

FY2012

DESERET CHEMICAL DEPOT
Army Defense Environmental Restoration Program
Installation Action Plan

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Statement of Purpose

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

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Deseret Chemical Depot (DCD), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and 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

AEDB	Army Environmental Database
AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AEDB-R	Army Environmental Database - Restoration
AMC	Army Materiel Command
CAMDS	Chemical Agent Munitions Disposal System
CAP	Corrective Action Permit
CASARM	Chemical Agent Standard Analytical Reference Material
CMI (O)	Corrective Measures Implementation - Operations
CMI(C)	Corrective Measures Implementation - Construction
CR	Compliance Restoration
CTT	Closed, Transferring, and Transferred
CWC	Chemical Weapons Convention
CWM	Chemical Warfare Munitions
DCD	Deseret Chemical Depot
DCWD	Deseret Chemical Warefare Depot
DD	Decision Document
DES	Design
DMM	Discarded Military Munitions
ER,A	Environmental Restoration, Army
FRA	Final Remedial Action
FY	Fiscal Year
HHRA	Human Health Risk Assessment
ID	Identification
IR	Installation Restoration
IRA	Interim Removal Action
MR	Munitions Response
N/A	Not Applicable
NPL	National Priorities List
OB/OD	Open Burning/Open Detonation
ODUSD (I&E)	Office of the Deputy Under Secretary of Defense (Installations and Environment)
PCB	Polychlorinated Biphenyl
POL	Petroleum, Oil and Lubricants
PVC	Polyvinyl Chloride
RA (C)	Remedial Action-Construction
RAB	Restoration Advisory Board
RC	Response Complete
RIP	Remedy-In-Place
ROD	Record of Decision
SVOC	Semi-Volatile Organic Compound
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TEAD	Tooele Army Depot
TOCDF	Tooele Chemical Agent Disposal Facility
TPHC	Total Petroleum Hydrocarbon
TRC	Technical Review Committee

Acronyms

USACE US Army Corps of Engineers
USATHAMA US Army Toxic and Hazardous Materials Agency (currently called USAEC)
UT Utah

Installation Information

Installation Locale

Installation Size (Acreage): 19364

City: Stockton

County: Tooele

State: Utah

Other Locale Information

The Deseret Chemical Warfare Depot (DCD) is located on 19,364 acres and is approximately 50 miles southwest of Salt Lake City in Rush Valley, Tooele County, Utah. The area surrounding the DCD is a sparsely settled, rural area. Population density is approximately three persons per square mile in the valley, with nearly the entire population concentrated in a few communities. The small towns in the vicinity of the DCD, including Rush Valley, Clover, St. John, Big Hollow, Vernon, Hogan's Ranch, and Stockton, have a combined population of approximately 1,200. Ophir is set in a narrow mountain canyon, east of depot, with a year-round population of approximately 30 residents.

Installation Mission

The DCD is the former largest storage site for United States Chemical Warfare Stockpile and is dedicated to enhancing national security through the safe storage and elimination of the munitions and agents, fulfilling Chemical Weapons Convention (CWC) obligations, and ensuring regulatory closure of the installation. DCD, Tooele Chemical Agent Disposal Facility (TOCDF) and chemical agent munitions disposal system (CAMDS), comprising the "Team Deseret"; is committed to fostering trust, respect and commitment to human health; mitigate adverse community impacts resulting from the disposal process and cleanup of legacy waste, and protect the environment. Team Deseret will support an effective and efficient workforce through transition, and equip them with information they will need for future career opportunity.

Lead Organization

Army Materiel Command (AMC)

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Sacramento District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region VIII
State	Utah Department of Environmental Quality (UDEQ)

National Priorities List (NPL) Status

DESERET CHEMICAL DEPOT is not on the NPL

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

RAB established 199901

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Metals, Polychlorinated Biphenyls (PCB), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

MMRP

Primary Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Semi-volatiles (SVOC), Volatiles (VOC), White Phosphorous

Affected Media of Concern: Groundwater, Sediment, Soil

CR

Primary Contaminants of Concern:

Affected Media of Concern:

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201803	201803	2018

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Group 2 SWMUs 3, 5, 8, 9, and 30	TEAD(S)-03, TEAD(S)-05, TEAD(S)-09, TEAD(S)-23, TEAD(S)-26
No Further Action DD for SWMUs 26 & 28	TEAD(S)-17, TEAD(S)-19

Cleanup Program Summary

Installation Historic Activity

During World War II, the Defense Department ordered the construction of a storage depot for chemical agents. This facility was named the Deseret Chemical Warfare Depot (DCWD).

In May 1955, DCWD was redesignated the DCD and placed under the command of Tooele Army Depot (TEAD). In 1962, the depot activity became part of TEAD and was designated as TEAD South Area. In October 1995, the south area was made a separate installation from TEAD and was named as Tooele Chemical Activity. In October 1996, Tooele Chemical Activity was officially renamed Deseret Chemical Depot. The storage facility includes 208 igloos, two magazines, seven warehouses, 32 storage sheds for toxic material, and several transitory storage shelters.

On June 30, 1989, the state of Utah issued a Resource Conservation and Recovery Act (RCRA) Hazardous Waste Permit for the Chemical Stockpile Disposal Plant. Attached to this permit was a corrective action permit (CAP) for 28 solid waste management units (SWMUs). The CAP divided the SWMUs into known releases and suspected releases units and set schedules for the implementation of investigations and cleanups under RCRA. In 1991, a 29th SWMU was added to the permit.

The CAP was requested to be moved from the TOCDF permit to the DCD RCRA hazardous waste permit and was approved in November 2000.

The CAMDS used to be an active site and its mission was completed in 2007. The remedial activities for this site are currently on hold until the demolition of the facility is completed which has been scheduled in 2012. Currently, the UDEQ recommends the contaminated soil should be excavated and disposed of off-site.

Installation Program Cleanup Progress

IRP

- Prior Year Progress:** Work plans for SWMU 3, 26, and 31 are being developed, and fieldwork scheduled this summer. Performance work statements for SWMU 19 and 28, and SWMU 27 were finalized; solicitation is in process, and fieldwork is projected to be completed this year. In addition, an Imhoff tank at SWMU 27 is being removed, and a groundwater monitoring plan for SWMU 5 will be prepared.
- Future Plan of Action:** Final reports for additional work at SWMU 19, 26, 27, 28, and 29 and removal activities at SWMU 3 and 31 will be submitted to regulator for approval.

MMRP

- Prior Year Progress:** Work plan for combat training area DCD-001-R-01 and old demolition pit DCD-004-R-01 has been submitted to regulator for concur. A work plans for gravel pit DCD-003-R-01, eastern demil DCD-002-R-01, and Western Demil (DCD-006-R-01) are being developed. Fieldwork expected to be conducted this year.
- Future Plan of Action:** Obtain no further action (NFA) for DCD-003-R-01 and DCD-004-R-01. Submit final RCRA facility investigation (RFI)/corrective measures study (CMS) reports for DCD-001-R-01, DCD-002-R-01, DCD-006-R-01, to a regulator for approval.

CR

- Prior Year Progress:** Work plan for Compliance-related Cleanup (CC)-004 is being developed. Fieldwork expected to be completed this year. A performance work statement for additional work at CC-002 has been finalized; solicitation is in process.
- Future Plan of Action:** Develop performance work statement/work plan and conduct fieldwork for CC-001 and CC-003. Obtain NFA for CC-002 and CC-004.

