FY2015

FORT GREELY

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

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

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

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

Acronyms

ACC	Air Combat Command
ACL	Alternative Cleanup Level
ADEC	Alaska Department of Environmental Conservation
AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
ASCG	Arctic Slope Consulting Group Inc.
AST	Aboveground Storage Tank
ASTS	Arctic Slope Technical Services
bgs	below ground surface
Bldg	Building
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
C&D	Construction and Debris
CANOL	Canadian Oil
CC	Compliance-related Cleanup
CERFA	Community Environmental Response Facilitation Act
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operation)
CMS	Corrective Measures Study
COPC	Contaminants of Potential Concern
CR	Compliance Restoration
CRTC	Cold Regions Test Center
CS	Confirmation Sampling
CTT	Closed, Transferring, and Transferred
cy	cubic yard
DD	Decision Document
DDESB	Department of Defense Explosive Safety Board
DERP	Defense Environmental Restoration Program
DES	Design
DPW	Directorate of Public Works
DRO	Diesel Range Organic
DTA	Donnelly Training Area
EBS	Environmental Baseline Survey
EDB	Ethylene Dibromide
EM	Electromagnetic
ENSR	ENSR Corporation
ER,A	Environmental Restoration, Army
ESS	Explosive Safety Submission
FGA	Fort Greely, Alaska
FGLY	AEDB-R designation for Fort Greely
FRA	Final Remedial Action
FS	Feasibility Study
ft	feet

Acronyms

FUDS	Formerly Used Defense Sites
FY	Fiscal Year
gal	gallon
GIS	Geographic Information System
GMD	Ground-based Midcourse Defense
GPR	Ground-Penetrating Radar
GRO	Gasoline Range Organic
HRC	Hydrocarbon Risk Calculator
HRR	Historical Records Review
IAP	Installation Action Plan
IC	Institutional Controls
IM	Interim Measure
IMCOM	Installation Management Command
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	thousand
kg	kilogram
LF	Landfill
LRE	Limited Risk Evaluation
LRI	Limited Remedial Investigation
LTM	Long-Term Management
LUC	Land Use Control
MCL	Maximum Contaminant Level
MEC	Munitions and Explosives of Concern
mg	milligram
MILCON	Military Construction
mm	millimeter
MMRP	Military Munitions Response Program
MOGAS	Motor Gasoline
MR	Munitions Response
MRS	Munitions Response Site
MW	Monitoring Well
N/A	Not Applicable
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
ODPC	Oil Discharge Prevention and Contingency
ODUSD(I&E)	Office of the Deputy Under Secretary of Defense (Installations and Environment)
OWS	Oil/Water Separator
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
pCi/L	picoCuries/liter

Acronyms

PID	Photoionization Detector
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
PRG	Preliminary Remediation Goal
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRO	Residual Range Organics
SESOIL	Seasonal Soil Compartment Model
sf	square feet
SI	Site Inspection
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SW	Supply Wells
SWMU	Solid Waste Management Unit
TAADA	Tar and Asphalt Disposal Area
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCDD	Tetrachlorodibenzo-p-dioxin
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalents
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TSI	Teledyne Solutions, Inc
UIC	Underground Injection Control
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USAED	United States Army Engineer District
USARAK	US Army Alaska
USASMDC	US Army Space and Missile Defense Command
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UVOST	Ultraviolet Optical Screening Tool
UXO	Unexploded Ordnance

Acronyms

VOC	Volatile Organic Compound
WWII	World War II

Acronym Translation Table

CERCLA		RCRA
Preliminary Assessment(PA)	=	RCRA Facility Assessment(RFA)
Site Inspection(SI)	=	Confirmation Sampling(CS)
Remedial Investigation/Feasibility Study(RI/FS)	=	RCRA Facility Investigation/Corrective Measures Study(RFI/CMS)
Remedial Design(RD)	=	Design(DES)
Remedial Action (Construction)(RA(C))	=	Corrective Measures Implementation (Construction)(CMI(C))
Remedial Action (Operation)(RA(O))	=	Corrective Measures Implementation (Operation)(CMI(O))
Long Term Management(LTM)	=	Long Term Management(LTM)
Interim Remedial Action(IRA)	=	Interim Measure(IM)

Installation Information

Installation Locale

Installation Size (Acreage): 7200
City: Delta Junction
County: N/A
State: Alaska
Other Locale Information

The installation was originally comprised of 661,051 acres and was under the cognizance of the US Army Alaska (USARAK). In 2002, Fort Greely was restructured into a much smaller area of 7,200 acres. Responsibility for the remainder of the former Fort Greely was transferred to Fort Wainwright, Alaska, and is now called the Donnelly Training Area (DTA); DTA remains under the control of the USARAK. US Army Space and Missile Defense Command (USASMDC) briefly controlled Fort Greely (2002-2005) before the installation transferred to IMCOM. USASMDC remains a major tenant on the post.

Installation Mission

The mission of Fort Greely is to support the Ground-based Midcourse Defense (GMD) interceptor deployment and the Cold Regions Test Center (CRTC). The installation also maintains the Allen Army Airfield, which is used by GMD, and a number of other agencies for miscellaneous activities in the area (e.g. US Air Force training, forest fire fighting, etc.).

Lead Organization

IMCOM

Lead Executing Agencies for Installation

USASMDC under direction of FGA Directorate of Public Works (DPW)

Regulator Participation

Federal	US Environmental Protection Agency (USEPA) Region 10
State	Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Program

National Priorities List (NPL) Status

FORT GREELY is not on the NPL

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

RAB established 199609

Installation Program Summaries

IRP

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

Affected Media of Concern: Groundwater, Soil

MMRP

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

Affected Media of Concern: Soil

CR

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

Affected Media of Concern: Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Underway	201308	201508	2015

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Nine IRP Sites ROD	FGLY-007, FGLY-008, FGLY-010, FGLY-011, FGLY-019, FGLY-032, FGLY-050, FGLY-076

Land Use Control (LUC) Summary

LUC Title: LUC

Site(s): FGLY-007, FGLY-008, FGLY-010, FGLY-011, FGLY-019, FGLY-076

ROD/DD Title: Nine IRP Sites ROD

Location of LUC

Landfills (LF) 1, 2, 4, & 5. Wastewater Pipeline station 21+25 and Refuse Burn Pit

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Construction Permit, Dig Permits, Notations in Master Plan

Date in Place: 200908

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: 200908

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS, PETROLEUM HYDROCARBON

Additional Information

Dig restrictions land use restrictions would consist of denoting the site in the Administrative Controls GIS database. The database is used by the Fort Greely Department of Public Works (DPW) to evaluate dig permits (any activity requiring ground penetration) and is used by the Master Planner in planning future activities. DPW staff would evaluate if the proposed dig activity or change in land use would increase potential exposure to contaminants. Increased exposure to contaminants would not be allowed without engineering controls to mitigate exposure. Change in land use and digging would not necessarily be prohibited, but potential exposure must be evaluated prior to the dig activity or change in land use.

LUC Title: LUC (05 Env Sites DD)

Site(s): FGLY-004, FGLY-012, FGLY-019, FGLY-022

ROD/DD Title: Environmental Sites Decision Document

Location of LUC

Building 605, CRTC; Landfill 6; Station 20+70 POL Site; Station 24+00 POL Site; Station 9+50 POL Site; Landfill 7

Land Use Restriction: Landfill restriction - Prohibit activities that would impact the LF cap (or cover system) and drainage system, Landfill restriction - Prohibit excavation on LF cap or cover system, Landfill restriction - Prohibit installation of utility system lines through the site, Landfill restriction - Restrict construction of buildings that may interfere with LF cap or cover system, Media specific restriction - restrict drinking water well installation, Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

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

Date in Place: 200506

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: 200506

Land Use Control (LUC) Summary

LUC Enforcement: 5 Year Reviews

Contaminants: METALS, PETROLEUM HYDROCARBON

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

The installation is approximately 100 miles southeast of Fairbanks and five miles south of Delta Junction. The entrance is on the Richardson Highway, a paved, two-lane roadway. Jarvis Creek, the only major stream flowing through Fort Greely, is glacier-fed and silt-laden. Other than Fairbanks, which is home to about 50,000 people, there are no major population centers for several hundred miles.

Except for transient explorers and hunters, the area near Fort Greely was not inhabited until about 1915, when roadhouses and trading centers became established with construction of the Richardson Trail (which later became Richardson Highway). During World War II (WWII), the military constructed bases and developed several of the state's major highways, including the Alaska Highway in 1942. After completing the Alaska Highway, the Army established a base called Station 17, which was used as a staging field for military operations. Few of the original Station 17 buildings remain at Fort Greely.

Over the years, the post has gradually expanded, and buildings with antiquated or inadequate facilities have been decommissioned and demolished. Through the years Fort Greely has supported the Cold Regions Test Center, operations at Allen Army Airfield, several hundred thousand acres of ranges, and numerous other activities.

The installation has undergone a number of environmental studies and restoration activities dating back to 1978. In 1989, the first stage of the Installation Restoration Program (IRP) initiated a number of investigations. The first significant study was a preliminary assessment (PA) conducted in 1992. Between 1992 and 1995, most of the sites were studied and several remediation projects were completed.

In 1995, Fort Greely was selected for realignment under the Base Realignment and Closure (BRAC) program. The Army subsequently declared as surplus 1,700 acres, including most of the cantonment area. A cleanup plan was developed to remediate the sites so that the surplus property would not pose any environmental liabilities to future occupants. The BRAC-driven remediation continued through 2002, the scheduled implementation date for realignment. Just prior to this date, the Department of the Army decided to retain previously identified surplus property at Fort Greely and directed transition of the current footprint from USARAK to USASMDC.

The GMD joint program office is the current major tenant on Fort Greely. The Missile Defense Agency has begun fielding the Ballistic Missile Defense System. Under recent Army initiatives, IMCOM is responsible for base operations at Army installations. The former Fort Greely totaled approximately 600,000 acres. The current Fort Greely is approximately 7,000 acres. The portions of Fort Greely not transferred to USASMDC are now called Donnelly Training Range and are still under the control of USARAK. USASMDC restarted the IRP following the transfer from USARAK.

In June 2003 the USASMDC organized a meeting with past and current environmental personnel involved with Fort Greely to list all sites where there was suspected or confirmed contamination. A list of 132 sites was developed originating from examination of all BRAC parcels, the USEPA solid waste management units (SWMU) list, the ADEC contaminated sites database, and the Army Environmental Database - Restoration (AEDB-R). As a result of the June 2003 meeting and follow-on research, an environmental fact sheet was produced for each unique site. In 2005 a decision document (DD) was produced to close out 73 of the sites. A record of decision (ROD) in 2009 closed or determined the final RAs at nine additional sites. Since 2003, four additional sites have been identified. The remaining 54 sites require additional documentation, investigations, and/or RA prior to closeout, either under the Military Munitions Response Program (MMRP) or IRP.

Installation cleanup activities in 2008-2012 focused on achieving a remedy-in-place, a remedy complete, or site closure for all sites by 2014. Extensive investigations, removal actions, RAs, and a treatability study for remediation by ozone injection were utilized to characterize sites, perform cleanup, and prepare most of the sites for closeout. DDs are currently under development to close out an additional 51 sites (some with no restrictions, some with land use controls (LUCs), and some with final closeout actions).

Installation Program Cleanup Progress

IRP

Prior Year Progress: Continued plume monitoring at FGLY-100 and FGLY-006. RI/FS document for FGLY-006 was sent to USAEC for review. RI/FS for FGLY-100 revised based on ADEC comments and resubmitted as proposed final. Five PP/NFA DD for closure of 51 sites (by Fort Greely/state numbering scheme all but FGLY-006/100 and reactor sites in AEDB-R) were sent to USAEC for comments.

Future Plan of Action: Plume monitoring/maintenance is planned to continue for FGLY-006/100 to monitor groundwater contamination. A PP/ROD to close out the majority of remaining sites is planned for signature in fiscal year (FY)16. LTM will continue on-site as required. PP/ROD to be developed for FGLY-006/100 for approval in FY16.

MMRP

Prior Year Progress: RI work on FGLY-005-R-01 and new site -006-R-01 continued. A NFA DD to close out several sites is under USAEC review.

Future Plan of Action: A ROD or NFA DD will be completed for closing out all the MMRP sites.

CR

Prior Year Progress: Compliance Restoration (CR) sites are all in one of the five PP or NFA DD sent to USAEC for review/approval.

Future Plan of Action: A PP/ROD or NFA DD to close out sites is planned for signature in FY15/16.

FORT GREELY

Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 63/34

Installation Site Types with Future and/or Underway Phases

1 Above Ground Storage Tank
(FGLY-049)
1 Burn Area
(FGLY-076)
1 Contaminated Buildings
(FGLY-053)
1 Disposal Pit/Dry Well
(FGLY-075)
1 Fire/Crash Training Area
(FGLY-006)
7 Landfill
(FGLY-004, FGLY-007, FGLY-008, FGLY-010, FGLY-011, FGLY-012, FGLY-022)
1 Radioactive Waste Area
(FGLY-018)
3 Soil Contamination After Tank Removal
(FGLY-059, FGLY-071, FGLY-100)
3 Spill Site Area
(FGLY-045, FGLY-046, FGLY-072)
3 Storage Area
(FGLY-015, FGLY-031, FGLY-056)
1 Surface Disposal Area
(FGLY-027)
5 Underground Storage Tank
(FGLY-002, FGLY-033, FGLY-043, FGLY-058, FGLY-099)
1 Waste Lines
(FGLY-019)

Most Widespread Contaminants of Concern

Dioxins/Dibenzofurans, Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
FGLY-002	UST'S,BLDG 110	IRA	WASTE REMOVAL - SOILS	1992
FGLY-002	UST'S,BLDG 110	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1992
FGLY-034	UST, BLDG 210	FRA	WASTE REMOVAL - SOILS	1992
FGLY-035	USTS BLDG 602	FRA	WASTE REMOVAL - SOILS	1992
FGLY-036	UST'S, BLDG 606	IRA	WASTE REMOVAL - SOILS	1992
FGLY-036	UST'S, BLDG 606	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1992
FGLY-037	TEXAS TOWER BLDG COMPLEX	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1992
FGLY-037	TEXAS TOWER BLDG COMPLEX	IRA	WASTE REMOVAL - SOILS	1992
FGLY-033	UST, BLDG 162 BRAC Site 99	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
FGLY-033	UST, BLDG 162 BRAC Site 99	IRA	WASTE REMOVAL - SOILS	1993

IRP Summary

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

Site ID	Site Name	Action	Remedy	FY
FGLY-002	UST'S,BLDG 110	FRA	AIR SPARGING	1994
FGLY-002	UST'S,BLDG 110	FRA	SOIL VAPOR EXTRACTION	1994
FGLY-034	UST, BLDG 210	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1994
FGLY-035	USTS BLDG 602	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1994
FGLY-027	TAR AND ASPHALT DISPOSAL AREA	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1995
FGLY-043	UST BLDG 159 BRAC Site 98	IRA	WASTE REMOVAL - SOILS	1995
FGLY-029	UST SOIL PILE	FRA	INCINERATION	1996
FGLY-037	TEXAS TOWER BLDG COMPLEX	FRA	IN-SITU SOIL TREATMENT	1996
FGLY-006	FIRE TRAINING AREA-SITE 85/94/133	IRA	SOIL VAPOR EXTRACTION	1999
FGLY-006	FIRE TRAINING AREA-SITE 85/94/133	IRA	BIOREMEDITATION - IN SITU	1999
FGLY-045	ROBIN ROAD FUEL SPILL-SITE 30	IRA	THERMAL DESORPTION	2000
FGLY-049	DELTA TANK FARM	FRA	REMOVAL	2000
FGLY-019	SM1A PIPELINE REMOVAL-SITE 90/132	IRA	REMOVAL	2001
FGLY-006	FIRE TRAINING AREA-SITE 85/94/133	IRA	CAPPING	2003
FGLY-071	BLDG 144 UST-SITE 101	IRA	EX SITU SOIL TREATMENT	2009
FGLY-100	CANOL pipeline Tank Farm/South Tank	IRA	REMOVAL	2009
FGLY-056	POL STORAGE AREA-SITE 113	IRA	EX SITU SOIL TREATMENT	2010
FGLY-059	BLDG 160 UST-SITE 100	IRA	EX SITU SOIL TREATMENT	2010
FGLY-075	BLDG 675 LAUNDRY (54)	IRA	REMOVAL	2010
FGLY-076	REFUSE BURN PIT-SITE 89	FRA	WASTE REMOVAL - SOILS	2010
FGLY-053	OLD POWER GENERATION BLDG-SITE 116	IRA	EX SITU SOIL TREATMENT	2011
FGLY-099	Misc UST/AST Sites	IRA	LANDFARMING	2011
FGLY-099	Misc UST/AST Sites	IRA	EX SITU SOIL TREATMENT	2011
FGLY-006	FIRE TRAINING AREA-SITE 85/94/133	IRA	IN-SITU SOIL TREATMENT	2013

Duration of IRP

Date of IRP Inception: 199005

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201712/206409

Date of IRP completion including Long Term Management (LTM): 209412

IRP Contamination Assessment

Contamination Assessment Overview

Operations at Fort Greely required the use of many types of potentially hazardous substances. Historically, most of the hazardous wastes generated at Fort Greely have been spent petroleum products, such as oil, transmission, brake and hydraulic fluids, fuel and cleaning solvents. Other less frequently used hazardous substances included leaded paint, battery acid, polychlorinated biphenyls (PCB), rodenticides, insecticides, and herbicides.

In the late-1990s, many investigations and RAs were undertaken as part of the BRAC efforts to close out a portion of Fort Greely. In 2002, the USASMDC reopened the facility as a ballistic missile defense facility and took over the investigation and remediation activities from USARAK and the US Army Corps of Engineers (USACE). The primary focus of recent investigations has revolved around the discovery of trichloroethylene (TCE) in the groundwater downgradient of FGLY-006, benzene in the groundwater upgradient of FGLY-006, and ethylene dibromide (EDB) in the groundwater downgradient of FGLY-100.

