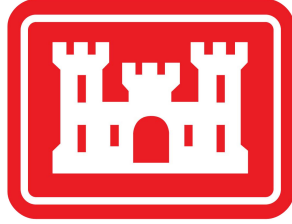


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US Army Corps of Engineers  
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# Kirtland AFB PBR West Mesa

Formerly Used Defense Sites Program Management Action Plan

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# I. Statement of Purpose

## A. Management Action Plan

The Management Action Plan (MAP) is to outline the total multi-year environmental cleanup program for a Formerly Used Defense Site (FUDS) property. The plan will define the cleanup program requirements and propose a comprehensive approach and associated costs to conduct future investigations and response action at each cleanup site.

## B. Formerly Used Defense Sites Program

During the past two centuries, the Department of Defense (DOD) has used land throughout the United States to both train Soldiers, Airmen, Sailors and Marines, and test new weapons to ensure the nation's military readiness. As training and testing needs changed, DOD obtained property or returned it to private or public uses. When no longer needed, many of these properties were cleaned up according to the best practices available at the time and then transferred to other owners such as private individuals or federal, state, tribal, or local government entities.

Today, DOD is responsible for the environmental restoration (cleanup) of properties that were formerly owned by, leased to or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense prior to October 1986. Such properties are known as Formerly Used Defense Sites or FUDS. The U.S. Army is DOD's lead agent for the FUDS Program. The U.S. Army Corps of Engineers executes the FUDS Program on behalf of the U.S. Army and DOD. The U.S. Army and DOD are dedicated to protecting human health and the environment by investigating and, if required, cleaning up potential contamination or munitions that may remain on these properties from past DOD activities.

The scope and magnitude of the FUDS Program are significant, with more than 10,000 properties identified for potential inclusion in the program. Information about the origin and extent of contamination or munitions, land transfer issues, past and present property ownership, applicable laws and DOD policies must be evaluated before DOD considers a property eligible for Defense Environment Restoration Account funding under the FUDS Program. Environmental cleanup at FUDS properties is conducted under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

### **C. Installation Restoration Program (IRP)**

Installation Restoration Program (IRP) category projects include sites that require response actions to address releases of: (a) Hazardous substances and pollutants or contaminants; (b) Petroleum, Oil, and Lubricants (POLs); (c) Hazardous wastes or hazardous waste constituents; and (d) Explosive compounds released to soil, surface water, sediment, or groundwater as a result of ammunition or explosives production or manufacturing at ammunition plants.

The relative risk site evaluation (RRSE) framework is a methodology used by all DoD Components to evaluate the relative risk posed by a site in relation to other sites. It is a tool used across all of DoD to group sites into high, medium, and low categories based on an evaluation of site information using three factors: the contaminant hazard factor (CHF), the migration pathway factor (MPF), and the receptor factor (RF). Factors are based on a quantitative evaluation of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substances, pollutants, or contaminants and a qualitative evaluation of pathways and human and ecological receptors in the four media most likely to result in significant exposure groundwater, surface water, sediment, and surface soils.

### **D. Military Munitions Response Program (MMRP)**

In 2001, DoD established the Military Munitions Response Program (MMRP). The MMRP addresses munitions response sites (MRSs) at Formerly Used Defense Site locations. MRSs are sites that are known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents (MC). Through the MMRP, DoD complies with environmental cleanup laws, such as the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund.

To prioritize funding and cleanup of MRSs that pose the greatest threat to safety, human health, and the environment, DoD uses the Munitions Response Site Prioritization Protocol (MRSP). The MRSP consists of three separate modules to evaluate hazards associated with explosives, chemical warfare materiel, MC, and other incidental environmental contaminants. The MRSP scores affect how DoD sequences MRSs for cleanup. In addition to relative risk, DoD considers other factors such as economic, programmatic, and stakeholder concerns, as well as reuse and redevelopment plans, when prioritizing sites for cleanup.

## II: Acronyms

<b>BD/DR</b>	Building Demolition and Debris Removal
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CHE</b>	Chemical Warfare Material Hazard Evaluation
<b>COMM/REL</b>	Community Relations
<b>CON/HTRW</b>	Containerized/Hazardous, Toxic and Radioactive Waste
<b>CTC</b>	Cost to complete
<b>CWM</b>	Chemical Warfare Material
<b>DD</b>	Decision Document
<b>DERP</b>	Defense Environmental Restoration Program
<b>DOD</b>	Department of Defense
<b>EE/CA</b>	Engineer Evaluation/Cost Analysis
<b>EHE</b>	Explosive Hazard Factor
<b>EP</b>	Evaluation Pending
<b>FFA</b>	Federal Facilities Agreement
<b>FUDS</b>	Formerly Used Defense Sites
<b>FUDSMIS</b>	Formerly Used Defense Sites Management Information System
<b>FS</b>	Feasibility Study
<b>HQDA</b>	Headquarters, Department of the Army
<b>HHE</b>	Health Hazard Evaluation
<b>IAG</b>	Interagency Agreement
<b>IRA</b>	Interim remedial action
<b>IRP</b>	Installation Restoration Program
<b>LTM</b>	Long Term Management
<b>MAP</b>	Management Action Plan
<b>MMRP</b>	Military Munitions Response Program
<b>MMRP/CWM</b>	Military Munitions Response Program/Chemical Warfare Materials
<b>MRSPP</b>	Military Munitions Site Prioritization Protocol
<b>NKSH</b>	No Known or suspected Hazard
<b>NLR</b>	No Longer Required
<b>NPL</b>	National Priorities List
<b>PA</b>	Preliminary Assessment
<b>PA/INPR</b>	Preliminary Assessment/Inventory Project Report
<b>PCO</b>	Project Closeout
<b>PN</b>	Preliminary Negotiations
<b>QA</b>	Quality Assurance
<b>RA</b>	Remedial Action
<b>RA-C</b>	Remedial Action-Construction
<b>RA-O</b>	Remedial Action-Operations
<b>RAB</b>	Restoration Advisory Board
<b>RC</b>	Response Complete