DESERET CHEMICAL DEPOT
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 21/15

Installation Site Types with Future and/or Underway Phases

1	Chemical Disposal (TEAD(S)-03)
1	Drainage Ditch (TEAD(S)-05)
3	Landfill (TEAD(S)-17, TEAD(S)-19, TEAD(S)-20)
1	Storage Area (TEAD(S)-28)

Most Widespread Contaminants of Concern

Metals, Polychlorinated Biphenyls (PCB), Volatiles (VOC)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY
TEAD(S)-14	DEACTIVATION FURNANCE (SWMU 17)	IRA	WASTE REMOVAL - SOILS	1991
TEAD(S)-05	DRAINAGE POND & PIT, BLDG 600 (SWMU 5)	IRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	1995
TEAD(S)-32	SLAG PILES (SWMU 37)	IRA	WASTE REMOVAL - SOILS	1995
TEAD(S)-09	AREA 2 (SWMU 9)	FRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	2003
TEAD(S)-26	SURVEILLANCE TEST SITE (SWMU 8)	FRA	WASTE REMOVAL - SOLIDS (NON- SOILS)	2003
TEAD(S)-32	SLAG PILES (SWMU 37)	FRA	WASTE REMOVAL - SLUDGES	2003
TEAD(S)-14	DEACTIVATION FURNANCE (SWMU 17)	FRA	INSTITUTIONAL CONTROLS	2004
TEAD(S)-05	DRAINAGE POND & PIT, BLDG 600 (SWMU 5)	FRA	OTHER	2011

Duration of IRP

Date of IRP Inception: 197912

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201412/201412

Date of IRP completion including Long Term Management (LTM): 201909

IRP Contamination Assessment

Contamination Assessment Overview

Past operations at DCD have resulted in the generation of various types of contaminants and their disposal across the installation. Solvents, heavy metals and explosives are the primary contaminants, with chemical agent breakdown products (ABP) being detected at several sites.

An initial installation assessment in December 1979 and a follow-up investigation exploratory survey in 1982 investigated contamination. The conclusion of these investigations was that DCD was generally uncontaminated except for arsenic and gross-alpha and gross-beta radiation. The arsenic was hypothesized to be naturally occurring (exacerbated by local flooding that washed mine tailings from nearby mountains). Because there was no evidence or record of use, storage, or disposal of any radioactive material at DCD, this radiation was attributed to naturally occurring radionuclides.

The US Army Center for Health Promotion and Preventive Medicine (USACHPPM) (formerly known as the US Army Environmental Hygiene Agency), prepared a SWMU evaluation report in 1987 on all SWMUs at DCD to identify data gaps in the existing database for the RCRA Part B application that was pending for CAMDS. The USEPA performed a RCRA facility assessment at DCD in August 1987.

Since much information had been discovered since the initial assessment was prepared in 1979, and many changes to environmental laws had been enacted, a site-wide preliminary assessment (PA)/site investigation (SI) was completed in 1988. Seventeen sites at DCD were investigated. Four of the highest priority sites recommended for further study in the PA/SI were included in a remedial investigation (RI) in 1990. These sites were CAMDS Sites (TEAD[S]-12, SWMU 13), the Area 2 (TEAD[S]-09, SWMU 9), the deactivation furnace (TEAD[S]-14, SWMU 17), and the south general and perimeter Areas.

Following the issuance of the CAP in 1989, the focus of the studies changed from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to RCRA. Of the 29 SWMUs listed in the permit, two are categorized as known releases and the remaining 27 are grouped together as suspected releases.

Installation wide groundwater monitoring has shown only low levels of contamination. This requires continued monitoring. No off-post contamination has been detected.

Cleanup Exit Strategy

The current action under the Installation Restoration Program (IRP) for DCD is to complete the soil gas investigation at SWMU 19 to determine the plan of action for this site, determine the boundary of the SWMU 29 landfill, complete the Phase II RFI/CMS for SWMU 26, remove the Imhoff tank and back fill the north lagoon at SWMU 27.

IRP Previous Studies

Year	Title	Author	Date
1979	Environmental Assessment of Tooele Army Depot, Report #141	USATHAMA	DEC-1979
1987	Final Interim RCRA Facility Assessment	NUS Corporation	DEC-1987
1988	Preliminary Assessment/Site Investigation Report	EA Engineering Science and Technology	DEC-1988
1989	RCRA Facility Assessment Summary Report	Donohue & Associates	OCT-1989
1990	RCRA Facility Investigation Phase I Final Summary Report for Known Releases Unit	Donahue and Associates	FEB-1990
	Phase I RFI Summary Report for Known Releases Units	EBASCO	MAR-1990
1991	Final Remedial Investigation Report	Roy F. Western	JAN-1991
1993	RCRA Facility Investigation-Phase I for Suspected Releases Revised Final Report Volume I - Text	EBASCO	JUL-1993
1995	Interim Final RFI Report for Group 1 Suspected Releases	EBASCO	NOV-1995
1996	Remedial Design for RCRA Sites	Jacobs Engineering	MAR-1996
	Remedial Design for Two RCRA Sites at TCA, Volume I	Jacobs Engineering and Kleinfelder	JUL-1996
	Remedial Action Work Plan for Two RCRA Sites	Davy International	OCT-1996
1997	Final Corrective Measures Study Work Plan for the Known Releases SWMUs	Rust Environment & Infrastructure	JAN-1997
	Final Phase II RCRA Facility Investigation Report, Known Releases SWMU 13 & 17	Rust Environmental & Infrastructure	APR-1997
	Hazardous and Medical Waste Study, Relative Risk Site Evaluation	USACHPPM	APR-1997
	Addendum to the Final Phase II Group 2 RFI Report	Foster Wheeler	DEC-1997
1998	Relative Risk Site Evaluation Scores for Five "Not-Evaluated" Sites at Deseret Chemical Depot	USACHPPM	JAN-1998
	Addenda to Project Workplans Sampling for Elevated Barium Concentrations in Soil	Kleinfelder	FEB-1998
	Revised Final Corrective Measure Study work Plan for SWMU 13 and 17	Rust Engineering & Infrastructure	MAY-1998
	Remedial Action at the Metal Scrap Landfill (SWMU 29)	Kvaerner Environmental	JUL-1998
1999	Sampling for Elevated Barium Concentrations in Soil at SWMU 22	Kleinfelder	JAN-1999

IRP Previous Studies

Year	Title	Author	Date
1999	Revised Final Phase II Report for Group 2 SWMUs	Foster Wheeler	FEB-1999
	Final CMS Work Plan for Group 2 SWMUs	Foster Wheeler	AUG-1999
	Final CMS Report for Group 2 SWMUs	Foster Wheeler	OCT-1999
	Final DD for Group 2 SWMUs	Foster Wheeler	DEC-1999
2000	Final CMS for Known Releases SWMU 13	URS	JUN-2000
	Final CMS for Known Release SWMU 17	URS	JUN-2000
2001	Revised Final Decision Document for Known Release SWMU 13	URS	APR-2001
	Revised Final Decision Document for Known Release SWMU 17	URS	APR-2001
	Phase II RCRA Facility Investigation for Group 3 Suspected Releases Soil Waste Management Units Volume I - Final Report	SAIC	AUG-2001
2002	CMS for Group 2 SWMUs (11, 19, 20, 33, 37)	URS	JUL-2002
	DD for Group 2 SWMUs (11, 19, 20, 33, and 37)	URS	JUL-2002
	Draft Work Plan for SWMU 19	USACE	JUL-2002
	Phase II RCRA Facility Investigation Report for SWMU 22	Kleinfelder	SEP-2002
	Final Corrective Measure Work Plan for SWMU 5	Tetra Tech	NOV-2002
	Final Work Plan for SWMU 3	Parsons & DCD	DEC-2002
2003	Revised Final CMS Design Work Plan for SWMU 8	Kleinfelder	JAN-2003
	Preconstruction Documents for the 2002 Remedial Action at SWMU 5	Kleinfelder	FEB-2003
	Final Phase II RCRA Investigation Report for SWMU 22	Kleinfelder	MAR-2003
	Draft Corrective Measures Completion Report for SWMU 37	Kleinfelder	JUN-2003
	Corrective Measures Completion Report for SWMU 37	Kleinfelder	JUL-2003
	Corrective Measures Completion Report for SWMU 08	Kleinfelder	NOV-2003
	Corrective Measures Study for SWMU 22	Kleinfelder	DEC-2003
2004	Final Corrective Measures Design Work Plan SWMU 22	Kleinfelder	JAN-2004
	Corrective Measures Completion Report for SWMU 5	North Wind	JUL-2004
	Final Corrective Measures Completion Report SWMU 22	Kleinfelder	NOV-2004
2005	Decision Document SWMU 22	USACE	APR-2005