FY05 investigations also revealed significant petroleum contamination at FGLY-100 (South Tank Farm) and in late FY06 a bioremediation effort for the surface contamination [20,000 cubic yards (cy)] was initiated and completed by 2008. Additional investigation is required for subsurface petroleum contamination at this site.

Four other sites involve the downgradient groundwater monitoring of landfills or past significant petroleum spill sites. Other sites include dioxin and metals contamination at a former refuse burn pit, two former dry cleaning facilities, a former asphalt/tar disposal area, and two small petroleum spill sites. A ROD in 2009 closed nine sites with the final actions determined for the refuse burn pit (225 cy of lead-contaminated soil removed in 2009 and a cap completed in 2010).

An in situ remediation treatability study was initiated at FGLY-006 in 2009 to determine if treatment of deep petroleum contamination was feasible. Bioremediation proved to be impractical due to low temperatures. Ozone injection showed promise and the treatability study was expanded in 2010. The system was shut down in 2012 due to rising costs. No funds were provided to the program in 2012, so all planned activities for summer 2012 were postponed. FY13 and FY14 fieldwork consisted mainly of groundwater monitoring activities and plume management. Work continued on RI/FS/PP/ROD development on remaining sites.

Cleanup Exit Strategy

Sites with contamination remaining above the ADEC Method 2 cleanup levels (screening level) will require the development of site-specific alternative cleanup levels (ACL) by ADEC Method 3 or use of ADECs hydrocarbon risk calculator (HRC). LUCs have been implemented on all known contaminated sites (as part of the Garrison's dig permit process) and will be maintained. RI/FS development for FGLY-006 and FGLY-100 with proposed remedy as monitored natural attenuation. DDs are being developed for sites with no contamination above ADEC Method 2 cleanup levels. FS/PP/RODs are under development for sites with contamination above ADEC Method 2 cleanup levels with most sites only requiring LUCs.

IRP Previous Studies

	Title	Author	Date
1982			
	Internal Notice: Pollution Incident Report 44,000 Gallon Spill	US Army	JAN-1982
	Report and Memorandums regarding 132,000-Gallon Fuel Spill	USACE	DEC-1982
1983			
	Installation Assessment of the HQ, 172d Infantry Brigade, Ft Greely, For the Commander, Headquarters, 172d Infantry Brigade (Alaska), Ft Richardson, AK, and US Army Toxic and Hazardous Materials Agency, (DRXTH - AS - IA - 82328C), Fort Greely	US Army	JAN-1983
	Analysis of Existing Facilities/Environmental Assessment Report, Ft Greely, AK Preliminary	Unwin, Scheben, Korynta, and Huettl, Inc. (USKH)	JAN-1983
	Evaluation of Solid Waste Disposal Practices, Ft Greely	US Army Environmental Hygiene Agency	JAN-1983
1990			
	Waste Site Locations, Ft Greely Cantonment Area, Delta Junction	US Army Toxic and Hazardous Materials Agency	JAN-1990
	FGLY 06 RCRA Facility Assessment PR/VSI Report	SAIC	JAN-1990
	FGLY 07 RCRA Facility Assessment (PR/VSI) Report	SAIC	JAN-1990
	FGLY 010 RCRA Facility Assessment PR/VSI Report	SAIC	JAN-1990
	Installation Restoration Program, Stage 1, Joint Resources Project, Ft Richardson, Wainwright and Greely, Site 4, Fire Training Pits, Volumes 4, 5, and 6, For Alaskan Air Command HQ ACC/DEP, Elmendorf AFB, and US Army Directorate of Engineering and Housing AFVR - DE, Ft Richardson	Woodward-Clyde Consultants	JAN-1990
1991			
	Groundwater Monitoring Network, Ft Greely	US Army Corps of Engineers	AUG-1991
1992			
	Progress Report for the Confirmation of Fire Training Pits at Ft Richardson and Greely, Ecology and Environment, Inc.	Ecology and Environment, Inc.	FEB-1992
	FGLY 06 Fire Training Pits Work Plan, Pt 1, Ft Richardson & Greely	E&E	FEB-1992
	FGLY 06 Fire Training Pits Work Plan, Part 2, Subsurface Exploration Plan, Ft Richardson and Greely	E&E	FEB-1992
	Preliminary Assessment, Ft Greely	CH2M Hill	SEP-1992
1993			
	Site Inspection Report for Fire Training Pits at Ft Richardson and Greely	EEI	SEP-1993
1994			
	Sampling Report for Groundwater Monitoring Network at Ft Greely, Volume II, Fort 6th Infantry Division (L)	Public Works, Environmental Resources Department, Ft Richardson, ENSR, Consulting and Engineering	JAN-1994
	Site Assessment/Corrective Action Plan (FGLY 06), Three Former Fire Training Pits	USAED	MAR-1994

IRP Previous Studies

	Title	Author	Date
1994			
	Environmental Assessment and Finding of No Significant Impact (FGLY-06), Remedial Treatment of Petroleum Contaminated Soils, Fire Training Pits	USAED	APR-1994
	Corrective Action Plan Release Investigation, Ft Greely, Volumes I and II	Harding Lawson Associates	MAY-1994
	Remedial Design Investigation, Oil & Tar Burial Site, Ft Greely	Woodward-Clyde Consultants	JUN-1994
	Site Health and Safety Plan, Building 110 Remedial Investigation and Design, Ft Greely	AGRA Earth and Environmental, Inc	SEP-1994
	Chemical Data Report, Spring 1994, Groundwater Monitoring, Ft Greely	USACE	SEP-1994
	Remedial Design Investigation, Oil & Tar Burial Site	Woodward-Clyde Consultants	NOV-1994
	Post-wide Site Inspection, Ft Greely	Woodward-Clyde Consultants	NOV-1994
1995			
	Final Respiration Test Report: Fire Burn Pits Treatment System, Ft Greely	AGRA Earth and Environmental, Inc.	MAR-1995
	Final Site Inspection Letter Report: Building 110, Ft Greely	AGRA Earth and Environmental, Inc.	MAR-1995
	Work plan Addendum: Ft Greely Postwide Site Inspection	Woodward-Clyde Consultants	APR-1995
	Remedial Design Investigation Phase II: Oil & Tar Burial Site, Ft Greely	Woodward-Clyde Consultants	APR-1995
	Final Remedial Design Report (FGLY 06)	AGRA	MAY-1995
	Schematic Submittal: Repair Bulk Fuel Storage Tanks (Tank 420), DFSP Ft Greely, For Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania	Enterprise Engineering, Inc.	JUN-1995
	Workplan: Post-Wide Site Inspection, Ft Greely	Woodward-Clyde Consultants	JUN-1995
	Ft Greely Post-wide SI	Sound Analytical Services, Inc.	JUL-1995
	Ft Greely Post-wide SI, Work Order No. 95-0202	Columbia Analytical Services	JUL-1995
	Ft Greely Post-wide SI, Work Order No. 950202	Columbia Analytical Services	AUG-1995
	Investigation Report: Confirmation Drilling Buildings 162 and 606, Ft Greely	AGRA Earth and Environmental, Inc.	NOV-1995
	Remedial Design Investigation Report, Building 110, Ft Greely	AGRA Earth and Environmental, Inc.	DEC-1995
1997			
	US Army Base Realignment and Closure 95 Program, Environmental Baseline Survey Report	Woodward-Clyde Consultants	JAN-1997
	Oil Discharge Prevention and Contingency (ODPC) Plan (FGLY 045)	USACE	JAN-1997
	Final Release Investigation Report, North Delta Tank Farm, Delta Junction	Shannon and Wilson, Inc.	SEP-1997
1998			
	Draft Report on Soil Vapor Extraction System Monitoring, Remedial Investigation and Design, Bldg 110, Ft Greely	AGRA Earth and Environmental, Inc.	JUL-1998
	Remedial Design Investigation Report (FGLY 06),	AGRA	JUL-1998

IRP Previous Studies

	Title	Author	Date
1998			
	Former Fire Burn Pits		
	1997 Site Investigation/Limited Remedial Investigation Report	Jacobs	SEP-1998
1999			
	Final Report on Confirmation Soil Sampling, RI and Design, Building 110, Ft Greely	AGRA Earth & Environmental, Inc.	APR-1999
	1998 Remedial Investigation Report, Final	Jacobs	APR-1999
2000			
	Summary Report, 1999 Remedial Investigation/Removal Action	Radian/ Jacobs	AUG-2000
2001			
	Technical Memorandum, 1997 Analytical Data Review	Lockheed Analytical Services, Jacobs	APR-2001
	Limited Risk Evaluation	Jacobs	NOV-2001
	Summary Report, 2000 Remedial Investigation/Removal Action	Jacobs	DEC-2001
2002			
	Soil Evaluation and Risk Assessment, Sites: 85 South, 85 North, 133, and 112	USAED	DEC-2002
2003			
	Cumulative Chemical and Radiological Data Report, 1983-2003, Groundwater Monitoring	USACE	JUL-2003
	Former South Tank Farm Soil Investigation Summary	Arctic Slope Combined Group	NOV-2003
2004			
	SM-1A 2003 Surveillance Report	General Health Physics, Inc.	MAR-2004
	Class V Underground Injection Control Inventory Report	USACE-AK District	APR-2004
	Comprehensive Evaluation of Groundwater Monitoring Program	Midwest Environmental Consultants	JUL-2004
	SM-1A Reactor Waste Laydown Yard Verification Survey Report	USACE	AUG-2004
	SM-1A Reactor Waste Pipeline Corridor Verification Survey Report	USACE	AUG-2004
	Groundwater Sampling and Analysis Report	Shannon and Wilson	OCT-2004
2005			
	2005 Fort Greely Fuel Facility Additional Site Characterization and Assessment	North Wind, Inc	FEB-2005
	SM-1A 2004 Environmental Surveillance Report (FGLY 018)	General Health Physics	MAR-2005
	2004 Field Investigation Report	Arctic Slope Technical Services (ASTS)	MAY-2005
	Groundwater Monitoring and Data Analysis Workplan	ASCG	MAY-2005
	2005 Installation Restoration Program Workplan	ASCG	MAY-2005
	Environmental Sites Decision Document	TSI	JUN-2005
	South Tank Farm Corrective Action Plan (FGLY 100)	ASCG	DEC-2005
2006			

IRP Previous Studies

	Title	Author	Date
2006			
	2006 Installation Restoration Program Workplan	ASCG	JUL-2006
	2006 Fort Greely Site Inspection Work Plan (MMRP)	TLI, Solutions	SEP-2006
2007			
	2006 Groundwater Monitoring and Data Analysis Report	Arctic Slope Technical Services	FEB-2007
	2006 Soil Characterization Analytical Data Report	Arctic Slope Technical Services	MAR-2007
	2007 Groundwater Monitoring Memorandum (Addendum to 2005 Groundwater Work Plan)	Arctic Slope Technical Services	APR-2007
	2006 South Tank Farm Biopile Soil Sampling Analytical Data Report	Arctic Slope Technical Services	APR-2007
	North Delta Tank Farm Characterization Report	OASIS Environmental, Inc.	MAY-2007
	2006 South Tank Farm Corrective Action Report	Arctic Slope Technical Services	JUN-2007
	Military Munitions Response Program Final Site Inspection Report Fort Greely Delta Junction, AK	TLI Solutions	JUL-2007
	2007 IRP Work Plan	Arctic Slope Technical Services	OCT-2007
2008			
	2005 Remedial Investigation Report BRAC Sites 54, 89, 85N/S, 103, 133, and the South Tank Farm	Arctic Slope Technical Services	JAN-2008
	2006 Remedial Investigation Report: BRAC Sites 31, 32, 41, 48, 89, 133, SM-1A 21+25 Pipeline Station, Tar & Asphalt Disposal Area, and the South Tank Farm	Arctic Slope Technical Services	FEB-2008
	2007 Groundwater Monitoring and Data Analysis Report	Arctic Slope Technical Services	APR-2008
	2007 SM-1A Environmental Surveillance Report	US Army Corps of Engineers	MAY-2008
	2006 SM-1A Environmental Surveillance Report	US Army Corps of Engineers	MAY-2008
	2007 IRP Remedial Investigation Report: South Tank Farm, Tar and Asphalt Disposal Area, and BRAC Sites 85N/85S, 89, and 133	Arctic Slope Technical Services	JUL-2008
	2008 IRP Work Plan	Arctic Slope Technical Services	AUG-2008
2009			
	2008 SM-1A Environmental Surveillance Report	US Army Corps of Engineers	JUN-2009
	2008 IRP Remedial Investigation Report: BRAC Sites 85N/85S & 133; Including SB41/MW-10 Area, South Tank Farm, and Building 675 (BRAC 54)	Arctic Slope Technical Services	JUN-2009
	2009 Record of Decision, Nine Installation Restoration Sites, FGA, AK	USASMDC/Teledyne Solutions, Inc.	AUG-2009
	2009 IRP Work Plan	Arctic Slope Technical Services	AUG-2009
	2009 North Delta Tank Farm Work Plan	Arctic Slope Technical Services	OCT-2009
	2008 Groundwater Monitoring and Data Analysis Report	Arctic Slope Technical Services	NOV-2009
2010			
	2009 SM-1A Environmental Surveillance Report	US Army Corps of	APR-2010

IRP Previous Studies

	Title	Author	Date
2010			
		Engineers	
	2010 IRP Work Plan	Arctic Slope Technical Services	JUL-2010
	2010 Groundwater Monitoring Work Plan	Arctic Slope Technical Services	JUL-2010
	2010 North Delta Tank Farm Groundwater Work Plan	Arctic Slope Technical Services	AUG-2010
	2008 Revised Final Compliance Cleanup Sites Annual Report: MOGAS/DFA Fuel Line at Old Post (BRAC Sites 134, 96, 97, 98, 99, and 100); Building 163 and Former UST Tank Farm (BRAC Site 94); Building 100 Drum Storage (BRAC Site 92); Evergreen Road POL Yard (BRAC Site 102); Dry Wells Located at Buildings 628, 612, and 675 (BRAC Sites 57, 135, and 54); Preconstruction Environmental Survey for Proposed CAC Site	Arctic Slope Technical Services	SEP-2010
	2010 IRP Work Plan Addendum	Arctic Slope Technical Services	OCT-2010
2011			
	Pilot Test Design and Performance Report, BRAC Site 94	Sivuniq, Inc	JAN-2011
	2009 North Delta Tank Farm Investigative Report	Arctic Slope Technical Services	FEB-2011
	Interim Corrective Action Work Plan, BRAC Site 94	Sivuniq, Inc	FEB-2011
	2009 Groundwater Monitoring and Data Analysis Report	Sivuniq, Inc	MAR-2011
	2009 Revised IRP Remedial Investigation Report: BRAC Sites 54, 72, 76, 77, 84, 94, 101, 111, 113, and 118; Former 2,4,5-T Drum Storage at Building 601; UST Sites at Building 615, 658, 660, and Mid-Post Road; POL Yard and Valve Pit; South Tank Farm; Decommissioning of Monitoring Wells M-7, MW-9, MW-14, and Mid-Post Road Abandoned Well	Arctic Slope Technical Services	MAR-2011
	2010 SM-1A Environmental Surveillance Report	US Army Corps of Engineers	APR-2011
	Draft Site Characterization and Remediation System Installation Report, BRAC Site 94	Sivuniq, Inc	MAY-2011
	Draft South Tank Farm Characterization Report	Sivuniq, Inc	MAY-2011
	Draft Interim Corrective Action Work Plan Addendum, BRAC Site 94	Sivuniq, Inc	MAY-2011
	Draft Interim Corrective Action Work Plan Addendum, South Tank Farm	Sivuniq, Inc	MAY-2011
	2011 Groundwater Work Plan	Sivuniq, Inc	JUL-2011
	2011 IRP Work Plan	Sivuniq, Inc.	AUG-2011
	2011 POL Soil Stockpile Multi-Increment Sampling Work Plan	Sivuniq, Inc.	AUG-2011
2012			
	WWII Tent Area and Jarvis Creek MMRP Burial Site Explosive Safety Submission	Tetra Tech, Inc.	MAR-2012
	Jarvis Creek/World War II Area Munitions Work Plan	Tetra Tech, Inc	MAR-2012

IRP Previous Studies

	Title	Author	Date
2012			
	2012 Groundwater Monitoring and Data Analysis Work Plan - Draft	Sivuniq, Inc.	MAR-2012
	2010 IRP Remedial Investigation Report: MOGAS/DFA Line Removals; BRAC Sites 30, 62, 72, 73, 76, 77, 79, 80, 92, 98, 99, 100, 101, 113, 116, 118, 121, 130, 133, and 134; Buildings 110 and 658; 2,4,5-T Drum Storage Area, POL Yard Valve Pit, and 2010 Soil Stockpiles	Sivuniq, Inc	MAR-2012
	Draft Proposed Plan for 51 Sites	Teledyne Brown Engineering	MAR-2012
	2012 IRP Work Plan - Draft	Sivuniq, Inc.	APR-2012
	BRAC Site 94 RI/FS (FGLY-006)	Sivuniq, Inc	APR-2012
	South Tank Farm RI/FS (FGLY-100)	Sivuniq, Inc	APR-2012
2013			
	2013 Groundwater Monitoring and Data Analysis Work Plan	WHPacific, Inc	AUG-2013
	2013 IRP Work Plan	WHPacific, Inc	SEP-2013
2014			
	BRAC Site 112 Munitions Explosive Safety Submission - Draft	Tetra Tech, Inc	JAN-2014
	BRAC 112 Munitions Work Plan - Draft	Tetra Tech, Inc	JAN-2014
	2013 IRP Report - Draft	WHPacific, Inc	MAR-2014
	2013 Letter of Findings for Former Landfills No. 1 (BRAC Site 31), No. 2 (BRAC Site 32), No. 4 and No. 5 (BRAC Site 88), Fort Greely, AK	WHPacific, Inc	MAR-2014
	WWII Tent Area and Jarvis Creek MMRP Burial Site Supplemental Site Inspection Work Plan	Tetra Tech, Inc	MAR-2014
	2013 Groundwater Monitoring and Data Analysis Report - Draft	WHPacific, Inc	APR-2014
	2013 SM-1A Environmental Surveillance Report	USACE	MAY-2014

FORT GREELY

Installation Restoration Program

Site Descriptions

Site ID: FGLY-002
Site Name: UST'S,BLDG 110

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

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

Media of Concern: Soil

Phases	Start	End
PA	199206	199212
SI	199206	199212
RI/FS	199305	199406
RD	199206	199407
IRA	199206	199209
RA(C)	199207	199407
RA(O)	199209	199809
LTM	201001	204509

RIP Date: 199407

RC Date: 199809

SITE DESCRIPTION

Former Building 110 was utilized as a pump house for aircraft fuel. Three aboveground storage tanks (ASTs) were located at the site and have been removed. Three underground storage tanks (USTs) (407, 408, and 409) were also located at Building 110. USTs 407 and 408 stored aviation fuel while UST 409 stored used oil. These USTs were removed in September 1989.

