

# **DESERET CHEMICAL DEPOT**

Army Cleanup Program

Installation Action Plan Final

June 2024

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## STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

## INSTALLATION OVERVIEW

**Installation Name:** DESERET CHEMICAL DEPOT

**Installation City:** STOCKTON

**Installation County:** TOOELE

**Installation State:** UT

**Regulatory Participation - Federal:** US Environmental Protection Agency (USEPA), Region 8, Federal Facilities Program, Office of Ecosystem Protection and Remediation

**Regulatory Participation - State:** Utah Department of Environmental Quality (UDEQ) Division of Solid and Hazardous Waste (DSHW), Division of Environmental Response and Remediation (DERR)

## ACRONYMS

Acronym	Definition
1,1- DCA	1,1-Dichloroethane
1,1- DCE	1,1-Dichloroethene
1,1,1-TCA	1,1,1-Trichloroethane
AOC	Area of Concern
BZ	Buffer Zone
CAIS	Chemical Agent Identification Sets
CAMDS	Chemical Agent Munitions Destruction System
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
CN	Chloracetophenone
COC	Contaminant of Concern
CRL	Cleanup Restoration & Liabilities
CrVI	Hexavalent Chromium
CS	Confirmation Sampling
CWA	Chemical Warfare Agent
DAF	Dilution Attenuation Factor
DCD	Deseret Chemical Depot
DCS	Deputy Chief of Staff
DD	Decision Document
DERR	Division of Environmental Response and Remediation
DES	Design
DM	Adamsite
DMM	Discarded Military Munitions
DOD	Department of Defense
DSHW	Division of Solid and Hazardous Waste
DWMRC	Division of Waste Management and Radiation Control
ENV	Environmental
FS	Feasibility Study
ft	feet
FY	Fiscal Year
FYR	Five-Year Review
GA	German Tabun
HWMU	Hazardous Waste Management Unit
IAP	Installation Action Plan
IDF	Individual Disposal Feature

Acronym	Definition
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
mg/kg	milligrams / kilogram
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
NPL	National Priorities List
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PPE	Personal Protective Equipment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RSL	Risk Screening Levels
SI	Site Inspection
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TEAD(S)	Tooele Army Depot South
UDEQ	Utah Department of Environmental Quality
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
UXO	Unexploded Ordnance

Acronym	Definition
VOC	Volatile Organic Compound
WP	White Phosphorus

## PHASE TRANSLATION TABLE

CERCLA Phase	RCRA Phase	RCRA UST Phase
Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
Remedial Design (RD)	Design (DES)	Design (DES)
Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
Remedial Action (Operations) (RA(O))	Corrective Measures Implementation (Operations) (CMI(O))	Implementation (Operations) (IMP(O))
Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)



## **PROGRAM SUMMARY**

**Number of Open Sites with Response Complete/Total Open IR Sites: 7/9**

**Number of Open Sites with Response Complete/Total Open MR Sites: 1/5**

**Number of Open Sites with Response Complete/Total Open CC Sites: 0/0**

## SITE-LEVEL INFORMATION

## 49245.1006\_TEAD(S)-09\_AREA 2 (SWMU 9)

**Env Site ID:** TEAD(S)-09

**Cleanup Site:** AREA 2 (SWMU 9)

**Alias:** SWMU-09

**Regulatory Driver:** RCRA-C

**RIP Date:** 5/31/2003

**RC Date:** 5/31/2003

**RC Reason:** Study Completed, No Cleanup Required

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
<b>RFA:</b>	12/31/1979	12/31/1988
<b>CS:</b>	12/31/1979	12/31/1988
<b>RFI/CMS:</b>	8/31/1987	9/30/2001
<b>DES:</b>	6/30/2001	9/30/2002
<b>IRA:</b>	--	--
<b>CMI(C):</b>	9/30/2002	5/31/2003
<b>CMI(O):</b>	--	--
<b>LTM:</b>	5/31/2003	9/30/2054

