HAWTHORNE ARMY 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: HAWTHORNE ARMY DEPOT

Installation City: HAWTHORNE Installation County: MINERAL

Installation State: NV

Regulatory Participation - Federal: Environmental Protection Agency Region IX **Regulatory Participation - State:** Nevada Division of Environmental Protection

ACRONYMS

AEDB-CC Army Environmental Database - Compliance-related Cleanup AL Action Level AOC Area of Concern AOPI Area of Potential Interest ASROC Anti-Submarine Rocket BLM Bureau of Land Management CC Compliance-related Cleanup CERCLA Comprehensive Environmental Response, Compensation and Liability Act of 1980 CMI(O) Corrective Measures Implementation (Operations) CMIP CMS Implementation Plan CMS Corrective Measures Study COC Contaminant of Concern CPT Cone Penetration Testing CRL Cleanup Restoration & Liabilities CTT Closed, Transferring, and Transferred CY cubic yard CS Confirmation Sampling DD Decision Document DDT dichlorodiphenyltrichloroethane DGM Digital Geophysical Mapping DOD Department of Defense ENV Environmental ERB Enhanced Reductive Biodegradation FS Fessibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTIM Long-Term Management LUC Land Use Control mg/kg milligrams per kilogram	Acronym	Definition
AOC Area of Concern AOPI Area of Potential Interest ASROC Anti-Submarine Rocket BLM Bureau of Land Management CC Compiliance-related Cleanup CERCLA Comprehensive Environmental Response, Compensation and Liability Act of 1980 CMI(O) Corrective Measures Implementation (Operations) CMIP CMS Implementation Plan CMS Corrective Measures Study COC Contaminant of Concern CPT Cone Penetration Testing CRL Cleanup Restoration & Liabilities CTT Closed, Transferring, and Transferred cy cubic yard CS Confirmation Sampling DD Decision Document DDT dichlorodiphenyltrichloroethane DGM Digital Geophysical Mapping DOD Department of Defense ENV Environmental ERB Enhanced Reductive Biodegradation FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	AEDB-CC	Army Environmental Database - Compliance-related Cleanup
AOPI Area of Potential Interest ASROC Anti-Submarine Rocket BLM Bureau of Land Management CC Compliance-related Cleanup CERCLA Comprehensive Environmental Response, Compensation and Liability Act of 1980 CMI(O) Corrective Measures Implementation (Operations) CMS Implementation Plan CMS Corrective Measures Study COC Contaminant of Concern CPT Cone Penetration Testing CRL Cleanup Restoration & Liabilities CTT Closed, Transferring, and Transferred CY cubic yard CS Confirmation Sampling DD Decision Document DDT dichlorodiphenyltrichloroethane DGM Digital Geophysical Mapping DOD Department of Defense ENV Environmental ERB Enhanced Reductive Biodegradation FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration IRP Installation Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	AL	Action Level
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CS Confirmation Sampling DD Decision Document DDT dichlorodiphenyltrichloroethane DGM Digital Geophysical Mapping DOD Department of Defense ENV Environmental ERB Enhanced Reductive Biodegradation FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	CTT	Closed, Transferring, and Transferred
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DGM Digital Geophysical Mapping DOD Department of Defense ENV Environmental ERB Enhanced Reductive Biodegradation FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	DD	Decision Document
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ERB Enhanced Reductive Biodegradation FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	DOD	Department of Defense
FS Feasibility Study ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	ENV	Environmental
ft feet FY Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	ERB	Enhanced Reductive Biodegradation
FYR Fiscal Year FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	FS	Feasibility Study
FYR Five-year Review HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	ft	feet
HWAD Hawthorne Army Depot IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	FY	Fiscal Year
IR Installation Restoration IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	FYR	Five-year Review
IRP Installation Restoration Program IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	HWAD	Hawthorne Army Depot
IRA Interim Remedial Action kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	IR	Installation Restoration
kg kilogram LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	IRP	Installation Restoration Program
LNAPL Light Non-Aqueous Phase Liquid LTM Long-Term Management LUC Land Use Control	IRA	Interim Remedial Action
LTM Long-Term Management LUC Land Use Control	kg	kilogram
LUC Land Use Control	LNAPL	Light Non-Aqueous Phase Liquid
	LTM	Long-Term Management
mg/kg milligrams per kilogram	LUC	Land Use Control
	mg/kg	milligrams per kilogram

Acronym	Definition	
mg/L	milligrams per liter	
МСРО	Marine Corps Programs Office	
MEC	Munitions and Explosives of Concern	
MNA	Monitored Natural Attenuation	
MR	Munitions Response	
MRA	Munitions Response Area	
MRS	Munitions Response Site	
NDEP	Nevada Department of Environmental Protection	
NFA	No Further Action	
NIOTC	Navy Insurance Operations Training Center	
NOV	Notice of Violation	
ОВ	Open Burn	
PA	Preliminary Assessment	
PEP	Pyrotechnic, Explosives, and Propellants	
PFAS	Per- and Polyfluoroalkyl Substances	
POL	Petroleum, Oil and Lubricants	
PP	Proposed Plan	
ppm	parts per million	
RA	Removal Action	
RA(C)	Remedial Action (Construction)	
RACR	Remedial Action Completion Report	
RA(O)	Remedial Action (Operations)	
RC	Response Complete	
RCRA	Resource Conservation and Recovery Act	
RD	Remedial Design	
RDX	Cyclotrimethylenetrinitramine	
RI	Remedial Investigation	
RIP	Remedy-in-Place	
ROD	Record of Decision	
SI	Site Inspection	
SSTL	Site-Specific Target Levels	
SVE	Soil Vapor Extraction	
SWMU	Solid Waste Management Unit	
TCE	Trichloroethylene	
TCRA	Time-Critical Removal Action	
TD	Transferred	
TNT	Trinitrotoluene	
TPH	Total Petroleum Hydrocarbons	

Acronym	Definition
TPH-D	Total Petroleum Hydrocarbons-Diesel
UE	Unrestricted Exposure
μg/L	micrograms per liter
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UU	Unlimited Use
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound

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: 3/9
Number of Open Sites with Response Complete/Total Open MR Sites: 2/5
Number of Open Sites with Response Complete/Total Open CC Sites: 0/10

SITE-LEVEL INFORMATION

32225.1018_HWAAP-B04_101-44 IMPOUNDMENT

Env Site ID: HWAAP-B04

Cleanup Site: 101-44 IMPOUNDMENT

Alias: HWAAP-B04

Regulatory Driver: RCRA-C

RIP Date: 10/1/2023 RC Date: 9/30/2036 RC Reason: Not assigned

SC Date: 9/30/2036

Program: ENV Restoration, Army

Subprogram: IR NPL Status: No

Hazardous Ranking Score: 0

RRSE: Medium MRSPP: N/A

Phase	Start	End
RFA:	5/31/1987	8/31/1988
CS:	5/31/1987	8/31/1988
RFI/CMS:	5/31/1994	8/17/2017
DES:	10/1/2020	3/30/2021
IRA:	10/15/2005	5/30/2009
CMI(C):	10/1/2020	9/29/2023
CMI(O):	10/1/2023	9/30/2036
LTM:		

Site Narrative: Site HWAAP-B04 is a double-lined surface impoundment approximately 140 x 240 x 15 feet (ft), having a capacity of 586,000 gallons designed to collect explosive-contaminated wash down water from demilitarization operations. The impoundment was never used but was constructed using soil from a previous unlined impoundment that had collected explosive wash down water from 1944 to 1977. The newer lined impoundment was constructed at the same location as the older unlined impoundment. In the 1989 remedial investigation (RI), explosives were detected in the soil samples and in the groundwater at levels up to 30 milligrams per liter (mg/L). Additional RI work in 1994 included four surface soil samples collected from within the impoundment where visual staining of explosives was observed, and collection of groundwater samples from existing wells. Elevated concentrations, exceeding Nevada Department of Environmental Protection (NDEP) action levels (AL), for explosives cyclotrimethylenetrinitramine (RDX) and trinitrobenzene were detected in soil and groundwater. Trichloroethylene (TCE) is also a contaminant of concern (COC) in groundwater. Annual groundwater monitoring began in 1997. Excavation and bioremediation of soils at solid waste management unit (SWMU) B04 began in 1999 and continued through 2009. More than 9,500 cubic yards (cy) of explosivesimpacted soils were excavated from the impoundment and from the surrounding surface soils and treated through composting at SWMU B04. Residual explosive-contaminated soil was excavated, to an approximate depth of 15 ft below grade, and disposed in 2009, and the impoundment was backfilled. No further action (NFA) is required for soil. In 2004 a production well was installed to facilitate bioremediation of groundwater. Concentrations of explosives in groundwater above NDEP-approved AL were found in six out of 15 wells. Groundwater investigations continued in 2015. Extensive groundwater investigations delineated the groundwater plume of RDX, and data suggests that the RDX concentrations within the plume are stable. RDX in groundwater exceeds its AL (0.7 micrograms per liter (μg/L)) and was established as the COC. A 2016 groundwater modeling data estimated groundwater Als would be elevated for approximately 330 years if NFA was taken. A corrective measures study (CMS) was completed in 2017. NDEP concurred with the selected alternative recommended in the CMS which consisted of enhanced reductive biodegradation (ERB) utilizing groundwater recirculation; monitored

natural attenuation (MNA) for groundwater; and land use controls (LUC). The ERB and MNA will result in response complete (RC) in 13 years. Cleanup/Exit Strategy – Site is expected to meet NDEP's five criteria for exemption based NFA. Once criteria are met, MNA will be discontinued. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for unlimited use (UU)/unrestricted exposure (UE), five-year remedy reviews will continue until UU/UE is achieved. Institutional LUCs are evaluated for effectiveness during the installation wide five-year review (FYR).

