FY2007
as of April 2006

FORT RILEY
Kansas

Compliance-Related Cleanup Installation Action Plan

Final 07 June 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Compliance-Related Cleanup (CC) Program for the Fort Riley Military Reservation (Fort Riley). The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the CC manager, Ft. Riley, U.S. Army Environmental Center (USAEC), executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change. Project schedules are renegotiated annually based on available resources or as needed due to project requirements.

The following persons contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 5 April 2006:

Name	**Company/Installation/Branch**
Andrea Austin	Fort Riley
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Fort Riley
Compliance-Related Cleanup
Installation Action Plan Approval Signature

Thomas T. Smith 02 Aug 06

THOMAS T. SMITH **Date**
Colonel
Garrison Commander

Concurrence Signatures for the Fort Riley Compliance-Related Cleanup Installation Action Plan

Gary L. Badtram 25 Aug 06

GARY L. BADTRAM **Date**

Chief, Environmental Branch
Installation Management Agency - Northwest Regional Office

Acronyms & Abbreviations

AST	Above-Ground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMS	Corrective Measures Study
CS	Confirmatory Sampling
DES	Design
DRMO	Defense Reutilization and Marketing Office
DPW	Directorate of Public Works
ESI	Expanded Site Investigation
FFA	Federal Facility Agreement
FTRI	Fort Riley (used with site tracking numbers)
FS	Feasibility Study
FY	Fiscal Year
IAP	Installation Action Plan
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
IWSA	Installation-Wide Site assessment
KDHE	Kansas Department of Health and Environment
LTM	Long-Term Management
MCL	Maximum Contaminant Levels
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil, and Lubricants
ppm	parts per million
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
SI	Site Investigation
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plant

Installation Locale: Fort Riley is located on 100,656 acres of land in portions of Clay, Geary, and Riley Counties in northeast Kansas. Interstate 70, Junction City (population 20,000), and Ogden (population 1,600) bound the installation to the south. Fort Riley is west of Manhattan (population 38,000). Milford Lake (16,020 acres) bounds part of the western side of the installation.

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

The Directorate of Public Works (DPW) - Environmental Division's mission is to sustain an environment in compliance with our nation's mandates that effectively supports combat forces' execution of their assigned missions and exemplary well-being for our community.

Lead Organization: Installation Management Agency, Northwest Region

Lead Executing Agencies:
USACE, Kansas City District
U.S. Geological Survey

Regulatory Participation
Federal: USEPA, Region VII (Federal Facilities/Special Emphasis Branch)
State: Kansas Department of Health and Environment (KDHE), Bureau of Environmental Remediation and KDHE Bureau of Environmental Field Services - North Central District Office

Installation Historic Activity

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

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

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

During World War I, there was a build-up of forces at Fort Riley. Camp Funston was established during WWI and, in approximately three months, 1,401 temporary buildings were erected there to house troops. Camp Whitside was also built-up for World War I. Military training activities became more complex and infrastructure became more elaborate. Motor pools and auto repair shops replaced stables and blacksmith shops. Marshall Army Air Field became operational in 1921. The installation areas were electrified and wastewater treatment plants were constructed. Prior to WWII and through the 1940s, Fort Riley expanded its transportation and industrial activities. Many motor pools were established in Camp Funston, Camp Whitside, Camp Forsyth, and Main Post. Underground storage tanks were installed, and a gasoline pipeline was run from the rail spur on the north side of the Kansas River to Marshall Army Air Field. There were service stations for private cars. The installation infrastructure included laundry and dry cleaning facilities, numerous vehicle repair shops, boiler plants, and an asphalt plant. Through the early years of WWII, the installation included the last vestiges of horse-mounted troops, including an animal dip facility on the rail spur for animals brought on installation. The horse-mounted cavalry was dissolved in 1949.

The heavy weapons training was focused on the main Impact Area, which was acquired in 1942, but small arms ranges were still prevalent along the river bluffs especially in the Camp Forsyth, Camp Whitside, and Camp Funston areas.

During the period between World War II and Vietnam, many of the temporary facilities built for WWII, especially those in Camp Forsyth, Camp Funston, and Camp Whitside, became obsolete and surplus, so they were demolished. The First Infantry Division was assigned to Fort Riley in 1955. Troop barracks and tactical equipment shops were built on Custer Hill and integrated with troop support facilities for health and recreational services. Family

housing also expanded. Small arms training shifted to the ranges around the Impact Area.