**Site Narrative:** This approximately 50-acre site is located on the east central portion on the Depot (north of SWMU 8 west of SWMU 34). The site includes the Area 2 Mustard Holding Area (Chemical Ammo Safeguarding Area) (40 acres) and the Open Storage of Agent Container and Burn Pits Area (10 acres) just south of Area 2. It is completely fenced. Both areas were used to store munitions containing mustard chemical agent identification sets (CAIS) and war gas identification sets. All storage containers were removed prior to 1986. The burn pits were used sometime between 1940 and 1970. Previous soil samples indicated heavy metals and agent breakdown product in the burn pits. No contaminants of concern were detected in the soil of Area 2. Groundwater samples taken from about 400 ft downgradient (closest well) have not detected any contaminants of concern (COC). The fence was expanded to include the Burn Pit Area and one additional well was installed downgradient [late fiscal year (FY)2003]. This site currently receives annual inspections. Ground water monitoring well S-153-22 was installed on the western edge of site in 2023, for the regional Hex Chrome Study related to SWMU 21/22 (49245.1011) investigation. Cleanup/Exit Strategy - Long-Term Management (LTM) inspections, Land Use Controls (LUC), and periodic reviews will be conducted for an indefinite period. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for Unlimited Use/Unrestricted Exposure (UU/UE), periodic reviews will continue indefinitely.

## 49245.1011\_TEAD(S)-15\_BLDG S-554 & ADJ LAGOONS (SWM)

**Env Site ID:** TEAD(S)-15

**Cleanup Site:** BLDG S-554 & ADJ LAGOONS (SWM)

**Alias:** SWMU-21/22

**Regulatory Driver:** RCRA-C

**RIP Date:** 10/1/2025

**RC Date:** 10/1/2025

**RC Reason:** Not assigned

**SC Date:** 10/2/2025

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
<b>RFA:</b>	12/31/1979	12/31/1988
<b>CS:</b>	12/31/1979	12/31/1988
<b>RFI/CMS:</b>	8/31/1987	10/1/2025
<b>DES:</b>	--	--
<b>IRA:</b>	--	--
<b>CMI(C):</b>	--	--
<b>CMI(O):</b>	--	--
<b>LTM:</b>	--	--

**Site Narrative:** Washout of incendiary munitions occurred in Building S-554 from the 1940s to the late 1950s. Munitions were demilitarized in Building S-554. Wastewater from the operations were channeled to a concrete drain that divided the flow equally between the six adjacent concrete washout basins (totaling approximately 40 x 60 x 15 ft deep). This site had undergone a Phase I RFI. The only contamination found was some toxicity characteristic leaching procedure (TCLP)-positive (barium) sludge in the concrete basins. The Phase II RFI was completed in December 2002. The final Corrective Measures Study (CMS) was approved in March 2004. Basin was backfilled in summer 2004. A 2019 review of all the previous RFI's analytical data indicates that chromium was detected but not considered an issue at that time frame. New chromium speciation technology has been used to determine that this contaminate is an issue and may be contributing to a regional hex chromium issue. Hex chromium has been detected in groundwater at wells directly downgradient from this site, SWMU 05 wells (also down gradient from this site), area of concern (AOC) 23 wells (cross gradient from this site) and at one well upgradient of AOC 23. On March 20, 2018, the soil sample results indicate hexavalent chromium contamination ranging from 0.6 milligrams / kilogram (mg/kg) to 19 mg/kg with the highest concentrations near the ditch inlet. The residential and industrial risk screening levels (RSL) for hexavalent chromium are 0.3 mg/kg and 6.3 mg/kg respectively and the dilution attenuation factor (DAF)-20 groundwater protection screen value is 0.013 mg/kg. All samples exceed the residential and DAF-20 values and two samples exceed the industrial value. All values also exceed the TEAD(S) hexavalent chromium soil background value. The total metals results show cadmium above the residential RSL with results ranging from 20 mg/kg to 653 mg/kg. Total chromium concentrations range from 18 mg/kg to 74 mg/kg and are higher than hexavalent chromium (CrVI) concentrations in all samples. Lead was detected above background but only exceeds the residential RSL in one sample. Several other metals, including barium (maximum concentration of 5,120 mg/kg) were also detected at concentrations above background but less than RSLs. Barium exceeded the DAF-20 value of 3,200 mg/kg. On June 5, 2018, the samples have a maximum hexavalent chromium concentration of 333 mg/kg and all results are about an order of magnitude over the

hexavalent chromium industrial RSL of 6.3 mg/kg and three orders of magnitude over the DAF-20 groundwater protection value of 0.013 mg/kg. Elevated total chromium was also detected in all samples with a maximum concentration of 4,800 mg/kg. Utah stakeholders have request that TEAD conduct a regional hex chromium study and determine whether this site is the source of the regional issues. Cleanup/Exit Strategy - An RFI addendum to investigate the hex chrome issue is underway. A CMS to address the RFI findings will also be necessary if needed.