IRP Previous Studies

	Title	Author	Date
2006	Addendum to Remedial Action at SWMU 3	Parsons	JAN-2006
	Final Work Plan for the Investigation of VOC Contamination in GW at SWMU 26	North Wind	MAR-2006
2007	Draft Final Human Health/Ecological Risk Assessment for SWMU 19	USACE	JAN-2007
	Draft Final Human Health/Ecological Risk Assessment	USACE	AUG-2007
2008	Final Human Health/Ecological Risk Assessment for SWMU 5	USACE	NOV-2008
2009	Final Project Work Plans for Geophysical Survey at SWMU 29.	Parsons	NOV-2009
2010	Draft Final Project Completion Report for Geophysical Survey at SWMU 29	Parsons	JUL-2010
2011	Final RCRA Facility Investigation Report SWMU 3	PARSONS	FEB-2011
	Final Completion Report for Soil Gas Survey at SWMU 19	PARSONS	AUG-2011

DESERET CHEMICAL DEPOT
Installation Restoration Program
Site Descriptions

Site ID: TEAD(S)-03
Site Name: DISPOSAL PIT (SWMU 3)

STATUS

Regulatory Driver: RCRA
RRSE: HIGH

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	200212
CMI(C).....	200501.....	201212

RIP Date: N/A

RC Date: 201303

SITE DESCRIPTION

This SWMU is located in the southeastern corner of the installation and is approximately 200 by 10 feet (ft). The area was reported to have been used for maintenance of leaking chemical munitions, and it was also identified as the site of a 1960s nerve agent spill.

The RFI found metals in the soil and low levels of metals and VOCs in groundwater. The trench was not sampled due to the possible presence of chemical agents.

A surface unexploded ordnance (UXO) survey was completed in fiscal year (FY) 2002 and a surface removal was completed in 2004.

In October 2006 a geophysical survey was completed. Minimal anomalies were detected. Soil boring was conducted in spring and summer 2008 to support decisions on whether CWM is present on the site. The results found no visible or detectable chemical contamination in subsurface soil samples. Based on the recent site characterization results, DCD plans to remove remaining scrap metal that was found beneath the soil berm at the pit. An NFA closure of this site will be completed this year. A draft work plan for removal activities is being developed. Fieldwork scheduled to be completed this year.

CLEANUP/EXIT STRATEGY

Additional drums found in the pit are going to be removed this summer. This site will be closed as NFA.

Site ID: TEAD(S)-05

Site Name: DRAINAGE POND & PIT, BLDG 600 (SWMU 5)

STATUS

Regulatory Driver: RCRA

RRSE: MEDIUM

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	200109
DES.....	200106.....	200209
IRA.....	199506.....	199509
CMI(C).....	200208.....	201103
LTM.....	201304.....	201709

RIP Date: N/A

RC Date: 201103

SITE DESCRIPTION

Building 600 activities included chemical munitions and white phosphorus grenades renovation as well as the washout of high explosive cluster bombs from the late-1940s to early-1970s. The waste was drained to an unlined drainage pond (approximately 100 by 50 ft) east of the building. In addition, paint constituents and chromic acid were listed as potential contaminants in the groundwater and soil.

A RFI sampling detected metals and VOCs in the soil. Recent sampling has not detected any contaminants of concern in groundwater.

The corrective measures implementation (CMI) work plan was finalized in September 2002. Hot spots were removed and backfilled with clean soil (FY2004). A closure report was completed in 2004. A revised human health risk assessment (HHRA) was approved by UDEQ in January 2011. The SWMU boundary is now covering a drainage pond only. Permit modification has been approved. Based upon the Module VI of DCD RCRA permit, groundwater monitoring is required for this site for a minimum of five years.

CLEANUP/EXIT STRATEGY

Hexavalent chromium is required to be monitored. Based on the results, this site could be granted as NFA.

Site ID: TEAD(S)-17
Site Name: SANITARY LANDFILL (SWMU 26)

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	201309
DES.....	201310.....	201404
CMI(C).....	201404.....	201409
LTM.....	201905.....	201909

RIP Date: N/A

RC Date: 201412

SITE DESCRIPTION

This 44-acre landfill was used from 1956 to 1980. It is currently fully covered and is not accepting any waste material.

The Phase I RFI found low levels of VOC in groundwater. Because wastes remain buried, long-term groundwater monitoring is recommended.

The trichloroethane (TCA) below the maximum contaminant level (MCL) has been detected in the downgradient well.

In 2007 geophysical survey and soil gas sampling was conducted to determine the source of VOC contaminants and two additional monitoring wells were installed in 2008.

A work plan for Phase II RFI is being developed. Fieldwork is expected to be completed this year 2012.

CLEANUP/EXIT STRATEGY

The source of VOC contaminants will be investigated. Based on a final report of the investigation, a plan of actions for this site will be developed.

Site ID: TEAD(S)-19
Site Name: LANDFILL, CLOSED (SWMU 28)

STATUS

Regulatory Driver: RCRA

RRSE: LOW

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	201309

RIP Date: N/A

RC Date: 201312

SITE DESCRIPTION

The landfill was used for solid waste, paper, and buildings debris disposal between 1963-1972. This site has undergone a Phase I RFI; no contamination was found. Groundwater monitoring is required for this landfill.

DCD has recently proposed the monitoring be discontinued for this site. For this reason, Utah Division of Solid and Hazardous Waste (UDSHW) indicated that additional investigation (soil and soil vapor) required for this site to verify the previous results, and to ensure any associated potential risks to indoor/outdoor human receptors are below NFA target levels. Fieldwork should be completed this year 2012.

CLEANUP/EXIT STRATEGY

Soil gas and soil sampling are required to verify the landfill is clean.

Site ID: TEAD(S)-20

Site Name: LANDFILL, SCRAP METAL (SWMU 29)

STATUS

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

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	201212
DES.....	199507.....	201212
CMI(C).....	199611.....	201212

RIP Date: N/A
RC Date: 201306

SITE DESCRIPTION

This SWMU was a former borrow pit encompassing approximately one acre. The pit is 15 to 20 ft deep. No contamination was detected at this site. This SWMU was reopened in FY2007 to address the UDEQs concerns for potential subsurface UXO remaining.

Based on a geophysical survey conducted in April 2010, scrap metal wastes were found to be buried at this site. Boundary of the landfill needed to be determined and groundwater monitoring may be required. Fieldwork is expected in the summer/fall 2012.

CLEANUP/EXIT STRATEGY

A contract for trenching services to determine the extent of the landfill and to assess the material within the landfill is being developed.

Site ID: TEAD(S)-28
Site Name: BLDG 533 (SWMU 19)

STATUS

Regulatory Driver: RCRA

RRSE: HIGH

Contaminants of Concern: Polychlorinated Biphenyls (PCB),
Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	201212
DES.....	200206.....	201212
CMI(C).....	200306.....	201212

RIP Date: N/A

RC Date: 201303

SITE DESCRIPTION

Building 533 was used for railroad car maintenance and drum storage. This site is located next to the deactivation furnace (TEAD[S]-14, SWMU 17). Although there is limited information on the wastes which have been stored in Building 533, trash, wood, empty brass shell casings, five-gallon paint containers, and drums were observed at the site. The building was torn down in December 1991, but the concrete foundation is still remaining.

The Phase I RFI found low levels of PCBs in the water collected from a sump. Organics, PCBs and metals were detected in the soil. Low levels of trichloroethylene (TCE)/organics were found in the groundwater.

A draft work plan was approved in early FY2003. The septic tank was backfilled in summer 2004. Groundwater samples were taken and no contaminants were detected. A HHRA was submitted to the UDEQ in 2007 for review.

