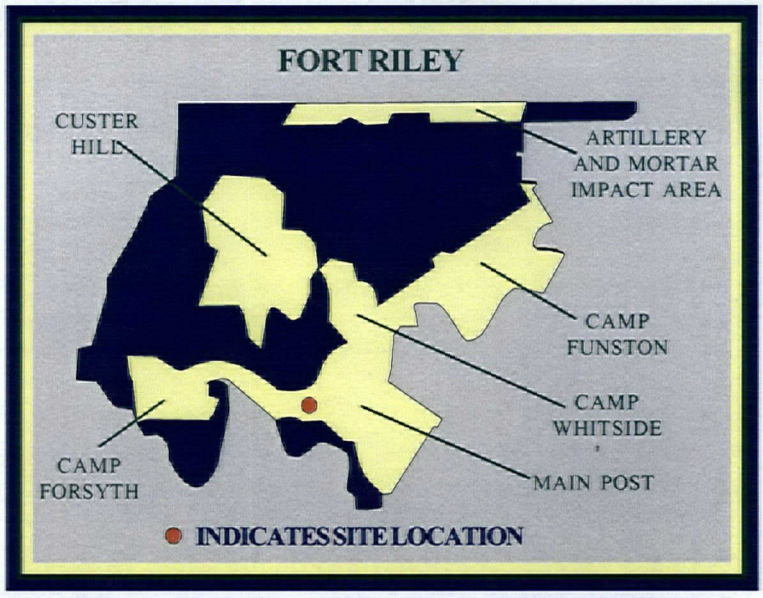
FTRI-027 (OPERABLE UNIT 003)
DRY CLEANING FACILITIES AREA

SITE DESCRIPTION

The former Dry Cleaning Facility 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 DCF in September 1992 and an RI/FS initiated. Chlorinated solvent contamination was found in soils and groundwater. A Pilot Study for Groundwater and Soil Vapor Extraction was completed. The groundwater pumping tests, conducted in the overburden and bedrock aquifer, indicated that groundwater extraction would be an ineffective remedy, as the pumping rate was approximately 0.75 gallons per minute. Soil Vapor Extraction rates were low, also, but yielded enough contaminant removal to extend the pilot study for two months to further assess sustainable removal rates. The SVE was successful in removing most of the soil contamination.

Following review of the RI and the Draft FS it was determined, in concert with EPA- and 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 exceed Safe Drinking Water Act (SDWA) MCLs, and the results were reported in an RI addendum. Leakage from a nearby sewer servicing the laundry was corrected in 1996.

Baseline risk assessment indicates minimal risk associated with the site. Exposure to impacted groundwater has not occurred and is not expectedto occur. Data shows contaminant levels are steadily declining. The Proposed Plan includes a Long Term Monitoring Program, 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. New alluvial wells installed in 1999 indicate need for additional investigations to define actual extent.



PROPOSED PLAN

Complete additional RI activities. Complete Proposed Plan and ROD.

Periodic groundwater monitoring.

Five year reviews will be required per the NCP. Groundwater action may be required in the future.

IRP STATUS

RRSE RATING: High Risk
CONTAMINANTS OF CONCERN: VOCs
MEDIA OF CONCERN: Groundwater
COMPLETED IRP PHASE: PA/SI, IRA (Pilot Study, SVE)
CURRENT IRP PHASE: RI/FS
FUTURE IRP PHASE: PP, ROD, RD/RA, RA(O), LTM

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	475	438	200				
RD				150			
RA				1000			
RA(O)					400	400	400
IRA							
LTM				330	240	240	2380

PROJECTED TOTAL: $7,052,750

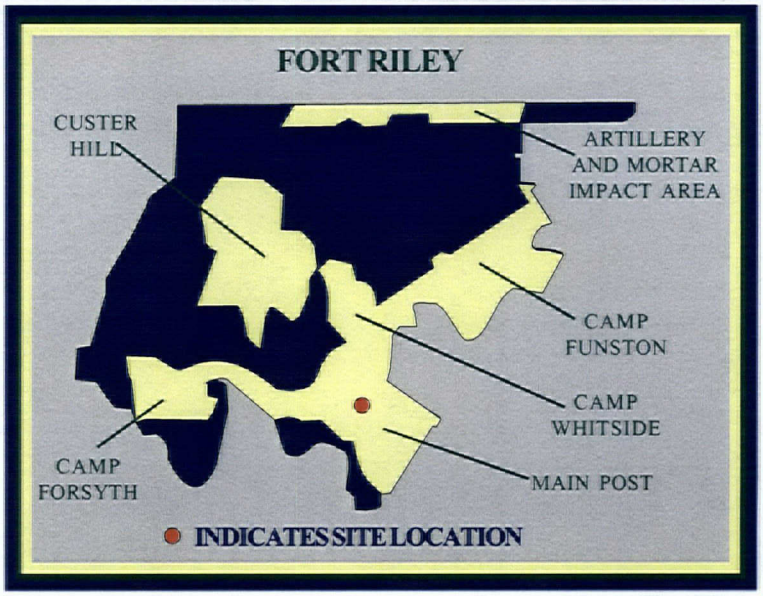
FTRI-030 (OPERABLE UNIT 002)
PESTICIDE STORAGE FACILITY (MIXING)

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 1970's, 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.

A No Further Action ROD was signed in September 1997. This decision is based on continued industrial land use and will be annotated in the installation master plan for consideration if land use changes. Because residual contamination remains in place, five year reviews are required.

A Land Use management plan was prepared in 1999.



PROPOSED PLAN

The first five year review will occur in FY02. Four additional reviews are anticipated.

IRP STATUS

RRSE RATING:
Low Risk (High Risk prior to REM)

CONTAMINANTS OF CONCERN:
Pesticides (Chlordane, DDT, Dieldrin, Heptachlor, PAHs, metals (arsenic))

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
PA/SI, Removal, RI, Proposed Plan, ROD

CURRENT IRP PHASE:
LTM (5 year reviews)

FUTURE IRP PHASE:
LTM (5 year reviews)

CONSTRAINED COST TO COMPLETE

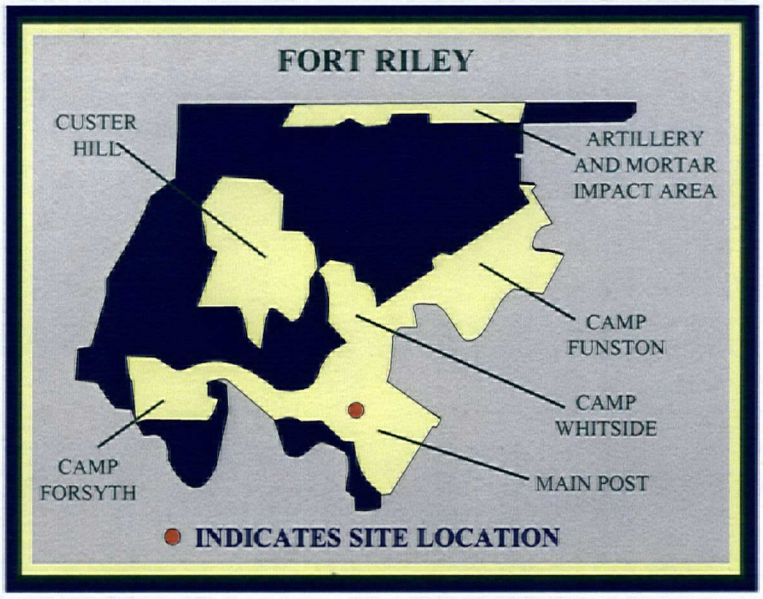
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA							
RA(O)							
IRA							
LTM			10				40

PROJECTED TOTAL: $50,000

FTRI-031 (OPERABLE UNIT 005)
BLDG. 354 AREA SOLVENT DETECTIONS

SITE DESCRIPTION

Solvent storage and dispensing previously occurred near Bldg 354 in the Public Works yard. Five USTS were removed in 1990/91. In lieu of a Site Investigation, CERCLA groundwater monitoring is being conducted in concert with POL/UST monitoring. Perchloroethylene and/or its breakdown products have been detected above MCLs in recent sampling of the UST groundwater monitoring wells. The source is unknown. In FY97, initial field investigations were performed. RI Workplan was developed in 1998 and fieldwork was conducted in the summer and fall of 1999. Preliminary data shows northern extent of contamination is outside of PW area.



PROPOSED PLAN

Complete RI - quarterly GWM for one year. Possible IRA for soils. Plan focused FS. Contract and write Proposed Plan, ROD, and LTM plan. Perform LTM - semiannually through 2012, annually through 2024. Assumes 20 years of monitoring after the ROD (through 2024) and four 5 year reviews. Groundwater action may be required, funded under FTRI-027.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater, Soil

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE:
PP/ROD, IRA, LTM

CONSTRAINED COST TO COMPLETE

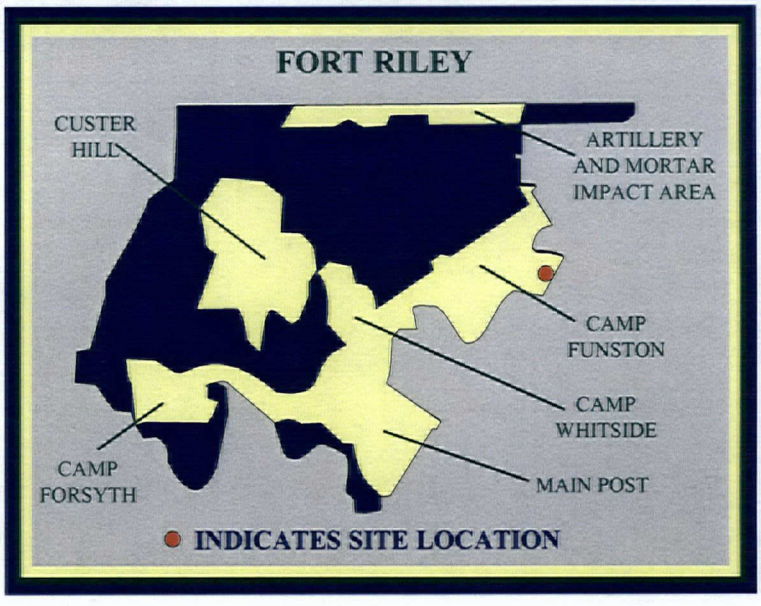
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	240	895	370	110	25		
RD							
RA(C)							
RA(O)							
IRA		30	300				
LTM				120	120	120	1695

PROJECTED TOTAL: $4,025,000

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 1950's. Eleven (11) soil gas sampling locations indicated no VOC contamination. Four (4) perimeter monitoring wells were installed and sampled during SI. Initial laboratory analysis showed low levels of 1,2 dichloroethylene, and low levels of lead exceeded MCL. Confirmation sampling of groundwater in December 1995 indicated similar results to previous data. Organic contaminants were detected in the western portion of the landfill. Groundwater sampling and analysis conducted after 1995 have not shown groundwater contamination.



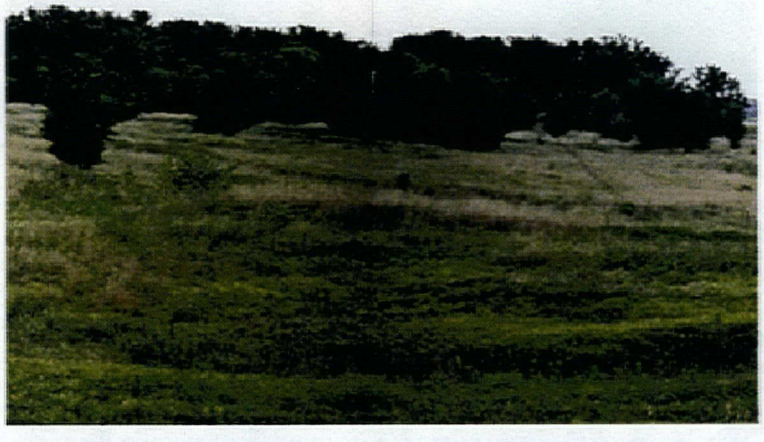
In FY98-99, an EE/CA, Action Memorandum/Responsiveness Summary and Design were completed for cover improvements to 10 acres of the western portion of the landfill to correct for subsidence and improve drainage. This project will be combined with the limited soil removal at the SELF incinerator (FTRI-29).

PROPOSED PLAN

Implement cover improvements. (Oct/Nov 99)

Prepare Decision Memorandum, ROD.

Perform cover inspection concurrent with 5 year reviews.



IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:

Metals (including lead), VOCs

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI, IRA

FUTURE IRP PHASE:

ROD, LTM, LTO

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	10						
RD							
RA							
LTO			20		20		90
IRA	50	5					
LTM							15

PROJECTED TOTAL: $210,000

SUPPLEMENTAL SITE INVESTIGATIONS

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

SITE DESCRIPTION

Range 16 is where defective rounds are destroyed. Historical practices included use of solvents in an open burn area, this practice was discontinued in the early 1980s. In 1993, low levels of solvents were detected in the groundwater, however, there are no nearby receptors. Eight surface soil, eight deep borings, two surface water and three sediment samples were collected and analyzed for explosives, VOC's, SVOC's, and uranium. Four monitoring wells were installed and sampled for the same suite of analytes. The open burn pit has not been used since approximately 1993. Groundwater sampling performed in winter 1995/96 confirmed low level VOC contamination.

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

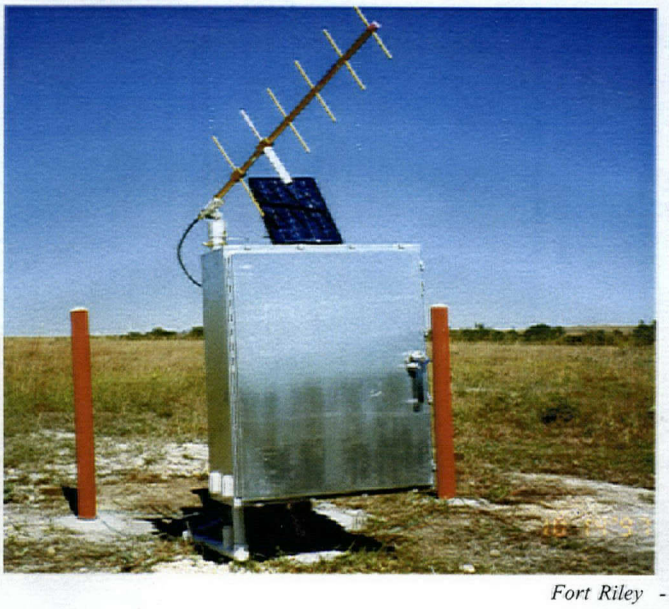
A hand dug well (presumably part of a historic farmstead) was converted to a permanent groundwater monitoring well. In 1998, 5 surface water samples from the ephemeral streams onsite were collected and analyzed (the results were non-detects for contaminants of concern).

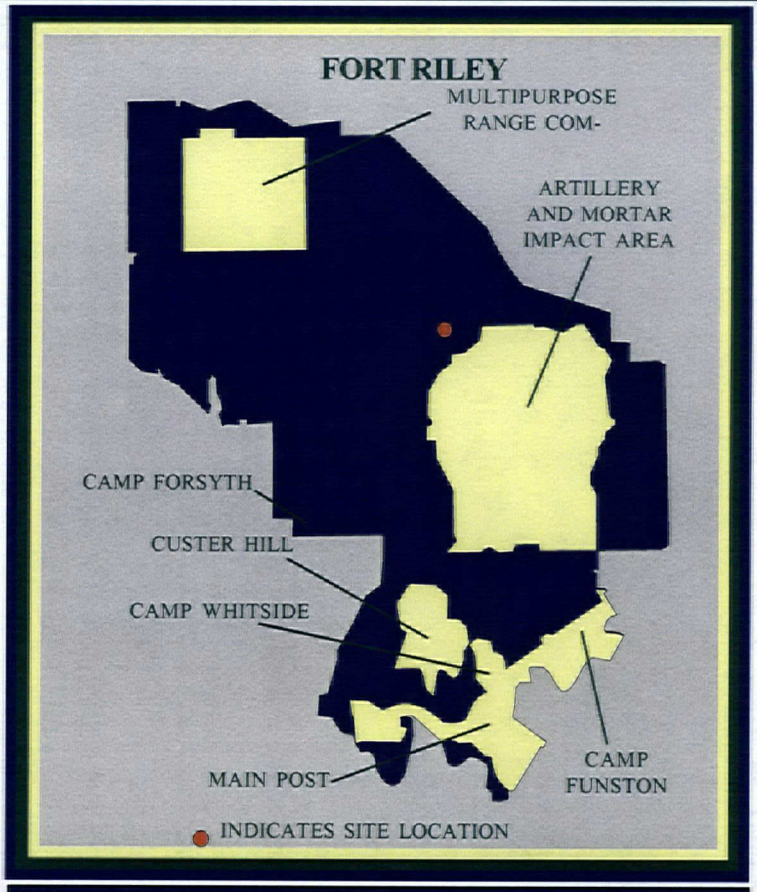
Additional monitoring and data collection is being performed to better understand this complex site and to aid in potential future investigation scoping activities. This includes the sampling of surface water, using an automated surface water collection system designed and installed by the USGS. This system will operate for at least 5 years to evaluate potential migration pathways. 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 receptors.

PROPOSED PLAN

Continue to monitor stream flow and surface water quality for 5 years.

Prepare DD.





IRP STATUS

RRSE RATING: Medium Risk
CONTAMINANTS OF CONCERN: VOCs
MEDIA OF CONCERN: Soils, Groundwater
COMPLETED IRP PHASE: PA/SI
CURRENT IRP PHASE: RI
FUTURE IRP PHASE: DD

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	96	85	85	85	115	10	
RD							
RA(C)							
RA(O)							
IRA							
LTM							

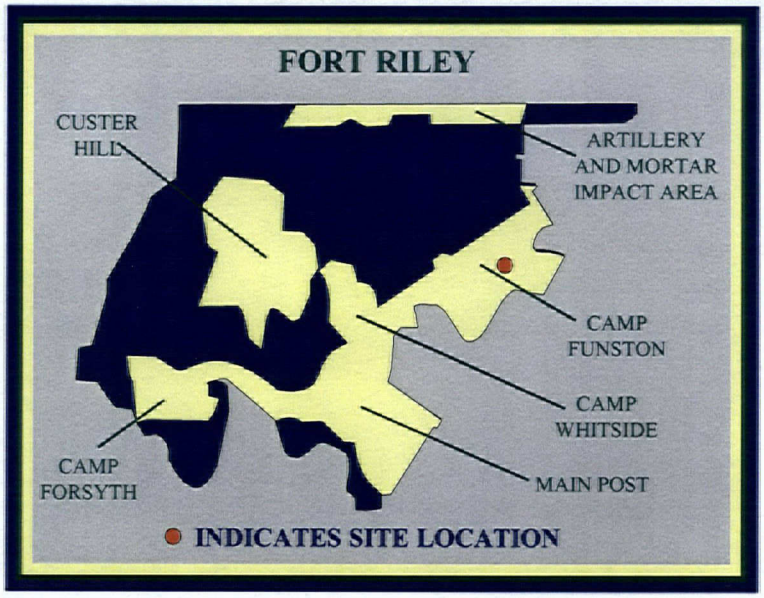
PROJECTED TOTAL: $476,000

FTRI-011
CAMP FUNSTON GROUNDWATER DETECTIONS

SITE DESCRIPTION

For additional information, see SE Funston Landfill, DRMO Area 2, Former DSGS site and Funston area (1000 Area) POL/UST sites. Groundwater screening and monitoring well sampling data indicate apparent wide spread, but low level solvent (includes vinyl chloride) and some metals contamination. No specific source has been identified. 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. Private wells exist in the immediate area. Sampling of the identified private wells do not show groundwater contamination. Additional groundwater monitoring wells have been installed to fill data gaps and replace abandoned monitoring wells.

The USGS has performed data evaluation and developed a groundwater model. A GW Modeling report was issued in 1999.



PROPOSED PLAN

Prepare DD. Perform LTM through 2027 with decreasing scope in the out years.

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:
VOCs, Metals

MEDIA OF CONCERN:
Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI

FUTURE IRP PHASE:
ROD, LTM

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	150	15					
RD							
RA(C)							
RA(O)							
IRA							
LTM		80	130	55	40	40	695

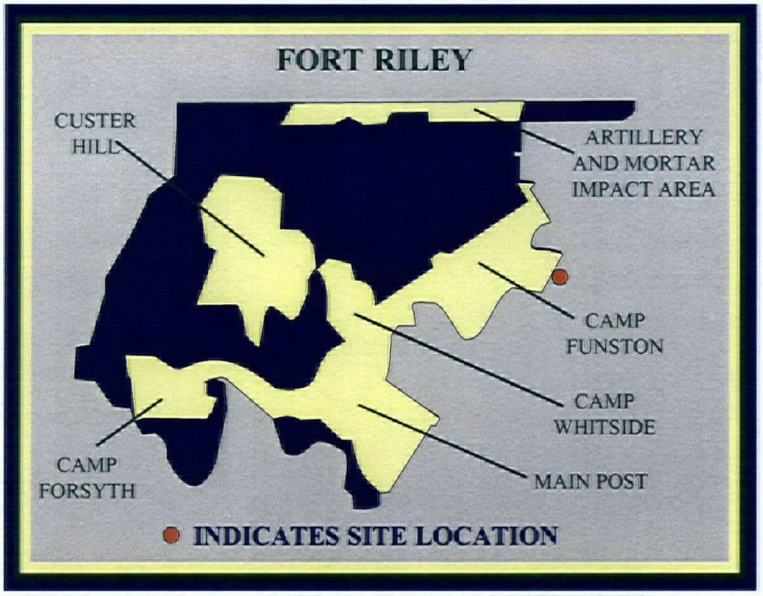
PROJECTED TOTAL: $1,205,000

FTRI-029
OLD INCINERATOR SITE SE-CAMP FUNSTON

SITE DESCRIPTION

This site is located adjacent to the southeast portion of the installation. The land was transferred to the Kansas Department of Wildlife and Parks when Highway K-18 was constructed. The incinerator was abandoned in the mid 1950's or earlier. Incinerator ash with high lead content has been detected over a wide area within the approximate 10 acre site. Ten (10) 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 has been encountered during previous investigations. An ecological risk screening was conducted in 1998 showing minor risk from soil contamination. The incinerator building itself is a safety hazard (slips, trips and falls) and is being addressed by KDWP.

In 1999-2000, lead contaminated soil and debris were removed to allow unrestricted use. This project was completed in conjunction with the cover improvements on the SEFL (FTRI-36).



PROPOSED PLAN

Prepare removal action report.

Prepare decision document.

Five year reviews will be done along with FTRI-036.

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI, IRA

FUTURE IRP PHASE:
DM, ROD

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	10						
RD							
RA							
RA(O)							
IRA	35	5					
LTM							

PROJECTED TOTAL: $50,000

FTRI-038
FORSYTH LANDFILL(S)

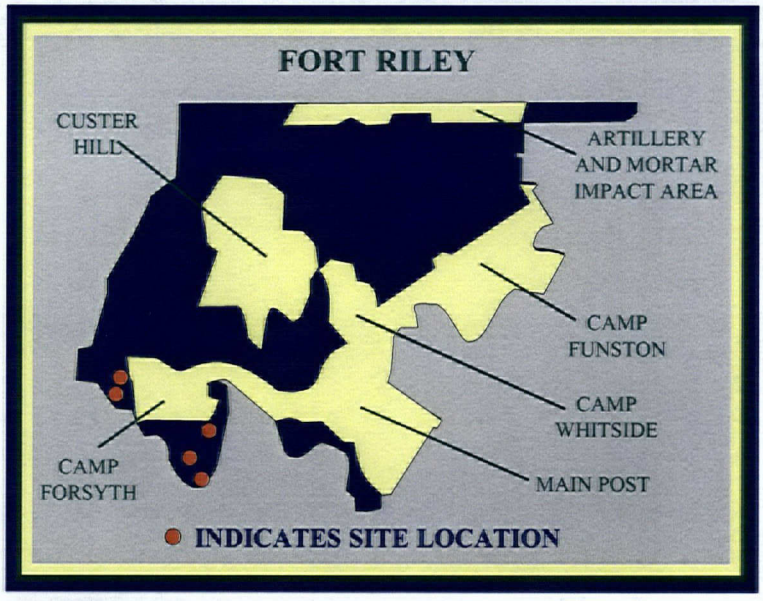
SITE DESCRIPTION

Located south and west of Camp Forsyth, five separate areas have been identified as areas which have received dumping. One of these areas is present in the aerial photos taken in 1939. In 1994, soil gas and groundwater sampling did not detect any contaminants of concern. In Area 2, along the Republican River on the western side of Camp Forsyth, landfill material is exposed on the surface, in a drainage, and along the riverbank. Landfill material may include UXO. UXO was found on a sandbar adjacent to Area 2 after 1993 flooding. Landfill Areas 1, 3, 4, and 5 and the groundwater media of Area 2 are included in the Multiple Sites Decision Document as No Further Action.

In 1997, the Army entered into a license agreement to allow for pedestrian and recreational access along a specified corridor adjacent to this site.

Evaluations show that approximately a 100 ft. width of river bank along an 800 ft. section of the landfill Area 2 has been eroded by the Republican River since 1982.