## 49245.1013\_TEAD(S)-17\_SANITARY LANDFILL (SWMU 26)

**Env Site ID:** TEAD(S)-17

**Cleanup Site:** SANITARY LANDFILL (SWMU 26)

**Alias:** SWMU-26

**Regulatory Driver:** RCRA-C

**RIP Date:** 7/22/2020

**RC Date:** 7/22/2020

**RC Reason:** Study Completed, No Cleanup Required

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** Low

**MRSPP:** N/A

Phase	Start	End
<b>RFA:</b>	12/31/1979	12/31/1988
<b>CS:</b>	12/31/1979	12/31/1988
<b>RFI/CMS:</b>	8/31/1987	3/28/2018
<b>DES:</b>	--	--
<b>IRA:</b>	--	--
<b>CMI(C):</b>	7/31/2018	7/22/2020
<b>CMI(O):</b>	--	--
<b>LTM:</b>	7/23/2020	9/30/2054

**Site Narrative:** This 44-acre landfill was used from 1956 to 1980. Open trenches were backfilled with native soil after the landfill stopped accepting any waste material. The Phase I RFI found low levels of VOCs in groundwater. Because wastes remain buried, long-term groundwater monitoring was recommended. Groundwater collected from wells at this site was analyzed for VOCs, semi-volatile organic compounds (SVOC) and explosives. Contaminant detected in groundwater includes 111-trichloroethane (111-TCA) and 11-dichloroethane (11- DCA). A passive soil gas conducted at the site detected perchloroethylene, 11-dichloroethane (11- DCE), cis-1-2-dichloroethylene, and chloroform. In 2007-2008 geophysical surveys and soil gas sampling were successfully conducted to determine the potential footprint of the source of contaminants. From 2013 to 2016 additional investigations were conducted and consisting of soil gas, surface and sub-surface soil samples, groundwater samples, geophysical survey and investigative test trenching across potential contamination source areas based on previous soil gas sampling. Nature and extent of the VOCs contamination were identified and the test trenching determined that drums of spent solvents were buried with some drums being crushed in the landfill. The geophysical investigation of this area indicates there is additional metallic material buried in the landfill and historical knowledge of the area suggests additional intact drums. A CMS was approved in March 2018 and recommended that the site be managed with waste in place with landfill covers and groundwater monitoring. In 2019-2020, geosynthetic liners were installed over 10 burials in the eastern and western portions of the landfill. A new sentinel well has been installed and is being used to support the LTM phase. Cleanup/Exit Strategy - Indefinite annual groundwater monitoring of the VOC plume, periodic reviews and annual landfill cover inspections are required under the RCRA Post Closure Permit. LUCs include the use of the installation excavation permit and the prevention of the site being used for residential use. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue indefinitely.

## 49245.1015\_TEAD(S)-19\_LANDFILL, INACTIVE (SWMU 28)

**Env Site ID:** TEAD(S)-19

**Cleanup Site:** LANDFILL, INACTIVE (SWMU 28)

**Alias:** SWMU-28

**Regulatory Driver:** RCRA-C

**RIP Date:** 4/30/1994

**RC Date:** 4/30/2012

**RC Reason:** Study Completed, No Cleanup Required

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
RFA:	12/31/1979	12/31/1988
CS:	12/31/1979	12/31/1988
RFI/CMS:	8/31/1987	4/30/1994
DES:	--	--
IRA:	4/1/2012	4/30/2012
CMI(C):	--	--
CMI(O):	--	--
LTM:	4/30/2012	9/30/2054

**Site Narrative:** The landfill was used between 1963 and 1972 for disposal of paper and debris with no records indicating that hazardous materials were placed in the landfill. In 1972 the landfill was filled to grade and re-vegetated. In 1990 a limited Phase I RCRA RFI field investigation included installation and sampling of groundwater monitoring wells, but additional work was needed to fill data gaps. An additional RFI investigation was conducted which included the collection of surface soil samples to characterize the soil used as soil cover and the collection of active soil gas samples to determine whether there is any potential source for organics in the landfill that could potentially result in future groundwater contamination and/or inhalation health risks. COCs include benzo(a)pyrene in soil and chloroform in soil gas. In 2012, an IRA was conducted involving test trenching, to verify the landfill contained only construction related debris. No contamination was detected and a cobble cap was installed over the burial and the site was placed in post closure care following the IRA. Cleanup/Exit Strategy - Indefinite annual site and landfill cover inspections and periodic reviews are required under the RCRA Post Closure Permit. LUCs include the use of the installation excavation permit and the prevention of the site being used for residential use. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue indefinitely.