In winter 2011, additional soil vapor survey was performed to assess the potential risks to hypothetical future residential receptor from the soil gas vapor intrusion pathway. Based on the analytical results, it appears that chlorinated and fuel-related VOCs are present in the subsurface soil gas at SWMU 19.

In order to close this site as either industrial or residential, removal of contaminated source or additional wells installation/monitoring are required for this site. Fieldwork is expected to be completed by the end of this year.

CLEANUP/EXIT STRATEGY

Source removal or groundwater monitoring are required for this site.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
TEAD(S)-08	BLDG 3200 (SWMU 36)	199404	RCRA Facility Investigation Phase I. Revised Final Report. Volume 1. Ebasco.
TEAD(S)-09	AREA 2 (SWMU 9)	200306	
TEAD(S)-11	AREA 10 (SWMU 11)	200109	Corrective Measures Study and Decision Document SWMU 11. This site will be closed under Installation RCRA Hazardous Waste Management Unit (HWMU).
TEAD(S)-12	CAMDS SITE (SWMU 13)	200109	Corrective Measure Study and Decision Document Known Release SWMU 13. URS 2001/2002. This site is now under Compliance-Related Cleanup (CC) program.
TEAD(S)-13	OLD DEMO PIT (BLDG C4002) (SWMU 15)	199404	RCRA Facility Investigation - Phase I. Revised Final Report. Volume 1. Ebasco. July 1993. This site is now open under Munition Response Program.
TEAD(S)-14	DEACTIVATION FURNANCE (SWMU 17)	200409	Decision Document Known Release SWMU 17. URS. April 2001
TEAD(S)-16	DEMIL HOLDING AREA (SWMU 23)	199404	RCRA Facility Investigation - Phase I. Revised Final Report. Ebasco. July 1993. This site is now a portion of SWMU 31 Open Burn/Open Detonation (OB/OD).
TEAD(S)-18	STP & LAGOON (SWMU 27)	199312	RCRA Facility Investigation - Phase I. Revised Final Report. Volume 1. Ebasco. July 1993. This site is now reopen under Compliance-Related Cleanup (CC) Program.
TEAD(S)-21	RAILROAD SCRAP YARD (SWMU 32)	199404	RCRA Facility Investigation - Phase I. Revised Final Report. Volume 1. Ebasco. July 1993.
TEAD(S)-26	SURVEILLANCE TEST SITE (SWMU 8)	200309	Final Corrective Measures Completion Report. Surveillance Test Site - SWMU 8. Kleinfelder. November 2003.
TEAD(S)-27	BLDG S-108 (SWMU 14)	199404	RCRA Facility Investigation - Phase I. Revised Final Report. Volume 1. Ebasco. July 1993.
TEAD(S)-29	BLDG 520 (SWMU 20)	200112	Decision Document SWMU 20 - Building 520 (Crating Facility). URS. July 2002.
TEAD(S)-30	BLDG 536 (SWMU 33)	200109	Decision Document SWMU 33 - Building 536. URS. July 2002. This site will be closed under RCRA Hazardous Waste Management Unit (HWMU).
TEAD(S)-31	BLDG 4105 (SWMU 34)	199404	RCRA Facility Investigation - Phase I. Revised Final Report. Volume 1. Ebasco. July 1993. This site will be closed under RCRA Hazardous Waste Management Unit (HWMU).
TEAD(S)-32	SLAG PILES (SWMU 37)	200307	Final Corrective Measures Completion Report Slag Piles and Bomb Fragments - SWMU 37. Kleinfelder. July 2003. This site is now reopen under Compliance-Related Cleanup (CC)Program.

IRP Schedule

Date of IRP Inception: 197912

Past Phase Completion Milestones

1989

RFA (TEAD(S)-03 - DISPOSAL PIT (SWMU 3), TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5), TEAD(S)-08 - BLDG 3200 (SWMU 36), TEAD(S)-09 - AREA 2 (SWMU 9), TEAD(S)-11 - AREA 10 (SWMU 11), TEAD(S)-12 - CAMDS SITE (SWMU 13), TEAD(S)-13 - OLD DEMO PIT (BLDG C4002) (SWMU 15), TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17), TEAD(S)-16 - DEMIL HOLDING AREA (SWMU 23), TEAD(S)-17 - SANITARY LANDFILL (SWMU 26), TEAD(S)-18 - STP & LAGOON (SWMU 27), TEAD(S)-19 - LANDFILL, CLOSED (SWMU 28), TEAD(S)-20 - LANDFILL, SCRAP METAL (SWMU 29), TEAD(S)-21 - RAILROAD SCRAP YARD (SWMU 32), TEAD(S)-26 - SURVEILLANCE TEST SITE (SWMU 8), TEAD(S)-27 - BLDG S-108 (SWMU 14), TEAD(S)-28 - BLDG 533 (SWMU 19), TEAD(S)-29 - BLDG 520 (SWMU 20), TEAD(S)-30 - BLDG 536 (SWMU 33), TEAD(S)-31 - BLDG 4105 (SWMU 34), TEAD(S)-32 - SLAG PILES (SWMU 37))

CS (TEAD(S)-03 - DISPOSAL PIT (SWMU 3), TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5), TEAD(S)-08 - BLDG 3200 (SWMU 36), TEAD(S)-09 - AREA 2 (SWMU 9), TEAD(S)-11 - AREA 10 (SWMU 11), TEAD(S)-12 - CAMDS SITE (SWMU 13), TEAD(S)-13 - OLD DEMO PIT (BLDG C4002) (SWMU 15), TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17), TEAD(S)-16 - DEMIL HOLDING AREA (SWMU 23), TEAD(S)-17 - SANITARY LANDFILL (SWMU 26), TEAD(S)-18 - STP & LAGOON (SWMU 27), TEAD(S)-19 - LANDFILL, CLOSED (SWMU 28), TEAD(S)-20 - LANDFILL, SCRAP METAL (SWMU 29), TEAD(S)-21 - RAILROAD SCRAP YARD (SWMU 32), TEAD(S)-26 - SURVEILLANCE TEST SITE (SWMU 8), TEAD(S)-27 - BLDG S-108 (SWMU 14), TEAD(S)-28 - BLDG 533 (SWMU 19), TEAD(S)-29 - BLDG 520 (SWMU 20), TEAD(S)-30 - BLDG 536 (SWMU 33), TEAD(S)-31 - BLDG 4105 (SWMU 34), TEAD(S)-32 - SLAG PILES (SWMU 37))

1991

IRA (TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17))

1993

RFI/CMS (TEAD(S)-18 - STP & LAGOON (SWMU 27))

1994

RFI/CMS (TEAD(S)-08 - BLDG 3200 (SWMU 36), TEAD(S)-13 - OLD DEMO PIT (BLDG C4002) (SWMU 15), TEAD(S)-16 - DEMIL HOLDING AREA (SWMU 23), TEAD(S)-21 - RAILROAD SCRAP YARD (SWMU 32), TEAD(S)-27 - BLDG S-108 (SWMU 14), TEAD(S)-31 - BLDG 4105 (SWMU 34))

1995

IRA (TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5), TEAD(S)-32 - SLAG PILES (SWMU 37))

2001

RFI/CMS (TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5), TEAD(S)-09 - AREA 2 (SWMU 9), TEAD(S)-11 - AREA 10 (SWMU 11), TEAD(S)-12 - CAMDS SITE (SWMU 13), TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17), TEAD(S)-26 - SURVEILLANCE TEST SITE (SWMU 8), TEAD(S)-30 - BLDG 536 (SWMU 33))

2002

RFI/CMS (TEAD(S)-29 - BLDG 520 (SWMU 20), TEAD(S)-32 - SLAG PILES (SWMU 37))

DES (TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5), TEAD(S)-09 - AREA 2 (SWMU 9), TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17), TEAD(S)-26 - SURVEILLANCE TEST SITE (SWMU 8))