Five soil samples were collected during the UST removals, total petroleum hydrocarbon (TPH) concentrations ranged from 22 milligrams (mg)/kilogram (kg) to 645 mg/kg. The impacted soil was placed at the Fort Greely, Alaska landfill.

A release investigation was conducted in May 1994 where five soils borings were drilled. Samples were analyzed for gasoline range organics (GRO), diesel range organics (DRO), TPH, total organic carbon (TOC), VOCs, SVOCs, and metals. Analyte concentrations in soil samples from USTs 407 and 408 were below ADEC Method 2 migration to groundwater cleanup levels. USTs 407 and 408 were granted closure in October 1996. Soil samples from the UST 409 location contained concentrations of DRO, GRO, and benzene up to 450 mg/kg, 2,200 mg/kg, and 1.1 mg/kg respectively. These concentrations were above ADEC Method 2 migration to groundwater cleanup levels. Additional investigation was warranted.

A soil vapor extraction (SVE) system was installed at the UST 409 location in November 2005. Soil samples were collected during the SVE well installation and analyzed for DRO, GRO, and benzene, toluene, ethylbenzene, and xylene (BTEX) [DRO (up to 296 mg/kg), GRO (1,300 mg/kg), benzene (up to 1.9 mg/kg), toluene (up to 39 mg/kg), ethylbenzene (up to 17 mg/kg, and xylenes (up to 63 mg/kg)]. Based on those results, two zones of contamination were identified at 20 feet (ft) below ground surface (bgs) and 60 to 70 ft bgs.

An SVE test was conducted and the results found the SVE to be a feasible technology for cleanup. As a result, two additional SVE wells were added to the system.

Samples collected during the drilling of the two additional wells were analyzed for DRO, GRO, and BTEX. The results indicated approximately 3,600 cy of impacted soil existed at the site.

Initially, the SVE system operated from August 1995 through October 1996. The system was restarted and operated for four separate 30-day tests in May 1997, October 1997, February 1998, and May 1998. After analyzing the gas samples, it was determined that a point of diminished returns had been reached.

Confirmation samples were conducted in October 1998 and analyzed for DRO, GRO, and BTEX. From 38 samples, maximum concentrations were of DRO (620 mg/kg), GRO (580 mg/kg), toluene (2 mg/kg), ethylbenzene (5.3 mg/kg) and xylenes (32 mg/kg). Benzene was not detected.

Based on the results, the sparging/SVE system was successful in removing most contaminants. The site is proposed for closure

with LUCs in the PP that is being revised based on USAEC comments. LTM may be required and will be tracked/funded under post-wide LTM in FGLY-007.

This is a zero cost site.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of former Building 110 USTs and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADEC's contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. The PP/ROD is expected to be completed in FY15/FY16 time period.

Site ID: FGLY-004
Site Name: BLDG 605,COLD REG TEST CENTER

STATUS

Regulatory Driver: CERCLA

RRSE:

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

Media of Concern: Soil

Phases	Start	End
PA	199206	199212
SI	199707	199709
LTM	201009	204509

RIP Date: N/A

RC Date: 199709

SITE DESCRIPTION

This site is a Cold Regions Test Center facility that contained a vehicle maintenance shop, paint shop, battery storage, washrack, repair shops, and vehicle warm storage. A UST was removed prior to initiation of ADEC tank regulations/requirements. Site has petroleum contamination from UST. Site was included in the 2005 DD and closed as no further remedial action planned (NFRAP) with LUCs. LTM is covered under FGLY-007.

CLEANUP/EXIT STRATEGY

This site was closed as NFRAP in the 2005 DD. LTM consists of maintaining the digging permit program and the base geographic information system (GIS) which is used to monitor the digging permit system.

Site ID: FGLY-006
Site Name: FIRE TRAINING AREA-SITE 85/94/133

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199206	199210
SI	199206	199210
RI/FS	199306	201611
IRA	199410	201210
RA(C)	201609	201712
RA(O)	201609	206409
LTM	206412	209412

RIP Date: 201712

RC Date: 206409

SITE DESCRIPTION

Site 85N/S is located south of the east end of Allen Army Airfield east-west runway. 85N was previously a depression used as drum storage for chemicals used in fire training. Site 85S was the burn area south of the taxiway. Investigations revealed contamination to a depth of 17 ft. Seven SVE wells were installed (four in 85N, three in 85S) and operated 1994 to 1997 to remediate the deeper soil. The top five feet of soil were remediated using landfarming techniques to accelerate the biodegradation of the contaminants. In 2002, soil was placed atop BRAC site 85N to reduce exposure potential. In 2005, the biovent system was removed. In 2004 and 2005 a soil gas survey was conducted as part of a source investigation after TCE was discovered in 2002 in two downgradient groundwater monitoring wells (MW-2 and MW-4). Results of the survey did not indicate a source of contamination remaining at site 85N/S.

Site 133 is located south of the aircraft parking apron of Allen Army Airfield. The site was a circular area approximately six inches high by five ft in diameter, and a pit six ft deep extending approximately 20 ft by 30 ft. Contamination was found to a depth of only 6.5 ft. The soil was remediated using landfarming, but post remediation samples revealed that DRO and pesticides exceeding the ADEC Method 2 cleanup levels still remained. A well, MW-5, installed in 2003 upgradient of site 133 contained benzene.

The TCE levels in the downgradient wells continue to stay near the maximum contaminant level (MCL) (slightly below since fall 2007). The ADEC requested well (MW-16) installed in FY08 to determine if the TCE plume is moving deeper (sampling events showed slight detection of TCE below MCL). An additional series of wells were installed to determine the source of benzene in MW-5. The benzene source was located (BRAC Site 94, former UST tank farm at Building 163). An ozone injection in situ oxidation treatability study was initiated at site 94 in 2009 after extensive characterization that defined a large source area for fuel products and a groundwater plume extending down gradient for benzene, DRO, EDB, and 2-methylnapthalene. In situ oxidation showed promise for remediating the smear zone (remediating entire source area estimated to take 15-20 years). The treatability study was expanded in fall 2010. Significant equipment failures and problems plagued the system during 2010-2011. The system was up and running consistently by fall 2011 and ran for approximately eight months. The target zone for remediation was the 40 ft of vadose zone immediately above the groundwater (including smear zone). Due to expense and limited operability, USAEC ordered the system be shutdown as of June 2012. The only other viable option as a proposed remedy is natural attenuation. Since groundwater flow is slow (inches per/day), downgradient wells would take years to show any effects from remediation of source material. The data indicates plume is shrinking from physical natural attenuation forces, but no evidence that bio-degradation is occurring (due to extreme low temperatures). Ozone treatment was expected to mobilize contaminants initially and 2012/2013 groundwater monitoring results show elevated petroleum products immediately downgradient.

BRAC sites 85N, 85S, and 133 are included in the draft multisite PP/ROD. The PP for BRAC Site 133 proposed a cap to prevent access to pesticide contaminated soils. The PP for BRAC sites 85N/S proposed NFA with no restrictions on land use since TCE groundwater concentrations have stayed below MCLs since 2007. The fourth site, BRAC site 94, currently has a draft RI/FS. The documents are back under USAEC review after revision and an 18-month hold by USAEC legal (USAEC legal wanted USEPA to re-engage since Fort Greely briefly held interim Resource Conservation and Recovery Act (RCRA) status).

Site ID: FGLY-006
Site Name: FIRE TRAINING AREA-SITE 85/94/133

CLEANUP/EXIT STRATEGY

Due to the decreasing TCE contamination in BRAC Site 85N/S groundwater monitoring wells and the fact that deeper, down-gradient, and cross-gradient wells have not shown TCE above the MCL, the strategy for the TCE contamination is to continue to monitor the decreasing concentrations and proceed to site closeout since there have been four years of results that are below the MCL (closeout of the TCE portion of the site is planned in FY15/FY16 with a PP/ROD).

A treatability study (in situ chemical oxidation by ozone injection) at BRAC Site 94 was shut down in June 2012. An RI/FS/PP/ROD will be completed in the FY15/FY16 time frame with an anticipated remedy of monitored natural attenuation for benzene and other petroleum contaminants.

The PP for BRAC Site 133 is adding a cap to prevent access to pesticide contaminated soils.

Because contamination will remain at depth, ACLs and institutional controls (ICs) (as appropriate) will be used to close sites. Five-year reviews will monitor the petroleum plume while it remains above MCLs.

Site ID: FGLY-007
Site Name: LANDFILL 1/2 - BRAC SITE 31/32

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199206	199210
SI	199906	200003
LTM	200110	204509

RIP Date: N/A

RC Date: 200110

SITE DESCRIPTION

The two landfills are located within the northwest undeveloped area at Fort Greely. Per the environmental baseline survey (EBS), the landfill was closed prior to 1953. In 1990, Landfill No. 1 was identified as SWMU No. 38 and Landfill No. 2 was identified as SWMU No. 41. The types and quantities of waste in the landfills are unknown. The landfills are believed to have accepted sanitary wastes. The size and start dates are also unknown; they probably were closed prior to 1953.

During 1999, two groundwater monitoring wells were installed downgradient of sites 31/32 (31/32/112-MW-A and 32-MW-A) and one was installed upgradient (31-MW-A). Levels of chlorinated hydrocarbons below MCLs have been detected in the groundwater.

Since installation, periodic samples from well 31/32/112-MW-A have contained toluene, DRO, and TCE at levels less than the MCLs. Each of these analytes has been detected on two of seven sampling events. Since 2001 the groundwater monitoring has found no contaminants above MCLs. The groundwater samples were collected in even-numbered years. In 2006 at the request of the ADEC, soil sampling was conducted to support closeout of the landfills. A few samples showed PAHs above the ADEC screening levels. The ACLs were developed using the ADEC Method 3 calculations and the site was inserted into the 2008 PP for closeout of nine IRP sites. The ROD was completed in 2009 and Landfills 1 and 2 were closed with LUCs and five-year reviews.

This site serves as the site for estimating/reporting post-wide LTM efforts. Efforts include groundwater monitoring, five-year reviews, and LUC administration. Sites with LTM estimated here include the following: FGLY-002, FGLY-004, FGLY-004-R-01, FGLY-007, FGLY-008, FGLY-010, FGLY-011, FGLY-012, FGLY-015, FGLY-018, FGLY-019, FGLY-022, FGLY-031, FGLY-033, FGLY-043, FGLY-045, FGLY-046, FGLY-049, FGLY-053, FGLY-056, FGLY-058, FGLY-059, FGLY-071, FGLY-072, FGLY-074, FGLY-076, FGLY-099, and CCFGLY-002, and CCFGLY-008. The draft 51 Site PP is under revision after comments received (and an 18-month legal hold) from USAEC.

CLEANUP/EXIT STRATEGY

A ROD was signed in 2009 closing this site with LUCs and five-year reviews that are ongoing.

Site ID: FGLY-008
Site Name: LANDFILL 2-SITE 32

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199206	199210
SI	199906	200003
LTM	200110	204509

RIP Date: N/A

RC Date: 200003

SITE DESCRIPTION

This is a remote landfill used in the 1950s. A monitoring well was installed in September 1999 and samples indicate no groundwater contamination. The site was closed in 2009 via a ROD and will have LTM that consists of LUCs. This site is now monitored and funded through FGLY-007.

CLEANUP/EXIT STRATEGY

This site was closed in 2009 with a ROD with LUCs. LTM consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-010
Site Name: LANDFILLS 4 AND 5-BRAC SITE 88

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199206	199210
SI	199708	200009
RI/FS	200403	200409
LTM	200410	204509

RIP Date: N/A

RC Date: 200409

SITE DESCRIPTION

This site is located in the northeast industrial area at Fort Greely. Landfills 4 and 5 were identified as SWMUs No. 42 and 39. The landfills operated in the 1960s and are believed to have accepted sanitary wastes, metals, and ashes, which were buried in trenches. Per the EBS, Landfill No. 4 was closed in 1969 and Landfill No. 5 was closed prior to 1962. Currently, the area serves as a picnic area and a skeet shooting range. The EBS classified this site as category 7; additional evaluation was needed. Per EBS Table 5-1a and Table 21, the site was evaluated by reviewing various hazardous waste management compliance reports dated 1987 through 1995.

In 1997 field activities were conducted. The results of the survey indicated the presence of 15 discrete magnetic anomalies. Trace pesticides were detected, all well below the ADEC Method 2 cleanup levels. The 1997 report recommended further geophysical surveying to delineate anomalies, and additional test pit excavation and sampling. During 1998 additional geophysical survey and groundwater sample collection was conducted. The geophysical survey identified several anomalous areas that appeared to be associated with discrete metallic objects. A review of former disposal practices determined that the landfill features were associated with solid waste disposal and a decision was made that further investigation for potential discarded munitions was not warranted. In the summer of 2004, a passive soil gas survey for downgradient areas was completed and no evidence of downgradient contamination was discovered.

Bis(2-ethylhexyl)phthalate exceeded the MCL. TCE, chloroform, and 1,1,2,2-tetrachloroethane at levels less than MCLs have been detected in four sampling events since well installation. Five wells (88MW-A, 88MW-B, 88MW-C, MW-3, and E-2) are sampled semiannually to monitor the landfills. A ROD was signed in 2009 closing the site with dig restrictions, LUCs, and five-year reviews. The first five-year review included groundwater monitoring of downgradient wells because of the previous detections of VOCs. The five-year review field visit was conducted April 2014. A draft report was submitted to USAEC July 2014 for review and comment. The draft report is being finalized and recommended discontinuing groundwater monitoring.

LTM activities are estimated under FGLY-007.

CLEANUP/EXIT STRATEGY

This site was closed in 2009 with a ROD with LUCs. LTM consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-011
Site Name: LANDFILL 5

STATUS

Regulatory Driver: RCRA

RRSE:

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	199206	199210
CS	199206	199210
LTM	200910	204509

RIP Date: N/A

RC Date: 199210

SITE DESCRIPTION

This site is located in the northeast industrial area at Fort Greely, AK. Landfill 5 was identified as SWMUs No. 39. The landfill operated in the 1960s and was believed to have accepted sanitary wastes, metals, and ashes, which were buried in trenches. Per the EBS, Landfill No. 5 was closed prior to 1962. Currently, the area serves as a picnic area and a skeet shooting range. The EBS classified this site as category 7; additional evaluation was needed. Per EBS Table 5-1a and Table 21, the site was evaluated by reviewing various hazardous waste management compliance reports dated 1987 through 1995.

In 1997 field activities were conducted. The results of the survey indicated the presence of 15 discrete magnetic anomalies. Trace pesticides were detected, all well below the ADEC Method 2 cleanup levels. The 1997 report recommended further geophysical surveying to delineate anomalies, and additional test pit excavation and sampling. During 1998 additional geophysical survey and groundwater sample collection was conducted. The geophysical survey identified several anomalous areas that appeared to be associated with discrete metallic objects. A review of former disposal practices determined that the landfill features were associated with solid waste disposal and a decision was made that further investigation for potential discarded munitions was not warranted. In the summer of 2004, a passive soil gas survey for downgradient areas was completed and no evidence of downgradient contamination was discovered.

Bis(2-ethylhexyl)phthalate exceeded the MCL. TCE, chloroform, and 1,1,2,2-tetrachloroethane at levels less than MCLs have been detected in four sampling events since well installation. Five wells (88MW-A, 88MW-B, 88MW-C, MW-3, and E-2) are sampled semiannually to monitor the landfills. The first five-year review will include groundwater monitoring of downgradient wells because of the previous detections of VOCs. Groundwater monitoring will be discontinued after the five-year review unless results warrant further monitoring. The first five-year review held in 2014 and report is in development. No significant detections in the groundwater monitoring, so groundwater monitoring is being proposed for discontinuation.

LTM activities are estimated under FGLY-007.

CLEANUP/EXIT STRATEGY

This site was closed in 2009 via a ROD with LUCs. LTM consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-012
Site Name: LANDFILL 6

STATUS

Regulatory Driver: RCRA

RRSE:

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	199206	199210
CS	199206	199210
LTM	200509	204509

RIP Date: N/A

RC Date: 199210

SITE DESCRIPTION

The original purpose of this landfill was to provide a disposal site for grubbing material and debris from construction of main cantonment housing. The landfill is believed to have accepted sanitary wastes (domestic garbage and septic tank wastes) buried in trenches. It is not known if other types of waste were placed in the landfill.

Four soil borings were drilled to 41.5 to 42.0 ft bgs around the perimeter of the landfill in 1995 to investigate for leachate. Thirty-six samples were collected. Analyses included TPH, DRO, GRO, VOCs, SVOCs, chlorinated herbicides, pesticides, PCBs, and metals.

Maximum concentrations of DRO (33 mg/kg) and GRO (58 mg/kg) are below ADEC Method 2 cleanup levels. Trace concentrations of di-n-butyl phthalate and bis(2-ethylhexyl) phthalate were detected well below ADEC Method 2 cleanup levels. Chlorinated herbicides were not detected.

Methylene chloride was detected up to 0.023 mg/kg, slightly exceeding the ADEC Method 2 migration to groundwater cleanup level. The report attributed this analyte to most likely be the result of laboratory contamination. No other VOC detections exceeded ADEC Method 2 cleanup levels.

