

FY2012

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Action Plan

Printed 24 January 2013

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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 (RAs).

In an effort to coordinate planning information between the restoration manager, Army Materiel Command (AMC), the US Army Environmental Command (USAEC), Red River Army Depot (RRAD), 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

A/I	Active/Inactive
AEDB-CC	Army Environmental DataBase - Compliance Cleanup
AEDB-R	Army Environmental DataBase - Restoration
AMC	Army Materiel Command
AOC	Area of Concern
APAR	Affected Property Assessment Report
AR	Arkansas
AST	Aboveground Storage Tanks
BCP	BRAC Cleanup Plan
bldg	building
BRAC	Base Closure and Realignment Commission
CC	Compliance-related Cleanup (program)
CEL	Chromate Equalization Lagoon
CERCLA	Comprehensive Environmental Response Compensation Liability Act of 1980 (amended in 1984 and later)
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
CONUS	Continental United States
CP	Compliance Plan
CR	Compliance Restoration (program)
CS	Confirmatory Sampling
CTC	Cost-to-Complete
CTT	Closed, Transferred, or Transferring
CY	Calendar Year
DCE	Dichloroethylene
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design Engineering Study
DESMOA	Defense State Memorandum of Agreement
DLA	Defense Logistics Agency
DMM	Discarded Military Munitions
DNAPL	Dense Non-Aqueous Phase Liquids
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
ER,A	Environmental Restoration, Army (formerly DERA)
FERLFE&C	Final Ecological Reference Location Field Evaluation & Comparison
FOST	Finding of Suitability to Transfer
FRA	Final Remedial Action
FS	Feasibility Study
FUDS	Formerly Used Defense Site
FY	Fiscal Year (US Federal)
GPRA	Government Performance and Results Act
GWPS	groundwater protection standard
HE	High Explosives
HRR	Historical Records Review

Acronyms

HSWA	Hazardous and Solid Waste Amendments
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
IWTP	Industrial Wastewater Treatment Plant
kg	kilogram
lb	pound
LNAPL	Light Non-Aqueous Phase Liquids
LSAAP	Lone Star Army Ammunition Plant
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
mg	milligram
mg/kg	milligram per kilogram
mm	millimeter
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
MSW	Municipal Solid Waste (trash, nonhazwaste, etc.)
MW	Monitoring Wells
NAPL	Non-Aqueous Phase Liquid
NFA	No Further Action
Ni-Cad	Nickel-Cadmium
NPL	National Priorities List (- the list of Superfund sites)
OB	Open Burning
OB/OD	Open Burning/ Open Detonation
OD	Open Detonation
OE	Ordnance/Explosive
OTC	Ordnance Training Center
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
Pb	lead
PBA	Performance-Based Acquisition
PBC	performance based contract
PCB	Polychlorinated biphenyl - A toxic cooling oil used in the past in transformers and capacitors
PCL	Protective Concentration Level
PCLC	Protective Concentration Level Exceedance
PLM	Professional Labor Management
PMZ	Plume Management Zone
POL	Petroleum, Oil, (or) Lubricants
ppb	Parts Per Billion
PRB	Permeable Reactive Barrier

Acronyms

RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RACER	Remedial Action Cost Engineering and Requirements
RACR	Response Action Completion Report
RAD	Radioactive Waste or a unit of radiation measure
RAP	Response Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	Resource Conservation and Recovery Act Facility Assessment
RFI	RCRA Facility Investigation
RFI/CMS	RCRA Facility Investigation/Corrective Measures Study
RI	remedial investigation
RI/FS	remedial investigation/ feasibility study
RIP	Remedy-in-Place
ROD	Record Of Decision
RRAD	Red River Army Depot
RRMC	Red River Munitions Center
RRSE	Relative Risk Site Investigation
S&A	Supervision and Administration
S&R	Supervision and Review
SI	Site Inspection
SLERA	Screening Level Ecological Risk Assessment
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAC	Texas Administrative Code
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCA	1, 1, 1 Trichloroethane
TCA	trichloroethane
TCE	trichloroethylene or trichloroethene
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxicity Characteristic Leaching Procedure
TD	Transferred
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TRRP	Texas Risk Reduction Program
TX	Texas
US	United States
USACE	US Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency

Acronyms

USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordinance
VOC	Volatile Organic Compound
WIA	Western Industrial Area
WWT	Wastewater Treatment

Installation Information

Installation Locale

Installation Size (Acreage): 15839.29

City: Texarkana

County: Bowie

State: Texas

Other Locale Information

The Red River Army Depot (RRAD) is located on 15,839.29 acres of land in Bowie County, Texas (TX). The installation is approximately 18 miles west of Texarkana, TX/Arkansas (AR) (population 29,919/36,411 per 2010 census). The installation is adjacent to Hooks, TX (population 2,769) to the north, and New Boston, TX (population 4,550) to the west. The Bowie County population is 92,565 per 2010 US Census data, of which 67% is urban, and 33% is rural. The former Lone Star Army Ammunition Plant (LSAAP) is adjacent to RRAD to the east, which after Base Realignment and Closure Commission (BRAC) 2005 closure is now known as TexAmericas East.

In July 1995, the BRAC recommended realigning RRAD by moving all maintenance missions associated with the M113 tactical vehicle series to other depot maintenance activities. The installation retains its Bradley Fighting Vehicle series and tactical vehicle maintenance missions, road wheel and track remanufacturing missions, intern training center, civilian training, Defense Logistics Agency (DLA), and rubber products renovation/production/fluidized bed combustion facilities. In BRAC 1995, 765 acres were designated for transfer to the Red River Redevelopment Authority. In 2001, the water treatment plant, industrial waste treatment plant, sewer treatment plant and high voltage electrical distribution system were privatized through BRAC, transferring an additional 32 acres. In 2006 two findings of suitability to transfer (FOST) for a total of 38 acres, were approved for transfer.

Per BRAC 2005, 3,839 additional acres were transferred, including the Red River Munitions Center (RRMC) ammunition storage and open burning (OB) and open detonation (OD) missions, and the RRAD Patriot and Hawk missile recertification missions.

Installation Mission

The mission statement for Red River Army Depot is to:

Conduct ground combat, and tactical systems sustainment maintenance operations and related support services worldwide, for the US and Allied Forces and friendly nations in support of the Warfighter. Be an active and viable partner within our community, and the Four States area.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

US Army Corps of Engineers, Ordnance and Explosives Design Center, Huntsville

US Army Corps of Engineers (USACE), Southwestern Division, Fort Worth District

Regulator Participation

State Texas Commission on Environmental Quality (TCEQ)

Local TCEQ, Tyler Regional Office

National Priorities List (NPL) Status

RED RIVER ARMY DEPOT is not on the NPL

Installation Information

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

RAB established 199602

Installation Program Summaries

IRP

Primary Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Light non-aqueous phase liquids (LNAPL), Metals, Perchlorate, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Sediment, Soil, Surface Water

MMRP

Primary Contaminants of Concern: Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, White Phosphorous

Affected Media of Concern: Building Decontamination, Groundwater, Sediment, Soil

CR

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

Affected Media of Concern: Groundwater, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201606	201606	2016

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
RRAD-55 Permit Issuance	RRAD-55

Land Use Control (LUC) Summary

LUC Title: 5 year reviews

Site(s): RRAD-006-R-01

ROD/DD Title: Decision Document D Area Y Site D060201

Location of LUC

D area

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Signs

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

Date in Place: 201309

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: 5 yr rvws/constr support

Site(s): RRAD-001-R-01

ROD/DD Title: Decision Document Vulcan Range

Location of LUC

former Vulcan Range area

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Signs

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

Date in Place: 201309

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS, Unexploded Ordnance(UXO)

Additional Information

N/A

LUC Title: Annual inspections

Site(s): RRAD-99

ROD/DD Title: Former DRMO Scrap Yard

Land Use Control (LUC) Summary

Location of LUC

Red River Army Depot parking lot # 57B.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices, Notations in Master Plan, Restrictions on land use

Date in Place: 201110

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: USACE District

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

LUC Title: Bldg 722 in Master Plan

Site(s): RRAD-62

ROD/DD Title: FRA for Building 722

Location of LUC

Bldg 722/723 former SAA incinerators site

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices, Notations in Master Plan, Restrictions on land use

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

LUC Title: Deed Notice bldg 414

Site(s): RRAD-73

ROD/DD Title: Building 414 Deed Notice

Location of LUC

Bowie County Courthouse

Land Use Restriction: Restrict land use - No residential use

Land Use Control (LUC) Summary

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 201302

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: ORGANICS

Additional Information

N/A

LUC Title: Response Plan bldg 371

Site(s): RRAD-36

ROD/DD Title: Response Action Plan Building 371

Location of LUC

Deed notice at Bowie County courthouse records.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 200812

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: VOC

Additional Information

N/A

LUC Title: Western Industrial Area

Site(s): RRAD-35, RRAD-56, RRAD-71

ROD/DD Title: Response Action Plan Western Industrial

Location of LUC

Deed notice (Bowie County) for Western Industrial Area.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Deed Notices

Date in Place: 200905

Land Use Control (LUC) Summary

Modification Date: N/A
Date Terminated: N/A
Inspecting Organization: Installation
Record of LUC: Master Plan or Equivalent
Documentation Date: N/A
LUC Enforcement: 5 Year Reviews
Contaminants: VOC
Additional Information
N/A

LUC Title: deed notice
Site(s): RRAD-62
ROD/DD Title: BUILDINGS 722
Location of LUC
Bowie County Courthouse records
Land Use Restriction: Restrict land use - No residential use
Types of Engineering Controls: None
Types of Institutional Controls: Restrictions on land use
Date in Place: 200608
Modification Date: N/A
Date Terminated: N/A
Inspecting Organization: Installation
Record of LUC: Master Plan or Equivalent
Documentation Date: N/A
LUC Enforcement: 5 Year Reviews
Contaminants: METALS
Additional Information
N/A

LUC Title: deed notice
Site(s): RRAD-63
ROD/DD Title: deed notice bldg 1025/1027
Location of LUC
Building 1025/1027 deed notice is at Bowie County Courthouse. Site RRAD-63 (site absorbed adjacent site RRAD-30)
Land Use Restriction: Restrict land use - No residential use
Types of Engineering Controls: None
Types of Institutional Controls: Deed Notices
Date in Place: 201302
Modification Date: N/A
Date Terminated: N/A
Inspecting Organization: Installation

Land Use Control (LUC) Summary

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: 5 Year Reviews

Contaminants: METALS

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

In 1942, the Army purchased the majority of the land (19,081 acres) for RRAD from several land owners in Bowie County. The installation was initially intended to be a reserve ammunition storage depot; however, in December 1942, additional missions were added. Some of the missions included overhaul and modification of tanks, and the shipment of tanks, tactical vehicles, artillery, and small firearms. From 1943 until March 1944, the LSAAP was loosely combined with RRAD as the Texarkana Ordnance Center. In 1945, LSAAP was made a part of RRAD and remained as such until 1951. As a result of partial closure resulting from the BRAC 1995 mandates and ongoing utility privatizations, there are approximately 797 acres of an original 19,081 acres that have already or will soon be transferred out of Army control. Some 3,835 acres will be transferred as a result of BRAC 2005.

During World War II and the Korean War the depot served as an Ordnance Training Center (OTC) for the purpose of training officers in ordnance support. The OTC was deactivated after the Korean War, but occasionally provides training to US Army Reserve units. An off-depot parcel used by the OTC for troop training is now classified as a formerly used defense site.