Prior to this period, solid, hazardous, and industrial liquid materials were disposed of in the most expedient possible way. A number of landfills were created in Funston, Forsyth, Main Post, and Whitside.

During the Vietnam Era, wastewater treatment plants and controlled landfills were put into use.

During the installation's Vietnam Era, the older industrial activities were frequently upgraded or centralized. Transportation and industrial facilities that had been abandoned were demolished and liquidated. Systematic review and upgrade of facilities proceeded with regard to several environmental concerns including underground storage tanks, polychlorinated biphenyls (PCB)-containing transformers, and asbestos-containing materials used in buildings.

New weapons and training forced the installation to acquire large new areas of land for armored vehicle fire and maneuver exercises.

During the installation's Vietnam Era, environmental concerns came to the forefront. The passage of stricter Federal and State laws governing air and water pollution, protection of natural resources, waste management, and environmental regulation progressively focused on the management of industrial and military activities.

Currently, Fort Riley is home to the 24th Infantry Division, and is expecting expansion within the next couple of years. The 6th Brigade, 25th Infantry Division was transferred to Fort Riley in 2005.

Fort Riley has been used to train Army personnel. The installation's history does not include large-scale manufacturing activities. Rather, development of Fort Riley included ancillary activities to support overall installation operations, including print shops, photographic process, laboratories, furniture repair, dry cleaning, paint shops, sewage treatment plants, and numerous vehicle maintenance and wash facilities. Hazardous materials used include the following:

- Ordnance (of which there is no evidence of release of toxic chemical agents and no evidence of release of radioactive substances);
- Chlorinated solvents associated with furniture repair, dry cleaning, and cleaning of printing equipment;
- Pesticides, insecticides, and herbicides for clearing of brush, pest and termite control, and routine maintenance of facility grounds;
- A variety of small quantities of chemicals associated with laboratories;
- Silver-bearing solutions from the photographic processing (and x-ray) facilities;
- PCB fluids in electrical equipment; and

- Large quantities of petroleum-based fuels and cleaners associated with vehicle use, maintenance, and repair.

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

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

Major tenants include the Kansas Army National Guard, the Army Reserve, and the Irwin Army Community Hospital.

NPL Status:
The installation was listed on the National Priorities List (NPL) in 1990 and placed on the NPL with a Hazard Ranking Score of 33.8. The FFA was signed by the USEPA, the KDHE, and the Army, effective 28 February 1991. The FFA requires the installation to address all significant environmental releases under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA).

FORT RILEY

Compliance-Related Cleanup Program

Total Number of Sites: 5

Different Site Types:

1 Contaminated Groundwater (CC-FTRI-01)
1 Contaminated Soil Piles (CC-FTRI-06)
1 Storage Area (CC-FTRI-03)
2 Landfills (CC-FTRI-07 & -08)

Most Widespread Contaminants of Concern: Volatile organic compounds (VOCs), pesticides, fuels/petroleum hydrocarbons, metals, and PCBs

Media of Concern: Soil, Groundwater, Surface water

Completed Removal/Interim Remedial Action (IRA)/Remedial Action:
To date, there have been no actions officially completed under the Compliance-Related Cleanup Program.

Contamination Assessment Overview

Prior to the establishment of the CC Program in FY05, Fort Riley's investigation and cleanup activities occurred under the IRP.

Upon completion of the Phase II Site Investigation at the Petroleum, Oil, and Lubricants (POL) Tank Farm (CC-FTRI-01), further work is planned to delineate the extent of the free product and dissolved phase contaminants; and to perform additional free-product recovery.

Using FY05 funds, plans are underway to initiate sampling under an Expanded Site Investigation Multi-Sites (ESI) to address 49 potentially contaminated sites: 27 sites under the IRP and 22 sites under the CC Program (CC-FTRI-03 and CC-FTRI-07). The goal is to determine if these sites can receive regulatory close-out with confirmatory sampling and analysis. In FY07, two of the sites may require remediation: the Defense Reutilization and Marketing Office (DRMO) Storage Area 1 and the Wherry substation (CC-FTRI-03). Close-out reports for the remaining sites will be prepared in FY07 (CC-FTRI-07).