Maximum detected concentrations of the pesticides alpha BHC (0.002 mg/kg), delta BHC (0.002 mg/kg), 4,4-DDD (0.065 mg/kg), endosulfan (0.003 mg/kg), 4,4-DDT (0.36 mg/kg), 4,4-DDE (0.04 mg/kg), and dieldrin (0.009 mg/kg) were below ADEC Method 2 cleanup levels. PCBs were not detected.

The maximum detected concentration of arsenic (41 mg/kg) and chromium (98 mg/kg) exceed ADEC Method 2 cleanup levels. The maximum arsenic concentration is only slightly outside the background range (four to 40 mg/kg), and probably actually represents background. Only one chromium sample result out of 44 exceeded the background range of eight to 43 mg/kg for Fort Greely.

The site was closed in 2005 via a DD with LUCs. LTM is funded under FGLY-007.

CLEANUP/EXIT STRATEGY

This site was closed in 2005 via a DD with LUCs. LTM, estimated under FGLY-007, consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-015
Site Name: BLDG 100, DRUM STORAGE-SITE 92

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199206	199212
SI	199708	199805
RI/FS	199810	201103
IRA	201003	201103
LTM	201103	204509

RIP Date: N/A

RC Date: 201103

SITE DESCRIPTION

This is a former accumulation point for hazardous wastes and POLs. It is contaminated with 196 parts per million (ppm) lead, 2.7 ppm benzo(a)anthracene, 1.7 ppm benzo(b)fluoranthene, 2.7 ppm benzo(a)pyrene, 0.72 ppm indeno(1,2,3-cd)pyrene, and 0.34 ppm dibenz(a,h)anthracene at very shallow depth (1997 site investigation/limited RI (LRI) report, September 1998). Further characterization revealed that these contaminants were limited to one isolated sample. The soil was reworked during backfilling, so there was no discernible area of contamination identified (draft 1998 RI report, November 1998). Investigations in 2001 at neighboring BRAC Site 134 revealed near-surface contamination (3100 mg/kg DRO) that was attributed to BRAC Site 92. Follow-up investigations in 2008 delineated the extent of remaining near surface contamination with test pits. Thirty cy of contaminated soil was removed for landfarming in 2010 and borings were used to delineate the remaining DRO contamination between 15 and 45 ft bgs. Site was proposed for closure with LUCs in the multisite PP currently being revised following USAEC review. LTM will be included with FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC Site 92 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADEC's contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD is expected to be completed during the FY15/FY16 time period.

Site ID: FGLY-018
Site Name: SM-1A RECHARGE WELL

STATUS

Regulatory Driver: OTHER

RRSE:

Contaminants of Concern: Radionuclides

Media of Concern: Groundwater

Phases	Start	End
PA	199206	199212
SI	199206	199212
LTM	201009	204509

RIP Date: N/A

RC Date: 199410

SITE DESCRIPTION

This well was used from 1967 to 1972 for the injection of reactor cooling wastewater after processing through a waste treatment (condensation) skid. Tritium would not have been removed. Sampling and modeling during the SM-1A wastewater pipeline removal effort in 1999 indicated tritium has a short half-life and would have degraded. The well was evaluated under Army Reactor Program in an USACE all-hazard assessments (of remaining reactor operations contamination) with fieldwork conducted in 2012. All-hazard assessments is being used to develop final decommission plans for reactor complex and remaining hazards. The well has not had a verification survey and decommissioning, and remains under the Nuclear Regulatory Commission (NRC) permit.

LTM (currently just LUCs) is covered under FGLY-007.

CLEANUP/EXIT STRATEGY

The cleanup/exit strategy is the responsibility of the Army Reactor Program. The LTM under Fort Greely control includes the administrative controls database utilized to control subsurface intrusions into the location of the injection well for nuclear waste site and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use.

Site ID: FGLY-019
Site Name: SM1A PIPELINE REMOVAL-SITE 90/132

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199206	199210
SI	199206	199709
RI/FS	199908	200909
IRA	199708	200109
LTM	201001	204509

RIP Date: N/A

RC Date: 200909

SITE DESCRIPTION

The pipeline took nuclear reactor waste cooling water from the reactor to a dilution station near Jarvis Creek prior to discharge to Jarvis Creek. The pipeline was operational from 1962 to 1967 before being replaced with a wastewater treatment skid and injection well (FGLY-018) in 1967. The pipeline was known to freeze and rupture in the harsh arctic climate which led to its replacement.

In August 1999 the excavation of approximately 1,700 cy of contaminated soil and debris was completed. Shipment of the waste to a disposal facility in Utah was completed in FY00. Maximum soil contamination is 517 picoCuries (pCi)/liter (L) cesium-137 and 290 pCi/L strontium-90 (1997-1998 Draft Field Report, removal of SM-1A radioactive waste pipeline, January 1999). In FY00 final confirmation sampling (FY98 funds) of the pipeline corridor was done. At the end of FY98, the dilution well associated with this pipeline was sampled and found to contain 49.9 pCi/l strontium-90, which is more than six times the MCL for this contaminant. The source was a slug of contaminated soil in the bottom of the well. In September 1999, the well was cleaned, purged, and sampled. Results show strontium levels are now well below MCLs. Quarterly samples were taken until August 2000 (all below MCLs) and the well was abandoned per the work plan. In fall 2004, the final cleanup report was submitted to the ADEC and the USEPA. The ADEC reviewed the report in the second quarter of FY05. Comments were addressed by the USACE Omaha District.

Various stations along the wastewater pipeline were identified either prior to or during the removal as also having petroleum contamination. These stations include Station 20+70, Station 24+00, Station 9+50, and Station 21+25. The first three of these stations were closed in the 2005 DD with LUCs.

Station 21+25 had POL contamination that required further characterization prior to closeout. Passive soil gas modules were placed along the pipeline corridor surrounding Station 21+25 in 2005. In 2006, three borings were placed along the corridor and results were two orders of magnitude below the ADEC Method 2 cleanup levels. No other contaminants of concern were detected. The site was included in the 2008 PP that went out for public comment in May 2008. A ROD was signed in August 2009 which included LUCs and five-year reviews for petroleum contamination along the pipeline. Five-year review costs will be combined with Site FGLY-007 and will not be costed under this site.

The 2009 ROD also closed the remaining pipeline site (with respect to radioactive contamination) with no restrictions on future land use.

CLEANUP/EXIT STRATEGY

The site closed in 2009 via a ROD with LUCs and five-year reviews on petroleum spill points (identified as stations along the pipeline).

Site ID: FGLY-022
Site Name: LANDFILL #7 (1970'S)

STATUS

Regulatory Driver: RCRA

RRSE:

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	199206	199212
CS	199206	199212
RFI/CMS	199410	199511
LTM	200509	204509

RIP Date: N/A

RC Date: 199511

SITE DESCRIPTION

This site is a former landfill which is now used as the construction and debris (C&D) landfill (on top of former Landfill No. 7). Site was closed in the 2005 DD with LUCs. LTM covered under FGLY-007.

CLEANUP/EXIT STRATEGY

The site closed via a 2005 DD with LUCs. LTM consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-027
Site Name: TAR AND ASPHALT DISPOSAL AREA

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
PA	199206	199212
SI	199206	199212
RI/FS	199311	201611
IRA	199311	199503
LTM	201611	204509

RIP Date: N/A

RC Date: 201611

SITE DESCRIPTION

The former tar and asphalt disposal area (TAADA) consists of 10 to 20 acres located on the west side of the Allen Army Air Field north of the cantonment area. The site contains areas previously used for tar and asphalt disposal and consists of at least three gravel turnouts that were used as tar and drum disposal areas, and a central unpaved access road that loops off the northeast-southwest runway.

At the time of the PA the site contained pools of asphalt tar approximately 20 ft in diameter, three timber cribs filled with tar, narrow gauge rails and pipes stuck in tar, drums, cables, pipes, a buried pump, and chunks of graveled asphalt debris. The site was probably active in the 1950s during runway expansion and upgrades.

Five potential source areas of contamination are present at the site: four asphalt disposal areas and one drum/asphalt burial area. In 1994, Woodward-Clyde conducted an investigation of the site. Test pits were excavated at all four asphalt disposal areas and soil samples were collected at six inches and four feet bgs. Samples for DRO, GRO, VOCs, SVOCs, pesticides, and PCBs were below the ADEC Method 2 cleanup levels at all four disposal areas. A geophysical survey conducted at Asphalt Disposal Areas No. 2 and 4 included electromagnetics (EM), ground-penetrating radar (GPR), a magnetometer, and surface resistivity.

The study area at Area 2 was 220 ft by 265 ft. A wooden railroad tie system was present in this source area, and asphalt/tar extended from 2.5 ft to three ft deep. The geophysical survey results suggest this area was once a borrow area up to 30 ft deep that was filled with soil and debris. A geophysical survey conducted at Area 4 resulted in the identification of anomalies. One test pit was excavated to investigate an anomaly, and drums were encountered directly beneath the surface. The test pit was terminated and backfilled without sampling.

Six borings were drilled at the drum/asphalt disposal area, each to 20 ft bgs. Twenty-five samples were collected. Samples for DRO, GRO, VOCs, SVOCs, pesticides, and PCBs were below the ADEC Method 2 cleanup levels. This source area was also investigated by a geophysical survey which included EM, GPR, a magnetometer, and surface resistivity. The investigation area was 300 ft by 360 ft. The results suggest the site was used as a borrow area, and then as a landfill after borrow material was removed. The depth of the borrow area/landfill was approximately 35 ft.

NFA was recommended for Asphalt Disposal Areas No. 1 and No. 3. Additional investigation was recommended for Asphalt Disposal Areas No. 2 and 4 to better define the limits of impact and buried materials at the source areas. Deeper drilling was recommended for the drum/asphalt burial area. In summer FY06 investigations in Areas 2 and 4 were initiated. The investigations failed to find the reported location of Asphalt Disposal Areas 2 and 4. Geophysical investigation in 2007 relocated the AOCs. Borings beneath the disposal areas show only minor solvent detections. NFA was recommended. The ADEC concurred with the 2007 investigation report (recommending closeout as a landfill); however, ADEC management personnel in 2009 questioned agreeing to close the site without removing the drums. A supply well downgradient of site was sampled in 2010 with no contamination identified. Site was proposed for closure as a landfill (with LUCs) in the draft multisite PP currently under revision after receiving USAEC comments. Drum removal was also analyzed as an alternative and the remedy selection process (with public and regulator input) will determine the closeout method. For cost estimating purposes, LTM as a landfill is assumed to be the remedy.

Site ID: FGLY-027
Site Name: TAR AND ASPHALT DISPOSAL AREA

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of TAADA and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete with ICs". No change in use status will be allowed without ADEC approval. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. Five-year reviews will be conducted to ensure long-term effectiveness. Groundwater monitoring of the downgradient monitoring well for petroleum constituents and VOCs will be completed in the fall of the year prior to a five-year review (so that data is available for analysis during the five-year review). A PP and a ROD are to be completed in the FY15/FY16 time period.

Site ID: FGLY-031

Site Name: BLDG 615 ROADS AND GROUNDS/DRUM STORAGE

STATUS

Regulatory Driver: CERCLA

RRSE:

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

Media of Concern: Soil

Phases	Start	End
PA	199206	199212
SI	199206	199212
LTM	201009	204509

RIP Date: N/A

RC Date: 199410

SITE DESCRIPTION

This site is a DPW roads and grounds maintenance facility. The site had a drum storage area in the northwest corner of the fenced yard north of the building. The drum storage area was closed as a SWMU through USEPA; however, ADEC did not agree. The entire facility was closed and it was requested that possible USTs and underground injection control (UIC) wells be investigated. The decision was made not to reopen the AEDB-R site but instead to address it under FGLY-099. No USTs (or records of USTs) were found. A UIC well was located in 2010. The UIC well was removed (using IMCOM garrison funds) and the remediation of contaminated soil was completed in 2011. The site was proposed for closure with LUCs in the multisite PP which is currently under revision based on USAEC comments. LTM will fall under FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of Building 615 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADECs Contaminated Sites Database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP and ROD are to be completed in the FY15/FY16 time period.

Site ID: FGLY-033
Site Name: UST, BLDG 162 BRAC Site 99

STATUS

Regulatory Driver: RCRA

RRSE:

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

Media of Concern: Soil

Phases	Start	End
ISC	199206	199212
INV	199206	199212
IRA	199206	199212
LTM	201009	204509

RIP Date: N/A

RC Date: 199604

SITE DESCRIPTION

This former leaking UST site had surface soils (down to 15 ft bgs) remediated in 2010 under CCFGLY-008 (105 cy of petroleum contaminated soil removed and landfarmed). The site was a 2,000-gallon (gal) UST removed in 1989. The DD was signed by USEPA/USARAK/USACE late in the BRAC process. When FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared that they did not give USEPA authority to sign DDs for them. ADEC expressed concerns about remaining soil contamination. A decision was made to not reopen AEDB-R site, but to lump them together in CCFGLY-008. Contamination remains at depth, but there is no potential migration to groundwater at 185 ft bgs. The site was proposed for closure with LUCs in the draft multisite PP which is currently under revision based on USAEC comments. LTM will be covered under FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC site 99 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land-use. The site will be considered "cleanup complete" in ADEC's contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-043
Site Name: UST BLDG 159 BRAC Site 98

STATUS

Regulatory Driver: RCRA

RRSE:

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

Media of Concern: Soil

Phases	Start	End
ISC	199405	199405
INV	199405	199405
CAP	199503	199511
IRA	199412	199412
LTM	201009	204509

RIP Date: N/A

RC Date: 199604

SITE DESCRIPTION

This site was a 3,000-gal UST which was removed in 1994. Under actions taken under CCFGLY-008 (consolidated Old Post petroleum contaminated sites), 375 cy of soil was excavated in 2010 and landfarmed. The site was included in a draft multisite PP for closure with LUCs (petroleum contamination remaining at depth). The PP is under revision after receipt of USAEC comments. LTM will be covered under FGLY-007.

CLEANUP/EXIT STRATEGY

The FGLY administrative controls database will be utilized to control subsurface intrusions into the location of BRAC site 98 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use due to petroleum contamination remaining between 15 and 55 ft bgs. The site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-045
Site Name: ROBIN ROAD FUEL SPILL-SITE 30

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199510	199610
SI	199702	199806
RI/FS	199702	200009
IRA	199910	200009
LTM	200110	204509

RIP Date: N/A

RC Date: 200009

SITE DESCRIPTION

This is the site of a December 1982 diesel fuel release (estimated between 52,000 and 133,000 gal) from an aboveground pipeline which was located along a power line right-of-way about 0.25 mile west of Robin Road. The site is located within the northwest undeveloped area at Fort Greely. The spill spread 325 ft east of the source and 50 ft west. Borings drilled within a week of the fuel spill indicated fuel contamination had penetrated to at least 50 ft bgs. In January 1983, impacted soil was excavated three to four ft bgs over an area of about 7,500 square feet (sf). The disposal method and location of the excavated soil are not known. Seven groundwater monitoring wells were installed at and downgradient of the spill. In 1997 and 1998 this site was sampled. The report indicated 6,600 sf of impacted surface soil, as well as a larger zone at 40 to 50 ft bgs resulting from lateral migration above a silt-rich layer. DRO-impacted soil extended to about 70 ft beneath the spill location. Based on corrected results, DRO ranged up to 10,100 mg/kg. The GRO and BTEX levels were also elevated.

Documentation suggests that spilled fuel thawed the frozen soils at the spill site, leached downward through coarse soils until reaching silt-rich soils at about 40 ft bgs, then spread laterally along the upper interface of the silt-rich layer and soaked into the upper zone of the silt-rich layer. Vertical migration into the silt-rich layer was greatest directly beneath the spill location, extending to about 70 ft bgs. In the summer of 1999 approximately 3,050 cy of soil was excavated from the site. Of this, about 1,070 cy was clean and was staged adjacent to the excavation, 220 cy was suspected of being impacted and was staged at the excavation, and 1,760 cy was believed to be POL-contaminated and was transported and stockpiled near the active landfill. Analytical results for much of this latter material indicated it was not impacted above cleanup levels; in the summer of 2000 it was returned to the excavation.

During the summer of 2000, an additional 90 cy of contaminated soil was removed to address xylene detections above the ADEC health-based criteria. The excavation was then backfilled. In 2000 contaminated soil excavated from the site was thermally processed by a mobile thermal processor set up at the stockpile area near the landfill. Based on the results of sampling at the site, it met the ADEC Method 2 health-based cleanup levels (ingestion and inhalation) down to a depth of 15 ft bgs. Leachability modeling was then conducted under the limited risk evaluation (LRE) to address contaminants remaining at the site that exceeded the ADEC Method 2 migration-to-groundwater cleanup levels. The results of the modeling indicated that contaminant breakthrough at levels exceeding MCLs is not expected to occur at the site. The ADEC has not accepted the LRE conclusions and is not confident the modeling is reflective of actual site conditions. Work on FGLY-006 will be used to try to validate the seasonal soil compartment model (SESOIL); however, ADEC has not accepted leachability modeling due to unpredicted breakthroughs at other sites. The groundwater samples have never had detections above MCLs at this site. USARAK and USACE signed a DD with USEPA closing the site late in the BRAC process (and moved the site to LTM phase). When the site was taken out of BRAC process with transfer from USARAK to USASMDC, ADEC stated they did not authorize USEPA to sign DD for them. Site investigation/monitoring was reinitiated to address ADEC concerns but site was retained in LTM phase within AEDB-R. Monitoring was moved to twice a year (spring and fall to represent seasonal high and low) in even-numbered years starting in 2006. In 2010, subsurface soil characterization was completed at ADEC request (to support modeling using ADEC HRC). The site was proposed for closure with LUCs in the multisite PP currently under revision after receipt of USAEC comments.