## 49245.1016\_TEAD(S)-20\_LANDFILL, SCRAP METAL (SWMU 2)

**Env Site ID:** TEAD(S)-20

**MRSPP:** N/A

**Cleanup Site:** LANDFILL, SCRAP METAL (SWMU 29)

**Alias:** SWMU 29

**Regulatory Driver:** RCRA-C

**RIP Date:** 12/31/2012

**RC Date:** 12/31/2012

**RC Reason:** All Required Cleanup(s) Completed

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

Phase	Start	End
<b>RFA:</b>	12/31/1979	12/31/1988
<b>CS:</b>	12/31/1979	12/31/1988
<b>RFI/CMS:</b>	8/31/1987	4/30/1994
<b>DES:</b>	7/31/1995	10/31/1996
<b>IRA:</b>	--	--
<b>CMI(C):</b>	11/30/1996	12/31/2012
<b>CMI(O):</b>	--	--
<b>LTM:</b>	12/31/2012	9/30/2054

**Site Narrative:** SWMU 29 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 unexploded ordnance (UXO) remaining. Based on a geophysical survey conducted in April 2010, scrap metal wastes were found to be buried at this site. Cleanup/Exit Strategy - SWMU has a special restriction listed in Post Closure Permit requiring anomaly avoidance for activities within and around the SWMU boundary. Annual inspections are not required; however, this site does have LUCs. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue indefinitely.



## 49245.1023\_TEAD(S)-28\_BLDG 533 (SWMU 19)

**Env Site ID:** TEAD(S)-28

**Cleanup Site:** BLDG 533 (SWMU 19)

**Alias:** SWMU-19

**Regulatory Driver:** RCRA-C

**RIP Date:** 12/31/2013

**RC Date:** 12/31/2013

**RC Reason:** Study Completed, No Cleanup Required

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
RFA:	12/31/1979	12/31/1988
CS:	12/31/1979	12/31/1988
RFI/CMS:	8/31/1987	9/30/2002
DES:	6/30/2002	5/31/2003
IRA:	--	--
CMI(C):	6/30/2003	12/31/2013
CMI(O):	--	--
LTM:	1/1/2014	9/30/2054

**Site Narrative:** 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 polychlorinated biphenyls (PCB) 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 corrective measure study (CMS) was approved in 2002 with actions to close the septic system install an additional groundwater monitoring well and conduct additional soil gas sampling in the sump area. A work plan was approved in early 2003. The septic tank was backfilled in summer 2004. In winter 2011, an 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 sample results, the site was placed in post closure care. Cleanup/Exit Strategy - Indefinite annual site inspection and periodic reviews are required under the RCRA Post Closure Permit. LUCs include the use of the installation excavation permit and the prevention of the site being used for residential use. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue indefinitely.

## 49245.1025\_TEAD(S)-30\_BLDG 536 (SWMU 33)

**Env Site ID:** TEAD(S)-30

**Cleanup Site:** BLDG 536 (SWMU 33)

**Alias:** SWMU-33

**Regulatory Driver:** RCRA-C

**RIP Date:** 9/30/2001

**RC Date:** 9/30/2001

**RC Reason:** Study Completed, No Cleanup Required

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
RFA:	12/31/1979	12/31/1988
CS:	12/31/1979	12/31/1988
RFI/CMS:	8/31/1987	9/30/2001
DES:	--	--
IRA:	--	--
CMI(C):	--	--
CMI(O):	--	--
LTM:	9/30/2001	9/30/2054

**Site Narrative:** SWMU 33 was used to stored decontamination solution salts from the treatment of chemical warfare material and other related solid hazardous wastes such as spent PPE and carbon filters. Lead was found in the soils beneath the asphalt floor. Site was closed as a RCRA permitted Hazardous Waste Management Unit (HWMU). Asphalt cap was installed to encapsulate contamination. Remaining contamination is managed in the RCRA Post Closure Permit. Cleanup/Exit Strategy - LTM inspections, LUC and periodic reviews will be conducted for an indefinite period. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue indefinitely.