2003

DES (TEAD(S)-32 - SLAG PILES (SWMU 37))

CMI(C) (TEAD(S)-09 - AREA 2 (SWMU 9), TEAD(S)-26 - SURVEILLANCE TEST SITE (SWMU 8), TEAD(S)-32 - SLAG PILES (SWMU 37))

RFI/CMS (TEAD(S)-03 - DISPOSAL PIT (SWMU 3))

2004

CMI(C) (TEAD(S)-14 - DEACTIVATION FURNANCE (SWMU 17))

2011

CMI(C) (TEAD(S)-05 - DRAINAGE POND & PIT, BLDG 600 (SWMU 5))

Additional Past Phase Completion Milestones

IRP Schedule

2003 RFI/CMS TEAD(S)-15 Incendiary Washout Basins (SWMU 22)
2004 CMI(C) TEAD(S)-15 Incendiary Washout Basin (SWMU 22)
2004 CMI(C) TEAD(S)-28 BLDG 533 (SWMU 19)
2005 RFI DCD-006-R-01 Western Demilitarization Area/Disposal Pit (SWMU 25)
2008 UXO/OE DCD-002/006-R-01 Eastern/Western Demilitarization Area/Disposal Pit (SWMU 1/25)
2010 CMI(C) TEAD(S)-20 Metal Scrap Landfill (SWMU 29)
2010 RFI DCD-R-002-R-01 Eastern Demilitarization Area/Disposal Pits (SWMU 1)

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: 201409

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of IRP at Installation (including LTM phase): 201909

DESERET CHEMICAL DEPOT IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-03	DISPOSAL PIT (SWMU 3)	CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-05	DRAINAGE POND & PIT, BLDG 600 (SWMU 5)	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-17	SANITARY LANDFILL (SWMU 26)	RFI/CMS						
		DES						
		CMI(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-19	LANDFILL, CLOSED (SWMU 28)	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-20	LANDFILL, SCRAP METAL (SWMU 29)	RFI/CMS						
		DES						
		CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
TEAD(S)-28	BLDG 533 (SWMU 19)	RFI/CMS						
		DES						
		CMI(C)						

DESERET CHEMICAL DEPOT
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 6/1

Installation Site Types with Future and/or Underway Phases

- 2 Explosive Ordnance Disposal Area
(DCD-002-R-01, DCD-003-R-01)
- 1 Firing Range
(DCD-001-R-01)
- 2 Open Burn
(DCD-004-R-01, DCD-006-R-01)

Most Widespread Contaminants of Concern

Chemical weapon munitions (CWM)/Chemical agent, Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC), Semi-volatiles (SVOC), Volatiles (VOC), White Phosphorous

Media of Concern

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 200209

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201703/201703

Date of MMRP completion including Long Term Management (LTM): 201703

MMRP Contamination Assessment

Contamination Assessment Overview

The Department of Defense (DoD) has established the Military Munitions Response Program (MMRP) under the Defense Environmental Restoration Program (DERP) to address DoD sites with MEC including UXO, discarded military munitions (DMM), and MC.

The US Army's inventory of Closed, Transferring, and Transferred (CTT) military ranges and sites, has identified sites eligible for action under MMRP. The MMRP eligible sites include other than operational ranges where UXO, DMM and MC is known or suspected and the release occurred prior to Sept. 30, 2002. Properties classified as operational ranges are not eligible and, therefore, are excluded from the MMRP program.

The process began with three phases of range inventories. Phase I consisted of installations completing an initial data call. The USAEC managed the implementation Phases (II and III) of the MMRP inventory.

The Phase II inventory dealt with active and inactive range considerations. The Phase III army range inventory identified five sites as eligible for the MMRP. The Phase III inventory serves as the PA under CERCLA. The SI was completed in 2005.

Cleanup Exit Strategy

RFI/CMS are planned to include the installation of groundwater monitoring wells. In addition, a MEC site characterization and removal assessment and a MC soil excavation and MEC removal action is expected. Institutional controls and MEC monitoring may be needed.

MMRP Previous Studies

	Title	Author	Date
1993	Phase I RFI Revised Final Report	Ebasco	JUL-1993
1997	Relative Risk Site Evaluation	US Army center for Health Promotion and Prevention Medicine	APR-1997
2005	Final Historical Records Review	Tech Law	APR-2005
	Final Site Inspection Report	Tech Law	DEC-2005

DESERET CHEMICAL DEPOT
Military Munitions Response Program
Site Descriptions

Site ID: DCD-001-R-01
Site Name: COMBAT TRAINING AREA

STATUS

Regulatory Driver: RCRA
MRSPP Score: 03
Contaminants of Concern: Munitions and explosives of concern (MEC)
Media of Concern: Soil

Phases	Start	End
RFA.....	200209.....	200305
CS.....	200407.....	200510
RFI/CMS.....	201003.....	201306
RIP Date:	N/A	
RC Date:	201309	

SITE DESCRIPTION

The closed combat training area is located in north-central DCD and encompasses approximately 59 acres. The US Chemical Corps built the training area in the 1940s and used it until the 1950s. It consisted of a handgun range, a combat assault course, a 500 yard rifle range, a hand grenade range, and a rifle grenade/bazooka range. Only practice munitions were utilized on this former range. The hand grenades did include spotting charges. There was also a mortar range where dummy rounds were used. The range was open to civilians during the 1950s and 1960s on an annual basis to sight hunting weapons.

The combat assault course consisted of machine guns, at fixed positions, which were fired over Soldiers while they crawled under barbed wire. Soldiers also maneuvered around explosives detonated within the combat assault course. Typically, these explosives would have consisted of either M80 firecrackers or Mark 2 firecrackers; hand thrown simulators, such as the simulator, hand grenade, M116A1; simulator, explosive booby trap flash, M117; simulator, projectile ground burst, M115A2; and other newer simulators. All of these are considered pyrotechnics, and generally have less than one-quarter-pound of flash powder, similar to that in a firecracker.

The National Guard and the DCD security force used the combat training area throughout the 1970s for rifle and shotgun training. Today, remaining remnants of the former range consist of machine gun mounts, an old tank that was used for target practice, and berms and U-shaped boxes from the hand grenade course. In 1997 an accidental fire cleared the site; any surface UXO was assumed to have been cleared, but this was not confirmed. The staff at DCD assumed that any UXO would have burned and DCD conducted a surface clearance of the area. The site remains otherwise undeveloped. The SI was completed in FY2005 and the site was recommended for further investigation.

A draft work plan for RFI has been completed. Fieldwork has been scheduled to be completed in 2012.

CLEANUP/EXIT STRATEGY

An RFI/CMS is going to be conducted in the near future. Based on the recommendation of the study, the plan of action for this site will be developed.

Site ID: DCD-002-R-01

Site Name: EASTERN DEMIL/DISPOSAL PITS

STATUS

Regulatory Driver: RCRA
MRSPP Score: 03

Phases	Start	End
RFA.....	200209.....	200305
CS.....	200407.....	200510
RFI/CMS.....	201306.....	201703
IRA.....	201109.....	201309

RIP Date: N/A

RC Date: 201703

SITE DESCRIPTION

This closed site is located in the southeastern portion of DCD, along the southern fence of the installation. Approximately 308 acres of the eastern demil/disposal pits, which totals 373 acres, are located in the nonoperational portion of DCD. The remaining portion of the site extends into the operational area. The US Army Toxic and Hazardous Materials Agency (USATHAMA) reported that approximately 59,000 empty 4.2-inch mortar projectiles were identified in a disposal pit on-site. According to a 1993 report by the US Army Chemical Materiel Destruction Agency, this site contains two sites identified as non-stockpile chemical agent sites. They are listed as the "disposal" and "mortar pit" sites.