32225.1042 HWAAP-B26 103-6 POL PIT

Env Site ID: HWAAP-B26 Cleanup Site: 103-6 POL PIT

Alias: HWAAP-B26

Regulatory Driver: RCRA-C

RIP Date: 6/29/2022 RC Date: 9/30/2054 RC Reason: Not assigned

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:	5/31/1987	8/31/1988
CS:	5/31/1987	8/31/1988
RFI/CMS:	5/15/2014	6/30/2022
DES:		
IRA:		
CMI(C):	7/31/2006	6/29/2022
CMI(O):	10/1/2020	9/30/2054
LTM:		

Site Narrative: Site HWAAP-B26 is an inactive unlined surface impoundment located north of Bldg 103-6. The impoundment measures 25 x 85 x 8 ft. The impoundment operated from the 1940s to 1980s and received steam line blowdown water, fuel oil, crude oil and other waste petroleum, oils and lubricants (POL) product. There was visible evidence of POL-stained soils in and around the pit. The contaminated soil was excavated and disposed. In 1992, the impoundment was backfilled with soil almost to grade level. The pit is currently characterized by a depressed area approximately twice as large as the originally reported size of the impoundment. An above-line steam line running through the site deteriorated and was replaced in 2001. An RI in 1994 included surface soil, hand auger sampling, and cone penetration testing (CPT). Samples collected within the pit were analyzed for explosives, metals, semi-volatile organic compounds, volatile organic compounds (VOC), polychlorinated biphenyl, and total petroleum hydrocarbons (TPH). All groups of chemicals were detected in the surface and subsurface soil below ALs except for TPH. Additional investigation to determine the extent of TPH in groundwater was completed in April 2012 to characterize the nature and extent of light non-aqueous phase liquid (LNAPL) and dissolved phase contamination in groundwater. The existing monitoring well network consists of 13 wells. All wells were developed and wells without LNAPL were sampled to define the extent of the dissolved phase contaminants. Three wells (IRPMW101, IRPMW104, and IRPMW137) at the site have measurable LNAPL. A solar powered pneumatic LNAPL skimmer has operated intermittently since 2012 at IRPMW101 (2012 to 2015), IRPMW104 (2016 to 2019), or IRPMW137 (2019 to present). Additional LNAPL has been removed by intermittent hand bailing. An estimated 285 gallons of LNAPL has been removed since recovery operations began. A corrective measures implementation report was completed in May 2012 which recommended continued LNAPL recovery and MNA with LUCs once LNAPL thickness is less than 0.5 inches. A contract was awarded in fiscal year (FY)20 to continue remedy implementation, complete a trend analysis, and provide recommended remediation technologies to expedite free product removal. MNA is expected to continue indefinitely; until TPH is below NDEP ALs for industrial land use. Cleanup/Exit Strategy - Site is expected to meet NDEP's five criteria for exemption based NFA. Once

criteria are met, MNA will be discontinued. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1043 HWAAP-B27A 103-16 CATCHMENT PIT

Env Site ID: HWAAP-B27A

Cleanup Site: 103-16 CATCHMENT PIT

Alias: HWAAP-B27A

Regulatory Driver: RCRA-C

RIP Date: 6/15/2012 RC Date: 4/15/2018

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:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1987	8/31/1988
CS:	5/31/1987	8/31/1988
RFI/CMS:	5/31/1994	9/30/1994
DES:	7/31/2006	6/15/2012
IRA:		
CMI(C):	12/31/2010	6/15/2012
CMI(O):	6/30/2006	4/15/2018
LTM:	5/1/2018	9/30/2054

Site Narrative: Site HWAAP-B27A consists of eight inactive unlined surface impoundments and two drainage ditches located northwest of the ordnance washout Bldg 103-16. The eight impoundments occupy a total area of approximately 10 acres. The catchment pits were between three to eight feet deep and were interconnected via a series of steel and clay pipes. Between 1946 and 1975 the drainage ditches and the pits potentially received up to 20,000 gallons of wastewater containing ammonium picrate, RDX trinitrotoluene (TNT), and red fuming nitric acid. There was visible evidence of several inches of ammonium picrate and TNT-stained soils in the pits and sidewalls. Groundwater samples from 1974 detected nitrates above 70 ug/L (US Geological Survey Phase II investigation). No actionable levels of TNT, RDX, or ammonium picrate were detected. An RI in 1994 included soil sample tests for explosives and metals. Explosives above ALs were detected in surface soils in the ditches and in the impoundments. In general, the concentrations decreased with depth. Concentrations of TNT were detected at 700 milligrams per kilogram (mg/kg) and 340 mg/kg in surface soil samples and then decreased to 71 mg/kg at a depth of five feet. Additional sampling for ammonium picrate was performed in 2002 and confirmed high levels in the surface soil (<12 inches). A soil removal action (RA) was conducted in December 2010 and 3,608 tons of soil was removed from the catchment pits, associated berms, drainage pipes, and concrete troughs. Confirmation sampling (CS) results showed that concentrations in residual soil were below the established Tier II site-specific target levels (SSTL). The site was backfilled in 2011. A decision document (DD) was approved in June 2012 that required groundwater monitoring in five wells on-site and cited residual concentrations of explosives below SSTLs based upon industrial use. The 2016 annual groundwater monitoring indicated the five exemption based NFA criteria were met. An exemption based NFA closure request was submitted to NDEP in 2016, and a preliminary decision to close open case memorandum was received from NDEP in FY17. The final NFA DD was signed Oct. 10, 2023. Cleanup/Exit Strategy- Site meets NDEP's five criteria for exemption-based NFA. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for

UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1076 HWAAP-I02 110 GROUP OPEN BURNING PIT

Env Site ID: HWAAP-I02

Cleanup Site: 110 GROUP OPEN BURNING PIT

Alias: HWAAP-I02

Regulatory Driver: RCRA-C

RIP Date: 12/31/2014 RC Date: 12/31/2014

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:

MRSPP: N/A

Phase	Start	End
RFA:	7/31/1992	7/31/1992
CS:	5/31/1994	1/31/1995
RFI/CMS:	6/30/2006	3/31/2013
DES:	3/31/2014	12/31/2014
IRA:		
CMI(C):	3/31/2014	12/31/2014
CMI(O):		
LTM:	1/31/2015	9/30/2054

Site Narrative: HWAAP-I02 addresses work previously associated with sub-sites HWAAP-G02 and HWAAP-G03. The site is a former open burn (OB) area and is approximately four acres. The OB area included pits for explosive wastewater disposal and open trenches used for OB of military munitions. Visible staining on the surface soils from explosives was present. The area appears to have been in operation in the 1950s. Previous investigations in 1988, 1989, and 1992 included magnetometry surveys and excavation of the pits. Soil samples collected from these pits contained elevated concentrations of explosives and metals above NDEP ALs. An RI was conducted in 1994 and included an airborne ground penetrating radar survey to delineate the extent of the pits and trenches. Four monitoring wells were also installed to assess the impact to groundwater. Initial concentrations of explosives in groundwater exceeded 70 ug/L and elevated concentrations of metals were detected. Beginning in 1997, explosives and metals concentration have been below NDEP ALs. Unexploded ordnance (UXO) was identified at the site in 2007. A CMS was completed in May 2014 and a remedial action DD was finalized in August 2014. The selected remedy included- installation of a 36-inch thick native soil cover over the contamination to prevent migration off-site; groundwater monitoring every four years; and LUCs. The soil cover, fencing, and signage installation was completed in December 2014. Inspections of the soil cover and LUCs are conducted at least annually to evaluate the integrity of the cover and to ensure that the site is not used for unauthorized purposes. The first groundwater sampling occurred in 2018 and none of the samples were above ALs. A contract was awarded in FY20 for a DD for well abandonment, site restoration, annual LUC inspections, and maintenance of the soil cover. NDEP concurrence for well decommissioning was received at a May 2023 meeting. Decommissioning will occur. Cleanup/Exit Strategy – Continue cover maintenance, continue periodic reviews and maintain LUCs indefinitely. The future land use will be industrial. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved.

32225.1083 HWAAP-I09 49-10 PIT/LANDFILL #1 & #2

Env Site ID: HWAAP-I09

Cleanup Site: 49-10 PIT/LANDFILL #1 & #2

Alias: HWAAP-I09

Regulatory Driver: RCRA-C

RIP Date: 9/15/2018 RC Date: 9/30/2054 RC Reason: Not assigned

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:	7/31/1992	7/31/1992
CS:	5/31/1994	10/31/1994
RFI/CMS:	10/31/1994	8/30/2018
DES:	11/30/2014	9/15/2018
IRA:		
CMI(C):	1/31/2002	9/15/2018
CMI(O):	9/15/2018	9/30/2054
LTM:		

Site Narrative: Site HWAAP-109 consists of two open pits near an area used to assemble ship mines, bombs, and torpedo warheads. The period of operation is not documented. Wastewater and wash down water were reportedly discharged to these pits. The 1994 investigation included soil gas, surface soil, and subsurface soil samples collected from three borings to a depth of 56 ft. The surface soil samples contained up to 1,260 mg/kg of total petroleum hydrocarbons (TPH-D). Groundwater sampling showed hits of VOCs. Sewer line breakage was thought to be the source, but in 1999, sewer lines were investigated, and the findings eliminated potential release points. The pits were backfilled in 2008 to promote drainage away from the former pits. Wells were installed to evaluate the nature and extent of TCE in groundwater, which was observed above NDEP AL. A vapor intrusion Tier I assessment was completed in FY16, and no risk was identified. TCE was detected above the NDEP AL of 5 µg/L and is the sole COC. A CMS was completed in June 2017, and the selected remedy for groundwater is MNA and LUCs. Modeling conducted during the CMS demonstrated an MNA duration of 105 years. A contract was awarded in FY20 for continued remedy implementation. MNA will continue until sampling confirms contamination is below the NDEP AL. Cleanup/Exit Strategy - Site is expected to meet NDEP's five criteria for exemption-based NFA. Once criteria are met, MNA will be discontinued. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1145_HWAAP-B24A_BLDG 336- FUEL STORAGE