In 1998, an EE/CA and design to stabilize landfill material exposed and eroding along the river bank were prepared. In 1999, the Action Memorandum was completed.



PROPOSED PLAN

Stabilize bank.
Prepare DD.
Five year reviews including inspection and repairs.

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:
Metals, Explosives

MEDIA OF CONCERN:
Soil, Surface Water

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI, IRA

FUTURE IRP PHASE:
RA(O), DM, ROD

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	10						
RD							
RA							
RA(O)			10				620
IRA	900	40				770	
LTM							

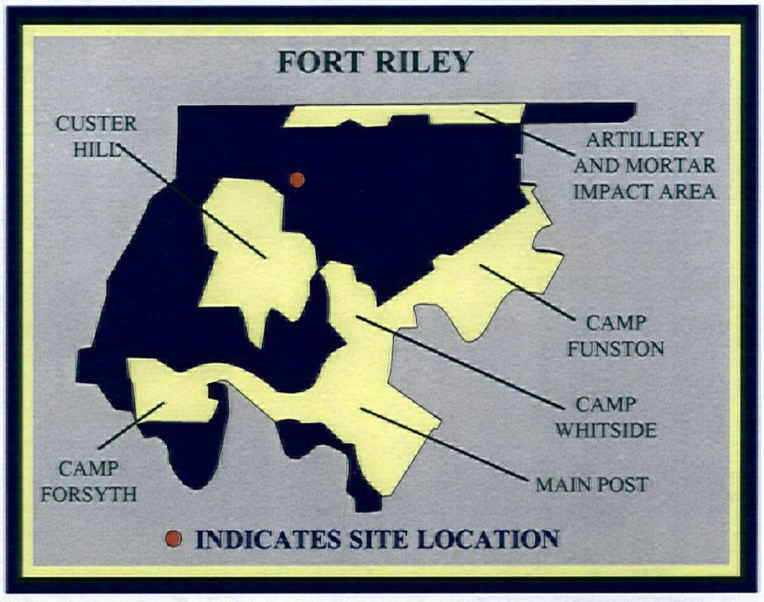
PROJECTED TOTAL: $2,440,000

POL/UST SITES

FTRI-053
POL TANK FARM

SITE DESCRIPTION

The POL Tank Farm is a 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 and high levels BTEX and PAHs. Ground-water contamination in the shale formation may be impractical to remediate because of relatively small amounts of groundwater in a fracture controlled formation. A Site Investigation work plan was completed in FY99.



PROPOSED PLAN

OMA will conduct (IRA) Free Product Recovery.

IRP will:

Perform additional characterization of the soil & ground-water contamination.

Investigate shallow overburden contamination along utility trenches

Conduct Groundwater Monitoring.

Natural attenuation possible remedy

A Remedial Action Plan will be prepared.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
BTEX, PAHs

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE:
LTM

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS		300	20				
RD							
RA(C)							
RA(O)							
IRA							
LTM			20	20	20	20	130

PROJECTED TOTAL: $530,000

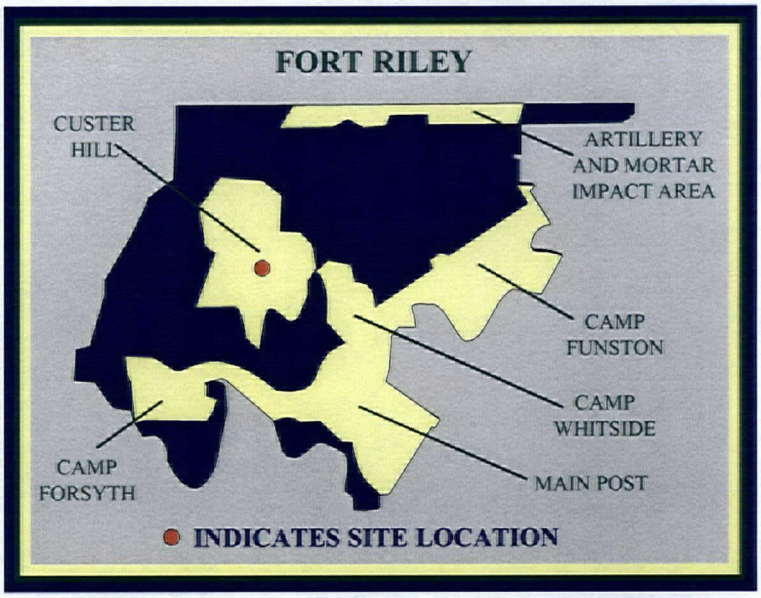
FTRI-054
CUSTER HILL PX USTS BLDG 5320

SITE DESCRIPTION

This site was closed and 5 USTs were removed in 1991. In 1995, the station was reopened and above ground storage tanks were installed. Soil contamination was documented during the tank removal. Site investigations have found moderate to high levels of BTEX in ground water and low levels of BTEX in soils. Ground-water contamination in the shale formation may be impractical to remediate because of relatively small amounts of groundwater in a fracture controlled formation. A Remedial Action Plan was submitted to KDHE in 1997. KDHE has placed the site in "on hold" status pending support of "closure". Quarterly sampling was conducted in FY98. Annual sampling event conducted summer 1999.

PROPOSED PLAN

Long Term Monitoring for 3 years to support closure.



IRP STATUS

RRSE RATING: Low Risk

CONTAMINANTS OF CONCERN:
BTEX, 1, 2-dichloroethane, methyl-t-butyl ether

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
Tank Removal, PA/SI, RI

CURRENT IRP PHASE:
LTM

FUTURE IRP PHASE:
Response Complete

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
RA(O)							
IRA							
LTM	2	2	2				

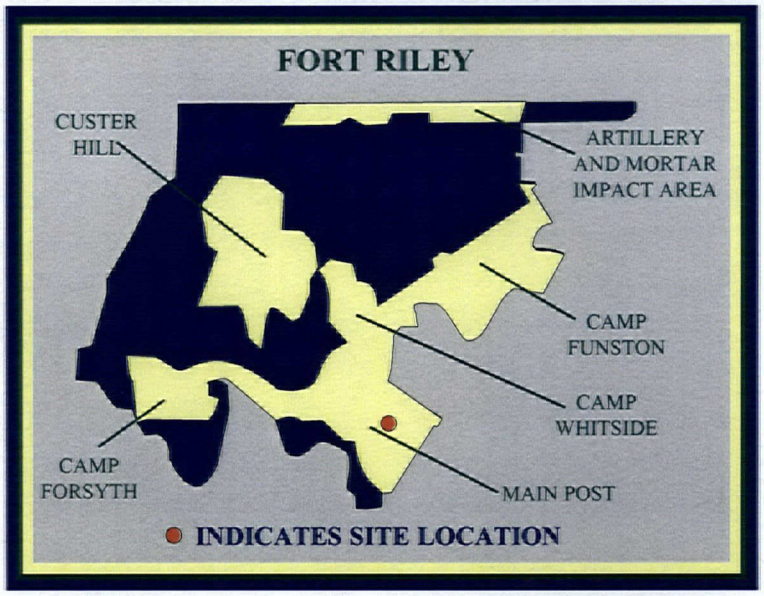
PROJECTED TOTAL: $6,000

FTRI-056
ABANDONED GASOLINE LINE

SITE DESCRIPTION

The site consists of an abandoned 3 mile pipeline and three former underground storage tanks at the terminus. Preliminary assessment conducted by the Corps did not identify any releases along the pipeline in the areas explored. Evidence of releases were identified in terminus area. Preliminary investigation of the terminus area shows contamination in the soil and ground water.

A SI was conducted in 1994. Based on the recommendations, further investigation is required. Widespread groundwater contamination not expected. A gas line location survey conducted in FY98 located the line and identified gaps in the line. Line was surveyed in. A work plan for future investigation was completed in FY98.



PROPOSED PLAN

RI will include:

- Geoprobe investigation of soils. Sample for TPH, Benzene and 1,2 DCA

- Install temporary monitoring wells and conduct groundwater sampling for BTEX and 1,2 DCA

- Install 4 driven well points at terminus and sample GW for BTEX, Napththalene and 1,2DCA

- Subsurface sampling for TPH, benzene and 1,2 DCA

Possible removal action to excavate pipeline

LTM will include:

- Conduct quarterly sampling for one year and annual sampling for 4 years

Abandon wells

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:

BTEX, Lead

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

Tank Removal, PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

IRA, LTM

CONSTRAINED COST TO COMPLETE

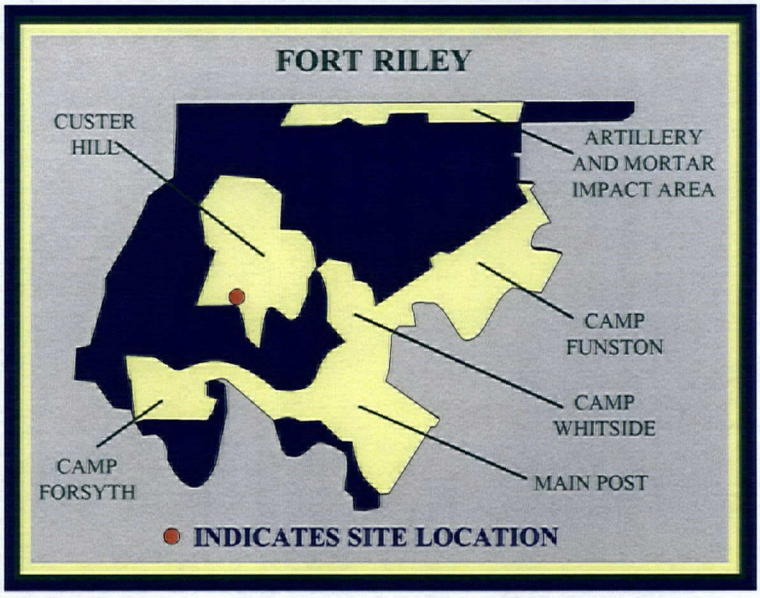
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS		305	120	10			
RD							
RA							
RA(O)							
IRA				300			
LTM				40	40	20	50

PROJECTED TOTAL: $885,000

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 unit. 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. Removal Action Report was submitted in FY99.



PROPOSED PLAN

Prepare Decision Document.
Conduct LTM of sumps.

IRP STATUS

RRSE RATING: Low Risk

CONTAMINANTS OF CONCERN:
TPH, BTEX, PAHs

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
PA/SI, RI/FS, IRA

CURRENT IRP PHASE:
RI/FS (DD), LTM

FUTURE IRP PHASE: LTM
LTM

CONSTRAINED COST TO COMPLETE

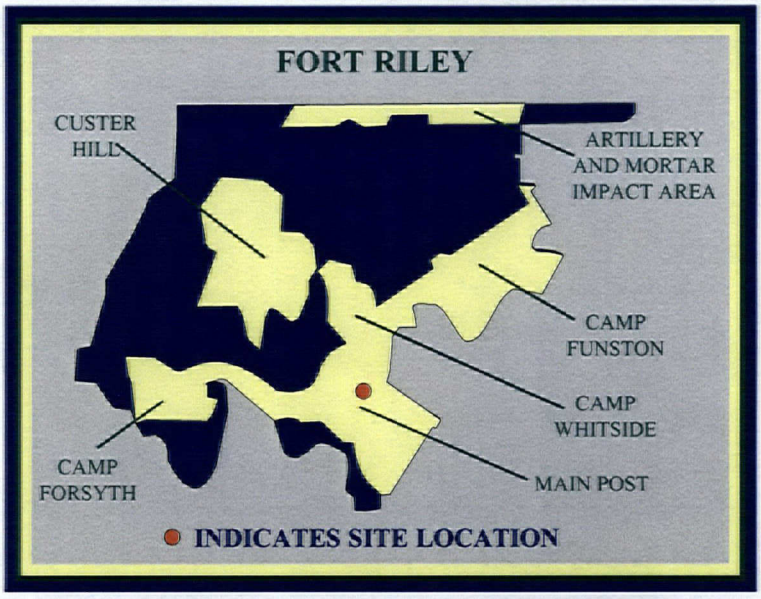
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS	15						
RD							
RA(C)							
RA(O)							
IRA							
LTM	8	5	5	5	5		

PROJECTED TOTAL: $43,000

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, high levels of BTEX in groundwater. Soil contamination is limited. KDHE has approved the Remedial Action Plan (RAP) for long term monitoring. USTs removed April 1998. LTM initiated.



PROPOSED PLAN

Long Term Monitoring for 5 years starting FY98.

Reduce number of wells being monitored from 4 to 2.