In FY07, soil sampling for PCB at ten active electrical transformer substations and one transformer storage area (CC-FTRI-06) are planned. Fort Riley projects that two substations could potentially require remediation in FY08.

Description of Major CC Concerns

Fort Riley has two major uncertainties within the CC Program. The first is whether further investigation/remediation at the POL Tank Farm (CC-FTRI-01) will be required after the free-product recovery effort ends in 2009. The second is how many of the ESI Multi-Sites (CC-FTRI-07) will require further investigation/remediation under CC-FTRI-03.

Cleanup Exit Strategy

The principal objective of the Compliance-Related Cleanup Program is to protect human health and the environment while working toward the ultimate goal of close-out of the sites. In order to accomplish these objectives, it has been determined that the efforts delineated in the following descriptions are essential and must be achieved.

The potentially contaminated sites being addressed under the CC Program include: the POL Tank Farm (CC-FTRI-01); the pesticide/PCB sites (CC-FTRI-03); the ten active transformer sites (CC-FTRI-06); the Installation-Wide Close-Out Documentation site (CC-FTRI-07); and the Custer Hill Sanitary Landfill (CC-FTRI-08).

The POL Tank Farm site (CC-FTRI-01) will require further recovery effort for the existing free product. There may be a requirement to install additional monitoring wells to determine if there is any down-gradient contamination. No "clean line" has been established in the ground water.

The pesticide/PCB sites (CC-FTRI-03) will be sampled to determine eligibility to close most of the areas under a No Further Remedial Action Planned (NFRAP) designation. Two areas (the DRMO Storage Area 1 and the Wherry substation) could potentially require cleanup.

The ten active transformer sites (CC-FTRI-06) will be sampled to determine if any PCB spills occurred. If necessary, the contaminated soil will be excavated.

The Installation-Wide Close-Out Documentation (CC-FTRI-07) will provide a report documenting the ESI Multi-Sites eligible for regulatory closure under a NFRAP designation.

The Custer Hill Sanitary Landfill (CC-FTRI-08) will be sampled and the cover maintained in compliance with the Post-Closure Monitoring Plan.

1995

- Working Draft Sampling and Analysis Plan for Previously Un-Sampled Substation at Fort Riley, Kansas, November 21, 1995 (CC-FTRI-06)

1998

- Proposed Decision Document Multiple Sites Fort Riley, Kansas, January 1998 (Inactive Substations) (CC-FTRI-03)
- Decision Memorandum for DRMO Area 1 at Fort Riley, Kansas April 27, 1998 (CC-FTRI-03)

2002

- Draft Final Phase II Site Investigation Report for the POL Tank Farm at Fort Riley, Kansas, August 14, 2002 (CC-FTRI-01)
- Draft Final Phase II Site Investigation Addendum for the Petroleum Tank Farm Facilities Area at Fort Riley, Kansas, August 13, 2002 (CC-FTRI-01)

2004

- Field Technical Memorandum for the POL Tank Farm at Fort Riley, Kansas, September 8, 2004 (CC-FTRI-01)

2005

- Data Reports Phase II Site Investigation for the POL Tank Farm at Fort Riley, Kansas, February 2, 2005 (CC-FTRI-01)

2006

- Post-Closure Monitoring Plan Custer Hill Sanitary Landfill Fort Riley, Kansas, January 13, 2006 (CC-FTRI-08)
- Work Plan Expanded Site Investigation (Multiple Sites) at Fort Riley, Kansas, May 2006 (CC-FTRI-03 & 07)

FORT RILEY

Compliance-Related Cleanup Program

Site Descriptions

CC-FTRI-01 (ALIAS FTRI-053)
POL TANK FARM

SITE DESCRIPTION

CC-FTRI-01 (alias FTRI-053), the POL Tank Farm, is an active petroleum product storage facility for the Custer Hill Troop Area and is located on 1st Division Road. The products stored include gasoline, diesel, slop oil, and kerosene. There are six above-ground storage tanks (ASTs) in operation. These tanks are located within clay-lined berms with the exception of the kerosene tank which is located on a concrete berm. The associated product distribution piping is supported above ground except where the distribution pipes penetrate the berms. Underground piping at the facility includes four-inch and six-inch gravity-drained, industrial waste, vitreous clay tile sewer lines, and 10-inch polyvinyl chloride water lines.