## 49245.1034\_CC-001\_CAMDS Facility (SWMU 13)

**Env Site ID:** CC-001

**Cleanup Site:** CAMDS Facility (SWMU 13)

**Alias:** CC01SWMU13

**Regulatory Driver:** RCRA-C

**RIP Date:** 10/1/2017

**RC Date:** 8/13/2019

**RC Reason:** All Required Cleanup(s) Completed

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** Not Evaluated

**MRSPP:** N/A

Phase	Start	End
<b>RFA:</b>	12/31/1979	12/31/1988
<b>CS:</b>	12/31/1979	12/31/1988
<b>RFI/CMS:</b>	8/31/1987	8/15/2016
<b>DES:</b>	8/15/2016	8/15/2016
<b>IRA:</b>	- -	- -
<b>CMI(C):</b>	7/23/2015	10/1/2017
<b>CMI(O):</b>	10/1/2017	8/13/2019
<b>LTM:</b>	8/14/2019	9/30/2054

**Site Narrative:** Chemical Agent Munitions Destruction System (CAMDS) is located in the southwestern portion of the TEAD-S. The facility began operations in 1979 and consists of a 10-acre fence site. 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 Chemical Warfare Agents (CWA) such as nerve and blister agents. Closure activities for CAMDS began in August 2006. The CAMDS facility has been demolished and the RCRA operational permit has been closed. 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 1979 and 1983; an underground pipeline leak of diesel fuel went undetected between 1980 and 1985 resulting in the release of an estimated 38,000 gallons. The Phase II RFI and CMS were 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. Additional information was required and an addendum to the RFI and CMS was completed and approved in 2016. Free product removal, natural attenuation, and LUCs were implemented in accordance with an approved statement of basis. The selected remedy was proven to be ineffective due to tight soils and clays. Recovery of free product was terminated and a case for technical impracticality was made and approved by the regulator in 2019. Cleanup/Exit Strategy - Annual groundwater monitoring of the diesel fuel plume and annual site inspections to verify site has not been disturbed and periodic reviews are required. LUCs include the use of the installation excavation permit and the prevention of the site being used for residential use. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, periodic reviews will continue until UU/UE is achieved.

## 49245.1041\_TEAD(S)-PFAS\_PFAS

**Env Site ID:** TEAD(S)-PFAS

**Cleanup Site:** PFAS

**Alias:** #

**Regulatory Driver:** CERCLA

**RIP Date:** 10/1/2030

**RC Date:** 10/1/2030

**RC Reason:** Not assigned

**SC Date:** 10/2/2030

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
PA:	9/28/2018	11/13/2019
SI:	11/14/2019	4/1/2022
RI/FS:	4/2/2022	10/1/2030
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

**Site Narrative:** Per direction from Deputy Chief of Staff (DCS) G-9 site created to account for all per- and polyfluoroalkyl substances (PFAS) costs at the installation. A Preliminary Assessment (PA) was completed in FY2020 to identify all potential releases of PFAS to the environment. A Site Inspection (SI) was completed in FY2021. Revised memorandum from May 2023 USEPA regional screening levels for PFAS resulted in the creation of a total of two sites, including the original from the PA/SI. The Remedial Investigation (RI) will begin in FY25 to be followed by a Feasibility Study (FS).

## 49245.1028\_DCD-001-R-01\_COMBAT TRAINING AREA

**Env Site ID:** DCD-001-R-01

**Cleanup Site:** COMBAT TRAINING AREA

**Alias:** #

**Regulatory Driver:** CERCLA

**RIP Date:** 9/30/2027

**RC Date:** 9/30/2027

**RC Reason:** Not assigned

**SC Date:** 9/30/2057

**Program:** ENV Restoration, Army

**Subprogram:** MR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** N/A

**MRSPP:** 4

Phase	Start	End
PA:	9/9/2002	5/1/2003
SI:	7/31/2004	10/31/2005
RI/FS:	3/31/2010	10/15/2025
RD:	--	--
IRA:	--	--
RA(C):	10/15/2025	9/30/2027
RA(O):	--	--
LTM:	10/1/2027	9/30/2057