After the 5 year site review, no further action is anticipated.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:

Benzene, Toluene, Xylene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

Tank Removal, PA/SI, RI

CURRENT IRP PHASE:

LTM

FUTURE IRP PHASE:

Response Complete

CONSTRAINED COST TO COMPLETE

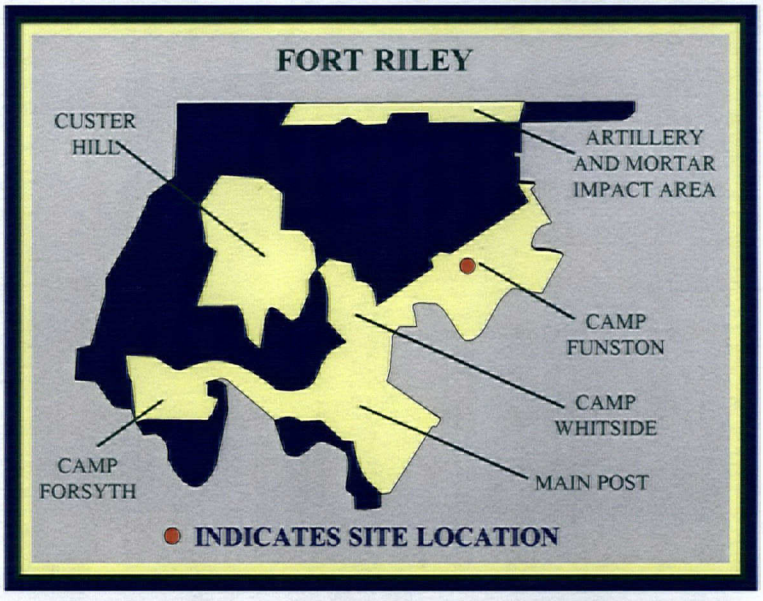
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
RA(O)							
IRA							
LTM	12	10	10				

PROJECTED TOTAL: $32,000

FTRI-063
FORMER BUILDING 1044 DISPENSING AREA

SITE DESCRIPTION

This site is located in the northwest portion of Camp Funston. The dispensing stations dated from WWII and were used through the 1970's and 80's. The USTs were removed in early 1990's. Site investigations have found soil and groundwater contamination, including a limited amount of free product. KDHE has approved the Remedial Action Plan (RAP) for long term monitoring. LTM started in FY98.



IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:

Benzene, Toluene, Xylene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

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

CURRENT IRP PHASE:

LTM

FUTURE IRP PHASE:

Response Complete

PROPOSED PLAN

Long Term Monitoring for 5 years starting FY98.

Install 2 new monitoring wells.

Overall reduction in number of wells monitored from 4 to 3.

After the 5 year site review, no further action is anticipated.

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
RA(O)							
IRA							
LTM	30	15	15				

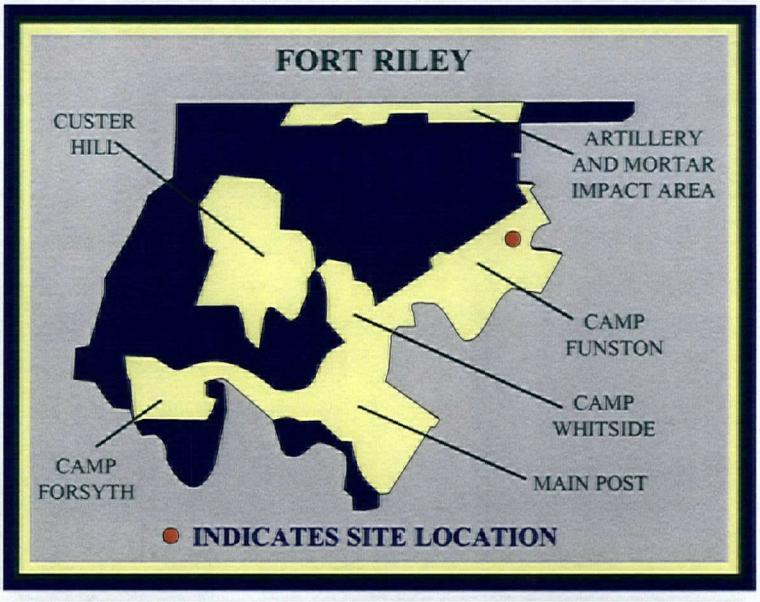
PROJECTED TOTAL: $60,000

FTRI-066
FORMER BUILDING 1245 DISPENSING STATION

SITE DESCRIPTION

This site is located near the eastern boundary of Camp Funston. The city of Ogden is approximately 4000 feet east of this site. Five USTs were removed in the early 1990's. Site investigation results indicate areas with medium to high levels of TPH and BTEX, which do not appear to be migrating.

KDHE has approved the Remedial Action Plan (RAP) for long term monitoring.



PROPOSED PLAN

Long Term Monitoring for 5 years started in FY98.

Reduce the number of wells being monitored from 5 to 3.

After the 5 year site review, no further action is anticipated.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
TPH, Benzene, Toluene, Xylene

MEDIA OF CONCERN:
Soils, Groundwater

COMPLETED IRP PHASE:
Tank Removal, PA/SI, RI

CURRENT IRP PHASE:
LTM

FUTURE IRP PHASE:
Response Complete

CONSTRAINED COST TO COMPLETE

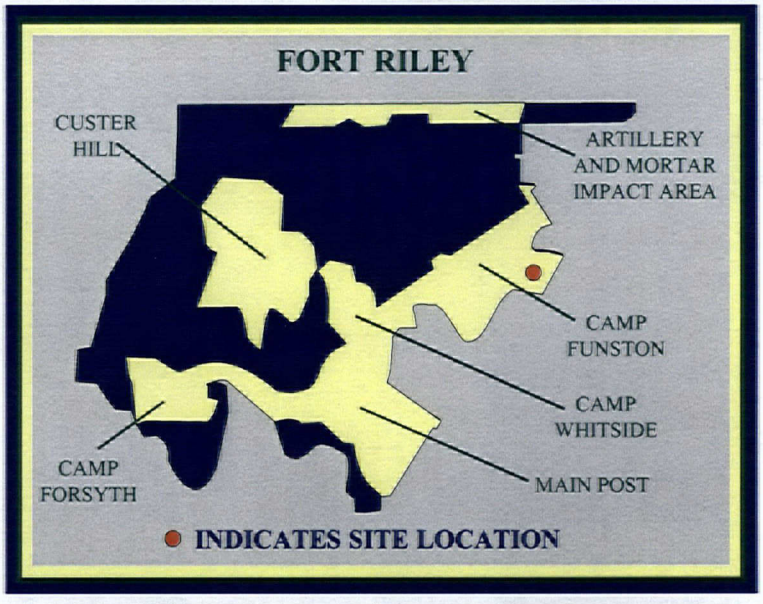
PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
RA(O)							
IRA							
LTM	15	10	10				

PROJECTED TOTAL: $35,000

FTRI-068
FORMER BUILDING 1637 DISPENSING AREA

SITE DESCRIPTION

This site is located in the eastern portion of Camp Funston. The dispensing stations dated from WWII and were used through the 1970's and 80's. The tanks were removed in early 1990's. Site investigations have identified moderate BTEX groundwater contamination. Migration does not appear to be occurring. Soil contamination is low (BTEX). KDHE has approved the Remedial Action Plan (RAP) for long term monitoring.



PROPOSED PLAN

Long Term Monitoring for 5 years started in FY98.

Reduce the number of wells being monitored from 3 to 2.

After the 5 year site review, no further action is anticipated.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:

Benzene, Toluene, Xylene

MEDIA OF CONCERN:

Soils, Groundwater

COMPLETED IRP PHASE:

Tank Removal, PA/SI, RI

CURRENT IRP PHASE:

LTM

FUTURE IRP PHASE:

Response Complete

CONSTRAINED COST TO COMPLETE

PHASE	2000	2001	2002	2003	2004	2005	2006+
RI/FS							
RD							
RA(C)							
RA(O)							
IRA							
LTM	15	10	10				

PROJECTED TOTAL: $35,000

RESPONSE COMPLETE
CERCLA Sites

Three Decision Memoranda were completed in FY98 and early FY99: Multiple Sites, Former DRMO Area 1, and Main Post Landfill and Building 727 Former Service Pit. The sites addressed in the Decision Memoranda fall into three categories: those not warranting investigation, those which are being addressed under other regulatory programs (No Action under CERCLA), and those warranting No Action or No Further Action following investigations or Removal Actions.

As a result of the IWSA, numerous sites were determined to not have the potential to pose a risk to human health or the environment and, therefore, not warrant site investigations. These sites or site groupings were:

DSERTS No.	**Common Site Name** - may differ from DSERTS site name
FTRI-005	Construction/Demolition Debris Landfill - Custer Hill
FTRI-007, 008	PCB Storage Areas
FTRI-020	Central Vehicle Wash Facility
FTRI-028	Former Fire Training Area - Camp Funston
FTRI-032	Impact Zone
FTRI-033	Multi-purpose Range Complex (MPRC)
FTRI-035	Non-Impact Area Small Arms ranges: Pistol Range - Marshall Army Airfield (MAAF)
FTRI-035	Non-Impact Area Small Arms ranges: Soils Moved from Small Arms Ranges
FTRI-055	Disposal of Trash and Demolition - Milford Recreation Center
FTRI-040	Former Oil Testing Laboratory
FTRI-042, 043	Tactical Equipment and Maintenance Shops, Former Gas Stations/Garages, Former Fuel Facilities
FTRI-044	Former Asphalt Plant (near Bldg 354)
FTRI-046	FRMR DSGS - Bldg 1693 and Adjacent Areas
FTRI-049	Mercury Use Sites
_____	Commissary Landfill - Main Post
_____	Radioactive Storage Facilities

Investigations of the sites not screened out following the IWSA were performed under the general designation of "Multiple Site Investigations" and divided into three projects for phased execution. These projects are designated as the Sensitive-Receptor Lead Sites, High-Priority Sites, and "Other Sites" Site Investigations. While most of the sites investigated in these projects are addressed by the Decision Memoranda, a few are being investigated and considered further (and are presented separately in this IAP).

The Site Investigation (SI) for the Sensitive-Receptor Lead Sites was initiated in June 1993. These sites were identified and evaluated based on a potential for lead contamination in shallow soils in areas readily accessible to the public. The Sensitive-Receptor Lead Sites project was later incorporated into the High Priority Sites project. The High Priority sites were identified as having the potential to pose a more immediate risk to human health and the environment than other sites, or there was a desire by Fort Riley to collect environmental information at an earlier stage for these sites due to other planned activities. The High Priority Sites SI was initiated in September 1993 and the results were reported in the SI Report for High Priority Sites. The remaining sites, referred to as the "Other Sites", were examined in an SI initiated in March 1994 and the results were reported in the SI Report for Other Sites. SI Addenda were prepared to address supplemental investigations performed at a few sites such as DRMO Area 1 and others. The SI reports provide detailed information about the site history, and the scope and results of the investigations.

As a result of site investigations, the following sites or site groupings were determined to not have the potential to pose a risk to human health or the environment under current and anticipated land use. A Removal Action was accomplished at the Colyer Manor Housing Area in 1994, removing lead-contaminated soils from an area behind the housing units.

DSERTS No.	**Common Site Name** - may differ from DSERTS site name
FTRI-004	Main Post Landfill
FTRI-006, 015, 012	Defense Reutilization and Marketing Office Areas 1, 2 and 3
FTRI-035	Non-Impact Area Small Arms ranges: Sensitive-Receptor Lead Sites (Colyer Manor Housing Area, Ware and Custer Elementary Schools, Former Mullins Park)
FTRI-038	Camp Forsyth Landfills Areas 1, 2, 3, 4, and 5 (except Area 2 riverbank)
FTRI-041	Former Furniture Repair Shops (Former Buildings 1301 and 1605)
FTRI-041	Former Furniture Repair and Small Arms Shop (Building 319)
FTRI-045	Print and Publications Shops
FTRI-047	Former Livestock Dipping Facility
FTRI-048	Custer Hill Golf Course Pesticide Storage Facility
FTRI-050	Former Electrical Substations
FTRI-051	Building 727 Former Service Pit
FTRI-052	Former Camp Whitside Landfill
FTRI-055	Former Milford Lake Recreation Area

The following sites were determined to require No Action under CERCLA/SARA because site investigations have revealed that they do not have the potential to pose a risk to human health or the environment and/or they are being addressed under other existing regulatory programs as noted:

DSERTS No.	**Common Site Name** - may differ from DSERTS site name	
FTRI-001	Custer Hill Sanitary Landfill	RCRA Subtitle D
FTRI-002	Whitside Construction/Demolition Landfill	RCRA Subtitle D
FTRI-014	Hospital Incinerator	RCRA / Clean Air Act
FTRI-020	Custer Hill (Industrial) Wastewater Retention Ponds	Clean Water Act
FTRI-022-025	Wastewater Treatment Plants (Former Camp Funston, Camp Forsyth, Main Post, Custer Hill)	Clean Water Act
FTRI-022-025	Sludge Drying Beds (Former Camp Funston, Camp Forsyth, Main Post, Custer Hill)	Clean Water Act
FTRI-026	Range Complex Waste Water Lagoons	Clean Water Act
FTRI-039	Consolidated Maintenance Facility (Building 8100), Waste Underground Storage Tanks	RCRA Subtitle I
_____	Petroleum Sites / Underground Storage Tanks	RCRA Subtitle I

The following DSERTS sites were addressed prior to commencement of NPL/CERCLA activities at Fort Riley.