STATUS

REGULATORY DRIVERS: RCRA I

CONTAMINANTS OF CONCERN:
VOCs, Fuels/Petroleum Hydrocarbons

MEDIA OF CONCERN:
Soil, Groundwater

Phases	Start	End
ISC	199104	200509
INV	199809	201003
IRA	200704	200909

RC DATE: 201109

Records indicate numerous large spills since the facility began operations in 1989. New information has come to light about the earlier years of operation. In 1992, Fort Riley personnel found drums of POL products stored at the site which may have leaked chlorinated solvents. During the replacement of the old oil/water separator in 2004, fuel-contaminated soil was discovered around the vitreous clay piping to the old oil/water separator. During the installation of secondary containment around the ASTs in 2006, POL contaminated soil was discovered around the slop oil tank.

The POL Tank Farm has undergone several free-product recovery events with only partial recovery. The Site Investigation (SI) results indicated measurable free product and levels of benzene, toluene, ethylbenzene, xylene that exceed maximum contaminant levels (MCLs). Low concentrations of fuel-related contaminants were detected in some sediment samples collected from the adjacent, intermittent streambeds. Seven ground-water monitoring wells were installed to obtain bedrock and ground-water flow information.

A free-product removal pilot study operated between 1999 and 2005. Field activities were performed from March 2003 through February 2005 in support of the continuing SI to develop a more accurate portrayal of the environmental conditions at the POL Tank Farm. Additional deep and shallow monitoring wells were installed to define the extent of free product in the bedrock formations beneath the site, to determine if manual removal would remove the free product, to establish a bedrock ground-water analytical baseline, and to determine seasonal ground-water gradients. A free-product recovery system was installed in 2004 on one of the wells within the POL Tank Farm. This phase of the continuing SI was completed in June of 2005.

CC-FTRI-01 (ALIAS FTRI-053)
POL TANK FARM

Plans are underway to replace the clay piping system and to excavate the contaminated soil around the slop oil tank and clay piping system at the POL Tank Farm. The Army Petroleum Center moved the Air Force Center for Environmental Excellence Study/Investigation of Piping System to the Defense Energy Support for funding. When known sources have been addressed, the extent of dissolved phase and free-product contamination can be determined and remediation may begin.

CLEANUP STRATEGY

Install additional monitoring wells to determine the extent of free product. Install an additional free-product recovery well.

Extend the ground-water monitoring schedule for a period of three years, then re-evaluate for remediation based on free-product removal efforts and concentration trends for the dissolved phase contamination.

CC-FTRI-03 (ALIAS FTRI-047)
FORMER LIVESTOCK DIPPING FACILITY (ANCHOR)

SITE DESCRIPTION

CC-FTRI-03 (alias FTRI-047) is the anchor site for the following pesticide/PCB sites: alias FTRI-006, -007, -008, -012, -015, -049, -050, and -055. The anchor site is a result of the lack of a regulator-approved document officially closing out these listed sites. The listed sites are a subset of the 49 potentially contaminated sites being investigated under the ESI Multi-Sites. The intention is to take the data that exists in the Installation-Wide Site Assessment (IWSA), other SIs, and/or long-term monitoring reports and compare it to a new round of confirmatory sampling. After the analyses are complete, a determination of eligibility to close under a NFRAP designation will be made. Two of the sites, the DRMO Storage Area 1 and the Wherry substation, may require further investigation and/or remediation.

STATUS

REGULATORY DRIVER: TSCA

CONTAMINANTS OF CONCERN:
PCBs, Pesticides, Mercury

MEDIA OF CONCERN:
Soil

Phases	Start	End
RFA	199805	199805
CS	199403	199403
RFI/CMS	200407	200509
DES	200409	200509
CMI(C)	200707	200803

RC DATE: 200803

Alias FTRI-006 is the DRMO Storage Area (Area 1). The site includes a salvage yard and a permitted hazardous waste storage facility. The salvage yard processes scrap metal for sale. The hazardous waste storage facility stores hazardous waste in two 16-feet by 18-feet buildings (buildings 1952 and 1953) and the adjacent lot. Soil at the DRMO Storage Area tested as high as 24 parts per million (ppm) PCB from two previous sampling events.

Alias FTRI-007 is the PCB Storage Building (Bldg 343). Between 1988 and 2005, this site was used for temporary storage of PCB items awaiting disposal through DRMO. The contaminant of concern is PCB-contaminated dielectric fluid.