Site ID: FGLY-045
Site Name: ROBIN ROAD FUEL SPILL-SITE 30

CLEANUP/EXIT STRATEGY

ADEC HRC results will be used to justify leaving remaining contamination at depth in place (calculation of site-specific cleanup levels). The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC Site 30 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in the state contaminated sites database. No occupied buildings will be constructed on the site, but other uses for industrial or recreational/"green space" could be allowed. Contaminated soil associated with fiber optic cable will be removed down to 15 ft bgs when cable is no longer operational (and if contaminant levels still warrant excavation). A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-046
Site Name: EVERGREEN ROAD FUEL SPILL-SITE 73

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199510	199510
SI	199702	199806
RI/FS	199702	200009
LTM	200110	204509

RIP Date: N/A

RC Date: 200009

SITE DESCRIPTION

This site is a 64,830 sf former diesel fuel release located within the old post geographic area about 300 ft south of the intersection between Evergreen Road and 64th Avenue. The release occurred in January 1982 when a tracked vehicle crossed and broke a three-inch diesel fuel line. Documents conflict regarding whether the line was above or below ground. Because documentation references removal of diesel-contaminated snow, the pipe is assumed to have been aboveground. An estimated 44,000 gal were released. The pipeline had not been used since 1983.

In the spring of 1982 an unknown volume of impacted soil was removed and replaced with Jarvis Creek gravel. The disposal location of the impacted soil is unknown.

In 1997 and 1998 the site was investigated. In 1997, DRO levels ranged up to 26,000 mg/kg, GRO up to 7,600 mg/kg, benzene up to five mg/kg, and xylenes up to 327 mg/kg. Naphthalene was detected at 100 mg/kg. In 1998, DRO ranged up to 1,600 mg/kg, GRO up to 2,600, benzene to 6.1 mg/kg, and xylenes to 190 mg/kg.

Documentation suggests that spilled fuel thawed the frozen soils at the spill site, leached downward through coarse soils until reaching silt-rich soils about 30 ft bgs, then spread laterally along the upper interface of the silt-rich layer and soaked into the upper zone of the silt-rich layer. Vertical migration into the silt-rich layer was greatest at a location about 70 ft west of the spill location where fuel may have puddled. Vertical migration above the ADEC Method 2 cleanup levels extended to at least 70 ft bgs.

In 1999 two groundwater monitoring wells associated with Site 73 were installed: one well (73-MW-A) very near the spill location on the downgradient side and the other (73-MW-B) about 400 ft upgradient (southwest) of the spill site. Data collected during drilling these wells indicates analyte concentrations did not exceed the ADEC Method 2 cleanup levels.

Leachability modeling was then conducted. None of the site characterization sample results from the upper 15 ft exceeded the ADEC Method 2 ingestion and inhalation cleanup levels. The results of the modeling indicated that contaminant breakthrough at levels exceeding MCLs is not expected to occur at Site 73; however, ADEC has not accepted leachability modeling due to unpredicted breakthroughs at other sites. The groundwater samples have never had detections above MCLs at this site. USARAK and USACE signed a DD with USEPA closing the site late in the BRAC process (and moved the site to LTM phase). When the site was taken out of BRAC process with transfer from USARAK to USASMDC, ADEC stated they did not authorize USEPA to sign the DD for them.

Site investigation/monitoring was reinitiated to address ADEC concerns but site was retained in LTM phase within AEDB-R. Monitoring was moved to twice a year (spring and fall to represent seasonal high and low) in even-numbered years starting in 2006. In 2010, ADEC requested subsurface soil characterization (to support modeling using ADEC HRC). Site was proposed for closure with LUCs in the draft multisite PP currently under revision after receipt of USAEC comments.

CLEANUP/EXIT STRATEGY

Site ID: FGLY-046
Site Name: EVERGREEN ROAD FUEL SPILL-SITE 73

ADEC Method 3 or HRC results will be used to justify leaving remaining contamination at depth in place (calculation of site-specific cleanup levels). The Fort Greely administrative controls will be utilized to control subsurface intrusions into the location of BRAC site 73 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADECs contaminated sites database. No occupied buildings will be constructed on the site, but other uses for industrial or recreational/green space could be allowed. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-049
Site Name: DELTA TANK FARM

STATUS

Regulatory Driver: OTHER

RRSE: NOT EVALUATED

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199008	199008
SI	199707	199709
RI/FS	199707	199709
RD	199809	199809
RA(C)	199905	199910
LTM	200901	204509

RIP Date: N/A

RC Date: 200009

SITE DESCRIPTION

The Delta Tank Farm site was the location of two former ASTs (believed to have been 10,000-barrel tanks) that were part of the Canadian Oil (CANOL) and Haines pipelines. The site is located within the Delta Junction and was previously leased by the Army.

In 1999, remediation was partially completed by the USACE using dig-and-haul.

After the transfer of FGA from USARAK to USASMDC (and removal from BRAC), responsibility for site was temporarily confused. USASMDC did not realize USARAK lease was retained beyond 1986 and was not eligible for Formerly Used Defense Sites (FUDS) status. In the interim, while site responsibility was being worked out, soil work at the site (an investigation and dig-and-haul removal under state regulations) was completed by ADEC in 2006 and 2007 and the state was later reimbursed by the Army for costs incurred. The state also requested FGA to conduct a groundwater investigation. Three monitoring wells were installed in a 20 ft thick perched zone in the fall of 2009 north and northwest of the former tank farm (direction of regional groundwater flow). Wells were placed in a perched aquifer encountered significantly above the regional water table aquifer (but would be the first aquifer to be impacted if soil contamination reached groundwater). No contaminants were found. Wells were dry in December 2009, indicating that a perched zone may only be present when the Delta River is flowing (during summer/fall). USARAK and USACE signed a DD with USEPA closing the site late in the BRAC process (and moved the site to LTM phase). When the site was taken out of BRAC process with transfer from USARAK to USASMDC, ADEC stated they did not authorize USEPA to sign the DD for them. Site investigation/monitoring was reinitiated to address ADEC concerns but the site was retained in LTM phase within AEDB-R. The site was proposed for closure with no restrictions on land use in the draft multisite PP which is currently under revision after receipt of USAEC comments.

CLEANUP/EXIT STRATEGY

The site will be considered "cleanup complete" in the ADEC contaminated sites database. Fort Greely will include the site in its five-year review process to ensure future owners remain aware of the site's history. A deed notice will be requested of the Bureau of Land Management (BLM) and current owners of the property, prior to transferring the property to another entity. A PP/ROD will be completed in the FY15/FY16 time period. If ADEC agrees with the PP, LTM will be stopped.

Site ID: FGLY-053
Site Name: OLD POWER GENERATION BLDG-SITE 116

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199606	199701
SI	199804	199809
RI/FS	199906	201109
IRA	201101	201109
LTM	201109	204509

RIP Date: N/A

RC Date: 201109

SITE DESCRIPTION

An old power plant once stood on this site. It is contaminated with DRO of 55,000 ppm at 40-42 ft (1998 RI report dated April 1999). A SESOIL model demonstrates the migration to groundwater pathway is incomplete. ICs will still be required to prevent actions that would complete this pathway. USARAK and USACE signed a DD with USEPA closing the site late in the BRAC process. When FGA was taken out of BRAC and transferred from USARAK to USASMDC, ADEC declared that they had not authorized USEPA to sign DD for them. ADEC still had concerns with characterization of site. Site investigations reinitiated in 2010 under FGLY-099 (FGLY-053 LTM phase opened) revealed surface petroleum contamination requiring removal.

Removal of 370 cy of petroleum contaminated surface soils (down to 15 ft bgs) was completed in 2011. Soils will be landfarmed and the site was proposed for closure with LUCs (due to remaining petroleum contamination at depth, but no potential to migrate to groundwater at 200 ft bgs) in the draft multisite PP which is currently under revision after receipt of USAEC comments. LTM will be included with FGLY-007.

CLEANUP/EXIT STRATEGY

The FGLY administrative controls database will be utilized to control subsurface intrusions into the location of BRAC Site 116 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. This site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-056
Site Name: POL STORAGE AREA-SITE 113

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

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

Media of Concern: Soil

Phases	Start	End
PA	199606	199701
SI	199806	201009
IRA	201003	201009
LTM	201009	204509

RIP Date: N/A

RC Date: 201009

SITE DESCRIPTION

This site is an old POL storage yard. It is divided into northern and southern areas. Each area has former foundations, asphalt/tar disposal areas, and petroleum contamination below/around the former foundations. A regulatory agreement with USEPA to close the site out was signed late in the BRAC process. When FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared that they did not authorize USEPA to sign closeout documents for them and they considered the site open. It was decided not to reopen the site in AEDB-R. Investigations were initiated under FGLY-099 in FY09 and removals completed in FY10. Petroleum contamination remains at depth in relation to the former foundations. LTM will be included with FGLY-007. The site was included and proposed for closure with LUCs in the draft multisite PP which is currently under revision after the receipt of USAEC comments.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC site 113 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land-use. The site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-058
Site Name: BLDG 340 UST SITE-SITE 77

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Semi-volatiles (SVOC)

Media of Concern: Soil

Phases	Start	End
PA	199606	199702
SI	199709	199803
RI/FS	199806	200003
LTM	201009	204509

RIP Date: N/A

RC Date: 200003

SITE DESCRIPTION

This UST was pulled with non-BRAC funds, and did not meet cleanup standards completely under the UST program. Additional investigation revealed contamination above ADEC cleanup standards. Bis-(2-ethylhexyl)phthalate exists at 220 ppm from five to 16.5 ft bgs and there is chromium at 35.8 ppm (draft 1998 RI report, dated November 1998, pp. 14 to 17). Contamination is from five to 12 ft bgs. The SVOC was found to be below the state cleanup standard, and it is thought to be a lab contaminant and chromium was found to be within the range of background (draft 1999 RI/RA report, February 2000). The site is eligible for NFA. The site was closed with DD signed by USEPA/USACE/USARAK late in the BRAC process. When FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared they had not authorized USEPA to sign for them and they considered the site open. A decision was made to not reopen the site in AEDB-R, but instead the site is addressed under FGLY-099. The site was investigated in 2009 and 2010 and contaminated soils are inaccessible due to building and existing AST. The site was proposed for closure with LUCs in the draft multisite PP which is currently under revision after receipt of USAEC comments. LTM will be covered under FGLY-007.

CLEANUP/EXIT STRATEGY

The site will be closed with LUCs. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-059
Site Name: BLDG 160 UST-SITE 100

STATUS

Regulatory Driver: OTHER

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199606	199701
SI	199606	199701
RI/FS	199806	201009
IRA	201003	201009
LTM	201009	204509

RIP Date: N/A

RC Date: 201009

SITE DESCRIPTION

The heating oil tank associated with Building 160 was pulled many years ago and a site assessment was performed; however, the contractor gave no recommendation for cleaning up the contaminated soil. The BRAC contractor did follow-up investigation and found DRO concentration of 6,500 ppm in one sample at 11 ft bgs (draft 1998 RI report dated November 1998). This concentration exceeds the state standard. An NFA DD was signed by USEPA/USARAK/USACE late in the BRAC process. When FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared that they did not authorize USEPA to sign DD for them. ADEC considered the site still open. The Army decided to not reopen the site in AEDB-R, but instead perform investigations/removals under CCFGLY-008. In 2010, 285 cy of petroleum contaminated soil were excavated and landfarmed. Petroleum contamination remains at depth between 15 and 25 ft bgs. The site was included and proposed for closure with LUCs in the multisite PP which is currently under revision after the receipt of USAEC comments. LTM will be included with FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database controls subsurface intrusions into the location of BRAC Site 100 and prevents the land usage from changing (preventing residential construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-071
Site Name: BLDG 144 UST-SITE 101

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
ISC	199601	199701
INV	199702	200909
IRA	200903	200909
LTM	201009	204509

RIP Date: N/A

RC Date: 200909

SITE DESCRIPTION

This is a site associated with a previously removed heating oil tank. No contaminants above screening levels were found in 1997 (1997 site investigation/LRI report dated September 1998). NFA DD was signed between USEPA, USARAK, and USACE late in the BRAC process. When FGA emerged from the BRAC process and was transferred from USARAK to USASMDC, ADEC declared that they had not authorized USEPA to sign for them and they considered the site open. A decision was made to not reopen the site in AEDB-R, but instead the site was moved to LTM and investigations/removals were completed under CCFGLY-008. Removal in 2009 excavated and landfarmed over 500 cy of petroleum contaminated soil. Investigations revealed petroleum contaminated soil remains between 15 and 45 ft bgs. The site was proposed for closure with LUCs in the draft multisite PP currently under revision after receipt of USAEC comments. A MILCON project (fire station) was proposed and constructed immediately south of the area of known contamination (which is under the current fire station parking lot). Site's use as a fire station is consistent with LUCs. Construction of the fire station included vapor intrusion preventive measures. The site will have LTM included with FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC site 101 and prevent the land usage from changing (preventing residential construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future landuse. The site will be considered "cleanup complete" in ADEC's contaminated sites database. A vapor barrier was included in the fire station design to minimize vapor intrusion issues. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-072
Site Name: HELICOPTER REFUELING AREA-SITE 121

STATUS

Regulatory Driver: OTHER

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
PA	199601	199701
SI	199702	199709
RI/FS	199806	199903
LTM	201009	204509

RIP Date: N/A

RC Date: 199903

SITE DESCRIPTION

This site is contaminated with DRO at 6,600 ppm at depths greater than 5.5 ft (1997 site investigation/LRI report dated September 1998). Since this concentration is lower than the cleanup standard in the new state regulation, an NFA is planned for this site. Soil was deemed acceptable to a depth of 15 ft after the 1990 investigation. A regulatory agreement with USEPA to close the site was signed late in the BRAC process; however, when FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared that they did not authorize USEPA to sign for them and they considered the site still open. A decision was made to not reopen the site in AEDB-R, but instead perform investigations and remediation if required under CCFGLY-008. The site was investigated in 2010 and revealed that it was suitable for closure with LUCs. The site was proposed for closure with LUCs in the draft multisite PP which is currently under revision after the receipt of USAEC comments. LTM will be included in FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of BRAC site 121 and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. This site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-075
Site Name: BLDG 675 LAUNDRY (54)

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199708	199710
SI	199806	200009
RI/FS	200501	201611
IRA	200907	200910

RIP Date: N/A

RC Date: 201611

SITE DESCRIPTION

This is the site of a former dry cleaner with an AST tank vault that contained solvent tanks and a dry well. Pursuant to Fort Greely being selected for BRAC, an EBS was conducted to ascertain the environmental condition of property for all surplus parcels on the installation. The EBS listed Parcel 54 as a Community Environmental Response Facilitation Act (CERFA) Category 7 parcel. Category 7 is defined as areas that are not evaluated or require additional evaluation.

Based on EBS Tables 5-1a and 2-1, the site was evaluated by reviewing various environmental compliance reports and other available documentation dated between 1987 and 1995.

In 1997, as-built drawings were reviewed to attempt to find the locations of the dry well and AST vault. A geophysical survey was also conducted in an attempt to locate the dry well. The dry well location was not definitively determined because of the interference from buried utilities and the AST vault was not found during the geophysical survey.

In 1997, two soil borings were drilled and one test pit was excavated at the approximated AST vault location. The AST vault was found when digging the test pits. Samples were analyzed for VOCs and BTEX. Trace concentrations of VOCs were detected, well below the ADEC Method 2 cleanup levels. The AST vault was not investigated further under BRAC.

An additional investigation was conducted in 1998 to address the reported dry well. One test pit was excavated to 11 ft bgs, very near the approximated dry well location. The dry well drain line was encountered in the test pit. Power poles and guy wires prevented digging directly at the dry well location. Samples were collected and analyzed for VOCs. No VOCs were detected. The 1998 report recommended additional investigation of the dry well itself.

During 1999, one soil boring was drilled to 37 ft bgs at the dry well location. This was facilitated by the Fort Greely DPW allowing a power disruption at the nearby power pole. Photoionization detector (PID) field screening results appeared to increase with depth. Drilling was stopped because of time constraints implemented by the DPW associated with the power disruption at the nearby pole. Samples were analyzed for VOCs and SVOCs. Toluene, naphthalene, and phthalates were detected at concentrations below the ADEC Method 2 cleanup levels. The 1999 BRAC report recommended NFA status for the entire site, including the dry well and AST vault.

In 2004, the regulators requested that an additional investigation be completed at this site. In FY05 the investigation (using directional drilling to sample under the dry well) did not reveal any contamination exceeding the ADEC Method 2 cleanup levels. In 2008, at the request of the ADEC, an investigation of soils beneath the vault was conducted. Fuel-contaminated soil was found within the vault. An RA was conducted in 2009 to remove the fuel contaminated soils within the vault. During removal, a solvent tank was also found in the vault and was removed. The vault was demolished and soil samples beneath the vault showed no exceedances of cleanup levels. The site was proposed for closure with no land use restrictions in a draft multisite PP/ROD which is currently under revision following USAEC review.

Site ID: FGLY-075
Site Name: BLDG 675 LAUNDRY (54)

CLEANUP/EXIT STRATEGY

The site will be closed with no restrictions on future use. A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-076
Site Name: REFUSE BURN PIT-SITE 89

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Dioxins/Dibenzofurans, Metals

Media of Concern: Soil

Phases	Start	End
PA	199601	199701
SI	199708	199809
RI/FS	199810	200606
RA(C)	200803	201009
LTM	201009	204509

RIP Date: N/A

RC Date: 201009

SITE DESCRIPTION

In 1997 three test pits (TP-844, TP-845, and TP-846) were excavated at this site: one each at the loading areas of two incinerators, and the third at a depression about 100 ft northeast of the incinerators. Samples were analyzed for DRO, residual range organics (RRO), SVOCs, VOCs, and metals. Samples from the areas of the two incinerators were below the ADEC Method 2 cleanup levels; however, elevated concentrations of metals were detected at TP-846 at the northeast depression area. Arsenic (up to 43.3 mg/kg), cadmium (up to 11.8 mg/kg), chromium (up to 95.6 mg/ kg), and lead (up to 15,200 mg/kg) exceeded screening levels in effect at the time of the work. These concentrations also exceed the current ADEC Method 2 cleanup levels. The Toxicity Characteristic Leaching Procedure (TCLP) lead result on the sample containing total lead of 15,200 mg/kg was 17.7 mg/L. Scrap metal was found at TP-846.