DSERTS No.	**Common Site Name** - may differ from DSERTS site name
FTRI-008	PCB Storage CONEX near Bldg 348
FTRI-010	Pesticide (2-4D) UST at Camp FUnston
FTRI-013	Abandoned VOC Tanks North oF IACH
FTRI-016	Waste Oil AST - 3rd Battery
FTRI-017	Waste Oil AST - 4th Battery

RESPONSE COMPLETE - POL Sites

SITE DESCRIPTION

Dispensing stations dating from WWII through 70's and 90's. Tanks were removed in the early 1990's through 1998. Site investigations have been completed. No further action is required at the following sites:

FTRI-059 Remove USTs
FTRI-060 Main Post PX Gas Station/ 218
FTRI-061 Former Gas Service Station Building 354 (SEE ALSO FTRI-031)
FTRI-064 Former Building 1090 Dispensing Station
FTRI-065 Former Building 1190 Dispensing Station
FTRI-067 Former Buiding 1539 Dispensing Station
FTRI-069 Former Building 1890 Dispensing Station
FTRI-070 Former Building 2341 Dispensing Station
FTRI-071 Former Building 2345 Dispensing Station
FTRI-072 Building 8340 Fuel Oil UST
FTRI-073 Building 8360 Fuel Oil UST

PROPOSED PLAN

No further action is required at these sites.

IRP STATUS

RRSE RATING: Not Evaluated
CONTAMINANTS OF CONCERN:
TPH, Benzene, Toluene, Xylene
MEDIA OF CONCERN:
Groundwater, Soil
COMPLETED IRP PHASE:
Tank Removal, PA/SI, RI
CURRENT IRP PHASE:
Response Complete
FUTURE IRP PHASE:
Response Complete

RESPONSE COMPLETE
MULTIPLE SITE INVESTIGATION SITES

FTRI-008 PCB Storage CONEX (Building 348)
Site decontamination performed and closure was achieved under the provisions of 40 CFR 265 in December 1990 with OMA funding. Site is not DERA eligible.

FTRI-010 Pesticide (2-4D) USTs at Camp Funston
Underground tanks and piping were removed in 1991 and clean closure achieved following installation and sampling of groundwater monitoring wells in 1991/92

FTRI -013 Abandoned VOC Tanks North of IACH
These tanks were removed and clean closure achieved in 1991.

FTRI- 034 Impact Area Perimeter Small Arms Ranges.
Both active and inactive ranges are located around the perimeter of the Impact Area. These were generally evaluated in the *Impact Area Site Assessment.* (FTRI-032). No significant levels of contamination was detected. Site is considered response complete in DSERTS and will be included in a future Decision Document with the Impact Area.

FTRI-044 Former Asphalt Plant (Near Building 354)
This site was identified in the Installation-Wide Site Assessment. No significant contamination has been identified, based on the results of investigations at the 354 POL/UST (FTRI-061) and the site is considered Response Complete. Further review of the site is pending the completion of investigations at 354 Solvent Detections (FTRI-031) site.

SCHEDULE

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 Signature
IAG - Fort Riley Signature

1991

IAG - EPA Region VII Signature
IAG - KDHE Signature
IAG Effective Date

1993

PA/SI - Installation Wide Site Assessment
SI/SA - FTRI-032, Impact Zone
SI/SA - FTRI-001, Custer Hill Landfill
RI/FS - FTRI-003, SW Funston Landfill
RI/FS - FTRI-030, Pesticide Storage Facility
RI/FS (PA/SI) - FTRI-027, Dry Cleaning Facilities
RI/FS (SI) - FTRI-019 MAAF-FFTA

1994

RI/FS - FTRI-003, SW Funston Landfill (SFL)
RI/FS - FTRI-030, Pesticide Storage Facility
RI/FS - FTRI-027, Dry Cleaning Facilities
RI/FS (SI) - FTRI-019 MAAF-FFTA
REM - FTRI-035 (Excavation of lead contaminated soils, Colyer Manor)
REM - FTRI-030 PSF (Excavation of pesticide contaminated soils)
IRA - FTRI-003 SFL (River bank stabilization and cover repair/improvements) (FY 94-96)
IRA - FTRI-027 DCF (Sewer line replacement- OMA funded) (FY 94-96)

1995

RI/FS - FTRI-003, SW Funston Landfill (SFL)
RI/FS - FTRI-030, Pesticide Storage Facility
RI/FS - FTRI-027, Dry Cleaning Facilities
RI/FS (SI) - FTRI-019 MAAF-FFTA
REM - FTRI-019 MAAF-FFTA (Soil vapor extraction & bioventing pilot study)
REM - FTRI-027 (Soil vapor extraction pilot study)
RI/FS (SI) - FTRI-019 MAAF-FFTA Site Investigation Report

1996

RI/FS - FTRI-003, SW Funston Landfill ROD
RI/FS - FTRI-030, Pesticide Storage Facility
RI/FS - FTRI-027, Dry Cleaning Facilities
RI/FS (SI) - FTRI-019 MAAF-FFTA

PAST MILESTONES (continued)

1997

IRA - SFL (FTRI-003) Removal Action Report
LTM/RA(O) – SFL (FTRI-003) LTM & O&M Plans
RI/FS - FTRI-006 (DRMO & Wherry Substation) Site Investigations
RI/FS - FTRI-019 (MAAF-FFTA) Work Plans
IRA - FTRI-019 (MAAF-FFTA) Exposure Control EE/CA initiated
RI/FS - FTRI-027 Dry Cleaning Facilities, Draft Revised FS
RI/FS - FTRI-030, Pesticide Storage Facility, RI Addendum, Proposed Plan, ROD (Sep 97)
RI/FS – Former Building 354 Solvent Detection (FTRI-031) Initial Field Investigations
RI/FS, LTM - FTRI-054, -063, -066, -068, Remedial Action Pl;ans
RI/FS - FTRI-067 and FTRI-069 No Further Action required
RAB Formation (Sept 97)

FY 1998

Decision Memorandum - FTRI-various (Multi-Sites and DRMO)
Decision Memorandum - FTRI-004 (MPLF), -051 (727), and multiple UST sites
LTM - Southwest Funston Landfill (FTRI-003) Final Institutional Controls Plan, 1997Annual Monitoring Report, 1997 Inspection Report
RI/FS - FTRI-009 OB/OD, SI Addendum Report
RI/FS - FTRI-011 Camp Funston GW Detections Annual (Investigation) Monitoring Report
RI/FS – FTRI-019 MAAF-Former Fire Training Area RI/FS Work Plan (Final Oct 97) Basic Plans (Final Jul 98), Plume Characterization, Natural Attenuation Work Plan
IRA - FTRI-019 MAAF-FFTA Exposure Control EE/CA (Jan 98) Action Memo Signature (Apr 98)
IRA - FTRI-019 MAAF-FFTA Groundwater Action EE/CA (Draft Apr 98, Discontinued)
RI/FS - FTRI-027 Dry Cleaning Facilities RI Addendum/FS (Approved May 98)
PP - FTRI-027 Dry Cleaning Facilities, Draft Proposed Plan (Aug 98)
RI/FS - FTRI-029 SEFL Incinerator, SI Addendum Report
IRA- FTRI-029 SEFL Incinerator EE/CA, Preliminary IRA Design
RI/FS – Former Building 354 Solvent Detection (FTRI-031) Initial Field Investigations Report
IRA- FTRI-036 SE Funston Landfill EE/CA, Preliminary IRA Design
IRA - FTRI-038 Forsyth Bank Stabilization, EE/CA (Aug 98),
LTM - FTRI-054, -063, -066, -068

FY 1999

LTM/RA(O) - FTRI-003 Southwest Funston Landfill, 1998 Annual Monitoring Report (Sep 99), 1998 Inspection Report, Maintenance Contract Award (Sep 99)
RI/FS - FTRI-009 OB/OD, Risk Screening Report (Final Apr 99)
RI/FS - FTRI-011 Camp Funston GW Detections, 1997 Annual (Investigation) Monitoring Report (Final Dec 98), Groundwater Isotope Report (Final Mar 99), 1998 Annual (Investigation) Monitoring Report (Sep 99)
RI/FS – FTRI-019 MAAF-Former Fire Training Area, Tracer Study, Microcosm Study
IRA – FTRI-019 MAAF-Former Fire Training Area, Construction of Exposure Controls pending real estate access
RI/FS FTRI-027 Dry Cleaning Facilities Area, Draft Proposed Plan (Aug 98, May 99), Dispute Resolution (Jan – Apr 99)
IRA - FTRI-029 Old Incinerator Site SEFL-, EE/CA (Feb 99), Action Memo Signature (Jun 99), Construction Award for Soil Removal (Jun 99)
LTM - FTRI-030, Pesticide Storage Facility Land Use Management Plan
RI/FS – FTRI - 031 354 Area Solvent Detections, RI/FS Work Plans (Final Mar 99), Phase I Field Investigations
IRA - FTRI-036 Southeast Funston Landfill, EE/CA (Feb 99), Action Memo Signature (Jun 99), Construction Award for Cover Improvements (Jun 99)
RI/FS - FTRI-038 Forsyth Landfill(s), Data review,
IRA - FTRI-038 Forsyth Landfill, Area 2 Action Memo Signature (Apr 99), Bank Stabilization Design
RI/FS – FTRI-053 POL Tank Farm, RI/FS Work Plan
LTM - FTRI-054 Custer Hill PX USTs
IRA – FTRI-057 6200 Area Fuel Oil System, Removal Action Report finalization
LTM - FTRI-062 TMP Gas Station (Bldg 388)
LTM - FTRI-063 Former Building 1044 Dispensing Area
LTM - FTRI-066 Former Building 1245 Dispensing Station
LTM - FTRI-068 Former Building 1637 Dispensing Area

FY 2000

LTM/RA(O) - FTRI-003 Southwest Funston Landfill, Maintenance Construction (Oct 99), 1999 Annual Inspection Report (Nov 99)
RI/FS - FTRI-009 OB/OD, Surface Water sampling
RI/FS - FTRI-011 Camp Funston GW Detections, Groundwater Modeling Report (Draft Jan 00)
IRA – FTRI-019 MAAF-Former Fire Training Area, Construction of Exposure Controls pending real estate access
RI/FS - FTRI-027 Dry Cleaning Facilities Area, Revised Proposed Plan
RI/FS - FTRI-029 Old Incinerator Site SEFL, Draft Decision Memorandum
RI/FS – FTRI - 031 Building 354 Area Solvent Detections, Continue GW screening/install initial wells
RI/FS - FTRI-036 Southeast Funston Landfill Draft Decision Memorandum
LTM - FTRI-054 Custer Hill PX USTs
LTM - FTRI-062 TMP Gas Station (Bldg 388)
LTM - FTRI-063 Former Building 1044 Dispensing Area
LTM - FTRI-066 Former Building 1245 Dispensing Station
LTM - FTRI-068 Former Building 1637 Dispensing Area

FUTURE MILESTONES

FY 2000

LTM/RA(O) - FTRI-003 Southwest Funston Landfill, 1999 Annual Monitorinig Report (Sep 00)
RI/FS - FTRI-011 Camp Funston GW Detections, 1999 Annual (Investigation) Monitoring Report (Jun 00)
RI/FS – FTRI-019 MAAF-Former Fire Training Area, Draft RI Report (30 Mar 00)
IRA - FTRI-029 Old Incinerator Site SEFL, Removal Action Report (Draft Apr 00)
RI/FS – FTRI - 031 Building 354 Area Solvent Detections, Phase II Field Investigations, Amended RI/FS Work Plan
IRA - FTRI-036 Southeast Funston Landfill, Removal Action Report (Draft Apr 00)
IRA - FTRI-038 Forsyth Landfill(s), Bank Stabilization Contract Award (2nd Qtr) and Construction (Start April 00)
RI/FS - FTRI-057 6200 Area UST, Decision Memorandum
LTM - FTRI-057 6200 Area UST initiate 5 years of LTM if needed