Env Site ID: HWAAP-B24A

Cleanup Site: BLDG 336- FUEL STORAGE

Alias: BLDG 336

Regulatory Driver: RCRA-C

RIP Date: 10/1/2018 RC Date: 9/30/2054 RC Reason: Not assigned

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:	1/31/2006	2/28/2006
CS:	2/28/2006	5/31/2007
RFI/CMS:	7/31/2006	5/31/2007
DES:	7/31/2006	7/31/2007
IRA:	7/31/2008	9/15/2018
CMI(C):	7/31/2008	9/15/2018
CMI(O):	10/1/2018	9/30/2054
LTM:		

Site Narrative: HWAAP-B24A is located in the Central Magazine area of HWAD. The site is a fuel storage area that previously had two 10,000-gallon underground storage tanks (UST) used to store gasoline and a dispensing system. In August 1999, a 5,000-7,000-gallon release occurred. Impacted soil was excavated to depths of up to 20 ft below ground surface; the dispensing system was removed; and the two USTs were taken out of service. A third 10,000-gallon UST and dispensing system used to store diesel fuel remain at the site. The soil cleanup achieved UU/UE. Since August 1999, 32 monitoring wells have been installed. During the first comprehensive groundwater monitoring event in November 2000, free-product was observed in monitoring wells MW08 and MW09; at reported thicknesses of 3.8 ft A06 and 2.2 ft, respectively. During the monitoring period, free-product has been observed in MW08, MW09, MW10, and MW19. Corrective actions at the site included free-product recovery, soil vapor extraction (SVE), ozone sparging, and bioventing in soil and groundwater. These systems are no longer operating at the site. A corrective action plan completed in September 2009 documents the current site response under the corrective measures implementation (operations) (CMI(O)) phase and includes MNA as the corrective measure. Annual monitoring since 2009 indicates no free-product rebound. A risk assessment and CMS were completed in January 2018. A contract was awarded in FY20 with a five-year period of performance to continue MNA sampling and reporting. The contractor is also tasked to evaluate contaminate trends to recommend remediation technologies and remedial measures. Cleanup/Exit Strategy - Site is expected to meet NDEP's five criteria for exemption-based NFA. Once criteria are met, MNA will be discontinued. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1158_CCHWAAP-I15_101-42 CATCHMENT PIT

Env Site ID: CCHWAAP-I15

Cleanup Site: 101-42 CATCHMENT PIT

Alias: #

Regulatory Driver: RCRA-C

RIP Date: 9/30/2016 RC Date: 9/30/2054 RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR NPL Status: No

SC Date: 9/30/2054

Hazardous Ranking Score: 0

RRSE: Medium MRSPP: N/A

Phase	Ctout	End
Phase	Start	End
RFA:	7/31/1992	3/31/1994
CS:		
RFI/CMS:	7/31/2010	10/31/2013
DES:	11/30/2013	10/31/2014
IRA:		
CMI(C):	10/31/2015	9/30/2016
CMI(O):	10/31/2015	9/30/2054
LTM:		

Site Narrative: Site SWMU I15 is in HWAD's central magazine area located in the Central Magazine area of HWAD. A four-inch diameter transit pipe was used to discharge wastewater from Building 101-41 to two catchment pits in series. The catchment pits were reportedly operated from 1940 to the early 1970s. RI activities in 1994 and 1997 identified explosives contamination in soil and VOCs contamination in soil vapor and groundwater. TCE was detected in one well at concentrations up to 61 µg/L. In 1998 the explosives-contaminated soils were remediated by windrow composting. An RI addendum was completed to delineate VOC contaminated groundwater under the site. A total of 15 additional monitoring wells were installed and sampled in three events between November 2010 and October 2011. VOCs and explosives were detected, with TCE at a maximum of 870 μg/L and RDX at a maximum of 120 µg/L. As a result of uncertainty in the source location, the boundary was re-defined to include the apparent source (highest concentrations) of contaminated groundwater. An additional phase of investigation was performed in 2012. That effort included soil vapor sampling to locate the source, installation of 12 additional groundwater monitoring wells, groundwater sampling, and soil sampling. The extent of the contaminated groundwater plume has been defined although the source was never located. The TCE plume is estimated to be 2,900 ft long. The area with the highest concentration is approximately 500-600 ft upgradient of the original site. A corrective action DD was signed by the Army, with regulator concurrence in September 2013. The DD identifies the remedy as LUCs with ERB utilizing groundwater recirculation with MNA for groundwater. ERB began in 2014 and is in progress. MNA is underway. This site remains in the CMI(O) and MNA is the corrective measure. CMI(O) is expected to continue indefinitely as no modeling has been conducted to predict when ALs will be achieved. A contract was awarded in FY20 to continue implementation of the remedy through FY25. Cleanup/Exit Strategy - Site is expected to meet NDEP's five criteria for exemption-based NFA. Once criteria are met, MNA will be discontinued. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1162 CCHWAAP-B29 103-41 Unlined Ponds

Env Site ID: CCHWAAP-B29

Cleanup Site: 103-41 Unlined Ponds

Alias: B29

Regulatory Driver: RCRA-C

RIP Date: 6/1/2013 RC Date: 4/30/2018

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:

MRSPP: N/A

Phase	Start	End
RFA:	5/31/1987	8/31/1988
CS:		
RFI/CMS:	7/31/2010	6/30/2012
DES:		
IRA:		
CMI(C):	12/15/2012	5/15/2013
CMI(O):	6/1/2013	4/30/2018
LTM:	5/1/2018	9/30/2054

Site Narrative: CCHWAAP-B29 is located near Building 103-41 in the northwest portion of the North Magazine Area. B29 is the site of 14 former unlined surface impoundments that were connected by steep troughs and covers an area of approximately 0.25 square miles. Nine of the impoundments were used for the storage and disposal of 2,4,6-TNT wash water from demilitarization activities and measure approximately 25 ft wide by 100 ft long with a depth of three ft. The other five impoundments were used for storage and disposal of picric acid (2,4,6-trinitrophenol) wash water from demilitarization activities. An RI of was performed in 1994 and included groundwater sampling, surface soil and hand auger soil sampling, and CPT soundings. A pilot study successfully treated 300 cy of ammonium picratecontaminated soil using windrow composting. Soil cleanup reached UU/UE in 2012. Groundwater sampling in 2000 detected up to 29 ug/L of 2,4,6-TNT and other organic inorganic and nitrogen-bearing compounds. Nitrate levels greatly exceed the drinking water standards of the state of Nevada. During 2003, through a teaming effort with the NDEP, the preliminary remediation goals for ammonium picrate were raised from seven parts per million (ppm) to 120 ppm for an industrial site. An RI for groundwater was completed and a remedy that included MNA of groundwater, implementation of LUCs and inclusion in the periodic review was implemented in 2013. In 2018 MNA ceased when sampling confirmed contaminants were below ALs. An exemption based NFA DD was submitted to NDEP in 2019. A contract was awarded in 2020 to obtain final NFA concurrence and perform well abandonment and site restoration. Wells were abandoned and site restoration activities completed in 2021. The final NFA DD was signed Oct. 10, 2023. Cleanup/Exit Strategy - Site has met NDEP's five criteria for exemption-based NFA. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1186 HWAAP-PFAS PFAS

Env Site ID: HWAAP-PFAS

Cleanup Site: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/30/2029 RC Date: 12/30/2029 RC Reason: Not assigned

SC Date: 12/31/2029

Program: ENV Restoration, Army

Subprogram: IR NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	9/30/2017	9/27/2018
SI:	9/28/2018	9/30/2022
RI/FS:	3/31/2024	12/30/2029
RD:		
IRA:		
RA(C):		
RA(O):		
LTM:		

Site Narrative: Per direction from DCS G-9, site created to account for all per- and polyfluoroalkyl substances (PFAS) activities at the installation. A preliminary assessment (PA)/site inspection (SI) was completed in FY22. The PA/SI evaluated 13 areas of potential interest (AOPI). The SI recommends nine sites for further investigation. However, the recommendations are predicated upon the US Environmental Protection Agency (USEPA) health advisory limit of 70 parts per trillion. The USEPA and NDEP are in the process of promulgating a maximum contaminant level for PFAS. Therefore, the PA/SI sampling results will require screening against current standards. The RI is anticipated to include all nine AOPIs. The RI is in progress. The future land use will be industrial.