Alias FTRI-008 is the PCB Storage CONEX (Bldg 348). In the mid-1980s, this site was used for temporary storage of PCB items awaiting disposal through DRMO. Potential PCB and heavy metals contamination may be present.

Alias FTRI-012 is the Waste Storage DRMO Secondary Area (Area 3) at the northwest corner of K and Fifth streets. The area was used for off-specification fuel and used oil storage in the late 1980s. The site was a concrete pad, 50-feet by 80-feet, in a fenced area. No berm for spill containment existed. Potential contaminants of concern are PCBs; fuels including JP-4, diesel, and gasoline; used oil; and metals.

CC-FTRI-03 (ALIAS FTRI-047)
FORMER LIVESTOCK DIPPING FACILITY (ANCHOR)

Alias FTRI-015 is the Former DRMO Location (Area 2) at the northwest corner of L and Twelfth streets. This 3-acre site was used from 1975 through 1978. The yard was covered with compacted gravel and was used for military vehicle storage. Potential contaminants of concern are metals and petroleum hydrocarbons.

Alias FTRI-049 is the Mercury Contamination Areas. The use of mercury at dental clinics and water tower control stations may have resulted in potential contamination. Dental clinics used mercury containing amalgam. Water tower control stations have a history of using mercury-containing altitude-type or metering control devices.

Alias FTRI-050 is the PCB Spill Area/Transformers Sites. Numerous PCB transformers and related electrical equipment at Fort Riley were used throughout the 1900s. These sites may have PCBs that leaked from transformers or were spilled in the maintenance/storage/salvage yard area. In 1996, the soil at the former Wherry substation was sampled and tested as high as 40 ppm PCB.

Alias FTRI-055 is the Milford Lake Campground/Marina Wells. The campground and wells were located at a former recreational campground at Milford Lake. In 1998, the campground/marina wells were found to contain elevated levels of two forms of lindane: gamma-benzene hexachloride and a non-active isomer of gamma-benzene hexachloride. Subsequent sampling did not detect these contaminants.

CLEANUP STRATEGY

Ground-water and soil sampling will be conducted to confirm the status found in the IWSA and specific SIs in order to achieve regulator-approved site closure.

CC-FTRI-06
ACTIVE TRANSFORMER SITES

SITE DESCRIPTION

CC-FTRI-06 consists of ten active, electrical transformer substations and one former DPW transformer storage area. The transformer substations were placed in use between 1970 and 1995. Although some of the substations were constructed after the 1979 prohibition on the use of PCB dielectric fluids, Fort Riley cannot confirm that PCB transformers were never used at the newer pads. These sites were initially identified in a November 1995 Sampling and Analysis Plan, but the soil sampling never occurred.

STATUS

REGULATORY DRIVER: TSCA

CONTAMINANTS OF CONCERN:
PCBs

MEDIA OF CONCERN:
Soil

Phases	Start	End
RFA	199511	199511
CS	199511	199511
RFI/CMS	200610	200709
DES	200610	200709
CMI(C)	200807	200903

RC DATE: 200903

CLEANUP STRATEGY

Soil sampling for PCBs around the substations and the DPW storage area will occur in FY07. Based on past history, Fort Riley expects two of the substations to have PCB-contaminated soil that may require excavation and off-site treatment/disposal in FY08.

A site close-out report will be prepared in FY09.

CC-FTRI-07
(ALIAS FTRI-022, -036, -040, -047, AND -057 (ANCHORS))
INSTALLATION-WIDE CLOSE-OUT DOCUMENTATION
(ESI MULTI-SITES)

SITE DESCRIPTION

CC-FTRI-07 is the close-out report for the five anchor sites that are a subset of the 49 potentially contaminated sites being investigated under the ESI Multi-Sites. These anchor sites are a result of the lack of a regulator-approved document officially closing out the listed sites. The intention is to take the data that exists in the IWSA, other SIs, and/or long-term monitoring reports and compare it to a new round of confirmatory sampling. After the analyses are complete, a determination of eligibility to close under a NFRAP designation will be made.

STATUS

REGULATORY DRIVER: RCRA D

CONTAMINANTS OF CONCERN:
N/A

MEDIA OF CONCERN:
N/A

Phases	Start	End
RFA	199501	199501
CS	200509	200709

RC DATE: 200709

If any site is found to have contaminants of concern that exceed regulatory standards it will be addressed under a separate action under CC-FTRI-03.