In 1998 four soil borings (AP-880 through AP-883) were drilled and 10 samples were collected to further investigate the northeast depression area. Boring AP-880 was drilled immediately adjacent to the former test pit TP-846 where lead had been detected at 15,200 mg/kg. Lead was detected at only 190 and 270 mg/kg, well below the 1997 result. Other metal detections were less than screening levels. Also, dioxins/furans were detected at AP-880 in two samples down to seven ft bgs. Toxic equivalents (TEQ) up to 5.51x10-5 mg/kg (5.51 per 100,000) exceeded the USEPA residential preliminary remediation goal (PRG) of 3.8x10-6 mg/kg (3.8 per million).

In 1999 additional background sampling and evaluation of metals was conducted. Elevated detections of arsenic, cadmium, and chromium from 1997 were resolved as background and dropped as contaminants of potential concern (COPC); however, lead and dioxin/furan TEQ remained as COPCs.

Lead and dioxin/furan were evaluated further as part of the LRE. The LRE was essentially an ADEC Method 3 evaluation for various sites at Fort Greely. An ACL for ingestion was calculated for 2,3,7,8- tetrachlorodibenzo-p- dioxin (TCDD) TEQ at the site using the ADEC Method 3 under the industrial/commercial exposure scenario. The calculated ACL (3.75x10-4 mg/kg) is greater than the maximum detected concentration. Additionally, leachability modeling was conducted and the results demonstrated that 2,3,7,8-TCDD would not impact groundwater at the site.

Lead concentrations exceeding the ADEC Method 2 residential cleanup level of 400 mg/kg were found in only one test pit (AP846), and subsequent investigation in the immediate area was unable to reproduce the results. This demonstrated that this lead contamination is a localized occurrence in the immediate area of the test pit TP-846. In 2004, the regulators requested an additional investigation to look for possible pesticides and PCBs at this site and requested that shallow (zero to 15 ft bgs) dioxin contamination be remediated. FY05 investigations revealed no PCB or pesticide contamination above the ADEC Method 2 levels. Additional dioxin/lead sampling in FY06 defined the amount of contaminated soil that would require remediation. This site was included in the 2008 PP and the 2009 ROD. An RA (hot spot lead contaminated soil removal and capping) was initiated in 2009. About 225 cy of lead contaminated soil was removed and shipped off-site as hazardous waste (25 TCLP failures). Asphalt cap was constructed in 2009/2010. LTM will be covered under FGLY-007.

Site ID: FGLY-076
Site Name: REFUSE BURN PIT-SITE 89

CLEANUP/EXIT STRATEGY

The site was closed in 2009 via a ROD. LTM consists of maintaining the digging permit program and the base GIS which is used to monitor the digging permit system.

Site ID: FGLY-099
Site Name: Misc UST/AST Sites

STATUS

Regulatory Driver: RCRA

RRSE: LOW

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

Media of Concern: Soil

Phases	Start	End
ISC	199005	199009
INV	200005	200009
CAP	200906	201102
IRA	201003	201102
LTM	201103	204509

RIP Date: N/A

RC Date: 201102

SITE DESCRIPTION

Site FGLY-099 consists of petroleum contaminated sites lacking sufficient data to close, including USTs at the following Buildings: 320, 351, 340, 210, 663, 626, 658, 615, 660, and at BRAC sites 113, 118, and at the Mid-post Road UST.

Bldg 320
Three USTs were removed (two heating oil tanks east of the building and one used oil tank west of the building) and was the site of a 600-gal diesel spill within the building (from a vehicle). Ultraviolet Optical Screening Tool (UVOST) borings, direct-push samples, and core (through building floor) soil samples were taken in 2009. Another UST was identified south of the building (to be removed by DPW). One hundred cy of POL contaminated surficial soils was removed on the building's west side in 2010.

Building 351
There was a 100-gal diesel spill during 1991/1992. Contaminated soil (75 cy) were removed in 1992. A 1998 investigation identified up to 1500 mg/kg of DRO in surficial soil samples. A 2009 investigation included test pits north of the 1998 borings; no contamination was found. Four cy of soil were removed and landfarmed in 2010.

Building 340
Multiple heating oil and used oil USTs were removed (removed 1,000-gal heating UST in 1985, 5,000-gal used oil UST in 1997, 500-gal heating UST in 1998). A 2009/2010 investigation revealed contaminated surficial soils near the southwest corner of the building and next to a current AST. Conditional closure with LUCs is likely since contamination cannot be addressed until the AST and/or building is removed.

Building 210
Two USTs were removed (500-gal in 1989 and 1,000-gal in 2007). Thirty-eight cy of contaminated soil were removed during the 1989 removal. Records searches in 2009 uncovered sufficient information to close the site.

Building 663
Two former USTs were removed (a 700-gal UST in 1988 and a 1000-gal UST in 1995). The first UST was used for both diesel and gasoline. Investigations in 2009 revealed no contamination of concern at this site and site will be closed.

Building 626
A 300-gal UST was removed prior to 1988. A 1996 investigation by ENSR identified high levels of DRO in surficial soil. Records review in 2010 turned up sufficient information to close the site.

Building 658
This is a former vehicle maintenance bay now used for warm storage and washing. A 500-gal UST was removed in the late-1980s. A 2010 investigation collected confirmatory samples for this removal.

Building 615
This is a DPW equipment/vehicle maintenance facility. The drum staging area was closed as a RCRA SWMU in the 1990s. A

Site ID: FGLY-099
Site Name: Misc UST/AST Sites

1,000-gal UST was removed in 1986 and three ASTs remain in-service (one inside the building and two outside). The building also has an oil/water separator (OWS) and a dry well (out of service since the early-1970s). The dry well location was investigated in 2010. The UST location could not be confirmed. Excavation of contaminated dry well and OWS vault was completed in 2011 (combined with IMCOM compliance non-recurring project funds for vault/dry well). Contamination remains at depth (but no potential to migrate to groundwater 200-plus ft bgs).

Building 660
A 300-gal UST was removed in 1988 that was a radio station backup generator fuel supply. Utilities prevent collecting confirmatory samples and the site will be closed.

BRAC Site 113
This POL area has two old foundations with uncertain use. Previous documents have speculated the area might have been a POL or asphalt loading/unloading area. Investigations in 1998/1999 identified two concrete areas (north/south) and three asphalt (north/central/south) areas. The south concrete /asphalt areas were investigated in 2009 due to DRO exceedances in the 1999 investigation (up to 3,400 mg/kg of DRO). Removal of surficial tar and asphalt was completed in 2010.

Sites are in various closure documents (PP, NFA DD, etc) undergoing USAEC review and/or revision based on USAEC comments. LTM costs will be tracked under FGLY-007.

FGA proposed to close out all of the above sites (some with LUCs as appropriate) in a multi-sites PP which is currently under revision after the receipt of USAEC comments.

Mid-Post Road UST
This site had a 1,400-gal UST and 28 cy contaminated soil removed in 2008. Contamination remains at depth. Site history is unknown; the site is to be closed with ICs.

BRAC Site 118 Undeveloped Area
A 1,000-gal UST was removed in 1998 along with 96 cy of contaminated soil. Soil samples show contaminated soil with DRO up to 3,840 mg/kg remain at the site. The 2009 investigations revealed contaminated surficial soil that was removed in 2010. The 2010 activities also included a boring to delineate the depth and breadth of contamination. The site will be closed with no restrictions on future land use in the multisite PP/ROD.

CLEANUP/EXIT STRATEGY

These sites will be closed with or without LUCs (as appropriate for each site). A PP/ROD will be completed in the FY15/FY16 time period.

Site ID: FGLY-100
Site Name: CANOL pipeline Tank Farm/South Tank

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	200310	200310
RI/FS	200410	201610
IRA	200510	201610
RA(C)	201609	201709
RA(O)	201709	204212
LTM	204301	204509

RIP Date: 201709

RC Date: 204212

SITE DESCRIPTION

Site consisted of four 10,000-gallon ASTs [three containing arctic diesel and one containing motor gasoline (MOGAS)] and a pump station, and was operational from 1944 to an unknown date presumably in the late-1960s or early-1970s with the shutdown of the Haines pipeline. The tank farm was built as part of the CANOL pipeline system during WWII to bring oil from the Canadian Whitehorse Refinery to military bases in Alaska. The tank farm was also used as part of the Haines pipeline system built during the 1950s (reutilizing many of the components of the CANOL system). An aerial photograph from 1977 documents that the tank farm was there. The ASTs were removed shortly thereafter.

In October 2003 the Army conducted a limited soil investigation. Five borings were done to a depth of 20 ft, one in each of the four bermed areas and the remaining one in the approximate location of multiple piping connections as determined from an aerial photo. One sample was analyzed at each boring (to a depth of the highest PID reading) for GRO, BTEX, DRO, RRO, and lead. Levels exceeding cleanup occurred in two locations with DRO of 2,480 mg/kg (10 ft bgs) and 360 mg/kg (five ft bgs). Lab indicates that the DRO samples were characteristic of weathered middle distillate.

In FY04 during a fence installation, weathered diesel soil contamination was found. This area is south of the CANOL tank farm. Approximately 100 cy of contaminated soil were removed at the time that it was discovered. A passive soil gas survey conducted in the summer of 2004 showed TPH contamination in the southern portion of the tank farm. Follow-on investigations in FY05 revealed significant diesel contamination in the former AST berms and subsurface diesel/gasoline contamination at the former location of a valve pit. In FY06 a corrective action plan was prepared and bioremediation of the berm soils and shallow subsurface contaminated soils was initiated. Seven thousand cy of soil were remediated. An additional 13,000 cy of soil were treated in Phase 2 in 2007. The CS in October 2007 did not meet cleanup levels, so the bioremediation project continued through summer 2008. Diesel and gasoline contamination was found down to a perched aquifer approximately 100 ft bgs at the valve pit. Monitoring wells were placed downgradient of the known contamination to determine if the water table was impacted. Additional investigations of the deeper petroleum contamination and the water table aquifer (250-plus ft bgs) revealed EDB (a lead scavenger added to leaded gasoline) contamination in the aquifer (100 times MCL below site and just above the MCL in a drinking water well approximately 1,200 ft downgradient). Additional monitoring wells were placed in summer 2008 to assist in delineating the plume. Investigation of the gasoline AST berm (southwest berm) and subsurface in 2008 did not reveal significant contamination.

Due to planned expansion of neighboring mission facility, plans to remediate the subsurface were accelerated and an ozone injection in situ oxidation system was planned to be installed in 2011 to remediate the portion of the contaminated vadose zone interacting with the groundwater. Extensive investigations in 2010 and 2011 could not identify a source area worthy of treatment. The EDB plume extends roughly 1,200 meters, has been defined, and is bounded on all sides with "clean" wells. The plume includes two drinking water wells. The latest IRA involves wellhead treatment (point of use filters) to keep drinking water potable. Drinking water wells are monitored quarterly (before and after filter) to document efficacy of treatment. The site will be proposed for long-term plume monitoring/management and wellhead treatment in the RI/FS currently being revised (responding to ADEC comments on draft and finalizing document during FY15).

Site ID: FGLY-100
Site Name: CANOL pipeline Tank Farm/South Tank

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of the south tank farm and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land-use. No change in use status will be allowed without ADEC approval. Under the current IRA, point of use filters were placed on water supply wells (SW) SW-3 and SW-4. These filters will be maintained and monitored quarterly (sampled before and after the filters to prove effectiveness) to ensure potable drinking water is provided to the industrial facilities. Additionally, the four downgradient wells that bound the groundwater plume (MW-17, MW-21, MW-28, and MW-31) will be monitored semiannually until at least the first five-year review to monitor the groundwater plume. Monitoring frequency after the first five-year review will be determined at that time, but will be no less than every five years until contaminants fall below the MCLs. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed.

Groundwater monitoring of the four monitoring wells on the site (MW-12/12A, MW-13, MW-19, and MW-20), the five downgradient/side-gradient monitoring wells (MW-17, MW-18, MW-21, MW-28, and MW-31), and the five downgradient or side- gradient water supply wells (SW-1, SW-2, SW-3, SW-4, and Pump 9) for petroleum constituents will be completed in fall of the year prior to the five-year reviews (so that data is available for analysis during the five-year review). A PP/ROD will be completed in the FY16/FY17 time period.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FGLY-001	POL DRUM STG BLD 601	199410	Environmental Sites Decision Document June 2005
FGLY-003	ABOVE GROUND STORAGE TANKS (VARIOUS)	199511	2005 Environmental Sites DD
FGLY-005	BUILDING 601 DUMP SITE -SITE 115	199709	2005 Environmental Sites DD
FGLY-009	LANDFILL 3	199210	Transferred to MMRP.
FGLY-013	FORMER SEWAGE LAGOON	199511	Not eligible for ER,A funding, no CERCLA contaminants.
FGLY-014	PESTICIDE STORAGE BUILDING 349	199511	Environmental Sites Decision Document June 2005
FGLY-016	DRUMS OF 2,4,5 - T STD IN PRK BLDG 601	201012	Site will be reopened under Compliance-Related Cleanup Program
FGLY-017	DEACTIVATED NUCLEAR REACTOR	199410	Site transferred to USACE Reactor Program for decommissioning.
FGLY-020	PRTC RANGE 13	199210	This range is part of Fort Wainwright's Donnelly Training Area and is no longer part of Fort Greely.
FGLY-021	IMPAC RANGE 3	199210	This range is part of Fort Wainwright's Donnelly Training Area and is no longer part of Fort Greely.
FGLY-023	ACTIVE LANDFILL #8	199511	Site active, therefore not eligible for ER,A funding. Environmental Sites Decision Document June 2005
FGLY-024	SLUDGE DRYING BEDS	199212	Site active, therefore not eligible for ER,A funding. Environmental Sites Decision Document June 2005
FGLY-025	INCINERATOR/BURN PIT	199212	Environmental Sites Decision Document June 2005
FGLY-026	ORDNANCE & HAZARDOUS MAT. STORAGE	199212	Environmental Sites Decision Document June 2005
FGLY-028	MIDAS SITE	199511	This range is part of Fort Wainwright's Donnelly Training Area and is no longer part of Fort Greely.
FGLY-029	UST SOIL PILE	199609	Environmental Sites Decision Document June 2005
FGLY-030	BLDG 612 ALLIED TRADES SHOP/DRUM STORAGE	199410	1997 SI - Study complete. No contamination found
FGLY-032	BLDG 626 AUTO/CRAFT SHOP/DRUM STORAGE	200909	Record of Decision, Nine Installation Restoration Program Sites, Fort Greely, AK (August 2009)
FGLY-034	UST, BLDG 210	199410	Document Under Development.
FGLY-035	USTS BLDG 602	199410	Environmental Sites Decision Document June 2005
FGLY-036	UST'S, BLDG 606	199604	Active facility, combined with CCFGLY-004 in Compliance Cleanup Program
FGLY-037	TEXAS TOWER BLDG COMPLEX	199511	This range is part of Fort Wainwright's Donnelly Training Area and is no longer part of Fort Greely.
FGLY-038	BLDG 601 R&U YARD-SITE 49	199903	Document Under Development.
FGLY-039	BLDG 628 BOAT SHOP/DRUM STORAGE	199410	1999 RI - study complete, no contamination
FGLY-040	BLDG 658 MOTOR POOL	199410	combined with FGLY-0099
FGLY-041	TEXAS CONDO FACILITY	199410	This range is part of Fort Wainwright's

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			Donnelly Training Area and is no longer part of Fort Greely.
FGLY-042	BLDG 606 POWER PLANT/DRUM STORAGE	199410	Active facility, combined with CCFGLY-004 in Compliance Cleanup Program
FGLY-050	BLDG 157 LAUNDRY-SITE 103	200909	Record of Decision, Nine Installation Restoration Program Sites, Fort Greely, AK (August 2009)
FGLY-052	BLDG 318 PESTICIDE STORAGE AREA-SITE 78	200009	Document Under Development.
FGLY-060	FENCED SALVAGE AREA-SITE 112	200306	Being addressed under the MMRP.
FGLY-061	CHEMICAL TEST FACILITY - SITE 56	200109	Document Under Development.
FGLY-062	ALYESKA SPILL AREA - SITE 119	199809	Document Under Development.
FGLY-063	AERATION PAD SOUTH-SITE 87	199903	Document Under Development.
FGLY-064	BLDG 627-SITE 52	199809	Document Under Development.