32225.1128 HWAAP-020-R-01 WHISKEY FLAT

Env Site ID: HWAAP-020-R-01 Cleanup Site: WHISKEY FLAT

Alias: WHISKEY

Regulatory Driver: CERCLA

RIP Date: 9/30/2024 RC Date: 9/30/2024 RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: MR NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP: 9

Phase	Start	End
PA:	9/16/2002	5/1/2003
SI:	3/31/2007	9/30/2009
RI/FS:	7/31/2010	10/31/2014
RD:	2/28/2016	9/30/2021
IRA:		
RA(C):	2/28/2016	9/30/2024
RA(O):		
LTM:	10/1/2024	9/30/2054

Site Narrative: The Whiskey Flat Munitions Response Site (MRS) is located south of the installation's active Lance Corporal Timothy G. Carter Test Range, and are public lands managed by the US Bureau of Land Management (BLM). The site originally encompassed the safety fan for the testing of rockets from approximately 1968 to 1975. It also received kickouts from open detonation operations in the active range portion of the installation in 1946. An Army bulletin from that time noted that 10 personnel were in the "Old Bomb Area" destroying obsolete and defective ammunition with 1,200-lb donor charges of high explosives. The large detonations resulted in kickouts outside the installation boundary. In addition, three acres of the northern portion of the site were part of the safety fan for the active range during the testing of mortar ammunition from approximately 1971 to 1990. As of 1995, 8,259 acres of Whiskey Flat had been surface sweep to reduce the risk of exposure to explosive hazards. The ordnance items disposed of during these sweeps included rockets, rocket fuses, and remnants of the donor demolition charges. The site is undeveloped and is used for recreational and agricultural (grazing) purposes. This site was never owned by the Department of Defense (DOD). An RI was completed in 2013. A feasibility study (FS) and proposed plan (PP) were finalized is 2014. The FS resulted in a reduced footprint of 4,391 acres. The remaining 4,724 acres that posed no risk and required NFA was designated as site HWAAP-020-R-02. A final RA DD was approved in 2016. The RA was initiated in September 2016 with anticipated completion in 2019. During clearance activities in December 2019 a submunition was discovered and all clearance activity was halted pending approval of a deviation and risk acceptance document. The remedy includes LUCs, educational awareness, a 100% surface removal of munitions and explosives of concern (MEC), and a subsurface removal two ft below ground surface. The MEC surface clearance was completed in 2019. A contract was awarded in 2020 to complete the subsurface removal of MEC, incorporate the LUCs, and complete a remedial action completion report (RACR). The RACR is anticipated in FY24. Cleanup/Exit Strategy - Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be recreational and agricultural.

32225.1131 HWAAP-022-R-01 OLD BOMB ROCKET FIRING RA

Env Site ID: HWAAP-022-R-01

Cleanup Site: OLD BOMB ROCKET FIRING RA

Alias: OB EAST

Regulatory Driver: CERCLA

RIP Date: 9/30/2020 **RC Date:** 9/30/2020

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
PA:	9/16/2002	5/1/2003
SI:	3/31/2007	9/30/2009
RI/FS:	7/31/2010	10/31/2013
RD:	6/30/2014	10/31/2014
IRA:		
RA(C):	2/28/2016	9/30/2020
RA(O):		
LTM:	10/1/2020	9/30/2054

Site Narrative: The Old Bomb Rocket Firing Range—East MRS consists of 845 acres of land just southeast of the HWAD installation boundary on land managed by the BLM. The land managed by the BLM is open to the public for recreational use. The MRS was used as a rocket testing range from about 1971 to about 1980. The length of the safety fan, 11,000 yards, was derived from munitions descriptions for air-to-ground 5-inch rockets found in a Navy technical manual. The Marine Corps conducted several UXO surface sweeps throughout the area prior to the property transfer to the Army in 1977. Other than these sweeps, no remediation activities are known to have taken place in this area. This range was never owned by the DOD. An RI, FS, PP, and DD were completed. A contract was awarded in 2016 to implement the selected remedy. The remedy incorporated LUCs, educational awareness, and a complete surface removal MEC. The MEC surface clearance was completed in 2019. A contract was awarded in 2020 to incorporate the LUCs and finalize the RACR. Cleanup/Exit Strategy — Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be recreational.

32225.1136_HWAAP-013-R-01_PRE-1940 DETONATING PITS

Env Site ID: HWAAP-013-R-01

Cleanup Site: PRE-1940 DETONATING PITS

Alias: 1940 DP

Regulatory Driver: CERCLA

RIP Date: 9/30/2020 **RC Date:** 9/30/2020

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
PA:	9/16/2002	5/1/2003
SI:	3/31/2007	6/30/2011
RI/FS:	7/31/2010	9/30/2014
RD:	4/15/2015	12/15/2015
IRA:		
RA(C):	4/1/2016	9/30/2020
RA(O):		
LTM:	10/1/2020	9/30/2054

Site Narrative: HWAAP-013-R-01 MRS originally comprised 3,140 acres on the eastern side of the installation and was purportedly used for the detonation of obsolete munitions from approximately 1930 until approximately 1940. This site could only be found on one map. An interview during the closed, transferring, and transferred (CTT) range/site inventory indicated that fuzes, bombs, rockets, landmines, and mortars would likely have been detonated here. Installation personnel stated during the historical records review that no current employees recall the use of these pits; that they have not seen these pits characterized in other reports; and that the recent hand edited, unsigned, unapproved contractordeveloped map created in 1980, which shows the locations of these pits, is likely incorrect. The MRS boundary was estimated by creating a circular kickout zone extending 6,700 ft around the suspected detonation pits area. An RI was completed and resulted in the realignment of the MRS to 2.7 acres within the installation boundary. An FS, PP, and DD were completed. A contract was awarded in 2016 to implement the selected alternative consisting of MEC clearance and analysis of soil samples from the bottom of the pit. The MEC clearance and soil sampling and analysis were completed in 2019. A contract was awarded in 2020 to finalize the RACR. Cleanup/Exit Strategy – Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue until UU/UE is achieved. The future land use will be industrial.

32225.1139 HWAAP-008-R-01 WALKER LAKE LAND TEST RAN

Env Site ID: HWAAP-008-R-01

Cleanup Site: WALKER LAKE LAND TEST RAN

Alias: WL LAND

Regulatory Driver: CERCLA

RIP Date: 9/30/2031 RC Date: 9/30/2031 RC Reason: Not assigned

SC Date: 9/30/2061

Program: ENV Restoration, Army

Subprogram: MR NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP: 2

Phase	Start	End
PA:	9/16/2002	5/1/2003
SI:	3/31/2007	9/30/2009
RI/FS:	7/31/2010	9/30/2024
RD:	10/1/2024	9/30/2026
IRA:		
RA(C):	10/1/2026	9/30/2031
RA(O):		
LTM:	10/1/2031	9/30/2061

Site Narrative: The Walker Lake Test Range has been used for various munitions testing since World War II. Clearance activities in 1974 removed munitions and MD weighing more than 75 tons. The receding water level in Walker Lake exposing rockets/munitions on the shoreline, justified a time-critical removal action (TCRA). A TCRA was conducted to remove MEC from the southeast shoreline between October 2011 and April 2012. In the shoreline rockets/munitions located in the water up to two feet deep were removed. An RI was completed at the project site in 2013. Prior to and during the RI, the 10,269-acre Walker Lake Land Test Range MRS consisted of four individual MRSs. The four MRS included the 9,210acre Walker Lake Land Test Range MRS, 796-acre Walker Lake Water Test Range MRS, 208-acre Walker Lake Water Test Range (transferred [TD]) MRS, and 14-acre Walker Lake Land Test Range (TD) MRS. At the conclusion of the RI, all of the Walker Lake Land Test Range MRSs and Walker Lake Water Test Range MRSs, and a small triangle of land near the firing point of the Walker Lake Land Test Range MRS, were combined into one MRS (HWAAP-008-R-01, Walker Lake Land Test Range). At the conclusion of the RI, the total area of the Walker Lake Land Test Range expanded from 9,210 acres to 10,269 acres. Shoreline area of interest acreage within HWAD boundaries was to be realigned to be included within antisubmarine rocket (ASROC) ranges (HWAAP-009-R-01). 2020 Realignment – Walker Lake Land Test Range MRS, 796-acre Walker Lake Water Test Range MRS, 208-acre Walker Lake Water Test Range (TD) MRS, and 14-acre Walker Lake Land Test Range (TD) MRS; and the ASROC ranges including the shoreline will be addressed under HWAAP-008-R-01 at this moment and forward. The Base Operating Contractor is conducting quarterly sweeps for UXO along the shoreline in accordance with a NDEP Resource Conservation and Recovery Act (RCRA) notice of violation (NOV) order. The draft final removal action DD is pending. Cleanup/Exit Strategy - for the land area (LUCs, surface MEC removal in the low-density land area, and subsurface MEC removal using advanced classification digital geophysical mapping (DGM) in the high-density land area) and due to continuous lowering of the lake water levels, no MEC is expected below the water at the conclusion of the removal action. Advanced geophysical classification is the approach for high-density areas. Low-density area approach is 100% surface sweep.