FY 2001

LTM/RA(O) - FTRI-003 Southwest Funston Landfill, Maintenance Inspection/ Report, Annual Monitoring Report
RI/FS - FTRI-009 OB/OD, Surface Water sampling/reporting
RI/FS - FTRI-011 Camp Funston GW Detections, Decision Memorandum
LTM - FTRI-011 Camp Funston GW Detections, initiate LTM
RI/FS – FTRI-019 MAAF-Former Fire Training Area, FS Report (Draft Feb 01, Finalize Jun 01), Proposed Plan (Draft Aug 01)
RI/FS - FTRI-027 Dry Cleaning Facilities Area, Finalize Revised Proposed Plan, ROD (TBD)
RI/FS - FTRI-029 Old Incinerator Site SEFL, Draft Decision Memorandum
IRA - FTRI-029 Old Incinerator Site SEFL, Finalize Removal Action Report
RI/FS – FTRI - 031 Building 354 Area Solvent Detections, RI Report
IRA – FTRI - 031 Building 354 Area Solvent Detections, initiate EE/CA for source treatment
IRA - FTRI-036 Southeast Funston Landfill, Finalize Removal Action Report
IRA - FTRI-038 Forsyth Landfill(s), Bank Stabilization Removal Action Report
RI/FS – FTRI-053 POL Tank Farm, RI/FS
LTM - FTRI-054 Custer Hill PX USTs
RI/FS – FTRI-056 Abandoned Gasoline Line
LTM - FTRI-057 6200 Area UST
LTM - FTRI-062 TMP Gas Station (Bldg 388)
LTM - FTRI-063 Former Building 1044 Dispensing Area
LTM - FTRI-066 Former Building 1245 Dispensing Station
LTM - FTRI-068 Former Building 1637 Dispensing Area

FUTURE MILESTONES (continued)

FY 2002

Five Year Review – FTRI-003, 011,030, multiple small sites
LTM/RA(O) - FTRI-003 Southwest Funston Landfill,
RI/FS - FTRI-009 OB/OD, Surface Water sampling/reporting
RI/FS – FTRI-019 MAAF-Former Fire Training Area, Finalize Proposed Plan, ROD (Draft Jun 02, Draft Final Sep 02))
IRA - FTRI-019 MAAF-Former Fire Training Area/Marshall Army Airfield, possible source area action
RI/FS - FTRI-027 Dry Cleaning Facilities Area, Finalize ROD (TBD)
RI/FS – FTRI - 031 Building 354 Area Solvent Detections, Feasibility Study, Proposed Plan
IRA – FTRI - 031 Building 354 Area Solvent Detections, tentative source treatment
RA(O) - FTRI-036 Southeast Funston Landfill (maintenance every 2 years for about 15 years)
RA(O) - FTRI-038 Forsyth Landfill(s), Bank Stabilization Repairs about every 5 years, major repair estimated FY 2010
LTM – FTRI-053 POL Tank Farm, LTM for 10 years
LTM - FTRI-054 Custer Hill PX USTs
RI/FS – FTRI-056 Abandoned Gasoline Line
LTM - FTRI-057 6200 Area UST LTM FY00-04
LTM - FTRI-062 TMP Gas Station (Bldg 388)
LTM - FTRI-063 Former Building 1044 Dispensing Area
LTM - FTRI-066 Former Building 1245 Dispensing Station
LTM - FTRI-068 Former Building 1637 Dispensing Area

FY 2003

LTM/RA(O) - FTRI-003 Southwest Funston Landfill,
RI/FS - FTRI-009 OB/OD, Surface Water sampling/reporting
RI/FS – FTRI-019 MAAF-Former Fire Training Area, Finalize ROD
RI/FS – FTRI - 031 Building 354 Area Solvent Detections,
LTM - FTRI-031 Building 354 Area Solvent Detections, initiate LTM
RD, RA, LTM - FTRI-027 Dry Cleaning Facilities Area, Contingency migration control action
RI/FS, IRA, LTM – FTRI-056 Abandoned Gasoline Line Decision Document, IRA Source Removal/Treatment, initiate GW LTM (FY03-08)
LTM - FTRI-057 6200 Area UST

FY 2004

LTM/RA(O) - FTRI-003 Southwest Funston Landfill,
RI/FS - FTRI-009 OB/OD, Surface Water sampling/reporting
RA(O) - FTRI-019 Old Fire Training Area-Marshall Army Airfield – FY04-08
LTM/RA(O) - FTRI-027 Dry Cleaning Facilities Area, Contingency migration control action RA(O) FY04-08
RI/FS – FTRI - 031 Building 354 Area Solvent Detections, Closeout RI/FS contract
LTM - FTRI-031 Building 354 Area Solvent Detections
LTM – FTRI-056 Abandoned Gasoline Line (FY03-08)
LTM - FTRI-057 6200 Area UST

FY 2005

LTM/RA(O) - FTRI-003 Southwest Funston Landfill,
RI/FS - FTRI-009 OB/OD, Finalize Decision Memorandum
LTM - FTRI-019 Fmr Fire Training Area-Marshall Army Airfield
RD - FTRI-019 MAAF-Former Fire Training Area/Marshall Army Airfield, Contingency Groundwater Action

LTM/RA(O) - FTRI-027 Dry Cleaning Facilities Area, Contingency migration control action RA(O) FY04-08
LTM - FTRI-031 Building 354 Area Solvent Detections
IRA - FTRI-038 Forsyth Landfill(s), Bank Stabilization lower reach, if needed
LTM – FTRI-056 Abandoned Gasoline Line (FY03-08)

FY 2006

Various sites - Continue LTM/RA(O) per above

RA - FTRI-019 MAAF-Former Fire Training Area/Marshall Army Airfield, Contingency Groundwater Action

FY 2007

Various sites - Continue LTM/RA(O) per above

RA(O) - FTRI-019 MAAF-Former Fire Training Area/Marshall Army Airfield, Contingency Groundwater Action FY07-10

Five Year Reviews – FY 02, 07, 12, 17, 22, 27, etc.

SCHEDULE

FUTURE MILESTONES (continued)

Remedy-in-Place - Completion of Construction of final remedial action:	**2006, FTRI-019**
Deletion from NPL **2005/2006**	
RA Completion Date - FY Last RA completed Or RA(0) system shut off	**2010, FTRI-019 GW System**
Bank Stabilization / Landfill Cover Maintenance	**2020, FRYI-003, 036, 038**
IRP Completion Date *Includes LTM*	**2034, FTRI-019**

NO FURTHER ACTION SITES

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-IRWIN ACH
FTRI-015	FORMER DRMO LOCATION (DRMO AREA 2)
FTRI-016	WASTE OIL AST-3RD BATTERY
FTRI-017	WASTE OIL AST-4TH BATTERY
FTRI-018	ACTIVE FIRE TRAINING AREA
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

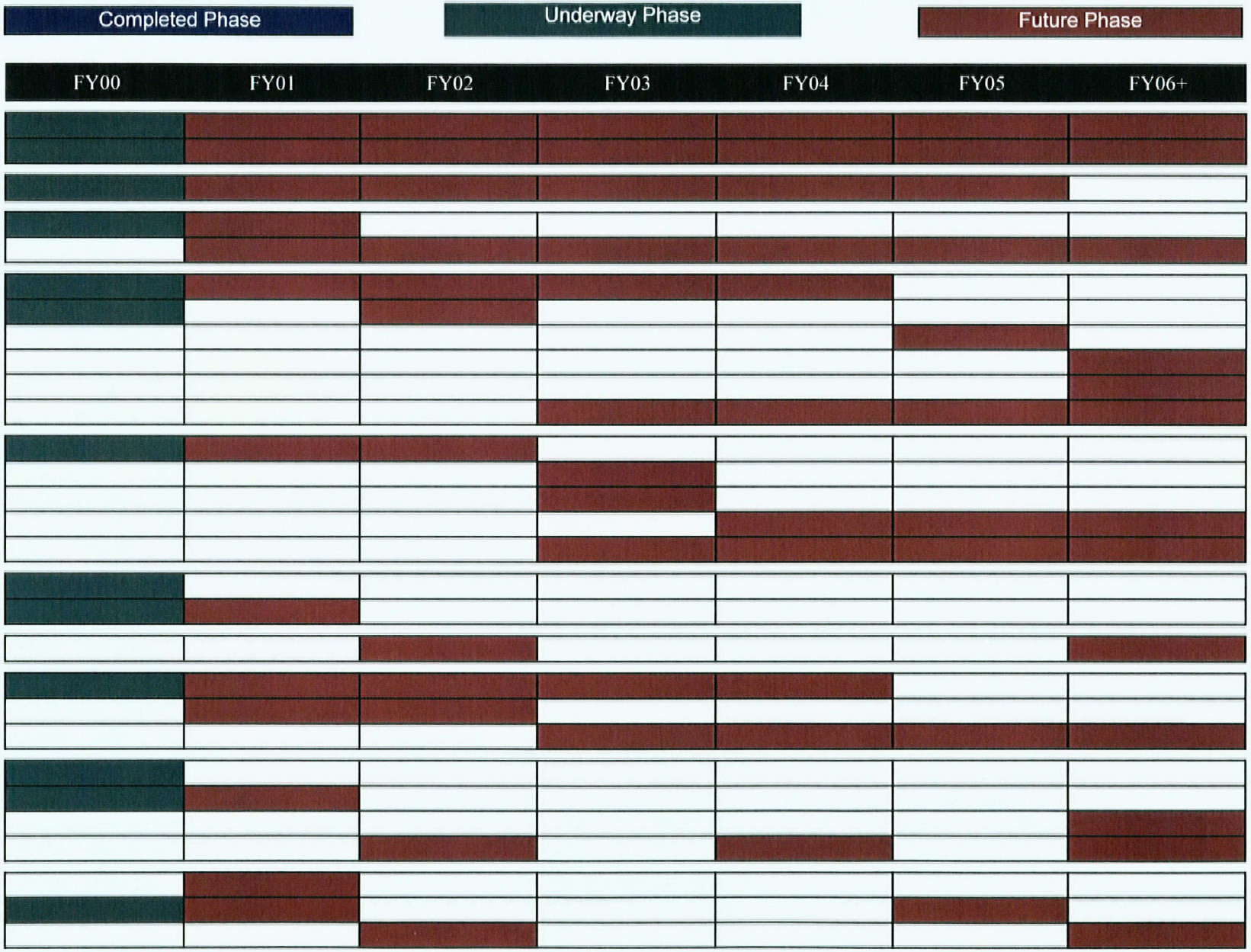
SCHEDULE

NO FURTHER ACTION SITES (continued)

FTRI-043	FORMER GAS STATIONS/GARAGES
FTRI-044	FORMER ASPHALT PLANT (NEAR BLDG 354)
FTRI-045	PHOTO AND PRINT PLANTS
FTRI-046	FRMR DSGS - BLDG 1693 AND ADJACENT AREAS
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-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

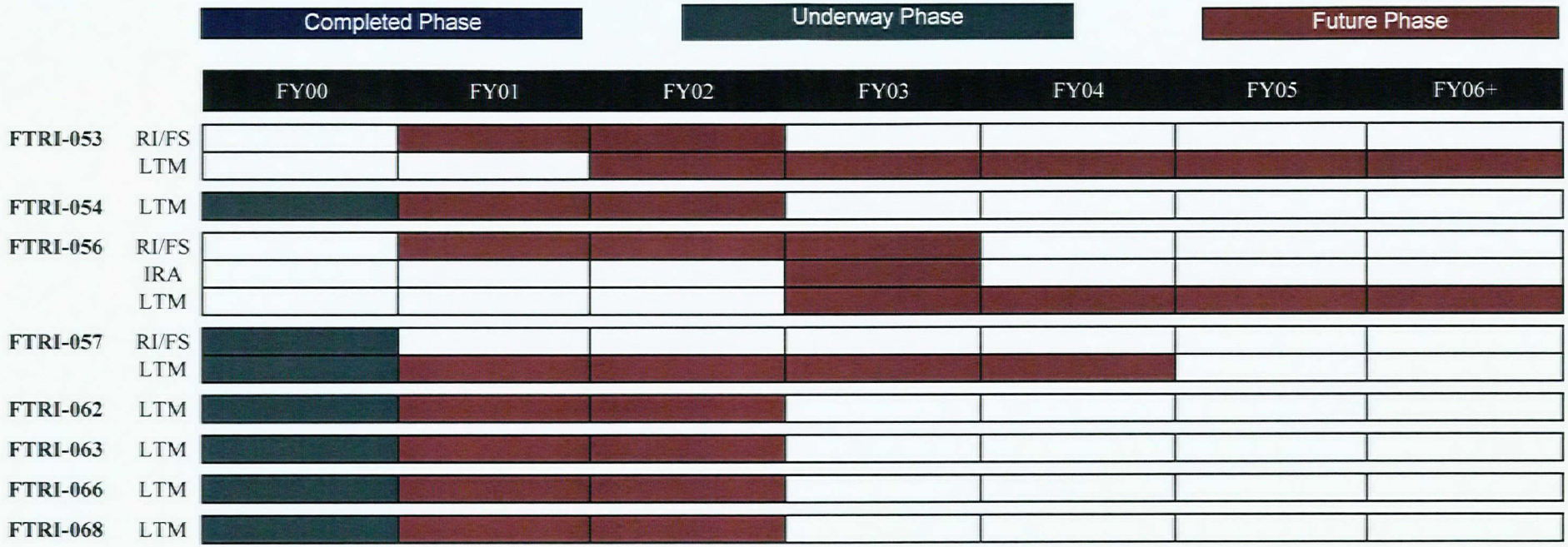
Fort Riley IRP Schedule

(Based on current funding constraints)