IRP Schedule

Date of IRP Inception: 199005

Past Phase Completion Milestones

1990	
ISC	(FGLY-099 - Misc UST/AST Sites)
PA	(FGLY-049 - DELTA TANK FARM)
1991	
PA	(FGLY-029 - UST SOIL PILE)
SI	(FGLY-029 - UST SOIL PILE)
1992	
IRA	(FGLY-002 - UST'S,BLDG 110, FGLY-036 - UST'S, BLDG 606, FGLY-037 - TEXAS TOWER BLDG COMPLEX)
RD	(FGLY-029 - UST SOIL PILE)
1993	
INV	(FGLY-033 - UST, BLDG 162 BRAC Site 99, FGLY-034 - UST, BLDG 210, FGLY-035 - USTS BLDG 602, FGLY-036 - UST'S, BLDG 606, FGLY-037 - TEXAS TOWER BLDG COMPLEX)
PA	(FGLY-001 - POL DRUM STG BLD 601, FGLY-002 - UST'S,BLDG 110, FGLY-003 - ABOVE GROUND STORAGE TANKS (VARIOUS), FGLY-004 - BLDG 605,COLD REG TEST CENTER, FGLY-005 - BUILDING 601 DUMP SITE -SITE 115, FGLY-006 - FIRE TRAINING AREA-SITE 85/94/133, FGLY-007 - LANDFILL 1/2 - BRAC SITE 31/32, FGLY-008 - LANDFILL 2-SITE 32, FGLY-010 - LANDFILLS 4 AND 5-BRAC SITE 88, FGLY-013 - FORMER SEWAGE LAGOON, FGLY-014 - PESTICIDE STORAGE BUILDING 349, FGLY-015 - BLDG 100, DRUM STORAGE-SITE 92, FGLY-016 - DRUMS OF 2,4,5 - T STD IN PRK BLDG 601, FGLY-017 - DEACTIVATED NUCLEAR REACTOR, FGLY-018 - SM-1A RECHARGE WELL, FGLY-019 - SM1A PIPELINE REMOVAL-SITE 90/132, FGLY-020 - PRTC RANGE 13, FGLY-021 - IMPAC RANGE 3, FGLY-024 - SLUDGE DRYING BEDS, FGLY-025 - INCINERATOR/BURN PIT, FGLY-026 - ORDNANCE & HAZARDOUS MAT. STORAGE, FGLY-027 - TAR AND ASPHALT DISPOSAL AREA, FGLY-028 - MIDAS SITE, FGLY-030 - BLDG 612 ALLIED TRADES SHOP/DRUM STORAGE, FGLY-031 - BLDG 615 ROADS AND GROUNDS/DRUM STORAGE, FGLY-032 - BLDG 626 AUTO/CRAFT SHOP/DRUM STORAGE, FGLY-038 - BLDG 601 R&U YARD-SITE 49, FGLY-039 - BLDG 628 BOAT SHOP/DRUM STORAGE, FGLY-040 - BLDG 658 MOTOR POOL, FGLY-041 - TEXAS CONDO FACILITY, FGLY-042 - BLDG 606 POWER PLANT/DRUM STORAGE)
CAP	(FGLY-037 - TEXAS TOWER BLDG COMPLEX)
RFA	(FGLY-009 - LANDFILL 3, FGLY-011 - LANDFILL 5, FGLY-012 - LANDFILL 6, FGLY-022 - LANDFILL #7 (1970'S), FGLY-023 - ACTIVE LANDFILL #8)
SI	(FGLY-001 - POL DRUM STG BLD 601, FGLY-002 - UST'S,BLDG 110, FGLY-003 - ABOVE GROUND STORAGE TANKS (VARIOUS), FGLY-006 - FIRE TRAINING AREA-SITE 85/94/133, FGLY-013 - FORMER SEWAGE LAGOON, FGLY-014 - PESTICIDE STORAGE BUILDING 349, FGLY-016 - DRUMS OF 2,4,5 - T STD IN PRK BLDG 601, FGLY-017 - DEACTIVATED NUCLEAR REACTOR, FGLY-018 - SM-1A RECHARGE WELL, FGLY-020 - PRTC RANGE 13, FGLY-021 - IMPAC RANGE 3, FGLY-024 - SLUDGE DRYING BEDS, FGLY-025 - INCINERATOR/BURN PIT, FGLY-026 - ORDNANCE & HAZARDOUS MAT. STORAGE, FGLY-027 - TAR AND ASPHALT DISPOSAL AREA, FGLY-028 - MIDAS SITE, FGLY-030 - BLDG 612 ALLIED TRADES SHOP/DRUM STORAGE, FGLY-031 - BLDG 615 ROADS AND GROUNDS/DRUM STORAGE, FGLY-038 - BLDG 601 R&U YARD-SITE 49, FGLY-039 - BLDG 628 BOAT SHOP/DRUM STORAGE, FGLY-040 - BLDG 658 MOTOR POOL, FGLY-041 - TEXAS CONDO FACILITY, FGLY-042 - BLDG 606 POWER PLANT/DRUM STORAGE)
CS	(FGLY-009 - LANDFILL 3, FGLY-011 - LANDFILL 5, FGLY-012 - LANDFILL 6, FGLY-022 - LANDFILL #7 (1970'S), FGLY-023 - ACTIVE LANDFILL #8)
ISC	(FGLY-033 - UST, BLDG 162 BRAC Site 99, FGLY-034 - UST, BLDG 210, FGLY-035 - USTS BLDG 602, FGLY-036 - UST'S, BLDG 606, FGLY-037 - TEXAS TOWER BLDG COMPLEX)
IRA	(FGLY-033 - UST, BLDG 162 BRAC Site 99)
1994	
IMP(C)	(FGLY-034 - UST, BLDG 210, FGLY-035 - USTS BLDG 602)
RD	(FGLY-002 - UST'S,BLDG 110)
CAP	(FGLY-034 - UST, BLDG 210, FGLY-035 - USTS BLDG 602)
RI/FS	(FGLY-002 - UST'S,BLDG 110)

INV	(FGLY-043 - UST BLDG 159 BRAC Site 98)
ISC	(FGLY-043 - UST BLDG 159 BRAC Site 98)
RA(C)	(FGLY-002 - UST'S,BLDG 110)
1995	
IRA	(FGLY-027 - TAR AND ASPHALT DISPOSAL AREA, FGLY-043 - UST BLDG 159 BRAC Site 98)
1996	
CAP	(FGLY-036 - UST'S, BLDG 606, FGLY-043 - UST BLDG 159 BRAC Site 98)
RA(C)	(FGLY-029 - UST SOIL PILE)
IMP(C)	(FGLY-037 - TEXAS TOWER BLDG COMPLEX)
RFI/CMS	(FGLY-022 - LANDFILL #7 (1970'S), FGLY-023 - ACTIVE LANDFILL #8)
RI/FS	(FGLY-003 - ABOVE GROUND STORAGE TANKS (VARIOUS), FGLY-013 - FORMER SEWAGE LAGOON, FGLY-014 - PESTICIDE STORAGE BUILDING 349, FGLY-028 - MIDAS SITE)
PA	(FGLY-046 - EVERGREEN ROAD FUEL SPILL-SITE 73, FGLY-052 - BLDG 318 PESTICIDE STORAGE AREA-SITE 78)
1997	
RI/FS	(FGLY-049 - DELTA TANK FARM)
ISC	(FGLY-071 - BLDG 144 UST-SITE 101)
SI	(FGLY-004 - BLDG 605,COLD REG TEST CENTER, FGLY-005 - BUILDING 601 DUMP SITE -SITE 115, FGLY-019 - SM1A PIPELINE REMOVAL-SITE 90/132, FGLY-049 - DELTA TANK FARM, FGLY-059 - BLDG 160 UST-SITE 100, FGLY-072 - HELICOPTER REFUELING AREA-SITE 121)
PA	(FGLY-045 - ROBIN ROAD FUEL SPILL-SITE 30, FGLY-050 - BLDG 157 LAUNDRY-SITE 103, FGLY-053 - OLD POWER GENERATION BLDG-SITE 116, FGLY-056 - POL STORAGE AREA-SITE 113, FGLY-058 - BLDG 340 UST SITE-SITE 77, FGLY-059 - BLDG 160 UST-SITE 100, FGLY-060 - FENCED SALVAGE AREA-SITE 112, FGLY-061 - CHEMICAL TEST FACILITY - SITE 56, FGLY-062 - ALYESKA SPILL AREA - SITE 119, FGLY-063 - AERATION PAD SOUTH-SITE 87, FGLY-064 - BLDG 627-SITE 52, FGLY-072 - HELICOPTER REFUELING AREA-SITE 121, FGLY-076 - REFUSE BURN PIT-SITE 89)
1998	
RD	(FGLY-049 - DELTA TANK FARM)
SI	(FGLY-015 - BLDG 100, DRUM STORAGE-SITE 92, FGLY-045 - ROBIN ROAD FUEL SPILL-SITE 30, FGLY-046 - EVERGREEN ROAD FUEL SPILL-SITE 73, FGLY-050 - BLDG 157 LAUNDRY-SITE 103, FGLY-052 - BLDG 318 PESTICIDE STORAGE AREA-SITE 78, FGLY-053 - OLD POWER GENERATION BLDG-SITE 116, FGLY-058 - BLDG 340 UST SITE-SITE 77, FGLY-060 - FENCED SALVAGE AREA-SITE 112, FGLY-062 - ALYESKA SPILL AREA - SITE 119, FGLY-063 - AERATION PAD SOUTH-SITE 87, FGLY-064 - BLDG 627-SITE 52, FGLY-076 - REFUSE BURN PIT-SITE 89)
RA(O)	(FGLY-002 - UST'S,BLDG 110)
RI/FS	(FGLY-064 - BLDG 627-SITE 52)
PA	(FGLY-075 - BLDG 675 LAUNDRY (54))
1999	
RI/FS	(FGLY-038 - BLDG 601 R&U YARD-SITE 49, FGLY-063 - AERATION PAD SOUTH-SITE 87, FGLY-072 - HELICOPTER REFUELING AREA-SITE 121)
2000	
SI	(FGLY-007 - LANDFILL 1/2 - BRAC SITE 31/32, FGLY-008 - LANDFILL 2-SITE 32, FGLY-010 - LANDFILLS 4 AND 5-BRAC SITE 88, FGLY-075 - BLDG 675 LAUNDRY (54))
INV	(FGLY-099 - Misc UST/AST Sites)
IRA	(FGLY-045 - ROBIN ROAD FUEL SPILL-SITE 30)
RA(C)	(FGLY-049 - DELTA TANK FARM)
RI/FS	(FGLY-045 - ROBIN ROAD FUEL SPILL-SITE 30, FGLY-046 - EVERGREEN ROAD FUEL SPILL-SITE 73, FGLY-052 - BLDG 318 PESTICIDE STORAGE AREA-SITE 78, FGLY-058 - BLDG 340 UST SITE-SITE 77,

	FGLY-060 - FENCED SALVAGE AREA-SITE 112)
2001	
IRA	(FGLY-019 - SM1A PIPELINE REMOVAL-SITE 90/132)
SI	(FGLY-061 - CHEMICAL TEST FACILITY - SITE 56)
2003	
LTM	(FGLY-060 - FENCED SALVAGE AREA-SITE 112)
2004	
PA	(FGLY-100 - CANOL pipeline Tank Farm/South Tank)
RI/FS	(FGLY-010 - LANDFILLS 4 AND 5-BRAC SITE 88)
2006	
RI/FS	(FGLY-076 - REFUSE BURN PIT-SITE 89)
2009	
IRA	(FGLY-071 - BLDG 144 UST-SITE 101)
INV	(FGLY-071 - BLDG 144 UST-SITE 101)
RI/FS	(FGLY-019 - SM1A PIPELINE REMOVAL-SITE 90/132, FGLY-050 - BLDG 157 LAUNDRY-SITE 103)
SI	(FGLY-032 - BLDG 626 AUTO/CRAFT SHOP/DRUM STORAGE)
2010	
IRA	(FGLY-056 - POL STORAGE AREA-SITE 113, FGLY-059 - BLDG 160 UST-SITE 100, FGLY-075 - BLDG 675 LAUNDRY (54))
SI	(FGLY-056 - POL STORAGE AREA-SITE 113)
RI/FS	(FGLY-059 - BLDG 160 UST-SITE 100)
RA(C)	(FGLY-076 - REFUSE BURN PIT-SITE 89)
2011	
RI/FS	(FGLY-015 - BLDG 100, DRUM STORAGE-SITE 92, FGLY-016 - DRUMS OF 2,4,5 - T STD IN PRK BLDG 601, FGLY-053 - OLD POWER GENERATION BLDG-SITE 116)
CAP	(FGLY-099 - Misc UST/AST Sites)
IRA	(FGLY-015 - BLDG 100, DRUM STORAGE-SITE 92, FGLY-053 - OLD POWER GENERATION BLDG-SITE 116, FGLY-099 - Misc UST/AST Sites)
2013	
IRA	(FGLY-006 - FIRE TRAINING AREA-SITE 85/94/133)

Projected Phase Completion Milestones

See attached schedule

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

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date: 201712

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of IRP at Installation (including LTM phase): 209412

FORT GREELY IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-002	UST'S,BLDG 110	LTM						
FGLY-004	BLDG 605,COLD REG TEST CENTER	LTM						
FGLY-006	FIRE TRAINING AREA-SITE 85/94/133	RI/FS						
		RA(C)						
		RA(O)						
		LTM						
FGLY-007	LANDFILL 1/2 - BRAC SITE 31/32	LTM						
FGLY-008	LANDFILL 2-SITE 32	LTM						
FGLY-010	LANDFILLS 4 AND 5-BRAC SITE 88	LTM						
FGLY-011	LANDFILL 5	LTM						
FGLY-012	LANDFILL 6	LTM						
FGLY-015	BLDG 100, DRUM STORAGE-SITE 92	LTM						
FGLY-018	SM-1A RECHARGE WELL	LTM						
FGLY-019	SM1A PIPELINE REMOVAL-SITE 90/132	LTM						
FGLY-022	LANDFILL #7 (1970'S)	LTM						
FGLY-027	TAR AND ASPHALT DISPOSAL AREA	RI/FS						
		LTM						
FGLY-031	BLDG 615 ROADS AND GROUNDS/DRUM STORAGE	LTM						
FGLY-033	UST, BLDG 162 BRAC Site 99	LTM						
FGLY-043	UST BLDG 159 BRAC Site 98	LTM						
FGLY-045	ROBIN ROAD FUEL SPILL-SITE 30	LTM						
FGLY-046	EVERGREEN ROAD FUEL SPILL-SITE 73	LTM						
FGLY-049	DELTA TANK FARM	LTM						
FGLY-053	OLD POWER GENERATION BLDG-SITE 116	LTM						

FORT GREELY IRP Schedule

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-056	POL STORAGE AREA-SITE 113	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-058	BLDG 340 UST SITE-SITE 77	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-059	BLDG 160 UST-SITE 100	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-071	BLDG 144 UST-SITE 101	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-072	HELICOPTER REFUELING AREA-SITE 121	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-075	BLDG 675 LAUNDRY (54)	RI/FS						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-076	REFUSE BURN PIT-SITE 89	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-099	Misc UST/AST Sites	LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-100	CANOL pipeline Tank Farm/South Tank	RI/FS						
		IRA						
		RA(C)						
		RA(O)						
		LTM						

FORT GREELY

Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

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

Installation Site Types with Future and/or Underway Phases

1 Surface Disposal Area
(FGLY-005-R-01)

2 Unexploded Munitions/Ordnance
(FGLY-004-R-01, FGLY-006-R-01)

Most Widespread Contaminants of Concern

Munitions and explosives of concern (MEC)

Media of Concern

Soil

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

Site ID	Site Name	Action	Remedy	FY
N/A				

Duration of MMRP

Date of MMRP Inception 200203

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201712/201712

Date of MMRP completion including Long Term Management (LTM): 201712

MMRP Contamination Assessment

Contamination Assessment Overview

In 2003 a closed, transferring, and transferred (CTT) range report for Fort Greely was completed. This report identified four sites that required further investigation. These sites included possible lead contamination at two rifle ranges and possible buried unexploded ordnance (UXO) at two disposal locations. The installation supported chemical munitions testing at the Gerstle River test site, an area known to have been a staging area for material for the Gerstle River test site. In 2002 buried drums of chemical agent decontamination fluids were found near Rifle Range 2, in the borrow pit for the missile field. The soil contaminated by the caustic fluids was neutralized in situ and some of the material was removed for off-site disposal.

An MMRP site inspection (SI) completed in the 2006/2007 time period investigated the four sites in the range report and recommended closing all of them. The MMRP SI identified an additional site (BRAC site 112 - a former scrap yard where munitions debris has been found) requiring a remedial investigation (RI) (due to the large number of subsurface anomalies). RI activities were completed at FGLY-004-R-01 in 2014. RI activities initiated at FGLY-005-R-01 and further activities needed.

Cleanup Exit Strategy

An RI to conduct subsurface anomaly investigation after 100 percent surface sweep and geographical survey is planned at BRAC Site 112 (FGLY-005-R-01). A new site (WWII Tent Site) also needs subsurface anomaly investigation after 100 percent surface sweep and geographical survey. All other sites will be closed under a PP/ROD in the FY15/FY16 time period.

MMRP Previous Studies

	Title	Author	Date
2002			
	Final US Army Closed, Transferring and Transferred Range/Site Inventory for Fort Greely, Alaska	TechLaw, Inc.	SEP-2002
2006			
	2006 Fort Greely Site Inspection Work Plan (MMRP)	TLI Solutions	SEP-2006
2007			
	MMRP Final Site Inspection Report, Fort Greely, Alaska	TLI Solutions	JUL-2007
2008			
	Jarvis Creek Munitions Burial Area Investigation Letter Report	Arctic Slope Technical Services	AUG-2008
2012			
	Munitions and Explosives of Concern Remedial Action Work Plan, WWII Tent Area and Jarvis Creek MMRP Burial Site	Tetra Tech, Inc	MAR-2012
2014			
	Munitions and Explosives of Concern Remedial Action Work Plan, BRAC Site 112	Tetra Tech, Inc	JAN-2014
	Munitions and Explosives of Concern Supplemental Site Inspection Work Plan, WWII Tent Area and Jarvis Creek MMRP Burial Site	Tetra Tech, Inc	MAR-2014

FORT GREELY

Military Munitions Response Program

Site Descriptions

Site ID: FGLY-004-R-01
Site Name: JARVIS CREEK MUNITIONS BURIAL SITE

STATUS

Regulatory Driver: CERCLA

MRSPP Score: No longer required

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

Media of Concern: Soil

Phases	Start	End
PA	200203	200305
SI	200703	200809
LTM	200809	201709

RIP Date: N/A

RC Date: 200809

SITE DESCRIPTION

This site, located within the actual border of Fort Greely just east of the runway, is a transferred military munitions disposal site consisting of 0.58 acres located entirely on a state of Alaska water body within the northeast portion of the cantonment area. According to interviewees, this area was located on the southern end of the cantonment area although the munitions response map places it near the east end of the runway. Munitions, including smoke grenades, blanks, and small arms, were disposed of in this area. The interviewees recalled that in the 1970s, four to five boxes of munitions were found. This site was not investigated during the SI because the installation border drawn on the map used by the MMRP team put the site on an active range.

The SI determined that this site is no longer eligible for the MMRP because it is located within the DTA operational range area associated with Fort Wainwright. However, the installation has since revised their operational area, and now this munitions response site (MRS) is MMRP eligible. As such, this site moved forward to the RI/FS phase.