Major historic tenants at RRAD are the Defense Reutilization and Marketing Service (DRMS), the DLA, and the RRMC. DRMS reuses and/or disposes of surplus items. The DLA supports seven of the eleven continental US (CONUS) divisions in an 18-state area.

RRAD was issued a part B permit for a municipal hazardous waste management site on Dec.13, 1988 (Permit No. HW-50178-000, USEPA ID No. TX 3213820738), pursuant to the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Provision VIII of the permit requires RRAD to conduct RCRA facility investigations (RFIs). RFIs are required to determine whether hazardous constituents have been released into the environment. The TCEQ is responsible for enforcing the requirements of the part B permit.

In fiscal year (FY)95 the installation formed a BRAC cleanup team and the community formed the Red River Local redevelopment authority. In FY96 the installation formed a RAB and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01.

Originally, in FY03, six Military Munitions Response Program (MMRP) sites were identified.

Later, in FY03, three of the six MMRP sites were identified as no further action (NFA), as the environmental closure was underway under the Environmental Restoration, Army (ER,A) program at these sites. This brought the total down to three MMRP sites.

In FY04 four new MMRP sites were added when concurrence with historical closure of these four long-abandoned ranges was received. This brought the total to seven MMRP sites.

In FY07 two of the seven MMRP sites became BRAC 2005 sites. This brought the total of non-BRAC RRAD MMRP sites down to five sites.

The resulting active phase MMRP site totals (not counting BRAC or NFA sites) are from six to three in FY03, to seven in FY04, to five in FY07.

The RRAD is an active US Army Facility. The major operational facilities on the depot include: maintenance and rebuild of military vehicles, demilitarization of out-of-specification ordnance, ammunition storage, maintenance, modification, and recertification of the Hawk, Chaparral, and Patriot missiles (transferring per BRAC 2005), tank track and road wheel rebuild, and rubber products maintenance. Currently, most of the acreage covered by RRAD is used for commercial forestry and ammunition storage.

BRAC 95 realigned RRAD by moving the M113 vehicle mission to other depots. The installation retained its Bradley fighting vehicle, light tactical vehicle, engineering intern training, Patriot missile, and rubber production missions.

BRAC 2005 realigned RRAD and will result in moving the ammunition and missile recertification missions elsewhere.

Areas of environmental concern at the depot include spill sites associated with previous industrial and pre-RCRA disposal activities, and closed landfills. Trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA) and their biodegradation products are the main contaminants affecting groundwater at the installation.

The installation maintains a partnership with the TCEQ through the Defense State Memorandum of Agreement (DSMOA)

Cleanup Program Summary

Installation Historic Activity

program.

The building (bldg) 441 indoor weapons test range, with 1000 yard target concrete tubes, had shot traps emptied and was demolished in late 2007.

The Army has completed an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or MC. An additional two MMRP sites were identified after the original MMRP listings, for a total of seven sites at this installation. Remedial investigation (RI) and feasibility studies (FS) on these sites began in FY09.

In FY03, the installation completed the groundwater modeling study in the Western Industrial Area (WIA) and submitted the study to regulators. Repairs were made to the chrome and storm sewers by relining with cured-in-place-piping. The Hays Plant affected property assessment report (APAR) was completed. The Army awarded a contract for removal of the chrome beds at the industrial waste treatment plant. The installation expanded sampling at the X-1 sewer treatment plant to define the extent of contamination. The installation initiated an MMRP site inspection (SI) in the active portion of the installation.

Major historical tenant operations are the DRMS, the DLA, and the RRMC. DRMS reuses and/or disposes of surplus items. The DLA supports seven of the eleven CONUS divisions in an eighteen state area. The RRMC stores, renovates, and demilitarizes ammunition.

Smaller tenant activities included the health clinic and school for engineering and logistics intern training.

The major tenant operations are the DLA, RRMC, Army Logistics Learning Center, and DRMS.

The RRMC closure, when it occurs as a result of BRAC 2005, will result in anticipated environmental cleanup costs for two OB and one OD heavy demolition ranges.

The RRAD does not have any U.S. Environmental Protection Agency (USEPA) NPL Superfund sites.

The RRAD was not on the original USEPA Government Performance and Results Act (GPRA) baseline, but RRAD is listed in the USEPA GPRA 2020 baseline.

In FY09 18,676.24 acres is recorded in the Real Property Inventory for the RRAD property size. This number is a result of a boundary adjustment between LSAAP and RRAD due to BRAC 2005.

Installation Program Cleanup Progress

IRP

- Prior Year Progress:**
- Continued corrective measures implementation (operations) [CMI(O)] at sites RRAD-33, 34, 44, and 48 (BRAC) and 35, 36, 37, 43, 56, 60, and 71 (IRP).
 - Continued long-term management (LTM) at RRAD-55.
 - Continued renewal application process to formally incorporate groundwater monitoring into TCEQ permit for RRAD-35, 35, 37, 43, 56, 60, and 71.
 - Began LTM at RRAD-99.
 - Completed assessment at site CC-006-RR. Requires additional assessment and monitoring, which will begin in FY2012.
- Future Plan of Action:**
- Continuance of CMI(O) through 2015 for sites RRAD-33, 34, 44, and 48 (BRAC) and 35, 36, 37, 43, 56, 60, and 71 [Installation Restoration Program(IRP)].
 - Continuance of LTM at RRAD-55 and RRAD-99.
 - Continuance of groundwater monitoring at CC-006-RR.

MMRP

- Prior Year Progress:**
- Completed Proposed Plans and remedial investigation reports for Vulcan Rng, Vulcan Rng-TD, Grenade Rng, D area Y site, and Tracer Test Rng. All received State approval. Feasibility studies were approved for Tracer Range, Vulcan Range and D area Y site, and NFA for Grenade Range and

Cleanup Program Summary

Vulcan Range-TD. Contract awarded in 2011 with options funded in 2012 for remedial actions on Tracer Range, Vulcan Range and D area Y Site. Final Historical Records Review for OB/OD sites completed in January 2012.

Future Plan of Action: The Site Investigations for sites RRAD-011-R-01/02/03 should begin in FY12. RFI/corrective measures study (CMS) for those 3 sites should begin in FY13.

Remedial actions will begin on Vulcan Range, Tracer Test Range, and D Area Y Site sites.

CR

Prior Year Progress: Compliance restoration (CR) program consists of site CC-006-RR, which is the installation's fuel station - An initial assessment was completed in 2011, which showed that the rate and extent of fuel contamination needs additional assessment (wells and sampling) in 2012 with reporting by May 2012.

Future Plan of Action: Quarterly monitoring is required by the State for site CC-006-RR Fuel Station with a report due in 2013. It is possible that additional duration LTM will be necessary.

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 48/35

Installation Site Types with Future and/or Underway Phases

1	Contaminated Ground Water (PBC Red River)
1	POL (Petroleum/Lubricants) Lines (RRAD-56)
9	Spill Site Area (RRAD-35, RRAD-36, RRAD-37, RRAD-43, RRAD-60, RRAD-62, RRAD-63, RRAD-71, RRAD-73)
1	Storage Area (RRAD-99)
1	Surface Impoundment/Lagoon (RRAD-55)

Most Widespread Contaminants of Concern

Dense nonaqueous phase liquid (DNAPL), Light non-aqueous phase liquids (LNAPL), Metals, Perchlorate, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Sediment, Soil, Surface Water

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

Site ID	Site Name	Action	Remedy	FY
RRAD-41	SOILS NEAR BLDG 430	FRA	WASTE REMOVAL - SOILS	1989
RRAD-55	CHROMATE EQUALIZATION LAGOON	FRA	WASTE REMOVAL - SOILS	1990
RRAD-54	SOILS AT BLDG 420	FRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
RRAD-56	BUILDING 315 TRANSFER STATION	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1993
RRAD-28	WOODYARD LANDFILL	IRA	CAPPING	1994
RRAD-30	POPPING FURNACE BLDG #1025	IRA	WASTE REMOVAL - SOILS	1995
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	IRA	CAPPING	1995
RRAD-40	RAW PHOSPHATE DETENTION LAGOON,IWTP	IRA	WASTE REMOVAL - SOILS	1995
RRAD-39	FINAL LAGOON, IWTP	IRA	WASTE REMOVAL - SOILS	1997
RRAD-83	COMP BUILDING 413	FRA	REMOVAL	1997
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	IRA	DUAL-PHASE EXTRACTION	2004
RRAD-62	POPPING FURNACE BLDG# 722	FRA	WASTE REMOVAL - SOILS	2005
PBC Red River	PBC	FRA	OTHER	2007
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	FRA	OTHER	2007
RRAD-36	BLDG 371 (BATTERY SHOP) SOILS	FRA	OTHER	2007
RRAD-37	SOILS UNDERLYING BLDG 373(DYNAMOMET	FRA	OTHER	2007
RRAD-43	SOILS NEAR TRANSFER PUMPS, BLDG 473	FRA	REMOVAL	2007
RRAD-56	BUILDING 315 TRANSFER STATION	FRA	OTHER	2007

IRP Summary

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

Site ID	Site Name	Action	Remedy	FY
RRAD-60	BLDG 433, FORMER RUBBER PRODUCTS BL	FRA	REMOVAL	2007
RRAD-63	POPPING FURNACE BLDG #1027	FRA	IN-SITU SOIL TREATMENT	2007
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	FRA	OTHER	2007
RRAD-99	DRMO Scrap Yard	FRA	WASTE REMOVAL - SOILS	2012

Duration of IRP

Date of IRP Inception: 197803

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201207/203709

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

IRP Contamination Assessment

Contamination Assessment Overview

In FY11 three sites received ER,A funding. In FY12 or beyond, nine IRP sites will receive funding, including one site for performing performance-based contract (PBC) management.

There are two LTM sites funded by RRAD that are not eligible for ER,A funding. These two sites are the OB/OD areas and the sludge drying beds.

The major concerns for releases to the environment have occurred in the WIA, surrounding industrial area, and the used oil/antifreeze POL site. The primary contaminants of concern are chlorinated solvents that were used in degreasing, paint, and fuel operations. The solvents used include TCE and 1,1,1-TCA. Solvents and their degradation compounds have been found in sediments, soils, groundwater, and surface water around the maintenance area. The other contaminants of concern are heavy metals that include cadmium, chromium, lead (Pb), and nickel which are commonly found in metal finishing processes.

Solvents have contaminated the groundwater under the WIA. The contamination at the WIA has the potential to migrate off-post. Contamination and future activities at WIA are being conducted under both the ER,A and BRAC programs. Studies have been completed that determine rate and extent of groundwater contamination.

The RRAD conducted a pilot study at RRAD-71 Bldg 350 to test solvent remediation technologies. Dual phase extraction was the technology chosen by the Army to best study the practicality of removing solvents in relatively impermeable clay shale.

Due to the economic impracticability of a full scale dual phase extraction project, the planned alternatives to address DNAPL are a plume management zone (PMZ) and permeable reactive barrier (PRB) walls. The PRB walls were installed in 2007 and funded under the BRAC 1995 program.

Solvent contamination of surface water in Panther Creek will be addressed through monitoring of the two PRB walls and monitoring of the creek. Installation of monitor wells will commence after the TCEQ agreement with the monitoring network design for the PRB walls. Panther Creek surface water sampling will commence in the near future under the PBC.

A long term remediation project involving extraction of spilled or leaked fuel underneath Bldg 373 (site RRAD-37) will continue. In FY10 THE TCEQ approval of no action for Panther Creek sediments was received based upon a screening level ecological risk assessment (SLERA) for Panther Creek and WIA.