32225.1185 HWAAP-020-R-03 WHISKEY FLAT PRIVATE PARC

Env Site ID: HWAAP-020-R-03

Cleanup Site: WHISKEY FLAT PRIVATE PARC

Alias: #

Regulatory Driver: CERCLA

RIP Date: 9/30/2025 RC Date: 9/30/2025 RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: MR NPL Status: No

SC Date: 9/30/2025

Hazardous Ranking Score: 0

RRSE: N/A MRSPP: 9

Phase	Start	End
PA:	9/16/2002	5/1/2003
SI:	3/31/2007	9/30/2009
RI/FS:	5/15/2020	9/30/2025
RD:		
IRA:		
RA(C):		
RA(O):		
LTM:		

Site Narrative: The site is located south of the installation's active Lance Corporal Timothy G. Carter Test Range, and are public lands managed by the BLM. The site originally encompassed the safety fan for the testing of rockets from approximately 1968 to 1975. It also received kickouts from open detonation operations in the active range portion of the installation in 1946. An Army bulletin from that time noted that 10 personnel were in the "Old Bomb Area" destroying obsolete and defective ammunition with 1,200-lb donor charges of high explosives. The large detonations resulted in kickouts outside the installation boundary. In addition, three acres of the northern portion of the site were part of the safety fan for the active range during the testing of mortar ammunition from approximately 1971 to 1990. As of 1995, 8,259 acres of Whiskey Flat had been surface sweep to reduce the risk of exposure to explosive hazards. The ordnance items disposed of during these sweeps included rockets, rocket fuses, and remnants of the donor demolition charges. The site is currently undeveloped and is used for agricultural purposes. This site was never owned by the DOD. An RI was completed in 2013. An FS and PP were finalized is 2014. The FS resulted in a reduced footprint of 4,391 acres. The remaining 4,724 acres that posed no risk and required NFA was designated as site HWAAP-020-R-02. A final RA DD was approved in 2016. During the DD public comment period it was discovered that a local individual owns this 40.5-acre parcel fee simple, including water and mineral rights. Subsequent discussion with landowner revealed the intent to develop the property with a residence, install a drinking water well, install a septic system, as well as conduct mineral exploration/extraction. Based on the new land use information, it was determined that a supplemental RI would be required utilizing residential screening levels and residential risk levels. A 100% surface removal of MEC and MEC safety awareness was completed in 2017. A contract was awarded in 2020 to complete the RI, FS, PP, and DD. Cleanup/Exit Strategy - achieve UU/UE. The future land use will be residence with drinking water well and mineral exploration/extraction.

32225.1169_CCHWP-A06A_OLD BOMB DISPOSAL AREA 1

Env Site ID: CCHWP-A06A

Cleanup Site: OLD BOMB DISPOSAL AREA 1

Alias: HWAAP-A06A

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	5/15/1987	8/15/1988
CS:	5/15/1987	9/15/1988
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: The 50-acre site was included in the Installation Restoration Program (IRP) but was closed as RC in 1992. RC was designated for the site because it was considered IRP ineligible due to its location on an active range. The site was opened in the CC Program in FY12. The IRP site ID was HWAAP A06A, due to Army Environmental Database - Compliance-related Cleanup (AEDB-CC) naming requirements the site number was CCHWP-A06A. The site, an unlined landfill (approximately 50 acres), is located approximately eight miles southeast of Hawthorne and one mile northwest of Rocket Mountain. The landfill was in operation from 1943 to 1946 for the disposal of, by means of burn or detonation, approximately 10,000 tons of mines, warheads, bombs, incendiary devices, and miscellaneous ordnance. There is significant overlap with A06A and G01A. The ground is stained by black ash and rusty red oxidized TNT residue/ammonium picrate. Wind erosion and surface flash flooding may cause these contaminants to be dispersed. According to a 1987 report conducted by the US Army Environmental Hygiene Agency (USAEHA), this site is co-located with an active OB operation permitted by the NDEP. SWMU G01a is also located along side this area. These two areas are not included in the fenced area erected in 2009 but lie outside northwest of Rocket Mountain. In 1994, an airborne ground penetrating radar survey over both HWAAP-A06a and G01a was completed. Forty-four targets were surveyed over a 63-acre area. In 1994, an Army evaluation team visited the site and determined the UXO at the site pose an imminent hazard. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as areas of concern (AOC). The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results and change in range status.

32225.1170_CCHWP-A06B_OLD BOMB DISPOSAL AREA 2

Env Site ID: CCHWP-A06B

Cleanup Site: OLD BOMB DISPOSAL AREA 2

Alias: A06B

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	5/15/1987	8/15/1988
CS:	5/15/1987	9/15/1988
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: This site was formerly included in the IRP. Because the site is located on an active range, it was closed in IRP and moved to the CC program in FY11. Due to space limitations in the AEDB-CC database, the site ID was changed from CCHWAAP-A06B to CCHWP-A06B. The site is a two-acre landfill area located one mile southwest of Rocket Mountain. A 1989 investigation was conducted, and it included geophysical surveying, five test pits, and soil sampling. Elevated levels of various explosives and metals were found in the soil, along with geophysical anomalies. In February and March 2008 an updated survey requested by the HWAD Environmental Office and the USAEC was conducted by the Marine Corps Programs Office (MCPO). The new survey identified that HWAD-A06B encompasses a total of 111 acres. All ranges, including some disposal areas, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility of the sites. These sites have undergone review under the US Army active/inactive range inventory (also known as the Phase II range inventory). Under the Phase II range inventory, ranges associated with Old Bomb and the Navy Insurance Operations Training Center (NIOTC) range were determined to be active ranges. The groundwater monitoring began in 1989. The NDEP indicated that further RA beyond groundwater monitoring is suspended pending a change in site usage (range closure), or groundwater contaminant identification. No detection above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD and the USAEC will continue groundwater sampling at those sites. Corrective action is required by the RCRA permit. NDEP considers this an uncharacterized site that the Army will address when the active range is CTT, or groundwater contamination exceeds ALs. This area is an active training site and is not eligible for the Military Munitions Response Program. Expanded military training is anticipated. Fencing was erected around this site and all sites at Old Bomb. This site is located on an active range and there will be NFA until the range closes. An RI with incidental removal is scheduled to begin at this site in 3rd quarter of FY13. An exploratory pit was dug in the 1987 study and left open. This pit contains 4.5 WP Barrage rockets, numerous other UXO/MEC and open drums of what is suspected to be Yellow D. The RA will include the damaged drums with incidental UXO/MEC removal. This action is

taking place as a safety measure as this is an active range. Removal will be confined to the pit area. The purpose is to mitigate the immediate hazard of the pit. The immediate hazards will be removed, and the pit will be capped along with signage. An RA was performed at this site in July/August 2013 during an RI. Approximately 250 acres of the Old Bomb Training Range has a surface clearance underway to facilitate DGM. A magnetometer survey performed in 1987 revealed around 23 pits scattered throughout the OB area. The current surface clearance is being performed to support DGM. The results will help determine the extent of the pits. The surface clearance has covered all SWMUs sites at Old Bomb with the exception of the A05 Mustard Gas Disposal Area. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results and change in range status.

32225.1171 CCHWP-A06C OLD BOMB DISPOSAL AREA 3

Env Site ID: CCHWP-A06C

Cleanup Site: OLD BOMB DISPOSAL AREA 3

Alias: A06C

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

Program: Compliance-related Cleanup

Subprogram: CC

SC Date: 5/16/2052

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	5/15/1987	8/15/1988
CS:	5/15/1987	8/15/1988
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: The site was initially identified as a landfill that measured 500 ft by 100 ft, located one mile south of Rocket Mountain. A 1989 investigation included geophysical surveying, excavation of one test pit, and soil sampling. Elevated levels of metals in the soil, as well as the presence of geophysical anomalies, were found. In 1994, an airborne ground penetrating radar survey was completed, and an Army evaluation team visited the site and determined that UXO posed an imminent hazard. In February and March 2008, an updated survey was conducted. The survey identified that the disposal area contained industrial waste which included piping and asbestos-containing material (transite). Also identified during the survey was a pile of munitions debris that contained burned bulk shotgun shells and other debris. The pile is located outside of the original boundaries of HWAD-A06C. The site was expanded to include this additional area and now encompassed 22 acres. Groundwater monitoring began in 1989 at the inception of the Hawthorne restoration program. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above Als were found. Some trace detections were found below Als; therefore, the NDEP, HWAD, and the USAEC will continue groundwater sampling at those sites. All ranges, which include some disposal areas, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II range inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC range are active ranges. This area is an active training site and is not eligible for the IRP. This site was formerly included in the IRP. In FY11 the site was moved from the IRP to the CC program because the site is located on an active range. This site was known as CCHWAAP-A06C when it was included in the IRP. Corrective action is required by the RCRA permit. The NDEP considers this site an uncharacterized site that will be addressed by the Army when the active range is to be CTT, or groundwater contamination exceeds ALs. Fencing erected around this site in 2009. This site is located on an active range and there is NFA until site closes. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located

over 800+ acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results and change in range status.

32225.1172 CCHWP-A06D OLD BOMB DISPOSAL AREA 4

Env Site ID: CCHWP-A06D

Cleanup Site: OLD BOMB DISPOSAL AREA 4

Alias: A06D

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	5/15/1987	8/15/1988
CS:		
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: This site was formerly included in the IRP. In FY11 the site was deemed ineligible for the IRP because of its location on an active range. The site was closed in IRP and moved to the CC program. Due to space limitations in the AEDB-CC database the IRP site ID (CCHWAAP-A06B) was CCHWP-A06B. This landfill and waste treatment site is located 0.5 mile southeast of Rocket Mountain in the south wash area. The site covered about 300 square ft with two partially filled trenches flanking the ease and west sides. Operation began in 1944, when operations ceased is unknown. A 1987 USAEHA report indicated disposal of Comp B wastewater containing explosives occurred in addition to disposal and burning of pyrotechnic, explosives, and propellants (PEP) and ordnance. Explosives staining in trenches was also observed. A 1989 investigation included geophysical surveying, excavation of seven test pits, and soil sampling. Elevated levels of explosives (130,000 mg/kg TNT), metals, and ammonium picrate (3,300 mg/kg) in soil, along with geophysical anomalies, were found. In 1994, an airborne ground penetrating radar survey was completed over the entire site at several target locations. An Army evaluation team visited the site and determined that UXO posed an imminent hazard. In February and March 2008, an updated survey was conducted. The survey determined that the entire south wash area was contaminated. The south wash area was split among IRP sites HWAAP-A06D, A06E, G01B, G01C, I22, and 123. The acreage for this site based on the updated survey is 30. Groundwater monitoring began in 1989 at the inception of the Hawthorne restoration program. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs were found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the USAEC will continue groundwater sampling at those sites. All ranges, which include some disposal areas at HWAD, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II Range Inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC Range are active ranges. Corrective action is required by the RCRA permit. The NDEP considers this site as an uncharacterized site that will be

addressed by the Army when the active range is CTT, or groundwater contamination exceeds ALs. Fencing erected around this site in 2009. Site is located on an active range and therefore NFA until the range closes. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1173 CCHWP-A06E OLD BOMB DISPOSAL AREA 5