An SI addendum was completed in FY08. Based on the results of the 2007 UXO investigation and review of aerial photographs, there is no evidence that there is UXO along the current boundary of Fort Greely and that if there had been a disposal area in proximity to the Jarvis Creek Munitions Burial Site, the area where disposal took place has been eroded away and is now in the creek bed; however, because this area has eroded so dramatically over the years, the boundary of the original MRS has been expanded to include the eroded area of the creek up to and including the northeastern installation boundary of Fort Greely. A suspect subsurface anomaly was identified during an EM-61 survey. The city of Delta Junction has expressed concern about this anomaly since there is nothing preventing transients from using creek bed for all terrain vehicles and other recreational activities. In addition, the portion of the site located within the boundaries (5.81 acres) of Fort Greely is MMRP eligible; however, based on the results of the UXO investigation, it was recommended for closure with limited monitoring (annual survey of bank to confirm additional munitions not revealed by erosion). In 2014, the suspicious subsurface metallic anomaly was excavated and determined to be a metal box (non-MEC). The site was included in a NFA DD currently undergoing revision based on USAEC comments. LTM until closure will be covered under FGLY-007.

CLEANUP/EXIT STRATEGY

A DD is under development to close the site.

Site ID: FGLY-005-R-01
Site Name: BRAC Site 112, Former Scrap Yard

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 05

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

Media of Concern: Soil

Phases	Start	End
PA	200203	200305
SI	200604	200707
RI/FS	201101	201712

RIP Date: N/A

RC Date: 201712

SITE DESCRIPTION

This MRS is comprised of 5.06 acres. The site was a former fenced salvage area; however, the storage practices at this site are unknown. During the historic research conducted for the historical records review (HRR), no additional information regarding the operations conducted at this site was found.

The initial installation restoration (IR) site investigation conducted identified several stained areas and noted abundant metallic debris scattered across the surface in the southern half of site 112. Additionally, a large quantity of scrap metal was encountered during UXO and geophysical surveys conducted at this site, as well as the test pits that were excavated. This munitions debris included expended smoke grenades, ground illumination signals (slap flares), 5.56 millimeter (mm) blanks, a 155mm illumination projectile, a 2.75-inch rocket fin, and .50 caliber links. Although UXO was not positively identified during these surveys, a large quantity of munitions-related scrap was encountered at the surface and in subsurface soil. Continuous UXO monitoring was conducted during the test pit and soil boring activities. Additional UXO clearance and monitoring was conducted. A large pile of .50 caliber links was identified; however, UXO items were not observed.

The MMRP SI proposed to carry this site forward to the RI/FS phase to complete a DD. Initial discussions with ADEC discussed a decision to fence off this site instead of conducting an RI to explore the numerous anomalies. However, Fort Greely's desire to use this area and the belief that it was solely a scrap yard that shouldn't have whole munitions led the development of the current proposed path.

In the interim, a work plan and an Explosives Safety Submission (approved by the Department of Defense Explosives Safety Board) has been completed. Work was executed in 2014 as investigation (RI/FS). One UXO round (AT-4 warhead) was found and blown-in place. All other subsurface metallic anomalies (159) were scrap metal with some munitions debris (powder canisters and small caliber munitions clips/links). Investigation report recommends a more thorough (100%) surface sweep and geophysical survey of the area followed by excavation/removal of metallic subsurface anomalies.

CLEANUP/EXIT STRATEGY

A 100 percent surface sweep and geophysical survey will be followed by subsurface metallic anomaly investigation.

Site ID: FGLY-006-R-01
Site Name: WWII Tent Site Former Bivouac Area

STATUS

Regulatory Driver: CERCLA

MRSPP Score: Evaluation pending

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

Media of Concern: Soil

Phases	Start	End
PA	200805	200805
SI	200805	201406
RI/FS	201501	201712

RIP Date: N/A

RC Date: 201712

SITE DESCRIPTION

The WWII Tent Area is a former bivouac area used from the 1940s until an unknown date. The site consists of 40 acres of mostly wooded areas. Historical aerial photos show distinct former clearings (half-dozen) and former roads used by troops.

The site was closed in the 2005 Environmental Sites DD as a NFRAP site. LUCs were placed on the site due to the potential for discarded small arms munitions (consistent with a bivouac area). The 2006/2007 MMRP SI did not consider this site. In 2008, during clearing activities in the lower 10 acres of the site, a 4.5 inch rocket round still in its shipping canister (Discarded Military Munition) was discovered. During subsequent surface clearance activities, several point detonating fuses were discovered and disposed by EOD. Site construction activities were proposed on the lower 10 acres, so a digital geophysical mapping survey was completed in 2010 using an EM-61 and 156 subsurface metallic anomalies were identified for investigation. In 2014 after the completion of an approved DDESB Explosives Safety Submission, the anomalies were all excavated and confirmed to be scrap metal. However, during the excavation activities, two additional point detonating fuses were discovered on the surface on the border with the remaining 30 acres of the site. EOD blew these two items in place. A 100% surface sweep and geophysical mapping (followed by intrusive investigations) was recommended for the remaining 30 acres of the site (with step-outs as required).

CLEANUP/EXIT STRATEGY

Clear entire site of MEC for unconditional use.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FGLY-001-R-01	RIFLE RANGE 1	200707	MMRP Final Site Inspection Report, Fort Greely, Alaska, July 2007
FGLY-002-R-01	RIFLE RANGE 2	200305	Site transferred to Fort Wainwright
FGLY-003-R-01	LANDFILL 3 - SWMU 40	200707	MMRP Final Site Inspection Report, Fort Greely, Alaska, July 2007

MMRP Schedule

Date of MMRP Inception 200203

Past Phase Completion Milestones

2003

PA	(FGLY-001-R-01 - RIFLE RANGE 1, FGLY-002-R-01 - RIFLE RANGE 2, FGLY-003-R-01 - LANDFILL 3 - SWMU 40, FGLY-004-R-01 - JARVIS CREEK MUNITIONS BURIAL SITE, FGLY-005-R-01 - BRAC Site 112, Former Scrap Yard)

2007

SI	(FGLY-001-R-01 - RIFLE RANGE 1, FGLY-003-R-01 - LANDFILL 3 - SWMU 40, FGLY-005-R-01 - BRAC Site 112, Former Scrap Yard)

2008

SI	(FGLY-004-R-01 - JARVIS CREEK MUNITIONS BURIAL SITE)
PA	(FGLY-006-R-01 - WWII Tent Site Former Bivouac Area)

2014

SI	(FGLY-006-R-01 - WWII Tent Site Former Bivouac Area)

Projected Phase Completion Milestones

See attached schedule

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

To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of MMRP at Installation (including LTM phase): 201712

FORT GREELY MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
FGLY-004-R-01	JARVIS CREEK MUNITIONS BURIAL SITE	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FGLY-005-R-01	BRAC Site 112, Former Scrap Yard	RI/FS						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FGLY-006-R-01	WWII Tent Site Former Bivouac Area	RI/FS						

FORT GREELY

Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 3/0

Installation Site Types with Future and/or Underway Phases

1 Above Ground Storage Tank
(CCFGLY002)

1 POL (Petroleum/Lubricants) Lines
(CCFGLY008)

1 Spill Site Area
(FGLY-074)

Most Widespread Contaminants of Concern

Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern

Soil

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

Site ID	Site Name	Action	Remedy	FY
FGLY-074	BLDG 320 DIESEL SPILL - SITE 72	IRA	EX SITU SOIL TREATMENT	2010
CCFGLY008	MOGAS/DFA Fuel line (BRAC 94/97/101/134)	IRA	LANDFARMING	2011
CCFGLY008	MOGAS/DFA Fuel line (BRAC 94/97/101/134)	IRA	EX SITU SOIL TREATMENT	2011

Duration of CR

Date of CR Inception: 199106

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201102/201102

Date of CR completion including Long Term Management (LTM): 204509

CR Contamination Assessment

Contamination Assessment Overview

Environmental restoration activities include the IRP and MMRP. On Dec. 29, 2008, the Office of the Deputy Under Secretary Of Defense for Installation and Environmental [ODUSD (I&E)], issued an interim policy for Defense Environmental Restoration Program (DERP) eligibility that rescinded the 1986 eligibility date for the IRP and the 2002 eligibility date for the MMRP. This made many sites previously addressed in the Army's Compliance-related Cleanup (CC) Program eligible for the DERP. Sites that are now eligible for the Munitions Response (MR) program have been migrated from Army Environmental Database - Compliance-related Cleanup (AEDB-CC) and given the naming convention of other MR sites. The newly eligible non-MR type sites are considered to be Installation Restoration (IR) sites; however, the newly eligible sites are being coded as Compliance Restoration (CR) in AEDB-R to distinguish them from the original IR sites and IR metrics.

Site under CR have petroleum only contamination. Fort Greely's CR sites are all either in a DD or proposed plan (PP) under development.

Cleanup Exit Strategy

CR sites are all in either a DD or PP under development.

CR Previous Studies

Title	Author	Date
There are no Previous Studies		

FORT GREELY

Compliance Restoration

Site Descriptions

Site ID: CCFGLY002
Site Name: BLDG 617 FUEL SPILL AND TANKS 419 & 420

STATUS

Regulatory Driver: RCRA

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

Media of Concern: Soil

Phases	Start	End
ISC	200101	200110
INV	200310	201102
LTM	201103	204509

RIP Date: N/A

RC Date: 201102

SITE DESCRIPTION

This site is the location of a current POL tank farm with former leaking valve pit and multiple recent spills (since 1986). The facility began operation sometime during the early-1950s and likely had an undocumented history of leaks at the valve pits and tanks dating back to that time; however, no contamination was known at this site until the 1990s.

According to the 1996 EBS, a 100-gal spill of MOGAS was reported at Building 619; however, this spill occurred at Building 617. It was also reported that a valve at the west end of the pump house (Building 617) was left open during a refueling operation and diesel spilled to the ground at that location. According to the incident report, dated June 26, 1998, approximately 30 gal were spilled, covering an estimated area of nine sf. In May 1995, Shannon and Wilson performed a geotechnical investigation at Tank No. 420, including five borings. Two environmental samples were collected and analyzed for DRO and BTEX. DRO was detected at 990 mg/kg. In October 2003, ASCG, Inc. installed two groundwater wells in the vicinity of the POL yard. MW6 was installed in the vicinity of Post Road and Fifth Street, about 500 ft northwest and downgradient of the POL yard. MW7 is adjacent to Tank 419, within the containment area. Samples from both wells were analyzed for fuel components without detections. A USACE/Northwind investigation in 2004 revealed extensive contamination around the valve pit and MW8 installed immediately downgradient had trace amounts of POL constituents (toluene at three orders of magnitude below cleanup levels).

Soil analysis has determined that DRO exceeds state cleanup levels for migration to groundwater. Contamination extent was further characterized and defined during FY09. The UVOST and conventional borings were used to define the extent of contamination around the valve pit (exceeded cleanup criteria from 15 ft bgs to 140 ft bgs). Top of water table is approximately 200 ft bgs. Utilities, active valve pit, and the depth of contamination hamper any remediation at the valve pit. MW7 was decommissioned after bentonite swelled inside well casing and prevented collection of samples. MW6 and MW8 provide adequate downgradient coverage (and have not had any contaminants above cleanup criteria). FY10 investigations collected data to facilitate using the ADEC HRC (ACL method) to close the site. Site has been proposed for closure with LUCs in the draft March 2012 multisite PP currently undergoing revision based on USAEC comments. USAEC Legal put an 18-month hold on the document while it explored whether USEPA wanted Fort Greely sites closed under CERCLA or RCRA (due to 1990 Part A application and subsequent withdrawal). Remediation while the POL yard is operational is not feasible. LUCs will be tracked/funded under FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of POL yard and prevent the land usage from changing (preventing change from its current use as the POL storage facility). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete with ICs" in ADECs contaminated sites database. No change in use status will be allowed without ADEC approval. The site should be assessed for remediation when site is no longer an active POL yard. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. Groundwater monitoring of the two downgradient monitoring wells for petroleum constituents will be completed in the fall of the year prior to a five-year review (so that data is available for analysis during the five-year review). A PP/ROD is under development.

Site ID: CCFGLY008
Site Name: MOGAS/DFA Fuel line (BRAC 94/97/101/134)

STATUS

Regulatory Driver: RCRA

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

Media of Concern: Soil

Phases	Start	End
ISC	200405	200410
INV	200605	201102
IRA	200903	201102
LTM	201103	204509

RIP Date: N/A

RC Date: 201102

SITE DESCRIPTION

This site was the MOGAS/diesel fuel pipeline for the Old Post Area. Old Post consists of the former main cantonment and currently active airfield. Fuel distribution lines (both gasoline and diesel) were operational from the 1940s until the 1960s.

The site has former UST locations at numerous buildings along the pipeline route. In 2004, a soil gas survey in the area showed widespread TPH contamination. Initial investigations in 2007 found extensive diesel contamination at one of the former underground tank farms attached to the MOGAS line. A downgradient monitoring well (at another site) has shown benzene contamination for which the source is believed to be the Building 163 underground tank farm supplied by the MOGAS fuel line. In 2008, activities included tracing the entire path of the MOGAS line in the Old Post area and delineating some of the contamination. The 2010 activities included remediation of shallow contamination along the pipeline and investigation of deeper contamination. Additionally, the pipeline was removed and more than 500 gal of fuel recovered. The UST farm on the pipeline and the bend in the pipeline have heavy contamination and are a suspected source of benzene contamination in groundwater.

The deep petroleum contamination at the bend in the pipeline will be managed under IRP site FGLY-006 (since the groundwater plume is being tracked under this site) and an in situ oxidation treatability study was completed in FY09. Remediation is expected to include removal of petroleum contaminated soil with landfarming. All of the sites being tracked under CCFGLY008 have been included in the Draft March 2012 multisite PP currently under revision based on USAEC comments. USAEC Legal put an 18-month hold on PP while it explored whether USEPA wanted to close Fort Greely sites under CERCLA or RCRA due to 1990 RCRA Part A permit application (and subsequent withdrawal). USEPA is indifferent, so site will proceed under CERCLA/State Petroleum regulations. The site is planned to be closed as NFRAP with LUCs where deep contamination remains at the site. LUCs will be tracked under FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of Old Post MOGAS fuel line and prevent the land usage from changing (preventing construction on the plot of land). Land use will be restricted to industrial or "green space" (no usage) and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. A PP/ROD is under development.

Site ID: FGLY-074
Site Name: BLDG 320 DIESEL SPILL - SITE 72

STATUS

Regulatory Driver: OTHER

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

Media of Concern: Soil

Phases	Start	End
PA	199106	199107
SI	199107	199909
RI/FS	199909	201009
IRA	201003	201009
LTM	201009	204509

RIP Date: N/A

RC Date: 201009

SITE DESCRIPTION

In the early-1990s, a valve on a tanker truck parked inside Building 320 leaked approximately 500 gal of diesel fuel. A site investigation was performed, but no action was taken because the contaminants were under the building. In 1997, a UST adjacent to the building was removed, and DRO contamination was discovered under the bottom of the tank. This was attributed to the old fuel spill. Further characterization was done in 1999 and DRO was not found above screening levels. A DD was signed with USEPA as NFA late in the BRAC process. When FGA emerged from BRAC and was transferred from USARAK to USASMDC, ADEC declared that they did not authorize USEPA to sign for them and they considered the site open. A decision was made to not reopen the closed site in AEDB-R, but instead move the site to LTM and cover investigations/remediation under FGLY-099. The site was investigated in 2009 and areas of contamination were delineated on the east, west, and south sides of the building. In 2010, 100 cy of soil were excavated from the west site (UST location) and further depth delineation of contaminants was performed. Contamination from the spill inside the building is largely inaccessible and cannot be addressed until the building is removed. The site was proposed for closure with LUCs in the multisite PP which is currently under revision after receipt of USAEC comments. LTM will be included in FGLY-007.

CLEANUP/EXIT STRATEGY

The Fort Greely administrative controls database will be utilized to control subsurface intrusions into the location of Building 320 and prevent the land usage from changing. Land use will be restricted to industrial and dig restrictions will be used to control future land use. The site will be considered "cleanup complete" in ADECs contaminated sites database. A review will be conducted every five years to ensure that the restrictions and protection programs are being maintained properly and that site conditions have not changed. Five-year reviews will be conducted to ensure long-term effectiveness. A PP/ROD is under development.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation

There are no NFA sites

CR Schedule

Date of CR Inception: 199106

Past Phase Completion Milestones

1991	
PA	(FGLY-074 - BLDG 320 DIESEL SPILL - SITE 72)
1999	
SI	(FGLY-074 - BLDG 320 DIESEL SPILL - SITE 72)
2002	
ISC	(CCFGLY002 - BLDG 617 FUEL SPILL AND TANKS 419 & 420)
2005	
ISC	(CCFGLY008 - MOGAS/DFA Fuel line (BRAC 94/97/101/134))
2010	
RI/FS	(FGLY-074 - BLDG 320 DIESEL SPILL - SITE 72)
IRA	(FGLY-074 - BLDG 320 DIESEL SPILL - SITE 72)
2011	
INV	(CCFGLY002 - BLDG 617 FUEL SPILL AND TANKS 419 & 420, CCFGLY008 - MOGAS/DFA Fuel line (BRAC 94/97/101/134))
IRA	(CCFGLY008 - MOGAS/DFA Fuel line (BRAC 94/97/101/134))

Projected Phase Completion Milestones

See attached schedule

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

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2015

Estimated Completion Date of CR at Installation (including LTM phase): 204509

FORT GREELY CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
CCFGLY002	BLDG 617 FUEL SPILL AND TANKS 419 & 420	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
CCFGLY008	MOGAS/DFA Fuel line (BRAC 94/97/101/134)	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21+**
FGLY-074	BLDG 320 DIESEL SPILL - SITE 72	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201107

Restoration Advisory Board (RAB): RAB established 199609

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

Additional Community Involvement Information

The RAB was formed in September 1996 and met quarterly until 2009 when it was decided to move towards semiannual meetings. The most recent RAB meeting was held in April 2014 where it was decided to move RAB meetings to an annual basis. A TAPP has not been requested. The community relations plan was updated in 2011.

Administrative Record is located at

Department of Public Works
Environmental Division
Post Office Box 31310
Fort Greely, AK 99737
The RAB website at www.fgacleanup.info

Information Repository is located at

Department of Public Works
Environmental Division
Post Office Box 31310
Fort Greely, AK 99737

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

TAPP Title: N/A

Potential TAPP: N/A