The eastern demil/disposal pits site was used as a detonation site for conventional munitions (i.e. mortars and bombs) and a burial site for explosive and chemical munitions. Mortars and bursters were transported in egg crates. Energetics were removed from the munitions, the rounds were then thrown into pits and burned. Afterwards, the scrap was removed and buried elsewhere. Ordnance scrap and the potential for surface UXO remain. The site was also used as a disposal area for incendiary and chemical (chiefly mustard-filled) munitions and explosives, as evidenced by the 130 remaining disposal pits. Each pit contained approximately 60,000 rounds. In addition, bombs were demilitarized at the site. They were shot with armor piercing rounds, which allowed the chemical agent to drain. Everything was then burned. German GB (Sarin) bombs were also demilitarized on-site.

Mustard agent-burning operations reportedly occurred in the northeastern portion of this site. Although most of the munitions buried in the pits were reportedly burned prior to burial, it is suspected that mustard munitions were disposed of without prior burning. Although the majority of the activity took place during the 1950s, the site was operational between 1945 and 1978. According to an October 1995 Draft Groundwater Monitoring Report, a hard, green residue resembling soapstone was observed, which suggested that napalm may have been used to facilitate crate burning on the site.

As part of the IRP, an IAP dated November 2001 was prepared noting the potential for "agent" contaminated materials and UXO below the surface of the burial pits. In addition, an Interim RFI report was prepared, that included some minimal sampling, but no UXO responses were conducted and no additional work has been conducted due to the potential for extreme hazards at the site. The natural and cultural resource program manager stated that the site would not be remediated due to the potentially high levels of explosives and chemical agents present. The area is fenced and the site is currently undeveloped.

The pits were used to destroy and dispose of explosive and chemical munitions from 1945 to 1978. (The US Army program manager for chemical demilitarization has included this SWMU in their non-stockpile survey and analysis report.)

Limited samples have been taken at this site; no contaminants of concern were detected in the soil. Groundwater monitoring has not detected any chemical ABPs or any other chemicals of concern at significant levels.

The Army performed an ordnance sweep and removal of SWMU 1 and adjacent off-post properties. Surface clearance of roadways, conducted in 2003-05, discovered chemical agent identification sets (CAIS) in addition to conventional munitions and MEC scrap.

This site TEAD(S)-01 was moved to MR as of Jan. 18, 2007 because DCD was included in Base Realignment and Closure (BRAC) 2005 making environmental Restoration, Army (ER,A) and BRAC funding the same.

Site ID: DCD-002-R-01
Site Name: EASTERN DEMIL/DISPOSAL PITS

Non-intrusive soil gas investigation to assess potential contaminant source areas was completed in 2009. It confirmed the presence and identified the locations of chemical warfare agent (CWA), ABP, and related compounds at several locations within SWMU1.

CLEANUP/EXIT STRATEGY

Surface cleanup and RFI are planned for this site. Institutional control is recommended.

Site ID: DCD-003-R-01
Site Name: GRAVEL PIT AREA

STATUS

Regulatory Driver: RCRA
MRSPP Score: 03
Contaminants of Concern: Munitions and explosives of concern (MEC)
Media of Concern: Soil

Phases	Start	End
RFA.....	200209.....	200305
CS.....	200407.....	201306
IRA.....	201108.....	201306

RIP Date: N/A
RC Date: 201309

SITE DESCRIPTION

The gravel pit Area is located in west-central DCD. This closed site encompasses approximately one acre. SWMU 2 is located within SWMU 11 [chemical munitions storage area (Area 10), TEAD(S)-11], the current chemical munitions storage area.

The gravel pit was reportedly used as a burial site for explosive and chemical munitions. The cultural resources program manager estimated that the pit was used between 1950 and 1959. The pit contains various UXO items that were first buried in gravel and then covered in soil. The contents of the gravel pit were not demilitarized prior to their burial. The site reportedly contains M2 ignition cartridges, squibs, hand grenades, blasting caps, M21 incendiary bomb clusters, 2,4,6-trinitrotoluene (TNT) blocks, M74 incendiary bombs, and M19 incendiary bomb clusters. It may also contain sulfur trioxide-chlorosulfonic acid smoke (bottled), and mustard.

Although the pit is an IRP site, the IRP project does not address UXO, only chemical munitions, agents, and explosives. Phase I RFI samples found no contamination in the surface soil samples, and groundwater testing revealed no releases. According to a 1993 report by the US Army Chemical Materiel Destruction Agency, this site contains one site identified as a non-stockpile chemical agent site. It is listed as the "gravel pit" site, there have been no known UXO responses at this site and there are no plans to clean this area. The site is fenced and undeveloped.

The Phase I RFI samples found no contamination in the surface soil samples. Groundwater testing revealed no releases. TEAD(S)-02 was moved to munitions response (MR) as of Jan. 18, 2007 because DCD was included in the BRAC 2005 making ER,A and BRAC funding the same.

Currently, a draft work plan for removal activities is being developed. Fieldwork scheduled to be completed this year 2012.

CLEANUP/EXIT STRATEGY

Removal activities are planned to be conducted in FY2012. This site will be proposed as NFA after completion of the removal.

Site ID: DCD-004-R-01
Site Name: OLD DEMOLITION PIT

STATUS

Regulatory Driver: RCRA

MRSPP Score: 04

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

Media of Concern: Soil

Phases	Start	End
RFA.....	200209.....	200305
CS.....	200407.....	200512
RFI/CMS.....	201003.....	201306

RIP Date: N/A

RC Date: 201309

SITE DESCRIPTION

A former, long-time DCD employee stated that, although this closed site is referred to as a demolition site, it was actually a munitions storage area. The site is located south of Storage Area 10, in central DCD. The estimated size of this site is 712 acres. According to a July 1993 report of suspected releases, and a November 2001 IAP, a large, accidental explosion of 4.2-inch high-explosive shells occurred at this site in the late-1940s. Although the explosion was assumed to have demilitarized the shells, this has not been confirmed. The crater resulting from the explosion has been filled. The DCD employee also recalled the explosion.

The actual pit is 0.44 acres. Confirmation that this was an accidental explosion has not been obtained. The kick-out from the explosion was estimated to have extended as far as 3,150 ft, based on information provided in the DoD ammunition and explosives safety standards, dated July 1999. Consequently, this area was included within the boundaries for this site. According to the IAP, the only contaminant of concern was UXO. No contamination was detected during the Phase I RFI and NFA is planned for environmental considerations. There have been no known UXO responses at this site. Warehouse C4002 was built over the detonation pit. The construction date is unknown. The warehouse was demolished in 1996, leaving only the concrete slab foundation. The site is undeveloped.

CLEANUP/EXIT STRATEGY

An additional investigation is planned for this site. Based on the recommendation of the investigation report, the plan of actions for this site will be developed.

Site ID: DCD-006-R-01

Site Name: WESTERN DEMIL AREA/DISPOSAL PITS

STATUS

Regulatory Driver: RCRA
MRSPP Score: 03

Phases	Start	End
RFA.....	200209.....	200305
CS.....	200407.....	200510
RFI/CMS.....	201306.....	201703
IRA.....	201109.....	201609

RIP Date: N/A
RC Date: 201703

SITE DESCRIPTION

This closed site contained ash mounds, high-explosive detonation craters, and windrows. The site is located on the south-central boundary of DCD and is comprised of approximately 1,105 acres. According to the IAP, the site was utilized between 1945 and 1978.

The ash mounds are located on the northeastern portion of the site. They contain shrapnel and scrap metal. According to the IAP, the mounds may be the result of burning incendiary components of cluster bombs, burning incendiary munitions washout from the incendiary washout operation in Building 554 and incendiary washout ponds, or burning chemical agents such as riot control agents. Former DCD personnel stated that the mounds were probably the result of the burning and burial of chemical agents.

The pits were comprised of approximately 50 clusters of high-explosive detonation craters located on the western portion of the site. The craters were formed by the superimposed open detonation (OD) of high-explosive conventional munitions. Approximately 10,000 to 15,000 pounds of munitions were detonated at one time. Each cluster measured approximately 3.5 acres. The craters were closed by backfilling between 1987 and 1990.