Cleanup Exit Strategy

The installation reached initial IRP RIP in FY07 through having a PBC contract. Remedial action (operation) [RA(O)]/LTM, with the exception of RRAD-55, is funded under the PBC through 2015. The PBC contractor will assist in development of an exit/ramp-down strategy for all PBC sites remaining in RA(O)/LTM after FY15. Site RRAD-99 [Defense Reutilization and Marketing Office (DRMO) Scrap Yard] is separate from the PBC contract, with the RFI/CMS completed in 2010, with removal of stockpiled metal contaminated soil planned in FY11, and annual inspections of a protective parking lot cap in the future (LTM).

IRP Previous Studies

Year	Title	Author	Date
1972	Texas Water Development Board No. 157, Survey of The Subsurface Saline Water of Texas, Vol. #7, Geologic Well Data-East Texas	Texas Water Development Board	SEP-1972
1984	Groundwater Quality Assessment OTC Area for The Army Corps of Engineers	Dames & Moore	AUG-1984
	Groundwater Quality Assessment WWT Area for The Army Corps of Engineers	Dames & Moore	AUG-1984
1987	Contaminated Soil Investigation Beneath Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1987
1988	Remedial Investigation of Hayes Batch Treatment Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1988
1990	Site Assessment for Subsurface Release of Diesel Fuel at Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1990
	RCRA Facility Investigation, Ordnance Training Center (OTC), Interim Status Report	US Army Corps of Engineers, Fort Worth District	JUN-1990
	Site Assessment for Sub-Surface Release of Gasoline and Diesel, Building #162 F, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1990
	Environmental Noise Consultation No. 52-34-624-90 Noise Contours, Red River Army Depot	US Army Corps of Engineers	JUL-1990
	Site Assessment For Subsurface Release of Gasoline And Diesel Addendum, Building #162	US Army Corps of Engineers, Fort Worth District	AUG-1990
	Site Assessment Addendum for Subsurface Release of Diesel Fuel at Building #333	US Army Corps of Engineers, Fort Worth District	SEP-1990
1992	Soil Gas Survey- Building #345	US Army Corps of Engineers, Fort Worth District	MAR-1992
	Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1992
	Water Quality Survey No. 31-62-GM2-92, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1992
	Building #420, Soil Investigation (Two Phases), Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1992
	Geologic Siting-Industrial Waste Landfill, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	DEC-1992
1993			

IRP Previous Studies

1993

Title	Author	Date
Building #345, Interim RFI Report	US Army Corps of Engineers, Fort Worth District	APR-1993
RCRA Facility Investigation Amended Report, Sludge Drying Beds, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1993
RCRA Facility Investigation Amended Report, SWMU-WWT Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1993
RCRA Facility Investigation Amended Report, Panther Creek, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1993
Interim Removal Building #265, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1993
RCRA Facility Investigation Amended Report, POL Pump Site, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1993
Current Status and Observation Report, Building #162, First Quarter (Jul-Sep 1993), Red River Army Depot	US Army Corps of Engineers	OCT-1993
RCRA Facility Investigation Amended Report, OTC Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1993
RCRA Facility Investigation Amended Report, Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	DEC-1993

1994

RCRA Facility Investigation Addendum To the Amended Report, Pesticide Pit, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	FEB-1994
RCRA Facility Investigation for SWMU Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAR-1994
RCRA Facility Investigation For Building #333, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
RCRA Facility Soil Investigation, Building #1025, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
RCRA Facility Investigation, Building #345, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	APR-1994
Baseline Risk Assessment, Maintenance Salvage Yard, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	AUG-1994
RCRA Facility Investigation for SWMU-Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1994
RCRA Facility Investigation, Building #348, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1994
RCRA Facility Investigation, BB-15 Area, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-1994

IRP Previous Studies

1994	Title	Author	Date
	Report of Findings, Soil Investigation North East of Building #1025, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
	Soil Investigation at Building #1027, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
	Closure Report Building #1025, Demolition and Soil Excavation, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	NOV-1994
1996			
	RCRA Facility Investigation-Hayes Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAR-1996
	BRAC 95 Program- Environmental Baseline Survey, Final Report, Red River Army Depot	US Army Corps of Engineers	DEC-1996
	Report of Findings-Soil Stock Pile Sampling, Building #1025, Red River Army Depot	US Army Corps of Engineers	DEC-1996
1997			
	Closure Report for Industrial Wastewater Treatment Lagoons, Building #356, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-1997
	Closure Reports for Building #1025, Demolition and Soil Excavation, Volumes # I and II, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	FEB-1997
	Closure Report for the Industrial and Final Industrial Wastewater Treatment Lagoons, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-1997
	Data Compilation Package, Volumes #I, II, and III, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-1997
1998			
	Soil Background Investigation Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-1998
	RCRA Facility Assessment, Advanced Consolidated Footprint, Volumes # I & # II, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUL-1998
	Groundwater Background Investigation Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-1998
2000			
	RCRA Facility Investigation Report for Building #350, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	RCRA Facility Investigation Report for Building #414, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	RCRA Facility Investigation Report for Building #433, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	MAY-2000
	Final Background Characterization of Groundwater Investigation Report, Red River Army Depot	US Army Corps of Engineers	MAY-2000
	Natural Attenuation Study, Western Industrial Area	US Army Corps of	JUN-2000

IRP Previous Studies

Year	Title	Author	Date
2000	(WIA), Red River Army Depot	Engineers, Fort Worth District	
	Closure Report for Excavation of Contaminated Soil at the Water Tower, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JUN-2000
	Remediation Report for Building #265 and Adjacent Storm Water Ditches, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	SEP-2000
	RCRA Facility Investigation Report for X-1 Sewage Treatment Plant, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	OCT-2000
2001	Natural Attenuation Study for Ordnance Training Center (OTC), Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-2001
	Ordnance Training Center (OTC) Area, Semiannual Report, Red River Army Depot	US Army Corps of Engineers, Fort Worth District	JAN-2001
	Findings of Suitability to Transfer Buildings #133, 150, 154, 167, 184, 281, 286, 290, the Water Tower, the Directorate of Public Works, Storage Yard and Housing Area, Buildings #10, 20, 28, & 30	US Army Corps of Engineers, Fort Worth District	MAR-2001
	Remedial Action Completion Report for North and South Storm water Lagoons	US Army Corps of Engineers, Fort Worth District	MAY-2001
	Response Action Completion Report (2 Volumes) North and South Storm water Lagoons and UST at Building 334A	US Army Corps of Engineers, Fort Worth District	MAY-2001
	Monitored Natural Attenuation Evaluation, OTC (Ordnance Training Center) Landfill	US Army Corps of Engineers, Fort Worth District	NOV-2001
2002	2001 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2002
2003	2002 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2003
2004	2003 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2004
	Building 172 Release Investigation Report	Installation	MAR-2004
	Industrial Wastewater Treatment Plant Release Investigation Report	Installation	APR-2004
2005	2004 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2005
	Response Action Completion Report Bldg 722	Cape	JUL-2005

IRP Previous Studies

Year	Title	Author	Date
2005	Corrective Measures Implementation Plan for the OTC Area	Parsons / US Army Corps of Engineers, Fort Worth District	DEC-2005
2006	2005 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2006
	Amended Affected Property Assessment Report 1313 Landfill	Installation	JAN-2006
	Draft Final Supplemental Affected Property Assessment Report for Bldg 1027 Area	Kemron / US Army Corps of Engineers, Fort Worth District	MAR-2006
	Draft Final Response Action Plan for Bldg 1027 Area	Kemron / US Army Corps of Engineers, Fort Worth District	JUN-2006
	Final Project Summary Report - Removal of Above Ground Storage Tank #319	Toltest Inc.	JUN-2006
	Semi-Annual Report for OTC Area	US Army Corps of Engineers, Fort Worth District	JUL-2006
	Draft Final Response Action Plan Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
	Draft Final Response Action Plan for Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
	Final Affected Property Assessment Report for Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
	Final Affected Property Assessment Report Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2006
	Final Affected Property Assessment Report for Bldg 373	Kemron / US Army Corps of Engineers, Fort Worth District	SEP-2006
	Draft Final Response Action Plan for Bldg 373	Kemron / US Army Corps of Engineers, Fort Worth District	SEP-2006
	Response Action Plan for WIA and Panther Creek	Kemron / US Army Corps of Engineers, Fort Worth District	DEC-2006
2007	2006 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2007
	Draft Final Affected Property Assessment Report for Bldg 433	Kemron / US Army Corps of Engineers, Fort Worth District	FEB-2007
	Semiannual Report for OTC Area	US Army Corps of Engineers, Fort Worth District	JUL-2007
	Affected Property Assessment Report for WIA	Kemron / US Army Corps of Engineers, Fort Worth District	DEC-2007

IRP Previous Studies

2008	Title	Author	Date
	2007 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2008
	Response Action Completion Report Bldg 1027	Kemron / US Army Corps of Engineers, Fort Worth District	FEB-2008
	Semi-Annual Report for OTC and Sludge Drying Beds Areas	Fort Worth District US Army Corps of Engineers	JUL-2008
	Response Action Plan for Bldg 371	Kemron / US Army Corps of Engineers, Fort Worth District	AUG-2008
	Draft Response Action Completion Report Bldg 473	Kemron / US Army Corps of Engineers, Fort Worth District	OCT-2008
2009			
	2008 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2009
	2009 Semi-Annual Report for OTC Landfill and Sludge Drying Beds	US Army Corps of Engineers, Fort Worth District	JUL-2009
	Final Ecological Reference Location Field Evaluation and Comparison Report for the Western Industrial Area and Panther Creek	Kemron Environmental Services	NOV-2009
2010			
	2009 Annual Report for OTC Landfill, Sludge Drying Beds, Chromate Equalization Lagoon, and OB/OD Areas	US Army Corps of Engineers, Fort Worth District	JAN-2010
	1st Year Data Summary Report Bldgs 371, 373, 433, 473	Kemron Environmental Services, Marietta Ohio	APR-2010
	1st Year Data Summary Report Western Industrial Area (WIA)	Kemron Environmental Services, Marietta Ohio	MAY-2010
	2010 Semi-Annual Report for OTC Landfill and Sludge Drying Beds	US Army Corps of Engineers, Fort Worth District	JUL-2010
	Response Action Completion Report for Building 433	Kemron Environmental Services, Marietta Ohio	JUL-2010
	Final Response Action Plan Closed DRMO Area	Tetra Tech NUS Inc, Houston, TX	OCT-2010
	Corrected Final Affected Property Assessment Report Closed DRMO Area	Tetra Tech NUS Inc, Houston, TX	OCT-2010
2011			
	2010 Annual Report for OTC Landfill, Sludge Drying Beds, Chromate Equalization Lagoon, and OB/OD Areas	US Army Corps of Engineers, Fort Worth District	JAN-2011
	Response Action Effectiveness Report, Western Industrial Area	Kemron Environmental Services, Marietta Ohio	MAY-2011
	Response Action Effectiveness Report, Buildings 371, 373, 433, and 473-POL	Kemron Environmental Services, Marietta Ohio	MAY-2011
	2011 Semi-Annual Report	US Army Corps of Engineers, Fort Worth District	JUL-2011
2012			

IRP Previous Studies

2012

Title	Author	Date
2011 Annual Report	US Army Corps of Engineers, Fort Worth District	JAN-2012

RED RIVER ARMY DEPOT
Installation Restoration Program
Site Descriptions

Site ID: PBC Red River
Site Name: PBC

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Metals, Petroleum, Oil and Lubricants (POL), Volatiles (VOC)

Media of Concern: Groundwater, Sediment, Soil, Surface Water

Phases	Start	End
RFA.....	200009.....	200109
CMI(C).....	200508.....	200709
CMI(O).....	200709.....	201509

RIP Date: 200709

RC Date: 201509

SITE DESCRIPTION

This site is for funding a PBC with Kemron Environmental Services. The contract is administered by the USACE. IRP and BRAC sites are covered under this multiyear contract.