Fort Riley IRP Schedule

(Based on current funding constraints)



DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Installation Phase Summary Report 12/29/99
Installation: FORT RILEY
Programs: BRAC I, BRAC II, BRAC III, BRAC IV, IRP

Subprograms: Compliance, Restoration, UXO
Installation count for Programs: 1

NPL Options: Delisted, No, Proposed, Yes

Installations count for Programs and NPL: 1
Site count for Programs and NPL: 71

Phase / Status / Sites

PA

C	U	F	RC
71	0	0	4

SI

C	U	F	RC
65	0	0	16

RI / FS

C	U	F	RC
31	11	0	27

RD

C	U	F
4	0	2

RA(C)

C	U	F	RC
13	0	4	12

RA(O)

C	U	F	RC
0	1	2	0

LTM

C	U	F	N
0	6	10	55

Remedy / Status / Sites (Actions)

IRA

C	U	F
15 (19)	4 (4)	2 (2)

FRA

C	U	F
13 (15)	0 (0)	4 (4)

RIP Total: 1

RC Total: 59

09/30/1999

DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

RISK INSTALLATION ACTION PLAN REPORT

12/29/1999

Installation: FORT RILEY
Major Command: FORSCOM

SubCommand:
Program Options: IRP, BRAC I, BRAC II, BRAC III, BRAC IV

Subprogram Options: Compliance, Restoration, UXO

Site	RRSE	Media Evaluated	Phase (s) Completed	Phase (s) Underway	Phase (s) Future	#IRA Completed	#IRA Underway	#IRA Future	LTM Status	RIP Date	RC Date
FTRI-001	NE		PA RI SI						N		199308
FTRI-002	3A	GW SL	PA RI SI						N		199803
FTRI-003	1A	GW SH SL	PA RAC RD RI SI	RAO		1			U	199709	202009
FTRI-004	3A	GW	PA RI SI						N		199712
FTRI-005	NE		PA						N		199305
FTRI-006	3A	SL	PA RI SI						N		199809
FTRI-007	NE		PA SI						N		198909
FTRI-008	NE		PA RAC RD SI						N		199012
FTRI-009	2A	GW SH SL WH	PA SI	RI					N		200510
FTRI-010	NE		PA RAC RD SI						N		199204
FTRI-011	1A	GW	PA SI	RI					F		200103
FTRI-012	3A	GW	PA RI SI						N		199509
FTRI-013	NE		PA RAC RD SI						N		199202
FTRI-014	NE		PA SI						N		198909
FTRI-015	2A	GW	PA RI						N		199509

			SI								
FTRI-016	NE		PA						N		198909
			SI								
FTRI-017	NE		PA						N		198909
			SI								
FTRI-018	NE		PA						N		198909
			SI								
FTRI-019	1A	GW	PA	RI	RAC	2	1	1	F	200610	201010
		SL	SI		RAO						
					RD						
FTRI-020	2A	GW	PA						N		199803
			RI								
			SI								
FTRI-022	NE		PA						N		199305
			SI								
FTRI-023	NE		PA						N		199305
			SI								
FTRI-024	NE		PA						N		199305
			SI								
FTRI-025	NE		PA						N		199305
			SI								
FTRI-026	NE		PA						N		199305
			SI								
FTRI-027	1A	GW	PA	RI	RAC	1			F	200403	200709
		WH	SI		RAO						
					RD						
FTRI-028	NE		PA						N		199309
			RAC								
			RI								
			SI								
FTRI-029	2A	SL	PA	RI			1		N		200109
			SI								
FTRI-030	3A	GW	PA			1			F		199803
		SH	RI								
		SL	SI								
FTRI-031	1A	GW	PA	RI				1	F		200406
		SL	SI								
FTRI-032	2A	GW	PA						N		199309
		WH	RI								
			SI								
FTRI-033	NE		PA						N		199305
			SI								
FTRI-034	NE		PA						N		199612
			SI								
FTRI-035	2A	SL	PA			1			N		199503
			RI								
			SI								
FTRI-036	2A	GW	PA	RI			1		F		200110
			SI								
FTRI-037	2A	SL	PA						N		199507
			RI								
			SI								
FTRI-038	2A	GW	PA	RI	RAC		1		F		200510
		SL	SI								
FTRI-039	NE		PA						N		199305
			SI								
FTRI-040	NE		PA						N		199305
FTRI-041	NE		PA						N		199507
			RI								

			SI					
FTRI-042	NE		PA				N	199305
FTRI-043	NE		PA				N	199305
FTRI-044	NE		PA				N	199509
			SI					
FTRI-045	3A	SL	PA				N	199507
			RI					
			SI					
FTRI-046	2A	GW	PA				N	199507
		SL	RI					
			SI					
FTRI-047	3A	SL	PA				N	199507
			RI					
			SI					
FTRI-048	NE		PA				N	199507
			RI					
			SI					
FTRI-049	NE		PA				N	199305
			RAC					
FTRI-050	3A	SL	PA				N	199803
			RI					
			SI					
FTRI-051	3A	SL	PA				N	199903
			RI					
			SI					
FTRI-052	NE		PA				N	199507
			RI					
			SI					
FTRI-053	1B	GW	PA	RI			F	200208
		SL	SI					
FTRI-054	3B	GW	PA			1	U	199709
		SL	RI					
			SI					
FTRI-055	3A	GW	PA				N	199507
			RI					
			SI					
FTRI-056	2B	GW	PA	RI	RAC		F	200312
		SL	SI					
FTRI-057	3B	SL	PA	RI		1	F	200009
			SI					
FTRI-059	NE		PA				N	199012
			RAC					
FTRI-060	3B	GW	PA			1	N	199506
		SL	SI					
FTRI-061	2B	GW	PA			2	N	199510
		SL	SI					
FTRI-062	1B	GW	PA			1	U	199710
		SL	RI					
			SI					
FTRI-063	1B	GW	PA			2	U	199710
		SL	RI					
			SI					
FTRI-064	NE		PA				N	199504
			RAC					
			RI					
			SI					
FTRI-065	NE		PA				N	199504
			RAC					
			RI					

			SI			
FTRI-066	1B	GW	PA	1	U	199708
		SL	RI			
			SI			
FTRI-067	2B	GW	PA	1	N	199708
		SL	RI			
			SI			
FTRI-068	1B	GW	PA	2	U	199708
		SL	RI			
			SI			
FTRI-069	2B	GW	PA	1	N	199708
		SL	RI			
			SI			
FTRI-070	NE		PA		N	199502
			RAC			
			SI			
FTRI-071	NE		PA		N	199508
			RAC			
			SI			
FTRI-072	NE		PA		N	199508
			RAC			
			SI			
FTRI-073	NE		PA		N	199504
			RAC			
			SI			

RRSE - Relative Risk Site Evaluation; Risk Category - 1=High, 2=Medium, 3=Low;
Legal Agreement - A = with agreement, B = without agreement; C = Complete, U = Underway, F = Future, N = Not Applicable

Reporting Period End Date: 09/30/1999

REM/IRA/RA ASSESSMENT

PAST REM/IRA/RA

Dry Cleaning Facility (FTRI-024) - 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 VOC's. 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, 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.

Marshall Army Airfield -Former Fire Training Area (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 Landfill (FTRI-003) - FY94/96 **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 Q 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 and RA(O) were initiated at the site in FY96.

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.

PAST REM/IRA/RA (continued)

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) **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) – FY99/00 **Total Construction Cost = $235,000**

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. Construction Contract Award Amount $270K. Construction performed Oct-Nov 1999.

Southeast Funston Landfill – Inactive (FTRI-036) – FY99/00 **Total Construction Cost = $427,000**

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. Construction Contract Award Amount $218K. Construction performed Oct-Nov 1999.

CURRENT REM/IRA/RA

Marshall Army Airfield - Former Fire Training Area (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 Decemeber 1997) to assess the need for a Removal Action aimed at Exposure Control. New wells outside the plume will be installed for two off-post properties (delayed due to litigation and property access).

Another EE/CA was drafted to evaluate technologies and develop alternataives appropriate to address the high concentrations in the groundwater plume as an interim action. This effort was discontinued due to significant declines in Groundwater concen trations, apparently due to previous source treatment.

Forsyth Landfill Area 2 (FTRI-038) – FY00

Evaluations show that approximately a 100 ft. width of river bank along an 800 foot section of the Landfill Area 2 had been eroded by the Republican River. Therefore an IRA is being conducted and includes riverbank stabilization and erosion control (eroded material has in the past included UXO). In 1998 and 1999 an EE/CA and Action Memorandum (respectively) were completed. 2nd Quarter FY00 Award.

FUTURE REM/IRA/RA

FY2002

IRA - FTRI-019 Fmr Fire Training Area/Marshall Army Airfield, possible source area action

IRA – FTRI - 031 Building 354 Area Solvent Detections, tentative source treatment (may re-prioritize to FY2001)

FY2003

RA, FTRI-027 Dry Cleaning Facilities Area, Contingency migration control action

FY2005

IRA - FTRI-038 Forsyth Landfill(s), Bank Stabilization lower reach, if needed

FY2006

RA - FTRI-019 MAAF-Former Fire Training Area/Marshall Army Airfield, Contingency Groundwater Action

Dry Cleaning Facilities Area (FTRI-027) - FY01-07

LTM for assessing natural attenuation of the contaminants in the ground water.

Abandoned Gasoline Line(FTRI-056) - FY03

IRA - Decision Document, IRA Source Removal/Treatment, initiate GW LTM

INNOVATIVE MEANS TO EXPEDITE THE STUDY PROCESS TO RA PHASE

- Partnering with the regulators and the RAB Community co-chair through an IAP Development Workshop.
- With concurrence between the signatories of the IAG, perform Removal Actions as "Time Critical" when actions are simple, straightforward, and quickly implementable. Example: "Sensitive Receptor Lead Sites"
- Again, with concurrence between the signatories of the IAG, perform response actions as either "Time Critical" or "Non-Time Critical" Removal Actions rather than initiating RI/FS's. This approach is planned for all sites identified under the IWSA for site investigations. Time and resources will be saved through streamlined study, documentation and decision-making processes.
- For "Non-time Critical" Removal Actions, initiate and perform design and contract documents concurrent with EE/CA preparation, public comment period, and Decision Document preparation and staffing. Procurement actions can be initiated as well, although the Notice-to-Proceed would not be issued until Decision Document signatures have been obtained. There is some risk that re-design and/or contract modifications may be required due to public comment.
- Transfer projects to other on-going regulatory programs to reduce IAG administrative requirements. Example: Custer Hill Landfill
- Use of field screening and other data collection methods such as automated data collection platforms with satellite telemetry, soil gas surveys, "geo-probe" groundwater sampling, on-site analyses, cone-penetrometer, geo-physical surveys.
- Use of risk-based corrective action evaluations - particularly helpful in addressing UST sites to avoid costly cleanups where little or no risk exists to receptors.