The windrows are located in the north-central portion of the site and are composed of two long piles of scrap metal. They contain cluster bomb tail sections, cluster bars, nose plates, hangers, fire bomb casings, and M-50 type thermate bombs, some of which reportedly still contain live explosive charges. Residual bomb and cluster parts from demilitarization activities in Building S-554 were reportedly buried here. Operational procedures at the windrows involved placing scrap metal from the incendiary cluster bombs in trenches, dousing them with fuel, and burning them. According to the USATHAMA, some of the M-50 bombs found in the windrows still have live explosive S-charges. A 1990 site visit reportedly uncovered small amounts of bulk trinitol (a secondary explosive) on the ground. The trinitol located at the site would be considered an MC.

At one time there was an attempt to clear this area. Piles of dirt and scrap were dumped on tables. A magnet was then drawn over the scrap and the metal was removed. The explosive and ordnance disposal team was called to remove any UXO. This plan was abandoned due to the concentration of UXO. The site is presently fenced. There have been no other known UXO responses at this site. The ash mounds and windrows are still evident and the site is currently undeveloped.

From 1945 to 1978 a variety of demilitarization and disposal activities were conducted at this 1,105-acre, fenced SWMU located along the southern fence line of the installation. The western part of the SWMU is occupied by about 50 burial pits, each about 3.5 acres. The pits were created by numerous superimposed explosion craters (from former OB/OD activity). The eastern part of the SWMU contains numerous covered munitions, burn smudges, and disposal trenches.

Limited sampling identified metals and VOCs in the soil. Carbon tetrachloride has been detected in the groundwater. A site survey within the SWMU boundaries was completed in FY2003.

An off-post survey for UXO and debris (about 35 acres) was conducted in FY2005.

This site (TEAD(S)-22) was moved to MR as of Jan. 18, 2007 because DCD was included in BRAC 2005 making ER,A and BRAC funding the same.

Site ID: DCD-006-R-01
Site Name: WESTERN DEMIL AREA/DISPOSAL PITS

Currently, a work plan for surface stabilization is being developed. Fieldwork scheduled to be conducted this summer 2012.

CLEANUP/EXIT STRATEGY

Surface cleanup and RFI are planned for this site. Institutional control is recommended.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
DCD-007-R-01	Southern Boundary Area	200512	After Action Report Anomaly Avoidance Surveys Of UXO/OE on the Unpaved Roadway at Solid Waste Management Units 1 and 25. Parsons. August 2008.

MMRP Schedule

Date of MMRP Inception 200209

Past Phase Completion Milestones

2003

RFA (DCD-001-R-01 - COMBAT TRAINING AREA, DCD-002-R-01 - EASTERN DEMIL/DISPOSAL PITS, DCD-003-R-01 - GRAVEL PIT AREA, DCD-004-R-01 - OLD DEMOLITION PIT, DCD-006-R-01 - WESTERN DEMIL AREA/DISPOSAL PITS, DCD-007-R-01 - Southern Boundary Area)

2006

CS (DCD-001-R-01 - COMBAT TRAINING AREA, DCD-002-R-01 - EASTERN DEMIL/DISPOSAL PITS, DCD-004-R-01 - OLD DEMOLITION PIT, DCD-006-R-01 - WESTERN DEMIL AREA/DISPOSAL PITS, DCD-007-R-01 - Southern Boundary Area)

Projected Phase Completion Milestones

See attached schedule

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

To Be Determined

Final RA(C) Completion Date:

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of MMRP at Installation (including LTM phase): 201703

DESERET CHEMICAL DEPOT MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
DCD-001-R-01	COMBAT TRAINING AREA	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
DCD-002-R-01	EASTERN DEMIL/DISPOSAL PITS	RFI/CMS						
		IRA						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
DCD-003-R-01	GRAVEL PIT AREA	CS						
		IRA						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
DCD-004-R-01	OLD DEMOLITION PIT	RFI/CMS						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
DCD-006-R-01	WESTERN DEMIL AREA/DISPOSAL PITS	RFI/CMS						
		IRA						

DESERET CHEMICAL DEPOT
Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 7/3

Installation Site Types with Future and/or Underway Phases

- 1 Burn Area
(CC-004)
- 1 Contaminated Ground Water
(CC-001)
- 1 Landfill
(CC-003)
- 1 Sewage Treatment Plant
(CC-002)

Most Widespread Contaminants of Concern

Media of Concern

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

Site ID	Site Name	Action	Remedy	FY
CC-006	Solid Waste Management Units (SWMUs)	FRA	FENCE OR OTHER SITE ACCESS CONTROL MEASURES	2011

Duration of CR

Date of CR Inception: 197912

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201503/201503

Date of CR completion including Long Term Management (LTM): 201809

CR Contamination Assessment

Contamination Assessment Overview

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

Site CC-001, CAMDS, was a prototype research and development facility designed and constructed to demilitarize a wide variety of chemical munitions and containers, and to detoxify chemical agents such as nerve (sarin and methyl phosphonothiolate) and blister agents. Contamination in the CAMDS facility has primarily resulted in three sources: - A diesel fuel spill in 1983, which released petroleum hydrocarbons to surface and subsurface media. - Miscellaneous reported spills, primarily fuels, which have occurred over the life of the facility. - Constituents apparently contained within the boiler discharge effluent from the facility. Contamination by petroleum hydrocarbons was detected in groundwater, subsurface soil, surface water, and sediments in the CAMDS facility, providing evidence of documented past fuel spills, leaks, and discharges both within the CAMDS facility and at the boiler blowdown discharge area.

Cleanup Exit Strategy

Excavation and removal of soil contamination at CAMDS:

- Backfill the sewage treatment plant and northern lagoon and re-grade the surrounding area.
- Remove construction debris and collect soil samples to determine if it needs to be treated as a hazardous waste.
- Remove all munitions debris at SWMU 37 to meet a residential standard.

CR Previous Studies

	Title	Author	Date
1990	Phase I RFI for Known Release	Donohue	MAR-1990
1993	Phase I RFI	Ebasco	JUL-1993
1994	Phase II RFI for Know Release	Rust Environment and Infrastructure	JUN-1994
1999	Phase II RFI for Group 2 SWMUs	Foster Wheeler	FEB-1999
	Corrective Measures Study Report for Group 2 SWMUs	Foster Wheeler	OCT-1999
	Decision Document for Group 2 SWMUs	Foster Wheeler	DEC-1999
2001	Decision Document for Known Release	URS	APR-2001
	Phase II RFI for Group 3 SWMUs	SAIC	AUG-2001
2002	CMS Study for Known Release	URS	JUL-2002
	Corrective Measures Study for SWMU 37	URS	JUL-2002
	Decision Document for SWMU 37	URS	JUL-2002
2003	Corrective Measures Design Work Plan for SWMU 37	Kleinfelder	JAN-2003
	Corrective Measures Completion Report	Kleinfelder	JUL-2003

DESERET CHEMICAL DEPOT
Compliance Restoration
Site Descriptions

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	201012
DES.....	201212.....	201303
CMI(C).....	201303.....	201312
LTM.....	201803.....	201809

RIP Date: N/A

RC Date: 201401

SITE DESCRIPTION

The CAMDS is located in the southwestern portion of the DCD. Construction of the facility contained within a 10-acre fence was completed in 1979. CAMDS was built as a prototype research and development facility designed and constructed to demilitarize a wide variety of chemical munitions and containers, and to detoxify CWAs such as nerve (sarin and methyl phosphonothiolate) and blister agents.

Closure activities for CAMDS began in August 2006 and continued with the assistance of the Tennessee Valley Authority (TVA) until April 2009 when closure operations were officially transferred to EG& G Inc.