The IRP sites subject to this funding are RRAD-35, 36, 37, 43, 56, 60 and 71. Separately funded under Site BRAC Red River are RRAD-33, RRAD-34, RRAD-44, and RRAD-48.

Program and contract management costs for the USACE are also funded under PBC Red River.

The contract awarded in August 2005 is to reach RIP/RC at these sites to include any RA(O), CMI(O), and LTM through 2015. Any additional RA(O), CMI(O), LTM after 2015 will be addressed under each individual site. Progress to date is captured under individual site descriptions.

CLEANUP/EXIT STRATEGY

The performance-based acquisition (PBA) fulfills the purpose of the RIP/RC exit strategy. The current PBA contractor's schedule had final submittals of investigations and remedial plans to the state in April 2008 for most sites except Panther Creek (BRAC 1995) and RRAD-60. More detailed cleanup strategies are described under each individual site description.

Site Name: SOIL UNDERLYING BLDG 345, NORTH WASHRACK

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Dense nonaqueous phase liquid (DNAPL), Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197803.....	197807
RFI/CMS.....	199109.....	200709
IRA.....	199411.....	199503
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 345 is located in the center of the WIA. This two-story bldg of approximately 300,000 square feet, was built in 1942 and accommodates mechanical tear down, metal finishing, and re-build of military vehicles. There were an unknown number of solvent (TCE, TCA) spills during the 1950s and 60s. This site is still active; however, TCE and TCA are no longer being used at the depot.

Chlorinated solvents have been detected in the groundwater since 1991. These solvents are potentially causing a threat of exposure in surface water (Panther Creek).

The contaminated soil is covered by the bldg and is, in part, covered by the bldg or asphalt/concrete, and is on top of a several hundred feet thick layer of dense clay shale.

A bldg. vapor intrusion (ambient air) study was conducted from August 2000 to May 2001, and vapors were detected.

Plugging of part of the well network (108 wells and 5 piezometers) was approved by TCEQ on Aug. 25, 2011.

CLEANUP/EXIT STRATEGY

This site will be part of the proposed WIA PMZ, which in 2011 is under development for incorporation into the RCRA compliance plan permit. LTM will continue indefinitely and will consist of monitoring solvent contaminated groundwater, and land use control (LUC). The WIA PMZ has been deed recorded.

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Requirements for the corrective measures-construction [CMI(C)] and CMI(O) are funded under the AEDB-R site PBC Red River.

Site Name: BLDG 371 (BATTERY SHOP) SOILS

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199207.....	199207
RFI/CMS.....	199811.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 371 is used as a battery shop where large, wet cell, Pb-acid forklift batteries are recharged and stored. The bldg was formerly used for dynamometer testing and had solvent cleaning vats.

TCE contamination has been present in monitoring wells (MW) around Bldg 371. Groundwater TCE has exceeded protective concentration levels (PCLs). Soil PCLs have not been exceeded.

A revised APAR and a remedial action plan have been completed and approved by the TCEQ.

The process for incorporation of the remedial action plan approved PMZ for the site into the RRAD permit LTM began in FY10.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc. to bring the site to RIP/RC, and perform monitoring until 2015. Kemron has revised the APAR in accordance with the TCEQ's comments and received concurrence.

In FY11 this site is in process for incorporation into the RCRA permit as part of WIA PMZ monitoring. The WIA PMZ has been deed recorded.

The response action is a PMZ and monitored natural attenuation (MNA).

Requirements for the CMI(C) and CMI(O) are funded under the AEDB-R site PBC Red River.

LTM of solvent contaminated groundwater will be funded under site RRAD-36 after FY15.

Site Name: SOILS UNDERLYING BLDG 373(DYNAMOMET

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Light non-aqueous phase liquids (LNAPL), Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197803.....	197807
CS.....	199712.....	199805
RFI/CMS.....	199811.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203810.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 373 is located south of Bldg 371. It has been used as RRAD's Dynamometer Shop from the 1940s to the present. The installation has reported various hydraulic fluid and waste oil spills on the basement floor in this bldg. There is evidence of past fuel leaks to the groundwater and surface water.

There are currently 14 monitor wells. Inside the bldg there is one recovery well, for which there have been several years of vacuum extraction events under a PBC contract with Kemron Environmental Services Inc. Contaminants are fuels or oils under the bldg. Historically fuels or oils have been detected in sediments. There has been a history of detections of solvents in soils.

A revised APAR and response action plan (RAP) have been submitted to the TCEQ and the TCEQ has approved.

A PMZ and incorporation of the site into the RRAD permit for CMI(O) and LTM are planned. The PMZ has been deed recorded.

Actions at this site through FY15 are included in the PBA. Post-PBA cost-to-complete (CTC) is based on-site contract costs for FY14.

As of 2011 there have been multiple quarterly vacuum extraction events accomplished at the dedicated extraction well (#373-MW6) located inside Bldg. 373.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

The proposed response actions are a PMZ, groundwater extraction, and an MNA.

LTM will be funded under site RRAD-37 after FY15.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan permit monitoring program.

In FY11 CMI(O) phase vacuum extraction of fuel from recovery well number 373-MW6 continues under the Kemron Environmental Services Inc PBC contract.

Site ID: RRAD-37

Site Name: SOILS UNDERLYING BLDG 373(DYNAMOMET

The PMZ has been deed recorded.

Site Name: SOILS NEAR TRANSFER PUMPS, BLDG 473

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198812.....	198812
RFI/CMS.....	199012.....	200709
DES.....	200508.....	200709
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203810.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

This site is located in the northeast portion of the Depot and south of non-associated Bldg 473. This site is also called the 'POL Pump Site;' it has four aboveground storage tanks (AST) that contain used POL and used antifreeze. The soil is contaminated from past activities with hydrocarbons, solvents, and antifreeze spills at the transfer pump site. IRP eligibility is due to historic release of solvents (TCE) from either product lines, pumping/storage operations, or from one of the four storage tanks.

Groundwater has been impacted with solvents. Soil has been impacted with total petroleum hydrocarbons (TPH). The primary concern for this site is the use of VOCs, which occurred prior to 1987. Solvents are no longer being used. A concrete liner was added to the bermed floor several years ago. An APAR was submitted to the TCEQ in 2004 and 2005. State comments on the APAR were received in January of 2006. A revised APAR and RAP were submitted to the TCEQ. Additional TCEQ comments were received, and new wells were installed in order to address comments. The APAR and RAP were approved by the TCEQ in November 2008.

A soil removal action of the site's abandoned pump island and investigation of underground piping were carried out in late 2007. The removal included sampling subsurface pipelines and removal of the pump island and contaminated soils not under storage tank related berm structures.

The Response Action Completion Report (RACR) for this remediation was approved by the TCEQ in February 2009. The PMZ and the soil remediation area have been deed recorded. Incorporation of the site into the RRAD permit for CMI(O) and LTM are underway. Actions at this site through FY15 are included in the PBA. Post-PBA CTC is long term groundwater monitoring, and is based on contract costs from FY14.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

Response actions included a completed soil excavation project, and continued groundwater monitoring.

LTM will be funded under this site.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan permit monitoring program.

Site ID: RRAD-55

Site Name: CHROMATE EQUALIZATION LAGOON

STATUS

Regulatory Driver: RCRA
RRSE: LOW
Contaminants of Concern: Metals, Volatiles (VOC)
Media of Concern: Groundwater

Table with 3 columns: Phases, Start, End. Rows include RFA, CS, DES, CMI(C), and LTM with corresponding dates.

RIP Date: N/A
RC Date: 198912

SITE DESCRIPTION

The Chromate Equalization Lagoon (CEL) area was located at the Industrial Waste Treatment facility and served as the raw collection point for electroplating rinse water. The lagoon was about 65 feet width by 95 feet length and operated from 1978 to 1989. The area was excavated upon closure and now part of the former lagoon is covered with industrial wastewater storage tanks and associated concrete containment berms.

Closure has not been approved by the TCEQ, due to groundwater issues involving elevated levels of metals. In June 2001 this site was incorporated into the compliance plan.

In 2005 and 2006, arsenic and 1,1 dichloroethylene (DCE) detections exceeded groundwater practical quantitation levels. In November 2006 a class III Permit Modification application was submitted to establish alternate GWPS's. The modification was approved in February 2008.

From October 2010 semiannual sampling there was an analytical concentration exceedance of the groundwater protective standard for Pb in monitor well CEL-14.

RRAD-55 is separate from the PBC awarded in 2005 for most other ER,A program sites.

The RRAD-55 property, as part of the industrial wastewater treatment plant (IWTP) site, was subject to the utility privatization initiative funded by BRAC 2005.

CLEANUP/EXIT STRATEGY

Under compliance monitoring, per RCRA permit requirements, RRAD groundwater sampling will continue at least until 2018.

Site ID: RRAD-56

Site Name: BUILDING 315 TRANSFER STATION

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	198606.....	198701
CS.....	198606.....	198701
RFI/CMS.....	199712.....	200709
IRA.....	199306.....	199308
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

This transfer station is located at the north end of Bldg 315 within the WIA. The site was used to transfer diesel fuel to an AST. An abandoned 420,000 gallon storage tank (No. 319) is the only remnant of the station. TCE was detected in the groundwater, in the vicinity of the transfer station. The source of the contamination is thought to be solvent spills or releases into a former drainage ditch located on the western portion of the site.

Bldg 315, which is part of the WIA, is part of RRAD compliance plan solid waste management unit (SWMU) No. 14.

In May 2006 heating fuel (No. 2) storage tank No. 319 was cleaned, demolished and removed by Iseler Demolition Inc, under subcontract to Toltest Inc. The tank's slab was not removed as part of this project. In June 2006 a final project summary report for the tank removal was received. Tank removal was accomplished to free the property for parking and storage lots, but this plan was superseded by a need to construct administrative bldgs.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. Kemron will revise the APAR in accordance with the TCEQ's comments and resubmit it.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

This site will be part of the proposed WIA PMZ. LTM will continue indefinitely and will consist of groundwater monitoring and LUC.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ (part of WIA) into the installation compliance plan monitoring program.

Site Name: BLDG 433, FORMER RUBBER PRODUCTS BL

STATUS

Regulatory Driver: RCRA
RRSE: HIGH
Contaminants of Concern: Metals, Volatiles (VOC)
Media of Concern: Groundwater, Soil

Table with 3 columns: Phases, Start, End. Rows include RFA, CS, RFI/CMS, DES, CMI(C), CMI(O), LTM, RIP Date, and RC Date.

SITE DESCRIPTION

This bldg is located east of Bldg 433, south of Bldg 431 at the northeast portion of the maintenance area. The bldg was used for rubber stripping, re-building of road wheels for tracked vehicles, 1,1,1-TCA vapor degreasing, adhesive application booths, paint operations, sand blasting, and injection molding operations for light tracked armored vehicles.

There were releases of solvents from vats in the north end of the bldg. Samples collected from the soil and groundwater indicate contamination above PCLs.

TCA and TCE degradation products have been detected in groundwater and soil. The groundwater plume appears to extend northwest from Bldg 433 up to Bldg 441.

Bldg 433 is listed in the RRAD compliance plan as SWMU No. 9.

Actions at this site through FY15 are included under the PBA. Post-PBA CTC is based on contract costs for FY14.

In FY10 the TCEQ concurred that this site had class III groundwater based upon an additional monitor well that was emplaced/tested, and as a result gave final approval of the APAR and RAP.