**Site Narrative:** The combat training area is located in north-central portion of the installation and encompasses approximately 104 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, a rifle grenade/bazooka range and an improvised skeet range located at the handgun range. The hand grenades did include spotting charges. 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 M80 firecrackers or Mark 2 firecrackers and hand thrown simulators such as the hand grenade M116A1, the explosive booby trap flash M117, the projectile ground burst M115A2, and other newer simulators. The remaining remnants of the former range consist of machine gun mounts and berms and U-shaped boxes from the hand grenade course. A surface clearance was conducted after a fire burned through the range in 1997. The site remains otherwise undeveloped. The SI was completed in 2005. In 2014, an RI was completed. Munitions and explosives of concern (MEC) and munitions debris (MD) were found in soil throughout the site and polycyclic aromatic hydrocarbon contamination in soil was identified at the handgun/skeet range. An FS was recommended. This site has phases conducted under both RCRA-C and CERCLA regulatory drivers but is currently managed under CERCLA. Due to the contaminants of concern, there are no anticipated impacts to groundwater. Cleanup/Exit Strategy - Complete the FS and determine a remedial action if appropriate. Removals, LUCs and five-year reviews (FYR) are anticipated based on the results of the draft RI/FS.

## 49245.1029\_DCD-004-R-01\_OLD DEMOLITION PIT

**Env Site ID:** DCD-004-R-01

**Cleanup Site:** OLD DEMOLITION PIT

**Alias:** #

**Regulatory Driver:** CERCLA

**RIP Date:** 9/30/2027

**RC Date:** 9/30/2027

**RC Reason:** Not assigned

**SC Date:** 9/30/2057

**Program:** ENV Restoration, Army

**Subprogram:** MR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** N/A

**MRSPP:** 4

Phase	Start	End
PA:	9/9/2002	5/1/2003
SI:	7/31/2004	12/31/2005
RI/FS:	3/31/2010	10/15/2025
RD:	--	--
IRA:	--	--
RA(C):	10/15/2025	9/30/2027
RA(O):	--	--
LTM:	10/1/2027	9/30/2057

**Site Narrative:** DCD-004-R-01 is referred to as a demolition pit, but was actually a munitions storage area. The site is located south of the installation sewage lagoons in the central portion of the installation. The estimated size of this site is 712 acres. According to historical reports an accidental explosion of 4.2-inch high-explosive shells occurred at this site in the late-1940s leaving a depression in the ground surface. The crater resulting from the explosion was filled. The actual depression is 0.44 acres. The kickout 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. The only contaminant of concern was MEC. Warehouse C4002 was built over the detonation pit and was demolished in 1996 leaving only the concrete slab foundation. Numerous construction projects were completed within the boundary of the kickout area. An RI addendum was conducted in 2013 which included statistical surface sweeps, geophysical surveys, intrusive anomaly investigations, and soil sampling. Extensive MD and two MEC items were encountered during a surface and subsurface statistical clearance. It was recommended that an FS be developed to evaluate alternatives. This site has phases conducted under both RCRA-C and CERCLA regulatory drivers but is currently managed under CERCLA. Due to the metals detected in soils there are no anticipated impacts to groundwater. Cleanup/Exit Strategy - Complete the FS and determine a remedial action if appropriate. Removals, LUCs and FYRs are anticipated based on the results of the draft RI/FS.

## 49245.1030\_DCD-006-R-01\_WESTERN DEMIL AREA/DISP PIT

**Env Site ID:** DCD-006-R-01

**Cleanup Site:** WESTERN DEMIL AREA/DISP PIT

**Alias:** SWMU-25

**Regulatory Driver:** RCRA-C

**RIP Date:** 10/1/2033

**RC Date:** 9/30/2063

**RC Reason:** Not assigned

**SC Date:** 9/30/2063

**Program:** ENV Restoration, Army

**Subprogram:** MR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** N/A

**MRSPP:** 3

Phase	Start	End
<b>RFA:</b>	9/9/2002	5/1/2003
<b>CS:</b>	7/31/2004	10/31/2005
<b>RFI/CMS:</b>	3/31/2010	9/30/2020
<b>DES:</b>	10/1/2020	9/30/2023
<b>IRA:</b>	9/15/2011	9/30/2015
<b>CMI(C):</b>	10/1/2023	10/1/2033
<b>CMI(O):</b>	10/1/2033	9/30/2063
<b>LTM:</b>	--	--