Env Site ID: CCHWP-A06E

Cleanup Site: OLD BOMB DISPOSAL AREA 5

Alias: A06E

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	5/15/1987	8/15/1988
CS:		
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: This site was formerly included in the IRP. Because the site is located on an active range, it was closed in the IRP and moved to the CC program in FY11. Due to space limitations in the AEDB-CC database the site ID was changed from CCHWAAP-A06E to CCHWP-A06E. This waste pile and treatment site initially measured about 850 ft by 100 ft and is located immediately east of Old Bomb Disposal Area 4. Three trenches, 150 x 30 x 20 ft, are located in the center of this site. A 1987 USAEHA report indicated that many tons of ordnance were burned and/or buried at this site. Explosive staining and exposed ordnance have been observed. A 1989 investigation included geophysical surveying, excavation of four test pits, and soil sampling. Elevated levels of metals in soil, as well as geophysical anomalies were found. In 1994, an airborne ground-penetrating radar survey was completed over the entire site at several target locations. An Army evaluation team visited the site and determined that UXO posed an imminent hazard. In February and March 2008, an updated survey was conducted. This site lies within the south wash area and the 2008 survey determined that the entire south wash area was contaminated. The south wash area was split among IRP sites HWAAP-A06D, A06E, G01B, G01C, I22, and I23. The acreage for this site based on the updated survey is 10. Groundwater monitoring began in 1989. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the Army will continue groundwater sampling at those sites. All ranges, which include some disposal areas at HWAD, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II Range Inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC range are active ranges. Expanded military training is anticipated in this area. Corrective action is required by the RCRA permit. The NDEP considers this site as an uncharacterized site that will be evaluated when the active range is CTT, or groundwater contamination exceeds ALs. Fencing erected in 2009. This site is located on an active range and therefore NFA will be accomplished until the Old Bomb

Range closes. April 2013, a 1987 USAEHA study revealed that not only PEP and small arms were disposed of at this site but also rocket fuel and drums of unknown chemicals. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1174 CCHWP-I22 OLD BOMB OPEN BURNING PIT

Env Site ID: CCHWP-I22

Cleanup Site: OLD BOMB OPEN BURNING PIT

Alias: #

Regulatory Driver: RCRA-C

RIP Date: 5/16/2020 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	7/15/1992	7/30/1992
CS:	5/15/1994	5/15/1996
RFI/CMS:	5/15/2020	5/16/2020
DES:		
IRA:		
CMI(C):		
CMI(O):	5/16/2020	5/15/2052
LTM:		

Site Narrative: This site was formerly included in the IRP. Because the site is located on an active range, it was closed in IRP and moved to the CC program in FY11. Due to space limitations in the AEDB-CC database the site ID was changed from CCHWAAP-I22 to CCHWP-I22. This OB burial pit is located at the base of Rocket Mountain. There is no written history on this site and HWAD personnel were not able to speculate possible dates for its use. The site is littered with ordnance. A 1989 investigation included one test pit and soil sampling. Evidence of elevated concentrations of metals and explosives was found in the soil. In February and March 2008 an updated survey requested by the HWAD Environmental Office and USAEC was conducted. Based on this survey the site is six acres. This site lines with the south wash area and the 2008 survey determined that the entire south was area was contaminated. The south wash area was split among sites HWAAP-A06D, A06E, G01B, G01C, I22, and I23. All ranges, which include some disposal areas at HWAD, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II range inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC range were active ranges. Walker Lake Test Range was closed in FY11. Expanded military training is anticipated in this area. Groundwater monitoring began in 1989. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the Army will continue groundwater sampling at those sites. Corrective action is required by the RCRA permit. The NDEP considers this site as an uncharacterized that will be addressed by the Army when the active range is closed, or groundwater contamination exceeds ALs. Fencing was erected in 2009 to restrict access and protect troops training on Old Bomb. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range

(colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1175 CCHWP-I23 OLD BOMB/ROCKET METAL LANDFILL

Env Site ID: CCHWP-I23

Cleanup Site: OLD BOMB/ROCKET METAL LANDFILL

Alias: #

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End
RFA:	7/15/1992	7/30/1992
CS:	5/15/1994	10/15/1994
RFI/CMS:	5/15/2020	5/15/2052
DES:		
IRA:		
CMI(C):		
CMI(O):		
LTM:		

Site Narrative: This site was formerly included in the IRP. In FY11 the site was closed in the IRP and opened in the CC program because it is located on an active range. Due to space limitations in the AEDB-CC database the site ID was changed from CCHWAAP-I23 to CCHWP-I23. This OB burial pit is located at the base of Rocket Mountain. The site is littered with ordnance. A 1989 investigation included one test pit and soil sampling. Evidence of elevated concentrations of metals and explosives was found in the soil. In February and March 2008 an updated survey requested by the HWAD Environmental Office and USAEC was conducted. Based on this survey the site is six acres. This site lines with the south wash area and the 2008 survey determined that the entire south was area was contaminated. The south wash area was split among sites HWAAP-A06D, A06E, G01B, G01C, I22, and I23. All ranges, which include some disposal areas at HWAD were originally included in the IRP but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II Range Inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC Range were active ranges. Walker Lake Test Range was closed in FY11. Expanded military training is anticipated in this area. Groundwater monitoring began in 1989. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the Army will continue groundwater sampling at those sites. Corrective action is required by the RCRA permit. The NDEP considers this site as an uncharacterized that will be addressed by the Army when the active range is CTT, or groundwater contamination exceeds ALs. A fence was erected in 2009. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are

considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1176 CCHWP-K07 Old Bomb DDT Burial Site

Env Site ID: CCHWP-K07

Cleanup Site: Old Bomb DDT Burial Site

Alias: K07

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End	
RFA:	5/15/2000	7/15/2000	
CS:			
RFI/CMS:	5/15/2020	5/15/2052	
DES:			
IRA:			
CMI(C):			
CMI(O):			
LTM:			

Site Narrative: This site is located in the Old Bomb area propellant burn area (permitted propellant disposal site). The site was formerly identified as HWAAP-A06A, HWAAP-G01A and CCHWAAP-K07. The combined site size is approximately 50 acres In FY11 the site was closed in the IRP and opened in the CC program because it is located on an active range. Due to space limitations in the CC database the site ID was changed from CCHWAAP- K07 to CCHWP-K07. During the 1970s, a large quantity of containerized pesticides [dichlorodiphenyltrichloroethane (DDT)] was reportedly buried in this area; however, the exact location is unknown. A former employee indicated the general area in which the containers might be found. The depth and quantity of material buried are unknown. The area is located on an active range within a known UXO contaminated area. A shallow monitoring well (HWAAP-02, depth 40 - 60 ft) is located north and downgradient of the site. Access to the site is restricted to authorized personnel only. All ranges, which include some disposal areas at HWAD, were originally included in the IRP but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II Range Inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC Range were active ranges. Walker Lake Test Range was closed in FY11. Expanded military training is anticipated in this area. Groundwater monitoring began in 1989. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the Army will continue groundwater sampling at those sites. Corrective Action is required by the RCRA permit. The NDEP considers this site as an uncharacterized that will be addressed by the Army when the active range is CTT, or groundwater contamination exceeds Als. A fence was erected around the site in 2009. A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy – NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old

Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1177 CCHWP-C04 OLD BOMB POPPING FURNACE

Env Site ID: CCHWP-C04

Cleanup Site: OLD BOMB POPPING FURNACE

Alias: C04

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

SC Date: 5/16/2052

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End	
RFA:	5/15/1987	8/15/1988	
CS:			
RFI/CMS:	6: 5/15/2020 5/15/20		
DES:			
IRA:			
CMI(C):			
CMI(O):			
LTM:			

Site Narrative: This site was formerly included in the IRP. Because the site is located on an active range, it was closed in IRP and moved to the CC program in FY11. Due to space limitations in the AECB-CC database the site ID was changed from CCHWAAP-C04 to CCHWP-C04. Popping Furnace No. 1 is a metal furnace located approximately 0.5 mile southwest of Rocket Mountain. It measures 10 x 10 x 5 ft and has metal sides and a door with a grated top and dirt floor. The incinerator is bermed and partially covered with soil. Popping Furnace No. 2 is located 100 yards southeast of Popping Furnace No. 1 and is identified in the RCRA permit as HWAAP-C05. The two sites are combined in this site for Army liability reporting Installation personnel constructed the furnace by using a round steel cylinder measuring 4 x 20 ft and connected it to a 20-foot high smokestack. The furnace is underground and bermed with earth. Ash and burn residue cover the floor of both furnaces. Open pits located behind each furnace were used as disposal sites for ash and burn residue. A 1989 investigation included soil sampling of three pits. Evidence of elevated concentrations of metals was found. In 1994, an airborne ground-penetrating radar survey was completed over the entire site at several target locations. All ranges, which include some disposal areas at HWAD, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II range inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC Range are active ranges. Expanded military training is anticipated in this area. Groundwater monitoring began in 1989 A RCRA facility investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

32225.1179 CCHWP-G01B OLD BOMB OB/OD GROUND 2 & 3 D

Env Site ID: CCHWP-G01B

Cleanup Site: OLD BOMB OB/OD GROUND 2 & 3 D

Alias: #

Regulatory Driver: RCRA-C

RIP Date: 5/15/2052 RC Date: 5/15/2052 RC Reason: Not assigned

Program: Compliance-related Cleanup

Subprogram: CC

SC Date: 5/16/2052

NPL Status: Not assigned Hazardous Ranking Score: 0

RRSE: N/A MRSPP:

Phase	Start	End	
RFA:	5/15/1987	8/15/1988	
CS:			
RFI/CMS:	5/15/2020	5/15/2052	
DES:			
IRA:			
CMI(C):			
CMI(O):			
LTM:			

Site Narrative: This site was formerly included in the IRP. Because the site is located on an active range, it was closed in IRP and moved to the CC program in FY11. Due to space limitations in the AEDB-CC database the site ID was changed from CCHWAAP-G01B to CCHWP-G01B. This waste treatment site includes three individual ravines within approximately 10 acres. A 1987 USAEHA report indicated that many tones of ordnance were burned or detonated in this area. The waste was then left in piles at the site. There is visible staining of explosives, and the site is littered with melted ordnance. A 1989 investigation included geophysical surveying of two test pits and soil sampling. Evidence of elevated levels of metals was found. An investigation in 1994 included airborne ground-penetrating radar surveying over many open pits with metallic debris. Also, an Army evaluation team visited the site to determine if the UXO at the site posed an imminent hazard. In February and March 2008 an updated survey was conducted. This site lines with the south wash area and the 2008 survey determined that the entire south was area was contaminated. The south wash area was split among sites HWAAP-A06D, A06E, G01B, G01C, I22, and I23. All ranges, which include some disposal areas at HWAD, were originally included in the IRP, but no progress on restoration could be made because of the dangers of UXO and inaccessibility to the sites. These sites underwent review under the Phase II range inventory, which determined that ranges associated with Old Bomb, Walker Lake Test Range, and NIOTC Range were active ranges. Walker Lake Test Range was closed in FY11. Expanded military training is anticipated in this area. Groundwater monitoring began in 1989. The state has indicated that further remedial action beyond groundwater monitoring is suspended pending a change in site use (range closure), or groundwater contaminant identification. No detections above ALs have been found. Some trace detections were found below ALs; therefore, the NDEP, HWAD, and the Army will continue groundwater sampling at those sites. Corrective action is required by the RCRA permit. The NDEP considers this site as an uncharacterized that will be addressed by the Army when the active range is CTT, or groundwater contamination exceeds ALs. A fence was erected around this site in 2009. This site also includes two sites identified in the RCRA Permit as SWMU HWAAP-G01a and SWMU HWAAP-G01c. A RCRA facility

investigation was completed in 2014 near this site and numerous burial pits were located over 800 acres encompassing the 10 CC sites. Cleanup/Exit Strategy - NDEP is not requiring cleanup as long as this site remains an active range. However, all 10 CC program sites located on HWAD's Lance Corporal Timothy G. Carter Test Range (colloquially termed Old Bomb to distinguish from HWAD's New Bomb Open Detonation Facility) and are identified in NDEP RCRA permit, dated May 2020, as AOCs. The sites are considered uncharacterized sites. The RCRA permit states, corrective action requirements at this site will be assessed in FYRs, based on groundwater results, and change in range status.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
32225.1001	HWAAP-A03_COAL ASH LANDFILL(NOT OPEN)	10/31/1998
32225.1002	HWAAP-A04_BABBITT CLOSED LANDFILL	9/30/2000
32225.1003	HWAAP-A05_MUSTARD GAS DISPOSAL AREA	3/31/2012
32225.1004	HWAAP-A06A_OLD BOMB DISPOSAL AREA 1	8/31/1988
32225.1005	HWAAP-A06B_OLD BOMB DISPOSAL AREA 2	5/31/2010
32225.1006	HWAAP-A06C_OLD BOMB DISPOSAL AREA 3	5/31/2010
32225.1007	HWAAP-A06D_OLD BOMB DISPOSAL AREA 4	5/31/2010
32225.1008	HWAAP-A06E_OLD BOMB DISPOSAL AREA 5	5/31/2010
32225.1009	HWAAP-A07_NAVAL INSHORE OPS TNG CNTR FIR	8/31/1988
32225.1010	HWAAP-A08_CONSTRUCTION DEBRIS LANDFILL	10/31/2001
32225.1011	HWAAP-A09A_AMMO CAN PILES	10/31/1998
32225.1012	HWAAP-A09B_BATTERY DISPOSAL AREA	3/31/1998
32225.1013	HWAAP-A10_107-ROCKET IMPACT AREA	8/31/1988
32225.1014	HWAAP-A11_MAG 18-5 DISPOSAL PIT	6/30/2001
32225.1015	HWAAP-B01_WADF IMPOUNDMENT #1	8/31/1988
32225.1016	HWAAP-B02_WADF IMPUNDMENT #2	8/31/1988
32225.1017	HWAAP-B03_WADF IMPOUNDMENT #3	8/31/1988
32225.1019	HWAAP-B05_101-15 IMPOUNDMENT	10/31/1999
32225.1020	HWAAP-B06_101-13 IMPOUNDMENT	9/30/1999
32225.1021	HWAAP-B07_101-1 CATCHMENT PIT	9/30/1999
32225.1022	HWAAP-B08_101-1 CATCHMENT PIT	9/30/1999
32225.1023	HWAAP-B09_101-32 CATCHMENT PIT	9/30/1999
32225.1024	HWAAP-B10_101-3 CATCHMENT PIT	9/30/1999
32225.1025	HWAAP-B11A_101-31 CATCHMENT PIT	9/30/1999
32225.1026	HWAAP-B11B_101-34 CATCHMENT PIT	9/30/1999
32225.1027	HWAAP-B12_101-10 CATCHMENT PIT	8/31/2000
32225.1028	HWAAP-B13_101-29/36 CATCHMENT PIT	9/30/1999
32225.1029	HWAAP-B15_101-16 CATCHMENT PIT	10/31/1998
32225.1030	HWAAP-B16_101-18 CATCHMENT PIT	9/30/1999
32225.1031	HWAAP-B17A_101-20 CATCHMENT PIT	9/30/1999
32225.1032	HWAAP-B17B_101-20 CATCHMENT PIT	9/30/1999
32225.1033	HWAAP-B18_101-62 CATCHMENT PIT	9/30/1999
32225.1034	HWAAP-B19_101-11 CATCHMENT PIT	9/30/1999
32225.1035	HWAAP-B20_101-41 CATCHMENT PIT	9/30/2009
32225.1036	HWAAP-B21_101-41/42 CATCHMENT PIT	12/31/1999
32225.1037	HWAAP-B22A_101-44 CATCHMENT PIT	9/30/1999
32225.1038	HWAAP-B22B_101-44 CATCHMENT PIT	9/30/1999
32225.1039	HWAAP-B23_103-30 CATCHMENT PIT	10/31/2001
32225.1040	HWAAP-B24_102-52 ACID PIT	9/30/2009
32225.1041	HWAAP-B25_103-7 INERT WASTE IMPOUNDMEN	12/31/1998
32225.1044	HWAAP-B27B_103-8/10 OXIDATION DITCH	7/31/2000
32225.1045	HWAAP-B27C_103-20 SURFACE IMPOUNDMENT	9/30/2000

CRL ID	Site Name	Site Closeout Date
32225.1046	HWAAP-B28A_108-20 PO SPILL CATCHMENT	10/31/1998
32225.1047	HWAAP-B28B_108-20 PO SPILL CATCHMENT	10/31/1998
32225.1048	HWAAP-B28C_104-8 EO SPILL Impoundment	10/31/1998
32225.1049	HWAAP-B28D_104-10 EO SPILL BASIN	10/31/1998
32225.1050	HWAAP-B29_103-41 UNLINED PONDS	9/30/2006
32225.1051	HWAAP-B30_101-16 CATCHMENT BASIN	9/30/1999
32225.1052	HWAAP-B31_101-65 CATCHMENT PIT	9/30/1999
32225.1053	HWAAP-B32_101-41 CATCHMENT PIT	8/31/1997
32225.1054	HWAAP-B33_102-51 CATCHMENT PIT	10/31/1998
32225.1055	HWAAP-B34_104-3 CATCHMENT PIT	12/31/1998
32225.1056	HWAAP-C01A_102-31 ROTARY DEACTIVE FURNA	6/30/2001
32225.1057	HWAAP-C02A_117-3 WADF ROTARY DEACTIVE FU	8/31/1988
32225.1058	HWAAP-C03_DOCUMENT INCINERATOR	8/31/1988
32225.1059	HWAAP-CO4_OLD BOMB POPPING FURNACE 1	5/31/2010
32225.1060	HWAAP-C05_OLD BOMB POPPING FURNACE #2	5/31/2010
32225.1061	HWAAP-D01_106-22 & 106-23 NONREACTIVE HW	8/31/1988
32225.1062	HWAAP-D02_115-9 & 113-73A REACTIVE HW ST	8/31/1988
32225.1063	HWAAP-E01A_WADF WWTP	8/31/1988
32225.1064	HWAAP-E01B_WADF SEWAGE EVAP PONDS	8/31/1988
32225.1065	HWAAP-E02_HWAAP STP EVAP/PERC PONDS	8/31/1988
32225.1066	HWAAP-E03_HAWTHORNE SEWAGE EVAP PONDS	8/31/1988
32225.1067	HWAAP-F01_TRANSFER STATION, PROP DISPOSE	8/31/1988
32225.1068	HWAAP-G01A_OLD BOMB OB/OD GROUND 1	8/31/1988
32225.1069	HWAAP-G01B_OLD BOMB OB/OD GROUND 2	5/31/2010
32225.1070	HWAAP-G01C_OLD BOMB OB/OD GROUND 3 D ARE	5/31/2010
32225.1071	HWAAP-H01_FIRE TNG PIT	6/30/2000
32225.1072	HWAAP-H03_ROAD & GROUNDS WASTE OB PIT	12/31/1998
32225.1073	HWAAP-H04_NAVYSIDE LANDFILL	9/30/2004
32225.1074	HWAAP-H05_OLD DEPOT LAUNDRY WASHOUT	10/31/2001
32225.1075	HWAAP-I01_NEW BOMB LANDFILL	7/31/1992
32225.1077	HWAAP-I03_104-7 PIT #1	12/31/1998
32225.1078	HWAAP-I04_104-7 PIT #2	12/31/1998
32225.1079	HWAAP-I05_33-16 LANDFILL	12/31/1998
32225.1080	HWAAP-I06_SPILL SITE 30-5	12/31/1998
32225.1081	HWAAP-I07_101-44 LANDFILL	3/31/2005
32225.1082	HWAAP-I08_BLDG 70 PIT/LANDFILL	12/31/2003
32225.1084	HWAAP-I11_49-9 PIT/LANDFILL	9/30/2001
32225.1085	HWAAP-I13_BLDG 10 LANDFILL/DISCHARGE	12/31/1998
32225.1086	HWAAP-I14_BLDG 46 OIL SPILL	1/31/1999
32225.1087	HWAAP-I15_101-42 CATCHMENT PIT	1/31/1995
32225.1088	HWAAP-I17_104-10 LANDFILL	12/31/1998
32225.1089	HWAAP-I18_104-2 HYDROCARBON SPILL	3/31/2000
32225.1090	HWAAP-I19_NAVY BEACH TEST RANGE	7/31/1992
32225.1091	HWAAP-122_OLD BOMB OPEN BURNING PIT	5/31/2010
32225.1092	HWAAP-123_OLD BOMB/ROCKET METAL LANDFILL	5/31/2010