CLEANUP/EXIT STRATEGY

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc. to bring the site to RIP/RC and perform monitoring until 2015.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

The LTM consisting of a PMZ and associated LUCs will continue indefinitely. The LTM will be funded under this site.

In May 2010 a soil remediation project occurred under the existing PBC contract to address shallow Pb contaminated soils at the north end of Bldg 433. THE TCEQ concurred with the RACR and the Deed Notice (restricting soil from residential usage) in October 2010.

In FY10 the TCEQ concurred that this site had class III groundwater, based upon an additional monitor well that was emplaced/tested, and as a result gave final approval of the APAR and RAP.

Site ID: RRAD-60

Site Name: BLDG 433, FORMER RUBBER PRODUCTS BL

In FY11-12 THE TCEQ approval is expected on a RCRA permit renewal application to formally incorporate this site's PMZ into the installation compliance plan groundwater monitoring program.

Site ID: RRAD-62
Site Name: POPPING FURNACE BLDG# 722

STATUS

Regulatory Driver: RCRA
RRSE: LOW

Phases	Start	End
RFA.....	197803.....	197807
CS.....	198105.....	198105
RFI/CMS.....	199712.....	200304
DES.....	200305.....	200406
CMI(C).....	200407.....	200507
LTM.....	201302.....	204302
RIP Date:	N/A	
RC Date:	200507	

SITE DESCRIPTION

Old small ammunition item incinerator site in former Ordnance Training Center Area. Utilized for incineration 1956 to ~1978.

Soil remediation completed in 2004-2005. Soil was left in place that does not meet residential standards, so a deed notice was filed.

CLEANUP/EXIT STRATEGY

Long-term management, consisting of five-year reviews, will be performed since the site does not have un-restricted usage, due to the 8.231 acre deed notice concerning metals left in place that do not meet residential clean-up standards.

Site ID: RRAD-63

Site Name: POPPING FURNACE BLDG #1027

STATUS

Regulatory Driver: RCRA
RRSE: MEDIUM

Phases	Start	End
RFA.....	197803.....	197807
CS.....	198105.....	198105
RFI/CMS.....	199006.....	200409
DES.....	200410.....	200709
CMI(C).....	200508.....	200709
LTM.....	201302.....	204302
RIP Date:	N/A	
RC Date:	200709	

SITE DESCRIPTION

Buildings 1027 and 1025 were located just north of the open burning/open detonation grounds. Building 1025 ceased operation in the mid-1980s and was removed in the mid-1990s. Building 1027 was in operation from 1956-1976, with some failed trial burns after that period. Building 1027 was partially dismantled in the late-1990s (two walls and the foundation remain) and is an interim status RCRA-regulated unit. An interim removal action was completed in FY95 and FY96 which addressed the bulk of the source contamination. Building 1025 was totally removed. The floor, 2 walls, and auxiliary shed remain at Building 1027. These incinerators were used to thermally treat obsolete or off-specification munitions. The surrounding area is heavily wooded. Cadmium and lead had been detected in the soil. In some areas, the contaminants exceeded the human health risk levels. In addition to soil contamination, munitions debris is visible on the site. Munitions debris is material which was processed in the incinerator and fell onto the ground.

Groundwater monitor wells were plugged in early 2007, as there was no contamination.

A soil and sediment final remediation action under PBC contract was completed in August 2007 by MKM Engineers Inc under subcontract to Kemron Environmental Services Inc.. A response action completion report was submitted to the Texas Commission on Environmental Quality in February 2008.

A deed notice was signed Aug. 2, 2008 notifying that the affected area surrounding former buildings 1025 and 1027 was not remediated to residential usage soil standards.

CLEANUP/EXIT STRATEGY

Long-term management, consisting of five-year reviews, will be performed since the site does not have unrestricted usage, due to 65.415 acre deed notice concerning metals left in place that do not meet residential cleanup standards.

Site Name: BLDG 350, FORMER NI-CAD BATTERY SHO

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	199610.....	199701
CS.....	199802.....	199806
RFI/CMS.....	199811.....	200709
IRA.....	200305.....	200409
CMI(C).....	200508.....	200709
CMI(O).....	200508.....	203709
LTM.....	203710.....	204509

RIP Date: 200709

RC Date: 203709

SITE DESCRIPTION

Bldg 350, within the WIA, was used for the maintenance of nickel-cadmium (Ni-Cad) batteries. A floor drain that led to a concrete pit outside the bldg is suspected of having leaked. This site initially was identified as a BRAC site, but was changed to IRP in 1997.

Historical spills of VOCs into the drainage ditch east of Bldg 350 are a probable source of the majority of contamination at this site. High levels [690 parts per million (ppm)] of solvents were detected in the groundwater. No contamination was detected in air samples. From Nov. 18, 2003 to April 8, 2004, the US Army performed a dual phase extraction pilot study of solvent extraction from groundwater at Bldg 350 and concluded that it was not economically practical to address DNAPL recovery. The TCEQ disagreed and requested completion of a non-aqueous phase liquids (NAPL) assessment at the WIA, and implementation of an effective NAPL recovery system to satisfy NAPL Response Action Triggers, for the purpose of protecting Panther Creek from additional exposure to dissolved and/or NAPL contaminants of concern.

Actions at this site through FY15 are included in the PBA. Post-PBA CTC is based on contract costs for FY14.

CLEANUP/EXIT STRATEGY

This site will be part of the proposed WIA PMZ. LTM will continue indefinitely and will consist of groundwater monitoring and LUC.

In August 2005 a PBC was awarded to Kemron Environmental Services, Inc to bring the site to RIP/RC and perform monitoring until 2015. It will be necessary to continue LTM of the solvent contaminated groundwater after FY15.

Requirements for the CMI(C) (funded in FY05) and CMI(O) are funded under the AEDB-R site PBC Red River.

In FY10 work began on a RCRA permit application to formally incorporate this site's PMZ into the installation compliance plan (CP) groundwater monitoring program. Formal approval is anticipated in FY12 with TCEQ issuance of a renewed CP permit.

Site ID: RRAD-73

Site Name: BLDG 414, GEN STORAGE BLDG, DIRT FLOOR

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Phases	Start	End
RFA.....	199610.....	199701
CS.....	199802.....	199903
RFI/CMS.....	199908.....	199909
LTM.....	201302.....	204302

RIP Date: N/A

RC Date: 199909

SITE DESCRIPTION

This is a warehouse facility located at the easternmost portion of RRAD; it was constructed 1951. Demolished 2008-2009. A deed notice exists with soil restriction for commercial/industrial usage only.

CLEANUP/EXIT STRATEGY

LTM consisting of five-year reviews, since the site does not have unrestricted land usage due to the deed notice that was done because the benzo(a)pyrene concentration of 1.74 mg/kg in soil met the Texas soil Risk Reduction Standard #2 for commercial use, but does not meet the standard for residential use. Texas said in a letter dated June 10, 2003 that no post-closure care or engineering controls are required. The exact area and depth of contamination remaining in soil after building 414 was demolished and replaced by the construction of the new Maneuvers Systems Sustainment Center (MSSC) is an unknown.

Site ID: RRAD-99
Site Name: DRMO Scrap Yard

STATUS

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

Phases	Start	End
RFA.....	200301.....	200803
RFI/CMS.....	200810.....	201103
CMI(C).....	201112.....	201207
LTM.....	201210.....	204209
RIP Date:	N/A	
RC Date:	201207	

SITE DESCRIPTION

This site is a largely an open dirt field area of about six acres that has been in use for several decades to store junk metal material prior to sale for metal recycling. It is adjacent to another area of about six acres with dirt floor buildings where scrap material was also stored. The total acreage of both areas is about 12.

An Affected Property Assessment Report was completed in October 2010, and that and the Response Action Plan were granted TCEQ regulator concurrence on Feb. 8, 2011. The approved actions are annual inspections / maintenance of a parking lot cap that prevents contaminated metal soil exposure, and inspections begin in FY12. The soil under the cap does not meet commercial / industrial standards for the metal lead.

In FY12 the plugging of the monitor wells occurred.

Disposal of stockpiled soil from grading / redevelopment of part of the eastern half of the site into a gravel storage lot was funded and occurred in FY12. The report on stabilization and landfill disposal of the stockpiled soil will be sent to TCEQ for review during the second quarter of FY12.

CLEANUP/EXIT STRATEGY

A contract for an RFI was awarded in FY09, and a completed Affected Property Assessment Report and RAP was submitted to the TCEQ in October 2010. Removal of some stockpiled soil (from construction of parking areas) occurred in early FY12. The remaining action in FY12 and beyond are annual inspection/reporting of the condition of the parking lot (cap) which prevents human exposure to an area of metal contaminated soil that exceeds protective concentration levels. The plugging of monitor wells was accomplished in FY11. Reports on the soil removal action, well plugging, and annual cap inspection will occur in FY12.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-07	OTC HOSPITAL	198105	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec `96
RRAD-08	OTC RIFLE RANGE	198105	NFA because found not eligible for IRP, as this is a FUDS site, site #K06TX013901, Red River Archives Search Report, Huntsville Corps of Engineers, Mar. 1995
RRAD-09	SURVEILLANCE AREA	199802	This site is addressed under MMRP site RRAD-009-R-01.
RRAD-10	SURVEILLANCE AREA (1953)	199802	This site is addressed under MMRP site RRAD-008-R-01.
RRAD-11	SURVEILLANCE AREA (PISTOL RANGE)	199802	This site is addressed under MMRP site RRAD-001-R-01 and RRAD-002-R-01
RRAD-14	BUILDING 311 (X-RAY FACILITY)	198701	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec `96
RRAD-15	RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5)	197807	These are still active sites, and are addressed in the RCRA Permit for closure..
RRAD-16	RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1)	197807	These are still active sites, and are addressed in the RCRA Permit for closure.
RRAD-17	RAD FIRE BUILDING S-661 (OLD T-6)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec `96
RRAD-18	RAD FIRE BUILDING 421	197807	Duplicate RRAD-76
RRAD-19	RAD WASTE STORAGE	197807	The last site update person was 1st BRAC 1995 BEC, so site was probably a BRAC 1995 footprint site that was later transferred out of the BRAC footprint. Site location and details are unknown.
RRAD-21	FLM MATL STG (S-257,327,329,S-402)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec `96
RRAD-22	FLM MAT STG (S-547,S-648,T-1190)	197807	USACHPPM Hazardous and Medical Waste Study No. 37-EF-5698-97, Dec `96
RRAD-26	AERATION LAGOONS (4) IN AREA K	199404	Not eligible for IRP, this is an active industrial category wastewater treatment site
RRAD-28	WOODYARD LANDFILL	200609	Cap maintenance will be conducted as part of the installation's best management practices in accordance with the RRAD Master Plan.
RRAD-30	POPPING FURNACE BLDG #1025	200101	Consolidated administratively into adjacent contaminant commingled site RRAD-63
RRAD-38	WASTE PILES	199310	Determined as not eligible for IRP as this is an active site
RRAD-39	FINAL LAGOON, IWTP	199704	US Army Corps of Engineers, Fort Worth District, Closure Report for Industrial Wastewater Treatment Lagoons, Red River Army Depot, February 1997