**Site Narrative:** DCD-006-R-01 - Western Demilitarization Area/Disposal Pits Site covers 1,277 acres and was used for a variety of disposal activities from the 1945 until 1978. Demilitarization activities resulted in high explosive detonation craters windrows of metallic munitions parts and ash mounds. Approximately, 50 clusters of craters formed by open detonation of high explosive munitions previously occupied the western portion of SWMU 25. The clusters are approximately 3.5 acres in size. Some of the craters were deep enough to intersect the groundwater table at a depth of approximately 30 ft. Sometime between 1987 and 1990 the craters were backfilled. An Interim Phase II RFI performed in 1995 identified carbon tetrachloride as a COC in groundwater beneath the site. An interim removal action (IRA) surface stabilization was completed in FY2015. At the conclusion of the IRA, it was determined that the site contains a number of individual disposal features (IDF) of which many included buried waste. Those IDFs includes burial pits, burn areas, open detonation craters, open disposal trenches, subsurface disposal trenches and surface disposal areas.. The investigation included geophysical surveys of each IDF soil gas sampling surface/sub-surface soil sampling and groundwater sampling. The investigation identified extensive soil contamination of metals, agent breakdown products and groundwater plumes of carbon tetrachloride. A CMS was approved by the US Army in 2020. Cleanup/Exit Strategy - Remedies outlined in the CMS include removals, capping, groundwater monitoring, LUCs and periodic reviews.

## 49245.1031\_DCD-003-R-01\_GRAVEL PIT AREA (SWMU-02)

**Env Site ID:** DCD-003-R-01

**Cleanup Site:** GRAVEL PIT AREA (SWMU-02)

**Alias:** SWMU-02

**Regulatory Driver:** RCRA-C

**RIP Date:** 6/30/2013

**RC Date:** 6/30/2013

**RC Reason:** All Required Cleanup(s) Completed

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** MR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** N/A

**MRSPP:** 10

Phase	Start	End
RFA:	9/9/2002	5/1/2003
CS:	7/31/2004	6/30/2013
RFI/CMS:	--	--
DES:	--	--
IRA:	8/31/2011	6/30/2013
CMI(C):	--	--
CMI(O):	--	--
LTM:	10/15/2013	9/30/2054

**Site Narrative:** The Gravel Pit Area is located in west central Deseret Chemical Depot (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 discarded military munitions (DMM) items that were placed against the hillside and then covered in soil. The contents of the gravel pit were not demilitarized prior to their burial. During the IRA phase the following items were recovered from the site- chloracetophenone (CN)/adamsite (DM) grenades, DM M2 smoke candles, E-46 Cluster Bombs containing napalm, M19 Cluster Bombs, M69 bomblets containing napalm, M1 Smoke Pots, squibs, various fuzes & boosters, Hexachlorobenzene and PCE have been detected in the soil and in groundwater with levels decreasing over time. Cleanup/Exit Strategy - As the presence of hexachloroethane was confirmed and PCE identified in groundwater, the Division of Waste Management and Radiation Control (DWMRC) approved the site for unrestricted land use while requiring indefinite LTM for groundwater monitoring and periodic reviews of the site as part of the RCRA Part B Permit.



## 49245.1032\_DCD-002-R-01\_EASTERN DEMIL/DISPOSAL PITS

**Env Site ID:** DCD-002-R-01

**Cleanup Site:** EASTERN DEMIL/DISPOSAL PITS

**Alias:** SWMU-01

**Regulatory Driver:** RCRA-C

**RIP Date:** 10/1/2033

**RC Date:** 9/30/2063

**RC Reason:** Not assigned

**SC Date:** 9/30/2063

**Program:** ENV Restoration, Army

**Subprogram:** MR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:** N/A

**MRSPP:** 3

Phase	Start	End
<b>RFA:</b>	9/9/2002	5/1/2003
<b>CS:</b>	7/31/2004	10/31/2005
<b>RFI/CMS:</b>	10/31/2014	9/30/2020
<b>DES:</b>	10/1/2020	9/30/2023
<b>IRA:</b>	9/15/2011	9/30/2015
<b>CMI(C):</b>	10/1/2023	10/1/2033
<b>CMI(O):</b>	10/1/2033	9/30/2063
<b>LTM:</b>	--	--