Alias FTRI-022 is the anchor site for the following wastewater sites: FTRI-020 (Industrial Wastewater System on Custer Hill), FTRI-023 (Custer Hill WWTP & Sludge Drying Beds), FTRI-024 (Camp Forsyth WWTP & Sludge Drying Beds), FTRI-025 Main Post (WWTP & Sludge Drying Beds), and FTRI-026 (Range Complex Wastewater Lagoons). These wastewater treatment plants (WWTP) have been operational since 1945. The contaminants of concern in the SI were petroleum hydrocarbons, automotive chemicals, metals, and VOCs.

Alias FTRI-036 is the anchor site for the following landfill/incinerator sites: FTRI-002 (Whitside C/D Landfill), FTRI-005 (Custer Hill Rubble Dump), and FTRI-014 (Hospital Incinerator-IACH). These sites are no longer operational. The contaminants of concern in the SI were metals, VOCs, petroleum hydrocarbons, and pesticides.

Alias FTRI-040 is the anchor site for the following petroleum/VOC sites: FTRI-018 (Fire Training Area Facility at Bldg 892), FTRI-039 (Consolidated Maintenance Facility (Bldg 8100)-Waste USTs), and FTRI-045 (Print and Publication Shop (Bldg 263). Operations at these sites ceased in the 1990s. The contaminants of concern in the SI were petroleum hydrocarbons, VOCs, and metals.

CC-FTRI-07
(ALIAS FTRI-022, -036, -040, -047, AND -057 (ANCHORS))
INSTALLATION-WIDE CLOSE-OUT DOCUMENTATION
(ESI MULTI-SITES)

Alias FTRI-047 is the anchor site for the following pesticide/PCB sites: FTRI-006 (DRMO Storage Area (Area 1)), FTRI-007 (PCB Storage Building (Bldg 343)), FTRI-008 (PCB Storage CONEX (Bldg 348)), FTRI-012 (Waste Storage DRMO Secondary Area (Area 3)), FTRI-015 (Former DRMO Location (Area 2)), FTRI-049 (Mercury Contamination Areas), FTRI-050 (PCB Spill Area/Transformers Sites), and FTRI-055 (Milford Lake Campground/ Marina Wells). The contaminants of concern are pesticides, mercury, and lead.

Alias FTRI-057 is the anchor site for the following former vehicle maintenance shops, gas stations, petroleum dispensing stations sites: FTRI-042 (TAC Vehicle Maintenance Shops), FTRI-059 (Remove USTs project), and FTRI-060 (Main Post PX Gas Station 218). The Underground Storage Tanks (UST) at these sites were removed in the 1990s. The contaminants of concern in the SI were VOCs and petroleum hydrocarbons.

CLEANUP STRATEGY

This close-out documentation based on sampling and record research will allow regulator-approved closure.

CC-FTRI-08 (ALIAS FTRI-001)
CUSTER HILL SANITARY LANDFILL

SITE DESCRIPTION

The Custer Hill Sanitary Landfill was operated from 1981 to 1994. The state of Kansas issued a consent order in 1996 to provide for the post-closure care of the landfill to include landfill cover maintenance and ground-water monitoring for 30 years. The original Post-Closure Monitoring Plan written in 1995 was replaced by a revised plan in January 2006.

The ground water at this landfill is above MCLs in two wells for arsenic and barium.

CLEANUP STRATEGY

Sample the two contaminated wells annually.

Conduct site-wide sampling and landfill cover repair in 2010, 2015, 2020, and 2025.