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-40	RAW PHOSPHATE DETENTION LAGOON,IWTP	199412	Determined as not eligible for IRP as this is an active site. Transferred under utility privatization to the local redevelopment authority.
RRAD-41	SOILS NEAR BLDG 430	198901	US Army Corps of Engineers, Fort Worth District, Volumes I & II-RCRA Facility Investigation, Final Report, Includes: Buildings #430, Big Creek, Sludge Drying Beds, WWT Area, POL Pump Site, OTC Area, Panther Creek, and Pesticide Pit, Red River Army Depot, April 22, 1992
RRAD-45	SOILS UNDER BLDG 341	200209	RCRA Facility Investigation Final Report, FWACOE, April 1992
RRAD-46	BIG CREEK	199206	Texas Commission on Environmental Quality agreed with our statement in a permit revision issuance dated May 18, 2004, the "sampling results at Big Creek have indicated no impact to the stream from the OTC Landfill". NFA Letter dtd May 27, 2004.
RRAD-49	TNT WASHOUT FACILITY SOILS	199307	USAEHA Geohydrologic Study No. 38-26-KV-49-93 10 Sep 1993
RRAD-50	OB/OD AREA	199303	This is an active site and is addressed in the RCRA Permit for closure.
RRAD-54	SOILS AT BLDG 420	199310	Building 420 Soils Investigation, Fort Worth COE, May 1992
RRAD-57	MAINTENANCE SALVAGE YARD	199907	Baseline Risk Assessment for Maintenance Salvage Yard, Fort Worth Corps of Engineers, August 1995
RRAD-59	D-AREA Y-SITE	198105	NFA because found not eligible for IRP, this is MMRP site RRAD-006-R-01.
RRAD-69	BLDG 319 PIPELINE	199703	UST Removals and Contaminated Soil, Laidlaw, Jan 1994
RRAD-70	BLDG 388, DISCHARGE LINE (SINK)	199909	RCRA Facility Assessment Building 388, Fort Worth Corps, Dec 1998
RRAD-74	BLDG 411, ANNEALING VATS UNDER FLOOR	199701	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-76	BLDG 421, RAD EMMITTING SOURCES PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-78	BLDG 443, RADIOLOGICAL SOURCE PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD-81	AMMUNITION SURVEILLANCE TRACER TEST RNG	199705	This site is addressed under MMRP site RRAD-010-R-01.
RRAD-83	COMP BUILDING 413	199707	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint, BRAC study canceled when footprint was changed and made a non-BRAC site.
RRAD77	BLDG 431, RADIOLOGICAL SOURCE PRESENT	199609	This is an active site not eligible for IRP. Was in original BRAC 1995 footprint,

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			BRAC study canceled when footprint was changed and made a non-BRAC site.

IRP Schedule

Date of IRP Inception: 197803

Past Phase Completion Milestones

1978

CS (RRAD-15 - RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5), RRAD-16 - RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1), RRAD-17 - RAD FIRE BUILDING S-661 (OLD T-6), RRAD-18 - RAD FIRE BUILDING 421, RRAD-19 - RAD WASTE STORAGE, RRAD-21 - FLM MATL STG (S-257,327,329,S-402), RRAD-28 - WOODYARD LANDFILL, RRAD-39 - FINAL LAGOON, IWTP)

RFA (RRAD-07 - OTC HOSPITAL, RRAD-08 - OTC RIFLE RANGE, RRAD-09 - SURVEILLANCE AREA, RRAD-10 - SURVEILLANCE AREA (1953), RRAD-11 - SURVEILLANCE AREA (PISTOL RANGE), RRAD-15 - RAD STGE (BLDGS B12-3,G5-6,G-14-7,E13-5), RRAD-16 - RAD STG(F14-1,A14-5,C3-5,C6-1,C9-7,E4-1), RRAD-17 - RAD FIRE BUILDING S-661 (OLD T-6), RRAD-18 - RAD FIRE BUILDING 421, RRAD-19 - RAD WASTE STORAGE, RRAD-21 - FLM MATL STG (S-257,327,329,S-402), RRAD-26 - AERATION LAGOONS (4) IN AREA K, RRAD-28 - WOODYARD LANDFILL, RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-38 - WASTE PILES, RRAD-39 - FINAL LAGOON, IWTP, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP, RRAD-41 - SOILS NEAR BLDG 430, RRAD-55 - CHROMATE EQUALIZATION LAGOON, RRAD-62 - POPPING FURNACE BLDG# 722, RRAD-63 - POPPING FURNACE BLDG #1027)

PA (RRAD-22 - FLM MAT STG (S-547,S-648,T-1190), RRAD-59 - D-AREA Y-SITE)

SI (RRAD-22 - FLM MAT STG (S-547,S-648,T-1190))

1981

SI (RRAD-59 - D-AREA Y-SITE)

CS (RRAD-07 - OTC HOSPITAL, RRAD-08 - OTC RIFLE RANGE, RRAD-09 - SURVEILLANCE AREA, RRAD-10 - SURVEILLANCE AREA (1953), RRAD-11 - SURVEILLANCE AREA (PISTOL RANGE), RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-38 - WASTE PILES, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP, RRAD-41 - SOILS NEAR BLDG 430, RRAD-55 - CHROMATE EQUALIZATION LAGOON, RRAD-62 - POPPING FURNACE BLDG# 722, RRAD-63 - POPPING FURNACE BLDG #1027)

1987

RFA (RRAD-14 - BUILDING 311 (X-RAY FACILITY), RRAD-46 - BIG CREEK, RRAD-49 - TNT WASHOUT FACILITY SOILS, RRAD-50 - OB/OD AREA, RRAD-56 - BUILDING 315 TRANSFER STATION)

ISC (RRAD-54 - SOILS AT BLDG 420)

INV (RRAD-54 - SOILS AT BLDG 420)

SI (RRAD-45 - SOILS UNDER BLDG 341)

CS (RRAD-14 - BUILDING 311 (X-RAY FACILITY), RRAD-46 - BIG CREEK, RRAD-56 - BUILDING 315 TRANSFER STATION)

PA (RRAD-45 - SOILS UNDER BLDG 341)

1988

DES (RRAD-55 - CHROMATE EQUALIZATION LAGOON)

1989

DES (RRAD-41 - SOILS NEAR BLDG 430)

CMI(C) (RRAD-41 - SOILS NEAR BLDG 430)

RFI/CMS (RRAD-41 - SOILS NEAR BLDG 430)

RFA (RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473)

1990

CMI(C) (RRAD-55 - CHROMATE EQUALIZATION LAGOON)

1992

RFA (RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS)

CAP (RRAD-54 - SOILS AT BLDG 420)

RFI/CMS (RRAD-46 - BIG CREEK)

1993

IRA (RRAD-56 - BUILDING 315 TRANSFER STATION)

IRP Schedule

CS	(RRAD-49 - TNT WASHOUT FACILITY SOILS, RRAD-50 - OB/OD AREA)
IMP(C)	(RRAD-54 - SOILS AT BLDG 420)
1994	
IRA	(RRAD-28 - WOODYARD LANDFILL)
RFI/CMS	(RRAD-38 - WASTE PILES)
RFA	(RRAD-57 - MAINTENANCE SALVAGE YARD, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL)
CS	(RRAD-26 - AERATION LAGOONS (4) IN AREA K)
1995	
CS	(RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL)
IRA	(RRAD-30 - POPPING FURNACE BLDG #1025, RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-40 - RAW PHOSPHATE DETENTION LAGOON,IWTP)
1996	
PA	(RRAD-76 - BLDG 421, RAD EMMITTING SOURCES PRESENT, RRAD-78 - BLDG 443, RADIOLOGICAL SOURCE PRESENT, RRAD77 - BLDG 431, RADIOLOGICAL SOURCE PRESENT)
1997	
PA	(RRAD-83 - COMP BUILDING 413)
RD	(RRAD-83 - COMP BUILDING 413)
RFA	(RRAD-69 - BLDG 319 PIPELINE, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO, RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR, RRAD-74 - BLDG 411, ANNEALING VATS UNDER FLOOR, RRAD-81 - AMMUNITION SURVEILLANCE TRACER TEST RNG)
IRA	(RRAD-39 - FINAL LAGOON, IWTP)
RA(C)	(RRAD-83 - COMP BUILDING 413)
1998	
CS	(RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)
1999	
CS	(RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR)
RFI/CMS	(RRAD-57 - MAINTENANCE SALVAGE YARD, RRAD-70 - BLDG 388, DISCHARGE LINE (SINK), RRAD-73 - BLDG 414, GEN STORAGE BLDG, DIRT FLOOR)
2001	
RFA	(PBC Red River - PBC)
RFI/CMS	(RRAD-30 - POPPING FURNACE BLDG #1025)
2002	
RI/FS	(RRAD-45 - SOILS UNDER BLDG 341)
2003	
RFI/CMS	(RRAD-28 - WOODYARD LANDFILL, RRAD-62 - POPPING FURNACE BLDG# 722)
2004	
DES	(RRAD-62 - POPPING FURNACE BLDG# 722)
RFI/CMS	(RRAD-63 - POPPING FURNACE BLDG #1027)
IRA	(RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)
2005	
CMI(C)	(RRAD-62 - POPPING FURNACE BLDG# 722)
2006	
LTM	(RRAD-28 - WOODYARD LANDFILL)

2007

DES (RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL, RRAD-63 - POPPING FURNACE BLDG #1027)

RFI/CMS (RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-56 - BUILDING 315 TRANSFER STATION, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL, RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)

CMI(C) (PBC Red River - PBC, RRAD-35 - SOIL UNDERLYING BLDG 345, NORTH WASHRACK, RRAD-36 - BLDG 371 (BATTERY SHOP) SOILS, RRAD-37 - SOILS UNDERLYING BLDG 373(DYNAMOMET, RRAD-43 - SOILS NEAR TRANSFER PUMPS, BLDG 473, RRAD-56 - BUILDING 315 TRANSFER STATION, RRAD-60 - BLDG 433, FORMER RUBBER PRODUCTS BL, RRAD-63 - POPPING FURNACE BLDG #1027, RRAD-71 - BLDG 350, FORMER NI-CAD BATTERY SHO)

2008

RFA (RRAD-99 - DRMO Scrap Yard)

2011

RFI/CMS (RRAD-99 - DRMO Scrap Yard)

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
RRAD-99	DRMO Scrap Yard	Former DRMO Scrap Yard	20120728

Final RA(C) Completion Date: 201207

Schedule for Next Five-Year Review: 2016

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

RED RIVER ARMY DEPOT IRP Schedule

 = phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
PBC Red River	PBC	CMI(O)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-36	BLDG 371 (BATTERY SHOP) SOILS	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-37	SOILS UNDERLYING BLDG 373(DYNAMOMET	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-43	SOILS NEAR TRANSFER PUMPS, BLDG 473	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-55	CHROMATE EQUALIZATION LAGOON	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-56	BUILDING 315 TRANSFER STATION	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-60	BLDG 433, FORMER RUBBER PRODUCTS BL	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-62	POPPING FURNACE BLDG# 722	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-63	POPPING FURNACE BLDG #1027	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHO	CMI(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-73	BLDG 414, GEN STORAGE BLDG, DIRT FLOOR	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-99	DRMO Scrap Yard	LTM						

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 11/5

Installation Site Types with Future and/or Underway Phases

- 1 Drainage Ditch
(RRAD-011-R-01)
- 1 Firing Range
(RRAD-001-R-01)
- 1 Open Burning/Open Detonation (OB/OD)
(RRAD-011-R-03)
- 2 Unexploded Munitions/Ordnance
(RRAD-006-R-01, RRAD-010-R-01)
- 1 Washrack
(RRAD-011-R-02)

Most Widespread Contaminants of Concern

Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, White Phosphorous

Media of Concern

Building Decontamination, Groundwater, Sediment, 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 199911

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201709/201709

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

MMRP Contamination Assessment

Contamination Assessment Overview

Preliminary assessments (PAs) were conducted for MMRP sites in FY02. SIs were conducted from FY02 through FY05. In May 2005, fieldwork occurred to determine the potential presence of MEC. In November 2005 a draft SI report was submitted to the TCEQ in November 2005 and was concurred with in 2006.