**Site Narrative:** DCD-002-R-01 - Eastern Demilitarization Area/Disposal Pits Site was used from the 1940s to the 1970s as the detonation site for conventional weapons and a burial site for explosive and chemical munitions. This SWMU covers approximately 536 (original SWMU 1 is 333 acres plus the Buffer Zone is 203 acres) acres and contains numerous burial (disposal) pits. A RCRA Facility Investigation (RFI) performed in 1993 indicated 27 documented disposal pits on SWMU 1. These pits are suspected to contain destroyed munitions and bulk chemical agent. These include, but are not limited to, cyanogen chloride, phosgene agents, M70 mustard bombs, M4A2 smoke pots, white phosphorus (WP) grenades, trash, thermite, M20 bomb clusters, M50A3 thermite bombs, German Tabun (GA) bombs, M47 mustard bombs and boosters. Numerous investigations have been performed at this site to include a Phase 1 RCRA Facilities Investigation and soil gas analysis. An Interim Removal Action (IRA) surface stabilization was completed in FY2015. At the conclusion of the IRA, it was determined that the site contains a number of IDFs to include buried waste. Those IDFs includes burial pits, burn areas, open detonation craters, open disposal trenches, subsurface disposal trenches and surface disposal areas. investigation includes geophysical surveys of each IDF soil gas sampling surface/sub-surface soil sampling and groundwater sampling. To date, the investigation has identified extensive soil contamination which includes chemical warfare agents, agent breakdown product, metals, explosives, VOCs as well as groundwater plumes of carbon tetrachloride, chloroform tetrachloroethane and trichloroethane. During the RFI an area located between the eastern and western disposal area was investigated and determined to contain buried material. This area is known as the Buffer Zone (BZ) and is included in the boundary of this site. A CMS was approved by the Army in 2020. Cleanup/Exit Strategy - Remedies outlined in the CMS include removals, capping, groundwater monitoring, LUCs and periodic reviews.

## **SITE SUMMARY**

## SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
49245.1003	TEAD(S)-03_DISPOSAL PIT (SWMU 3)	9/30/2012
49245.1004	TEAD(S)-05_DRAINAGE POND & PIT, BLDG 600	2/2/2022
49245.1005	TEAD(S)-08_BLDG 3200 (SWMU 36)	4/30/1994
49245.1007	TEAD(S)-11_AREA 10 (SWMU 11)	9/30/2001
49245.1008	TEAD(S)-12_CAMDS SITE (SWMU 13)	9/30/2001
49245.1009	TEAD(S)-13_OLD DEMO PIT (BLDG C4002) (SW	4/30/1994
49245.1010	TEAD(S)-14_DEACTIVATION FURNANCE (SWMU 1	9/30/2004
49245.1012	TEAD(S)-16_DEMIL HOLDING AREA (SWMU 23)	4/30/1994
49245.1014	TEAD(S)-18_STP & LAGOON (SWMU 27)	9/15/1993
49245.1017	TEAD(S)-21_RAILROAD SCRAP YARD (SWMU 32)	4/30/1994
49245.1021	TEAD(S)-26_SURVEILLANCE TEST SITE (SWMU	9/30/2003
49245.1022	TEAD(S)-27_BLDG S-108 (SWMU 14)	4/30/1994
49245.1024	TEAD(S)-29_BLDG 520 (SWMU 20)	11/30/2001
49245.1026	TEAD(S)-31_BLDG 4105 (SWMU 34)	4/30/1994
49245.1027	TEAD(S)-32_SLAG PILES (SWMU 37)	7/31/2003
49245.1035	CC-002_SEWAGE TREAT PLANT	5/19/2017
49245.1036	CC-003_CAMDS Landfill - SWMU 30	12/31/2013
49245.1037	CC-004_SWMU 37	9/30/2012
49245.1038	CC-005_Mustard Classification Yard	12/31/2010
49245.1039	CC-006_Solid Waste Management Units (SWM	3/31/2011
49245.1040	CC-007_Old CAMDS laboratory - Building 4	12/31/2010
49245.1033	DCD-007-R-01_Southern Boundary Area	10/31/2005

## COMMUNITY INVOLVEMENT

<b>Community Involvement Plan (Date Last Reviewed):</b>	09/01/2019
<b>Technical Review Committee Establishment Date:</b>	10/31/1996
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	01/31/1999
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Reasons for Not Establishing RAB:</b>	No sufficient, sustained community interest in a RAB has been expressed by the community
<b>RAB Date of Solicitation from Community:</b>	01/03/2023
<b>RAB Results of Solicitation:</b>	N/A
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A
<b>Administrative Record Location:</b>	11500 Stark Road Bldg 5119, Stockton, UT 84071
<b>Information Repository Location:</b>	11500 Stark Road Bldg 5119, Stockton, UT 84071

## FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Underway	PR	10/01/2023	09/30/2024	TBD	TBD	TBD
Completed	PR	3/1/2019	9/30/2019	N/A	N/A	Remedy remains protective of human health and the environment.