PRIOR YEAR FUNDING

FY98

FTRI-003	IRA	$	7,708.32
FTRI-003	LTM	$	226,970.52
FTRI-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
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
	FY98 TOTAL:	**$**	**3,276,000.00**

FY99

FTRI-003	LTM	$	143,240.95
FTRI-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	$	279,844.14
FTRI-031	RI/FS	$	771,873.43
FTRI-036	IRA	$	257,722.14
FTRI-038	RI/FS	$	1,038.50
FTRI-038	IRA	$	34,478.04
FTRI-053	RI/FS	$	11,042.13
FTRI-054	LTM	$	2,848.40
FTRI-057	IRA	$	6,219.95
FTRI-062	LTM	$	24,193.43
FTRI-063	LTM	$	24,956.09
FTRI-066	LTM	$	19,526.15
FTRI-068	LTM	$	19,781.51
	Restoration Advisory Board	$	10,000.00
	FY99 TOTAL:	**$**	**3,510,000.00**

Fort Riley | Unconstrained | FY00

DSERTS #	SITE TITLE	PHASE	FY00	FY01	FY02	FY03	FY04	FY05	FY06+	Phase Total	SITE TOTAL	Activity DESCRIPTION
FTRI-003	Southwest Funston Landfill	LTM	185	135	235	80	65	65	1365	2129		Monitoring, 5 year reviews, reduce after each review
FTRI-003	Southwest Funston Landfill	LTO	140	40	10	485	55	10	870	1610	3739	Annual Inspection & maintenance of Cover, bank stabilization, stream diversion
FTRI-009	OB/OD Grounds (RANGE 16)	RI/FS	96	85	85	85	115	10		476	476	5 yrs sur water sampling, DD, NFA / lcs
FTRI-011	Camp Funston GW Detections	RI/FS	150	15						165		GW modeling, report, DD
FTRI-011	Camp Funston GW Detections	LTM	0	80	130	55	40	40	695	1040	1205	Monitoring(70), 5 year review, update model, USGS database
FTRI-019	FORMER Fire Training Area (FF	RI/FS	1348	765	687	20				2820.3		Monitoring, NA Study, Reports
FTRI-019	FORMER Fire Training Area (FF	IRA	20		500					520		Soil removal
FTRI-019	FORMER Fire Training Area (FF	RD							250	250		design
FTRI-019	FORMER Fire Training Area (FF	RA							2000	2000		alternate water suppy
FTRI-019	FORMER Fire Training Area (FF	RA(O)							1600	1600		treatment
FTRI-019	FORMER Fire Training Area (FF	LTM				395	395	395	3160	4345	11535.3	semi-annual, 20 wells?
FTRI-027	Dry Cleaning Facilities Area	RI/FS	550	363	200					1112.8		PP/ROD
FTRI-027	Dry Cleaning Facilities Area	RD						150		150		design
FTRI-027	Dry Cleaning Facilities Area	RA							1000	1000		In-situ groundwater ttmt - Iron injection
FTRI-027	Dry Cleaning Facilities Area	RA(O)							1600	1600		Add'l well monitoring of performance, add'l injections
FTRI-027	Dry Cleaning Facilities Area	LTM				330	240	240	2380	3190	7052.75	Well Abandonment, LTM
FTRI-029	Old Incinerator Site SE-Camp Fu	RI/FS	10							10		DM, Institutional Controls
FTRI-029	Old Incinerator Site SE-Camp Fu	IRA	35	5						40	50	Soil Removal(185), UXO sweep (25)
FTRI-030	Pesticide Storage Facility (MIXIN	LTM			10				40	50	50	5 year reviews of land use, re-sample for residual contam, perform unrestricted site use risk assessment
FTRI-031	Building 354 Area Solvent Detect	RI/FS	925	380	305	30				1640		Soil & GW investigation
FTRI-031	Building 354 Area Solvent Detect	IRA	30	300						330		Streamlined EE/CA, Source soil ttmt s.a. peroxide, Geocleanse, etc.
FTRI-031	Building 354 Area Solvent Detect	LTM				120	120	120	1695	2055	4025	semi annual -2012, annual 2024, 5 year reviews
FTRI-036	Southeast Funston Landfill	RI/FS	10							10		DD
FTRI-036	Southeast Funston Landfill	IRA	50	5						55		Cover improvements
FTRI-036	Southeast Funston Landfill	LTM							15	15		5 years reviews include LTm for FTRI-029
FTRI-036	Southeast Funston Landfill	LTO			20		20		90	130	210	Cover maintenance (repairs done in house)

DSERTS #	SITE TITLE	PHASE	FY00	FY01	FY02	FY03	FY04	FY05	FY06+	Phase Total	SITE TOTAL	Activity DESCRIPTION
FTRI-038	Forsyth Landfill(s)	RI/FS		10						10		
FTRI-038	Forsyth Landfill(s)	IRA	1760	40						1800		Bank stabilization
FTRI-038	Forsyth Landfill(s)	RA(O)			10				620	630	2440	5 year reports, bank repairs
FTRI-053	POL Tank Farm	RI/FS	300	20						320		Soil and GW investigation
FTRI-053	POL Tank Farm	LTM		20	20	20	20	20	110	210	530	Free product recovery, LTM
FTRI-054	Custer Hill PX USTS BLDG 5320	LTM	2	2	2					6	6	one well
FTRI-056	Abandoned Gasoline Line	RI/FS	305	120	10					435		soil and GW investigation
FTRI-056	Abandoned Gasoline Line	IRA		300						300		remove pipeline?
FTRI-056	Abandoned Gasoline Line	LTM			40	40	20	20	30	150	885	1 year quarterly, 4 years annually
FTRI-057	6200 Area Fuel Oil LINE	RI/FS	15							15		GW investigation
FTRI-057	6200 Area Fuel Oil LINE	LTM	8	5	5	5	5			28		Monitor sumps, 1 year quarterly, 4 years
											43	annually
FTRI-062	TMP Gas Station (Bldg 388)	LTM	12	10	10					32	32	Annually, 5 wells
FTRI-063	Former Building 1044 Dispensing	LTM	30	15	15					60	60	Annually, 5 wells
FTRI-066	Former Building 1245 Dispensing	LTM	15	10	10					35	35	Annually, 6 wells
FTRI-068	Former Building 1637 Dispensing	LTM	15	10	10					35	35	Annually, 4 wells
New	Whitside POL site (cemetary area	RI/FS	65							65		
New	Whitside POL site (cemetary area	IRA	155	5						160	225	
	TOTALS IN THOUSANDS OF DOLLARS		6231	2739	2314	1665	1095	1070	17520	32634	32634	
										32634		

DSERTS #	SITE TITLE	PHASE	FY00	FY01	FY02	FY03	FY04	FY05	FY06+	Phase Total	SITE TOTAL	Activity DESCRIPTION
FTRI-003	Southwest Funston Landfill	LTM	185	134	235	80	65	65	1365	2129		Monitoring, 5 year reviews, reduce after each review
FTRI-003	Southwest Funston Landfill	LTO	140	40	10	485	55	10	870	1610	3739	Annual Inspection & maintenance of Cover, bank stabilization, stream diversion
FTRI-009	OB/OD Grounds (RANGE 16)	RI/FS	96	85	85	85	115	10		476	476	5 yrs sur water sampling, DD, NFA / lcs
FTRI-011	Camp Funston GW Detections	RI/FS	150	15						165		GW modeling, report, DD
FTRI-011	Camp Funston GW Detections	LTM		80	130	55	40	40	695	1040	1205	Monitoring(70), 5 year review, update model, USGS database
FTRI-019	FORMER Fire Training Area (FF	RI/FS	1068	995	737	20				2820.3		Monitoring, NA Study, Reports
FTRI-019	FORMER Fire Training Area (FF	IRA	20		500					520		Soil removal
FTRI-019	FORMER Fire Training Area (FF	RD						250		250		design
FTRI-019	FORMER Fire Training Area (FF	RA							2000	2000		alternate water suppy
FTRI-019	FORMER Fire Training Area (FF	RA(O)							1600	1600		treatment
FTRI-019	FORMER Fire Training Area (FF	LTM				395	395	395	3160	4345	11535.3	semi-annual, 20 wells?
FTRI-027	Dry Cleaning Facilities Area	RI/FS	475	438	200					1112.8		PP/ROD
FTRI-027	Dry Cleaning Facilities Area	RD				150				150		design
FTRI-027	Dry Cleaning Facilities Area	RA				1000				1000		In-situ groundwater ttmt - Iron injection
FTRI-027	Dry Cleaning Facilities Area	RA(O)					400	400	800	1600		Add'l well monitoring of performance, add'l injections
FTRI-027	Dry Cleaning Facilities Area	LTM				330	240	240	2380	3190	7052.75	Well Abandonment, LTM
FTRI-029	Old Incinerator Site SE-Camp Fu	RI/FS	10							10		DM, Institutional Controls
FTRI-029	Old Incinerator Site SE-Camp Fu	IRA	35	5						40	50	Soil Removal(185), UXO sweep (25)
FTRI-030	Pesticide Storage Facility (MIXIN	LTM			10				40	50	50	5 year reviews of land use, re-sample for residual contam, perform unrestricted site use risk assessment
FTRI-031	Building 354 Area Solvent Detect	RI/FS	240	895	370	110	25			1640		Soil & GW investigation
FTRI-031	Building 354 Area Solvent Detect	IRA		30	300					330		Streamlined EE/CA, Source soil ttmt s.a. peroxide, Geocleanse, etc.
FTRI-031	Building 354 Area Solvent Detect	LTM				120	120	120	1695	2055	4025	semi annual -2012, annual 2024, 5 year
FTRI-036	Southeast Funston Landfill	RI/FS	10							10		DD
FTRI-036	Southeast Funston Landfill	IRA	50	5						55		Cover improvements
FTRI-036	Southeast Funston Landfill	LTM							15	15		5 years reviews include LTm for FTRI-029
FTRI-036	Southeast Funston Landfill	LTO			20		20		90	130	210	Cover maintenance (repairs done in house)
FTRI-038	Forsyth Landfill(s)	RI/FS		10						10		
FTRI-038	Forsyth Landfill(s)	IRA	990	40				770		1800		Bank stabilization
FTRI-038	Forsyth Landfill(s)	RA(O)			10				620	630	2440	5 year reports, bank repairs
FTRI-053	POL Tank Farm	RI/FS		300	20					320		Soil and GW investigation

DSERTS #	SITE TITLE	PHASE	FY00	FY01	FY02	FY03	FY04	FY05	FY06+	Phase Total	SITE TOTAL	Activity DESCRIPTION
FTRI-053	POL Tank Farm	LTM			20	20	20	20	130	210	530	Free product recovery, LTM
FTRI-054	Custer Hill PX USTS BLDG 5320	LTM	2	2	2					6	6	one well
FTRI-056	Abandoned Gasoline Line	RI/FS		305	120	10				435		soil and GW investigation
FTRI-056	Abandoned Gasoline Line	IRA				300				300		remove pipeline?
FTRI-056	Abandoned Gasoline Line	LTM				40	40	20	50	150	885	1 year quarterly, 4 years annually
FTRI-057	6200 Area Fuel Oil LINE	RI/FS	15							15		GW investigation
FTRI-057	6200 Area Fuel Oil LINE	LTM	8	5	5	5	5			28	43	Monitor sumps, 1 year quarterly, 4 years
FTRI-062	TMP Gas Station (Bldg 388)	LTM	12	10	10					32	32	Annually, 5 wells
FTRI-063	Former Building 1044 Dispensing	LTM	30	15	15					60	60	Annually, 5 wells
FTRI-066	Former Building 1245 Dispensing	LTM	15	10	10					35	35	Annually, 6 wells
FTRI-068	Former Building 1637 Dispensing	LTM	15	10	10					35	35	Annually, 4 wells
New	Whitside POL site (cemetary area	RI/FS			65					65		
New	Whitside POL site (cemetary area	IRA			155	5				160	225	
	TOTALS IN THOUSANDS OF DOLLARS		3566	3429	3039	3210	1540	2340	15510	32634	32634	
	POM		3566	3429	3039	3210	1540	2340			**32634**	
	Difference		0	0	0	0	0	0				

COMMUNITY INVOLVEMENT

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, 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 Fort Riley military communities, local Environmental businesses, private business, Unified School District 475, Geary County Extension Office, local attorneys, Riley County Planning, Geary County (Commissioner), Clay County (Commissioner), Kansas State University, City of Ogden (Mayor), EPA, and KDHE.

The RAB lost several members and appointed new members in 1999. Recruitment for new members was completed by letters and applications being sent to members of the local communities that had expressed an interest in serving on the RAB. Several people applied for the vacancies. The Garrison Commander and both the RAB Co-chairs reviewed the applications and selected three (3) new members to serve.

RAB ACTIVITIES

The RAB members have been reviewing projects and funding plans and providing input concerning project priorities. A Public Awarness Education Program was implemented in FY98 by holding meetings in the surrounding communities. RAB members have provided comments on documents open for pubic comment review.

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 RAB members decided to start meeting every other month instead of monthly. A newsletter will be published and distributed to the RAB members in the months there is not a meeting to keep the members up-to-date on the current status of the projects.

DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

RAB REPORT 12/29/1999

Command: FORSCOM **SubCommand:**
Installation: FORT RILEY

Established Date: 199709 **Reason RAB Not Establish:**
RAB Adjourned Date: **Reason RAB Adjourned:**
TRC Date: 199201

RAB Community Members: **Total RAB Community Members:** 8

Business Community
Local Environmental Groups/Activists
Local Residents

RAB Government Members: **Total RAB Government Members:** 10

Environmental Protection Agency
Local Government Officials
State Regulators

RAB Activities:

Advice On Scope/Sch Studies/Cleanup
Participated In/Reviewed Risk Evals
Provided Comments Or Advice
Received Training
Reviewed Plans And Technical Docs

Advice

Future Land Use
Other
Remedy Selection
Scope Of Studies
Site Priorities
Study Of Cleanup Schedule

TAPP Project Title: **TAPP Application Approval Date:**
TAPP Project Description:

Award Number	Purchase Order Award Date	Completion Date

Reporting Period End Date: 09/30/1999