In November 2010 final RI reports were submitted to THE TCEQ for the Vulcan Range - TD and Grenade Range sites. The recommendation of November 2010 RI reports indicate NFAs will be necessary for the Vulcan Range-TD and Grenade Range sites.

The RI/FS reports for three MMRP sites were sent to the TCEQ in November 2010, with recommendations that remedial actions were necessary. The Vulcan Range and Y Site (D area) will need remediation (soil and MEC respectively) and institutional controls, and the Tracer Test Range will need a MC contaminated soil removal.

Three new MMRP sites related to closure of the active OB/OD areas will begin MMRP RFI/CMS phase in FY11 or FY12, and the related timeline Army Environmental Database-Compliance Cleanup (AEDB-CC) funded site (OB/OD permitted areas site No. CC-002-RR) has been transferred in 2011 back from the AEDB-R to AEDB-CC program per USAEC instructions.

Cleanup Exit Strategy

Data results from the RI indicate NFA will be necessary for the Vulcan Range-TD and Grenade Range sites.

MMRP Previous Studies

Year	Title	Author	Date
2001	US Army Active/Inactive Range Inventory, Red River Army Depot	USAEC	AUG-2001
2002	Final Closed, Transferred, and Transferring Range (CTT)/Site Inventory Report, Red River Army Depot, Texas, Camp Stanley Storage Activity, US Army Materiel Command	e2M Inc.	MAR-2002
2004	Historical Records Review For Other Than Operational Ranges	US Army Corps of Engineers -Omaha District	AUG-2004
	Draft Conceptual Site Model Military Munitions Response Program Site Inspection, Red River Army Depot, Texas	e2M Inc.	DEC-2004
2005	Final Historical Records Review for Other Than Operational Ranges	US Army Corps of Engineers	JAN-2005
2006	Final Site Inspection Report, MMRP	e2M/US Army Corps of Engineers, Omaha District	AUG-2006
2010	Final Remedial Investigation Report - Grenade Range	Parsons	NOV-2010
	Final Remedial Investigation Report - Vulcan Range TD	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Vulcan Range	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Tracer Test Range	Parsons	NOV-2010
	Final Remedial Investigation Report and Feasibility Study - Y-Site (RRAD-006-R-01)	Parsons	NOV-2010
2011	Proposed Plan Grenade Range, Tracer Test Range, Vulcan Range, Vulcan Range-TD, and Y Site	Parsons	JAN-2011
	Final Decision Document Vulcan Range-TD MRS	Parsons, Austin Texas	JUN-2011
	Final Decision Document Grenade Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Tracer Test Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Vulcan Range MRS	Parsons, Austin Texas	JUL-2011
	Final Decision Document Y-Site MRS	Parsons, Austin Texas	JUL-2011
	Historical Records Review for the Unpermitted Demolition Areas and Associated Munitions Response Sites	Parsons - Austin Texas	DEC-2011

RED RIVER ARMY DEPOT
Military Munitions Response Program
Site Descriptions

Site ID: RRAD-001-R-01
Site Name: VULCAN RANGE

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 04

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201102
RA(C).....	201112.....	201307
LTM.....	201307.....	204207

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

The Vulcan Test Range is located in the southeast portion of the installation and was used from 1969 until the 1990s. The Vulcan Test Range was used for annual qualifying with small caliber handguns and surveillance testing of pistol ammunition and rebuilt weapons testing of 7.62 millimeter (mm), 20 mm, 40 mm rounds, and 155 mm systems, and possibly 105 mm cannons. This range consists of a range fan from the Vulcan Test Range. Maps identifying the firing point and range fans for these munitions were located, but target locations and impact areas were not shown in these maps and, therefore, are unknown. A portion of the Vulcan Test Range lies in an area that is classified as an operational range. The Vulcan Test Range is 480 acres. The Vulcan Test Range is classified as a closed range. Industrial and production facilities are currently located in this former range area. Pb sample measurements range from 141 to 1,930 milligrams per kilogram (mg/kg), and Toxic Characteristic Leaching Procedure (TCLP) Pb sample measurements range from 5.7 to 21.8 mg/kg. Sediment sampling detected Pb concentrations ranging from 251 to 1,010 mg/kg.

In July 2005 a change to the footprint and size of the inactive Vulcan Range and the adjacent active 25 mm weapons test range was requested and was approved by all parties by November 2005.

The SI was finalized in 2006.

The RI/FS was released in November 2010. The recommendations for remedial actions and institutional controls are detailed in the FS. The Proposed Plan was made available for public comment beginning Feb. 6, 2011, but no public comments were received. The TCEQ approved the RI/FS Feb. 24, 2011.

A contract for remedial actions was awarded September 21, 2011. A Decision Document was signed January 17, 2012.

CLEANUP/EXIT STRATEGY

The RI/FS Report was completed in November 2010. Recommended actions by the FS include a Pb contaminated soil removal action with screening for UXO and munitions debris, then warning signs and education and institutional controls, and long term construction support.

The Proposed Plan dated January 2011 was available through a Public Notice for public viewing and comment in February and March 2011, but no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011.

Site ID: RRAD-006-R-01
Site Name: D-AREA Y-SITE D060201

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 04

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

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201102
RA(C).....	201112.....	201307
LTM.....	201307.....	204207

RIP Date: N/A

RC Date: 201307

SITE DESCRIPTION

This site is a magazine storage area. An explosion occurred here in 1954, apparently as a result of a lightning strike. The Y site area was used for storage of cluster bombs at the time of the explosion. The final SI report states the site is 411.8 acres. This is based upon a drawing showing maximum distribution of debris found after the bomb site explosion. The site is part of the RRM, which is a tenant activity that has been identified for mission transfer from RRAD under BRAC 2005, and the property will be retained by RRAD after the BRAC 2005 action is complete.

The SI was finalized in 2006.

The RI/FS report was completed in November 2010. A remedial action was contracted and funded in FY11/FY12. The FS recommendation (alternative No.4a) is for land use controls (LUCs) (signage and public education); partial MEC removal in Explosion Site (surface MEC removal for 73 acres and removal to depth of detection for 10 acres); construction support for 73 acres of Explosion Site and Buffer with on call construction support in 10 acres of the Explosion site; and 5-year reviews.

The RI/FS report was approved by the TCEQ Feb. 24, 2011. No public comments were received on the January 2011 Proposed Plan through the public comment period.

CLEANUP/EXIT STRATEGY

The Proposed Plan dated January 2011 was available through a Public Notice for public viewing and comment in February and March 2011, but no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011. The recommended alternative includes a remedial action to address munitions debris/possible unexploded cluster bombs, and institutional controls to include warning signs, education, and long term construction support.

Site ID: RRAD-010-R-01
Site Name: TRACER TEST RANGE

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 05
Contaminants of Concern: Metals, Munitions and explosives of concern (MEC)
Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	200202.....	200305
SI.....	200309.....	200608
RI/FS.....	200803.....	201112
RA(C).....	201112.....	201309

RIP Date: N/A
RC Date: 201407

SITE DESCRIPTION

The (Ammunition Surveillance) Tracer Test Range, formerly known as RRAD-81, is located one-quarter mile northeast of the rifle range. Based upon the aerial footprint of the range, it appears to be approximately 56.84 acres. The 2001 Active/Inactive (A/I) Range Inventory report for RRAD states that the range was used from 1956 to 1973; however, there is a memorandum with an estimated cost for a "Trace Test Range" with drawings from July 1958. The July 29, 1958 RRAD memorandum states "a suitable location for the establishment of a trace test range is available at Red River Arsenal and is located south of LSAAP." It is uncertain if the range was constructed at that time. In November 1963, drawings were made for the barricade backstop of the Tracer Test Range. It is unclear if the site plan represents a new structure or possible modifications to an earlier facility. The Tracer Test Range safety fan is depicted on the 1972 Installation Woodland Management Plan. Aerial photographs from 1955 and 1960 show a road leading to the site location; however, the area appears to be wooded. An aerial photograph from 1968 shows the site location had been cleared of vegetation, suggesting that the site was in use. The 1978 installation assessment refers to the site as "Tracer Bullet Test Range 1940s/1950." The 2001 A/I Range Inventory Report for RRAD classified this range as inactive and referred to it as Range No. 2172-Tracer Test Range.

In 1996, RRAD personnel collected soil and sediment samples in the Tracer Test Area from the target tunnel and adjacent stream bank and bed. The RRAD laboratory analyzed all samples for total Pb, cadmium, and chromium. In addition, the tunnel soil samples were analyzed for total barium (87.9 mg/kg), potassium (160.8 mg/kg), magnesium (204.0 mg/kg), sodium (35.1 mg/kg), strontium (79.6 mg/kg), zinc (57.4 mg/kg), and TCLP Pb (17.8 mg/kg). Soil sample measurements of Pb ranged from 3.2 to 1600 mg/kg. In August 2001, a soil sample was collected from the Tracer Test Range by RRAD personnel and analyzed at the RRAD laboratory for explosives. Explosives were not detected.

In May 2005, e2M Inc. personnel collected samples. Upon analysis a portion had copper, Pb, and antimony above Texas Risk Reduction Program (TRRP) Tier 1 PCL's and RRAD installation-specific background levels.

The SI was finalized in 2006.

Fieldwork for the RI/FS was completed in 2009.

The Final Remedial Investigation Report and Feasibility Study (November 2010) and Proposed Plan (January 2011) recommends excavation (dig and haul) of a .069 acre [~1000 cubic yards (CY)] area in and around the target tunnel, to remove to off-post Pb and copper contaminated soil after sifting bullet debris from that soil, then restore site with clean fill.

The area of the range needing remediation, around the former shot trap tunnel, is in a remote wooded area with access available through unimproved fire trails.

The TCEQ approved the RI/FS Feb. 24, 2011. There were no public comments received on the January 2011 Proposed Plan. The Decision Document was signed Aug. 21, 2011. A contract for the RA(C) has been awarded, and funding was received in FY12 to accomplish the remediation.

Site ID: RRAD-010-R-01
Site Name: TRACER TEST RANGE

CLEANUP/EXIT STRATEGY

The Proposed Plan dated January 2011 was available through a Public Notice for public viewing and comment in February and March 2011, but no public comments were received.

The TCEQ approved the RI/FS report on Feb. 24, 2011. Approved actions included a soil removal to include excavation, and off-site transportation and disposal.

Based upon RI data, the excavation action recommended by the FS is anticipated to be limited to excavating and removing the target tunnel and contents, and nearby Pb and copper contaminated soil.

Site ID: RRAD-011-R-01
Site Name: DEMOLITION AREA CREEKS

STATUS

Regulatory Driver: RCRA

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

Media of Concern: Sediment, Surface Water

Phases	Start	End
RFA.....	199911.....	200001
RFI/CMS.....	201301.....	201501
DES.....	201502.....	201503
CMI(C).....	201503.....	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

This site consists of drainage ditches from active OB/OD areas. Perchlorate detections in surface water are common. Potential UXO has been observed in the creeks, and drainage ditches have been exposed to potential contamination from Pb and explosive-contaminated soil at OB/OD areas for several decades. The OB/OD area ceased operations in March 2011 due to BRAC 2005.

An RI/FS is proposed. If the RI/FS shows restoration is necessary, a sediment removal (dig and haul) combined with UXO sweep is the proposed final RA.

CLEANUP/EXIT STRATEGY

An RFI/CMS will be conducted in FY12-FY13, a DES in FY14, and MEC removal and contaminated sediment removal actions performed beginning in FY15.