STATUS

REGULATORY DRIVER: RCRA D

CONTAMINANTS OF CONCERN:
Arsenic, Barium

MEDIA OF CONCERN:
Ground-water

Phases	Start	End
RFA	198805	198909
CS	199004	199405
DES	199310	199406
CMI (C)	199404	199606
LTM	199607	202509

RC DATE: 199606

Past Phase Completion Milestones

1983-1984
Installation Assessment

1988-1989
Solid Waste Management Unit Survey
IRP Initiation

1990
USEPA NPL Listing Published
FFA - Dept. Army and Fort Riley Signature

1991
FFA –USEPA Region VII and KDHE Signature
FFA - Effective Date

1993
PA/SI-Installation-Wide Site Assessment

1997
RI/FS-FTRI-006, DRMO & Wherry Substation, Site Investigations

1999
RI/FS-FTRI-053, POL Tank Farm, RI/FS Work Plan

2001
RI/FS-FTRI-053, POL Tank Farm, Site Investigations

2002
RI/FS FTRI-053, POL Tank Farm, Reviewed data

2003
RI/FS FTRI-053, POL Tank Farm, Performed additional study, ground-water sampling

2004-2005
RI/FS-FTRI-053, POL Tank Farm, free-product recovery and ground-water sampling

FORT RILEY CC SCHEDULE

(Based on current funding constraints)

AEDB-CC#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
CC-FTRI-01	INV									
	IRA									
CC-FTRI-03	CMI(C)									
CC-FTRI-06	RFI/CMS									
	DES									
	CMI(C)									
CC-FTRI-07	CS									
CC-FTRI-08	LTM									*202509*

Prior Years Funds

Year	Site/Project Information	Expenditures	FY Total
FY05	*CC-FTRI-07*	$213K	
	CC-FTRI-08	$120K	**$333K**

***Total Funding up to FY05*: $333K**

Current Year Requirements for Compliance-Related Cleanup

Year	Site/Project Information	Requirements	FY Total
FY06		$0K	$0K

***Total Requirements FY06:* $0K**

***Total Future Requirements:* $2294K**

Total CC Program Cost (from inception to completion of the CC)***:* $2627K**

Fort Riley
FY07 - FY15+ Cost-to-Complete

AEDB-CC #	Site Title	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+	Site Total	Description of Work
CC-FTRI-01 (FTRI-053)	POL Tank Farm	IRA	253	58	58							396	FY07 $115K install 9 GW monitoring wells and free-product borings, $6K abandon 2 wells, $35K 1 free-product recovery system, $32K COE support $7K Chem QA FY07 to FY09 $43K semi-annual GW monitoring, $15K recovery system O&M
		INV				27							FY10 $27K closeout report
CC-FTRI-03 (FTRI-047)	Former Livestock Dipping Facility (Anchor site)	CMI(C)	190	15								205	FY07 $52 Confirmation Soil Sampling, $5K COE support, $3K Chem QA $113K Soil Excavation & Disposal (2 Sites), $11K COE, $6K Chem QA FY08 $15K closeout report
CC-FTRI-06	Active Transformer Sites (10 Substations & 1 DPW Transformer Storage Site)	RFI/ CMS	197									361	$175K Soil Sampling (11 Sites), $15K COE, $7K Chem QA
		DES	27										$24K design, $3K COE support
		CMI(C)		122	15								FY08 $35 Confirmation Soil Sampling, $3K COE support, $1K Chem QA $75K Soil Excavation & Disposal (2 Sites), $6K COE, $2K Chem QA FY09 $15K closeout report
CC-FTRI-07 (FTRI-022, -036, -040, -047 & -057)	Installation-Wide Close-out Documentation (ESI Multi-Sites)	CS	20									20	$20K COE PY S&R
CC-FTRI-08 (FTRI-001)	Custer Hill Sanitary Landfill	LTM	20	20	20	253	20	20	20	20	919	1,312	Annual (FY07-09, FY11-14, FY16-19, & FY 21-24) - $17K GW monitoring, $2K COE Support, $1K Chem QA 5-Year (FY10, 15, 20, & 25) - $70K GW monitoring, $163K Landfill Repair, $18K COE Support, $2K Chem QA
FY Totals in Thousands of Dollars			**707**	**215**	**93**	**280**	**20**	**20**	**20**	**20**	**919**	**2,294**	
			FY07	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15+**		

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 were invited to the orientation meeting by direct mail. Newspaper advertisements and television and radio announcements were additional methods used to announce the formation of Fort Riley's RAB.

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

RAB Membership

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

RAB Activities

In July 2004, the members provided public comment on the Former Fire Training Area FFTA-MAAF (FTRI-019) Proposed Plan. The repository was eliminated in Clay Center, KS at Clay Center's request.

In 2005, a new Community Involvement Plan was developed. The members also provided public comment on the 354 Area Solvent Detections (FTRI-031) Proposed Plan.

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

The RAB meets on an as needed basis or once per year in January.