CRL ID	Site Name	Site Closeout Date
32225.1093	HWAAP-J02_115 GROUP BURN AREA/LANDFILL	12/31/1998
32225.1094	HWAAP-J03_BLDG 70 DIESEL FUEL LEAK	9/30/2008
32225.1095	HWAAP-J04_107 AREA DRUM STORAGE/LANDFILL	2/29/1996
32225.1096	HWAAP-J05_DOCK 1 LANDFILL	3/31/1999
32225.1097	HWAAP-J06_DOCK 2 LANDFILL	3/31/1999
32225.1098	HWAAP-J07_DOCK 3 LANDFILL	10/31/1998
32225.1099	HWAAP-J08_DOCK 4 LANDFILL	10/31/1998
32225.1100	HWAAP-J09_DOCK 5 LANDFILL	10/31/1998
32225.1101	HWAAP-J10_DOCK 6 LANDFILL	10/31/1998
32225.1102	HWAAP-J11_103-16 LANDFILL/PILE	12/31/1998
32225.1103	HWAAP-J12_LANDSCAPE LANDFILL	6/30/2000
32225.1104	HWAAP-J13_WADF SOUTH DUMP	10/31/1998
32225.1105	HWAAP-J14_103-6 TRENCH	9/30/2001
32225.1106	HWAAP-J15_103-16 LANDFILL	12/31/2000
32225.1107	HWAAP-J16_111-113 GROUP BURN AREA/LANDFI	12/31/1998
32225.1108	HWAAP-J17_THORNE DRUM AREA	10/31/1998
32225.1109	HWAAP-J21_BLDG 97 OLD DOCK AREA	10/31/1998
32225.1110	HWAAP-J22_50 GROUP PITS	10/31/1998
32225.1111	HWAAP-J23_TRENCH AT DUSTY ACRES AREA	12/31/1998
32225.1112	HWAAP-J24_TRENCH NEAR 50-60	10/31/1998
32225.1113	HWAAP-J25_THORNE AREA LANDFILL	2/28/1999
32225.1114	HWAAP-J26_LANDFILL TURN TABLE AREA	7/31/1996
32225.1115	HWAAP-J27_LANDFILL CAMP JUMBO AREA	2/29/1996
32225.1116	HWAAP-J28_108-3 CATCHMENT PITS	6/30/2001
32225.1117	HWAAP-J29_BUILDING 103-5 LANDFILL	9/30/2004
32225.1118	HWAAP-K01_WALKER LAKE TEST RANGE	5/31/1988
32225.1119	HWAAP-K02_WALKER LAKE TEST RANGE DISPOSA	8/31/1988
32225.1120	HWAAP-K03_UST SITES - INST WIDE	9/30/2008
32225.1121	HWAAP-K04_ABOVEGROUND STORAGE TANKS AT B	6/30/1997
32225.1122	HWAAP-K05_LUST SITE AT BLDG 117-3	9/30/2008
32225.1123	HWAAP-K07_OLD BOMB DDT BURIAL SITE	5/31/2010
32225.1124	HWAAP-K08_PAINT STORAGE LOCKER SHEDS	5/31/2003
32225.1125	HWAAP-K09_SUMP AND DISCHARGE PIPE	5/31/2003
32225.1126	HWAAP-K10_BURIED PAINT	9/30/2004
32225.1127	HWAAP-K11_SKEET RANGE	5/31/2003
32225.1146	PBC@Hawthorne_PBC	6/30/2013
32225.1148	CCHWAAP-A06B_OLD BOMB DISPOSAL AREA 2	9/30/2011
32225.1149	CCHWAAP-WADF_Western Area Demil Facility	10/31/2011
32225.1150	CCHWAAP-A06C_OLD BOMB DISPOSAL AREA 3	10/31/2011
32225.1151	CCHWAAP-A06D_OLD BOMB DISPOSAL AREA 4	10/31/2011
32225.1152	CCHWAAP-A06E_OLD BOMB DISPOSAL AREA 5	10/31/2011
32225.1153	CCHWAAP-C04_OLD BOMB POPPING FURNACE 1 &	10/31/2011
32225.1154	CCHWAAP-G01B_OLD BOMB OD/OB GROUND 2 & 3	10/31/2011
32225.1155	CCHWAAP-122_OLD BOMB OPEN BURNING PIT	10/31/2011
32225.1156	CCHWAAP-123_OLD BOMB/ROCKET METAL LANDFI	10/31/2011

CRL ID	Site Name	Site Closeout Date
32225.1157	CCHWAAP-K07_OLD BOMB DDT BURIAL SITE	10/31/2011
32225.1159	CCHWAAP-B27B_103-8/10 OXIDATION DITCH	10/31/2011
32225.1160	CCHWAAP-H03_ROAD & GROUNDS WASTE OB PIT	4/30/1999
32225.1161	CCHWAAP-B21_101-41/42 CATCHMENT PIT	3/31/2012
32225.1163	CCHWAAP-B27C_103-20 SURFACE IMPOUNDMENT	8/31/2012
32225.1180	CCHWAAP-023_OLD BOMB FENCED DISPOSAL ARE	10/15/2014
32225.1181	CCHWAAP-H02_BURN PIT @ PDO H02	12/15/2012
32225.1129	HWAAP-018-R-01_MONO LAKE	11/30/2013
32225.1130	HWAAP-015-R-01_COREY PEAK/TV HILL	9/29/2020
32225.1132	HWAAP-016-R-01_FUZE TEST AREA	9/30/2009
32225.1133	HWAAP-007-R-01_1958 ARMED FORCES DAY ARE	9/30/2009
32225.1134	HWAAP-009-R-01_ASROC RANGES	1/31/2015
32225.1135	HWAAP-006-R-01_OLD BOMB ROCKET FIRING RA	4/1/2015
32225.1137	HWAAP-017-R-01_KICKOUT OUTSIDE NEW BOMB	9/30/2013
32225.1138	HWAAP-001-R-01_WALKER LAKE WATER TEST RA	3/30/2015
32225.1140	HWAAP-010-R-01_ASROC RANGES (TD)	7/31/2014
32225.1141	HWAAP-021-R-01_WALKER LAKE WATER TEST RA	9/30/2014
32225.1142	HWAAP-002-R-01_WALKER LAKE LAND TEST RAN	12/31/2014
32225.1143	HWAAP-011-R-01_1957 ARMED FORCES DAY ARE	9/30/2009
32225.1144	HWAAP-012-R-01_PRE-1940 DETONATING PITS	11/30/2017
32225.1164	PBA@MR HWAAP_PBA for MMRP	1/30/2012
32225.1182	HWAAP-013-R-02_PRE-1940 DETONATE PIT NFA	10/15/2014
32225.1183	HWAAP-020-R-02_WHISKEY FLAT NFA	10/15/2014
32225.1184	HWAAP-022-R-02_OLD BOMB ROCKET RNG-E NFA	10/15/2014

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	9/15/2022
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	No sufficient, sustained community interest in a RAB has been expressed by the community
RAB Date of Solicitation from Community:	12/15/2023
RAB Results of Solicitation:	PENDING
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	1 S. Maine Ave., Bldg. 5, Hawthorne, NV 89415
Information Repository Location:	1 S. Maine Ave., Bldg. 5, Hawthorne, NV 89415

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Complete	FYR	6/15/2019	6/15/2021	Implement land use controls, to include notations in the Base Master Plan and Land Use Control Implementation Plan (LUCIP), to restrict access to SWMU A-04 while the property remains under U.S. Government ownership. Implement LUCs IAW DD at SWMU A-05.	Implement LUCs at SWMU-A-04 and A- 05 IAW DD.	Additional actions required ensure protectiveness.
Planned	FYR	6/15/2025	9/30/2026	N/A	N/A	N/A