Site ID: RRAD-011-R-02

Site Name: DEMO. AREA WASHRACK/STORAGE/TRAILS

STATUS

Regulatory Driver: RCRA

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate, Petroleum, Oil and Lubricants (POL)

Media of Concern: Building Decontamination, Soil

Phases	Start	End
RFA.....	200603.....	200604
RFI/CMS.....	201110.....	201501
DES.....	201502.....	201503
CMI(C).....	201503.....	201709

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

This site consists of three areas:

- (1) a washrack associated with active OB/OD areas;
- (2) bulldozer and other OB/OD equipment parking areas near the washrack; and
- (3) dirt roads and trails that connect the parking areas to the OB/OD areas.

These have been active for several decades. OB/OD operations has ceased due to BRAC 2005, but the site was not eligible for BRAC 2005 funds because RRAD retained surrounding property. Perchlorate has been detected in the washrack, possibly due to metal and explosive soil contamination from muddy vehicles coming from OB/OD being deposited in these areas. Pb and explosives have been detected in soils at the OB/OD areas, but have not been sampled at this proposed site.

The proposed action is an RFI/CMS of the site followed, if warranted, by closure of the washrack by removal (dig and haul) of any contaminated soil and removal (dig and haul) of any contaminated soil from bulldozer trails and parking/storage areas.

CLEANUP/EXIT STRATEGY

An RFI/CMS will be conducted in FY12-FY13, a design engineering study (DES) in FY14, and suspected munitions constituents in soil removals and washrack cleanout actions addressed beginning in FY15.

Site ID: RRAD-011-R-03

Site Name: UNPERMITTED DEMOLITION AREAS

STATUS

Regulatory Driver: RCRA

MRSPP Score: Evaluation pending

Contaminants of Concern: Explosives, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Perchlorate

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	200304.....	200305
RFI/CMS.....	201009.....	201501
DES.....	201502.....	201503
CMI(C).....	201503.....	201709
LTM.....	201710.....	202809

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

This is the estimated 251.46-acre unpermitted portion of the installation OB/OD area that includes areas affected by permitted OB/OD fragmentation and kick-out. The areas are wooded areas and dirt fields that are affected by several decades of burning or detonation of obsolete, off specification, or unneeded ammunition and ammunition components. The discovery of potential unexploded ordnance during routine operations at the permitted portion within this unpermitted site is a common occurrence. The OB/OD demilitarization mission has been identified as excess to Army requirements and ceased operations in March 2011 due to BRAC 2005.

The unpermitted OB/OD area will have to be fully environmentally investigated. A SI is currently under contract and funded, and a RFI/CMS is a contract option. The actual permitted acreage of the OB/OD area is 30.54 acres, but the area observed affected within explosive fragmentation distance along with adjacent areas suspected of having similar demilitarization operations has been estimated at roughly 282 acres. The 251.46 acres of this site is the difference between these two acreages. The site does not include storm water drainage channels and equipment trails associated with a washrack, both of which have been split into separate sites/estimates. From visual evidence of rusting metal objects on the ground surface and embedded in the soil, it is assumed that contamination will need to be addressed.

CLEANUP/EXIT STRATEGY

In FY11 a contract will be awarded for an historical records review archival search report as start of an RFI.

The remainder of RFI/CMS will be conducted in FY12-FY13, a DES in FY14, and MEC and soil removal actions performed beginning in FY15, followed by UXO labor for periodic UXO construction support.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
RRAD-002-R-01	VULCAN RANGE - TD	201109	The Texas Commission on Environmental Quality concurred with the November 2010 Vulcan Range-TD Remedial Investigation Report recommendation of No Further Action per a letter dated February 24, 2011.
RRAD-003-R-01	POPPING FURNACE, BLDG 722	200305	Covered under IRP site RRAD-62
RRAD-004-R-01	POPPING FURNACE, BLDG 1027	200305	Covered under IRP site RRAD-63
RRAD-005-R-01	POPPING FURNACE, BLDG 1025	200305	Covered under IRP site RRAD-63
RRAD-007-R-01	GRENADE RANGE	201109	The Texas Commission on Environmental Quality concurred with the November 2010 Grenade Range Remedial Investigation Report recommendation of No Further Action per a letter dated February 24, 2011.

MMRP Schedule

Date of MMRP Inception 199911

Past Phase Completion Milestones

2000

RFA (RRAD-011-R-01 - DEMOLITION AREA CREEKS)

2003

RFA (RRAD-011-R-03 - UNPERMITTED DEMOLITION AREAS)

PA (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-003-R-01 - POPPING FURNACE, BLDG 722, RRAD-004-R-01 - POPPING FURNACE, BLDG 1027, RRAD-005-R-01 - POPPING FURNACE, BLDG 1025, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE, RRAD-010-R-01 - TRACER TEST RANGE)

2006

SI (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE, RRAD-010-R-01 - TRACER TEST RANGE)

RFA (RRAD-011-R-02 - DEMO. AREA WASHRACK/STORAGE/TRAILS)

2011

RI/FS (RRAD-001-R-01 - VULCAN RANGE, RRAD-002-R-01 - VULCAN RANGE - TD, RRAD-006-R-01 - D-AREA Y-SITE D060201, RRAD-007-R-01 - GRENADE RANGE)

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
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Final RA(C) Completion Date: 201709

Schedule for Next Five-Year Review: 2016

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

RED RIVER ARMY DEPOT MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-001-R-01	VULCAN RANGE	RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-006-R-01	D-AREA Y-SITE D060201	RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-010-R-01	TRACER TEST RANGE	RA(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-011-R-01	DEMOLITION AREA CREEKS	RFI/CMS						
		DES						
		CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-011-R-02	DEMO. AREA WASHRACK/STORAGE/TRAILS	RFI/CMS						
		DES						
		CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
RRAD-011-R-03	UNPERMITTED DEMOLITION AREAS	RFI/CMS						
		DES						
		CMI(C)						
		LTM						

RED RIVER ARMY DEPOT
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 2/1

Installation Site Types with Future and/or Underway Phases

1 Above Ground Storage Tank
(CC-006-RR)

Most Widespread Contaminants of Concern

Petroleum, Oil and Lubricants (POL)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
N/A				

Duration of CR

Date of CR Inception: 200304

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201209/201209

Date of CR completion including Long Term Management (LTM): 202209

CR Contamination Assessment

Contamination Assessment Overview

Leaking underground fuel lines from above ground storage tanks to the pump island were discovered in 2010. The fuel lines were purged, disconnected, replaced, and soil in immediate vicinity of trenching was replaced, but during soil investigation (Weston report, March 2011) soil samples above Texas Petroleum Storage Tank (PST) action levels for benzene were noted.

During preparation of an Assessment Report (Baer Engineering, November 2011) there were 15 monitoring wells installed. The groundwater constituents exceeding Texas Target Cleanup Goals were: benzene, ethylbenzene, and naphthalene. During this assessment the soil constituents exceeding Texas Cleanup Goals were: benzene. The sampling for the Assessment Report was not able to fully determine rate and extent of the contamination. Current plans are for further assessment and quarterly groundwater sampling.

Cleanup Exit Strategy

Complete an assessment of soil and groundwater contaminant plumes. Evaluate site conditions to determine the need for corrective action.

CR Previous Studies

	Title	Author	Date
2010			
	Red River Army Depot, Texas, Facility 393 Site Characterization	U.S. Army Corps of Engineers, Omaha District	SEP-2010
2011			
	Release Determination Report	Weston Solutions Inc, Omaha NE	MAR-2011
	Petroleum Storage Tank Assessment Report	Baer Engineering	NOV-2011

RED RIVER ARMY DEPOT
Compliance Restoration
Site Descriptions

Site ID: CC-006-RR
Site Name: Fuel Station, Building 393

STATUS

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

Phases	Start	End
ISC.....	201006.....	201103
CAP.....	201108.....	201209
LTM.....	201209.....	202209

RIP Date: N/A
RC Date: 201209

SITE DESCRIPTION

This site is an active fuel station for the RRAD. A leaking underground line to pump islands was repaired and reported to TCEQ. Benzene and toluene in soil remaining after repair remained that need further investigation.

A site assessment was performed in early FY12. The state agreed in correspondence dated Dec. 28, 2011 with the assessment that additional determination of rate and extent and four quarters of groundwater monitoring are required.

It is assumed from known groundwater contamination that an additional period of monitoring will be required. This is due to the fact that storage tanks and pavement make could a remediation project very expensive to do.

CLEANUP/EXIT STRATEGY

The cleanup/exit strategy is to complete an assessment of soil and groundwater contaminant plumes and evaluate site conditions to determine need for corrective action.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CC-002-RR	Open Burning/Open Detonation Areas	201103	

CR Schedule

Date of CR Inception: 200304

Past Phase Completion Milestones

2003

RFA (CC-002-RR - Open Burning/Open Detonation Areas)

2011

ISC (CC-006-RR - Fuel Station, Building 393)

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: 2016

Estimated Completion Date of CR at Installation (including LTM phase): 202209

RED RIVER ARMY DEPOT CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CC-006-RR	Fuel Station, Building 393	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 200307

Restoration Advisory Board (RAB): RAB established 199602

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

The RRAD established an active RAB on Feb. 2, 1996 for BRAC 1995. The RAB has been inactive throughout the BRAC 2005 process due to a lack of public interest.

The January 2011 dated 'Proposed Plan for Grenade Range, Tracer Test Range, Vulcan Range, Vulcan Range-TD and Y Site' was out for public comment from Feb. 6th through March 9th, 2011 for 30 days. The Plan was referenced by the newspaper legal notice as being available for review at the Texarkana College Library RRAD information depository and was referenced as available for viewing at a web site. The RRAD published legal notice asked for public comments and input, and there were no public comments.

On June 8, 2011 Red River Army Depot published a legal notice in the Texarkana Gazette newspaper concerning the renewal application and major amendments to our hazardous/solid waste permit and Compliance Plan. The only response was a concurrence received from the Ark Tex Council of governments on July 5, 2011. There was no public response or interest received. The Compliance major amendments concerned addition of IRP sites (RRAD-35, -36, -37, -43, -56, -60, and -71) groundwater monitoring formerly to the Compliance Plan

On Oct. 12, 2011 a legal notice was published in the Texarkana Gazette newspaper for an Air Permit Renewal for Boiler Plant Permit # 8315A, which received a favorable response from ARK-TEX Council of governments (Nov. 2, 2011). There was no public response (no interest expressed). This was the most recent equivalent to soliciting for public involvement.

New interest is gauged through newspaper legal notices and public meetings on permit modifications and there has not been any public response, thus RRAD has not re-established a RAB for BRAC 2005 or the active side. There has not been any public response or attendance to any legal notices in the last several years.

Other past newspaper advertisements soliciting public interest for environmental permit changes ran on Dec. 19, 2005, Jan. 2, 2007, Oct. 5, 2007, Dec. 21, 2007, March 26, 2009, Dec. 9, 2010, and Feb. 6, 2011. Public meetings for environmental permit changes were held Jan. 25, 2006 and Jan. 29, 2007. The only non-Army response to newspaper public legal notices or attendance at meetings was by a representative for the Ark-La-Tex Council of governments, who had no negative comments.

The RRAD has a public affairs program plan, which was last updated in July 2003.

Administrative Record is located at

Red River Army Depot
Environmental Division
ATTN: TARR-OL
Texarkana, Texas 75507-5000
Phone (903)-334-4984

Information Repository is located at

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Environmental Division
ATTN: TARR-OL
Texarkana, Texas 75507-5000
Phone (903)-334-4984

Community Involvement

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

TAPP Title: N/A

Potential TAPP: N/A