Past operations resulted in contamination of the groundwater beneath the facility. Spills of diesel fuel oil in the area of the aboveground storage tanks were reported in 1978 and 1983, and an underground line leak of diesel fuel went undetected between 1980 and 1985. The fuel lost via the undetected leak was estimated to be as much as 38,000 gallons. The Phase II RFI and CMS completed in 1997 and 2000, respectively. Based on the CMS, the corrective measures alternatives recommended for this site were free-product removal and monitoring with institutional controls; however, soil removal is a preferred technology and should be able to implement in 2013 as recommended by the UDSHW when the CAMDS is completely demolished.

CLEANUP/EXIT STRATEGY

Soil removal is planned to be conducted in FY2013.

STATUS

Regulatory Driver: RCRA
Contaminants of Concern: Metals
Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198812.....	201309
DES.....	201309.....	201403
CMI(C).....	201404.....	201412
RIP Date:	N/A	
RC Date:	201503	

SITE DESCRIPTION

The sewage treatment plant consists of an Imhoff tank and two unlined sewage lagoons. This plant is located in the northeastern portion of installation, approximately 2,000 ft south of the administration area. The tank and sewer lines were probably installed in 1942, during the original installation construction. The tank and lines served the barracks, commissary, and support facilities located in the northeastern part of DCD. The lagoons were built in 1980. The northern lagoon was to receive Imhoff tank effluent and then overflow into the southern lagoon, which is open at its southwest corner. Before the construction of the sewage lagoons, discharge from the Imhoff tank flowed into ditches adjacent to the lagoon on the east.

During the RFI Phase I, a soil gas survey was conducted, a sediment sample was collected from the northern lagoon. The soil gas survey consisted of sampling at 12 locations across the area where discharge from the Imhoff tank is documented. Analyses of soil gas samples included dichloroethylene, benzene, TCE, toluene, tetrachloroethylene, and xylene. The sediment sample was analyzed for VOCs, SVOCs, ABPs, explosives, and metals. No significant contaminant release indicated by the RFI Phase I. The southern lagoon was backfilled in calendar year (CY) 2011, the Imhoff tank has been scheduled to be removed in February 2012. Additional investigation is required at the northern lagoon and other AOCs.

CLEANUP/EXIT STRATEGY

Additional investigation will be conducted at the northern lagoon and other AOCs.

Site ID: CC-003

Site Name: CAMDS Landfill - SWMU 30

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	200109
DES.....	200106.....	200208
CMI(C).....	201304.....	201312

RIP Date: N/A

RC Date: 201403

SITE DESCRIPTION

SWMU 30 is located in the southwestern portion of DCD, south of SWMU 13 (CAMDS). The unit includes covered burn trenches and a landfill. The burn trenches were cleaned-up and covered with native soil. The landfill east of the former trenches received road-renovation waste such as soil, asphalt, and PVC pipe. The waste is placed in discrete, east-west trending piles. The piles are four to five ft high and cover an area measuring approximately 500 ft by 500 ft (RFI Phase II group 2 SWMUs).

CLEANUP/EXIT STRATEGY

Cleanup of the landfill is planned and site will be cleaned to residential standards.

STATUS

Regulatory Driver: RCRA
Contaminants of Concern: Metals, Semi-volatiles (SVOC)
Media of Concern: Soil

Phases	Start	End
RFA.....	197912.....	198812
CS.....	197912.....	198812
RFI/CMS.....	198708.....	200209
DES.....	200206.....	200211
CMI(C).....	201009.....	201306

RIP Date: N/A
RC Date: 201309

SITE DESCRIPTION

The bomb fragment area covers a subsurface volume of metal debris of approximately 400 cubic yards. Phase II RFI investigation activities revealed a disposal trench of thermate bombs that has been detonated in place. The origin and history of these bombs is unknown. According to the Army report, thermal bomb housings are made of magnesium and may contain explosives. Metal debris was encountered in most of the Phase II test pit excavations on the northwestern slope of the pit at depths ranging from the surface to nine ft below ground surface. In addition, a white ash layer ranging from one to five ft thick was identified in the pits, indicating that the thermate bombs had been destroyed and burned in place. This site was capped with a one-ft thick cobble over the affected area in 2003.

Due to the potential of lead and other metals that may affect human health during windy season, DCD currently works with the USACE to safely excavate and properly dispose of contaminated soil and debris at this site. A work plan is being developed and fieldwork is scheduled to be completed in 2012.

CLEANUP/EXIT STRATEGY

Wastes buried in this area are going to be removed and disposed of off-site. This site will be closed as NFA.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CC-005	Mustard Classification Yard	201103	
CC-006	Solid Waste Management Units (SWMUs)	201103	
CC-007	Old CAMDS laboratory - Building 454	201103	

CR Schedule

Date of CR Inception: 197912

Past Phase Completion Milestones

1989

CS (CC-001 - CAMDS Facility, CC-002 - Sewage Treatment Plan, CC-003 - CAMDS Landfill - SWMU 30, CC-004 - SWMU 37)
RFA (CC-001 - CAMDS Facility, CC-002 - Sewage Treatment Plan, CC-003 - CAMDS Landfill - SWMU 30, CC-004 - SWMU 37)

1998

PA (CC-005 - Mustard Classification Yard)

1999

PA (CC-006 - Solid Waste Management Units (SWMUs))

2000

PA (CC-007 - Old CAMDS laboratory - Building 454)

2001

RFI/CMS (CC-003 - CAMDS Landfill - SWMU 30)

2002

DES (CC-003 - CAMDS Landfill - SWMU 30)

RFI/CMS (CC-004 - SWMU 37)

2003

DES (CC-004 - SWMU 37)

2011

SI (CC-005 - Mustard Classification Yard, CC-007 - Old CAMDS laboratory - Building 454)

RA(C) (CC-006 - Solid Waste Management Units (SWMUs))

RFI/CMS (CC-001 - CAMDS Facility)

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: 201412

Schedule for Next Five-Year Review: 2018

Estimated Completion Date of CR at Installation (including LTM phase): 201809

DESERET CHEMICAL DEPOT CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CC-001	CAMDS Facility	DES						
		CMI(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CC-002	Sewage Treatment Plan	RFI/CMS						
		DES						
		CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CC-003	CAMDS Landfill - SWMU 30	CMI(C)						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
CC-004	SWMU 37	CMI(C)						

Community Involvement

Technical Review Committee (TRC): 199610

Community Involvement Plan (Date Published): 200810

Restoration Advisory Board (RAB): RAB established 199901

RAB Adjournment Date: N/A

RAB Adjournment Reason: None

Additional Community Involvement Information

The small towns in the vicinity of the DCD, including Rush Valley, Clover, St. John, Big Hollow, Vernon, Hogan's Ranch, and Stockton, have a combined population of approximately 1,200. Ophir is set in a narrow mountain canyon, east of the depot, with a year-round population of approximately 30 residents. The main community, Tooele, located about 20 miles north of the depot, has a population of more than 28,000 residents.

A TRC was originally formed in February 1988 when the depot, then named TEAD south area, was part of TEAD. In FY1996, the depot became a separate installation and established its own TRC to continually address the depot restoration concerns. The committee includes representatives of the Army, the USEPA Region 8, the UDEQ, Utah State University, and Tooele county residents. With the determination of the installation commander, the TRC was converted to a RAB. The first public meeting was conducted in September 1998 to solicit potential interest for the RAB formation.

The first RAB meeting was held in January 1999. The DCD community relations plan was updated in 2008. This plan was originally prepared in 1994 combining both the TEAD north and south areas. This plan includes sections on previous site information, site history, current missions, proposed projects, past community communications, key community concerns, public participation activities and implementation, environmental concerns, etc.

Administrative Record is located at

Deseret Chemical Depot
CMDC-MS, Building 5120
Stockton, UT 84071
435-833-4178

Information Repository is located at

Tooele City Public Library
128 West Vine
Tooele, UT 84074
435-843-2137

University of Utah - Marriot Library
395 S 1500 E, Floor 5
Salt Lake City, UT 84112
801-581-8558

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

TAPP Title: N/A

Potential TAPP: N/A