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<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RD</b>	Remedial Design
<b>RmA-C</b>	Removal Action-Construction
<b>RmD</b>	Removal Design
<b>RI/FS</b>	Remedial Investigation/Feasibility Study
<b>RIP</b>	Remedy in Place
<b>ROD</b>	Record of Decision
<b>RRSE</b>	Relative Risk Site Evaluation
<b>SI</b>	Site Investigation
<b>TAPP</b>	Technical Assistance for Public Participation
<b>TRC</b>	Technical Review Committee

### III. Property Information

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**FUDS Number:** K06NM0445

**FFID:** NM69799F624100

**Name:** Kirtland AFB PBR West Mesa

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#### A. Property Description

This 15,246-acre site is located approximately 2 miles west to 18 miles northwest of Albuquerque, New Mexico. There is no record of DoD improvements to the site. Currently, the State owns the property and uses it as a public shooting range, a general aviation airport, and a sludge treatment facility.

#### B. Locale

**City:** ALBUQUERQUE

**State:** NM

**Latitude:** 35.15611111

**Longitude:** -106.795

**Congressional District:** 01

**Size (Acreage):** 16676

#### C. Organization

**Division:** South Pacific Division

**District:** Los Angeles District

**Phone:** 213-452-3920

#### Current Owners:

Type	Name
Local	CITY STATE (898 ACRES); PRIVATE (480 ACRES); OUBLIC SHOOTING RANGE, NATIONAL PARK, MONUMENT ; City of Albuquerque; MRS area within the Petroglyph National Monument managed by the National Park Service for the City of Albuquerque
Private	PRIVATE STATE (898 ACRES); PRIVATE (480 ACRES); OUBLIC SHOOTING RANGE, NATIONAL PARK, MONUMENT ; Private lands north and west of N-3; Private ranch ; Various Private Residences
State	STATE STATE (898 ACRES); PRIVATE (480 ACRES); OUBLIC SHOOTING RANGE, NATIONAL PARK, MONUMENT

**D. National Priorities List Status**

The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

**National Priorities List (NPL) Status:** Not on the NPL



### E. Project Summaries

The below table outlines all projects that have been identified on this FUDS property. The table provides information on the category of project, the legal driver, the RRSE or MRSP score that is used for prioritization, the total funding for the project, the status of work on the project, and the actual or anticipated remedy in place and response complete dates.

Project Number	Category	Name	Legal Driver	RRSE	MRSP	Status	RIP	RC
0	PA/INPR	PA/INPR Funding				Complete		
01	MMRP	N-2/NDA	CERCLA		NKSH	Underway	02/2018 Actual	02/2018 Actual
02	MMRP	Oil Refinery Target	CERCLA		05	Future	09/2048 Scheduled	09/2048 Scheduled
03	MMRP	N-4/Volcano Target	CERCLA		05	Future	09/2049 Scheduled	09/2049 Scheduled
04	MMRP	N-1/N-3/Railroad Roundhouse Target	CERCLA		04	Future	09/2049 Scheduled	09/2049 Scheduled

## **IV. Cleanup Program Summary**

### **A. Historic Activity**

In 1941 the DoD acquired the grazing land from the State for training operations and a practice bombing range. This property is known or suspected to contain military munitions and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard.

## V. Installation Restoration Program (IRP)

### A. IRP Summary

**Inception of IRP:** No IRP projects have been reported

**Projects Identified:** 0

**Projects at Response Complete:** 0

**Remedy-in-Place (RIP):** No RIP scheduled

**Response Complete (RC):** No RC scheduled

**IRP completion (including LTM):** No IRP projects have been reported

### B. IRP Schedule

#### Project Schedule

There are no IRP projects on this installation.

#### Five-Year Review

**Status:** No Reviews Planned

### C. Project Descriptions

Please see **Appendix I** for detailed IRP project descriptions

**D. Costs**

**Funding To Date\* (\$K):** \$0

**2021 Funding (\$K):** \$0

**CTC (\$K):** \$0

There are no IRP project costs on this installation.

\*Past costs are approximate and not inflated to reflect current year fiscal dollars.

## VI. Military Munitions Response Program (MMRP)

### A. MMRP Summary

**Inception of MMRP:** 07/2000

**Projects Identified:** 4

**Projects at Response Complete:** 1

**Remedy-in-Place (RIP):** 09/2049

**Response Complete (RC):** 09/2049

**MMRP completion (including LTM):** 09/2078

### B. MMRP Schedule

#### Project Schedule

Project No	Category	Site Type	Status	Response Complete
01	MMRP	Air to Land	Underway	02/2018 Actual
02	MMRP	Air to Land	Future	09/2048 Scheduled
03	MMRP	Air to Land	Future	09/2049 Scheduled
04	MMRP	Air to Land	Future	09/2049 Scheduled

#### Phase Schedule

Project No	Phase	Phase Type	Status	Start	End
01	SI	Remedial Response	Complete	07/2000	09/2000
01	RI/FS	Remedial Response	Complete	01/2007	09/2012
01	EE/CA	Removal Response	Complete	10/2001	09/2005
01	RD	Remedial Response	Complete	07/2006	09/2013
01	RA-C	Remedial Action	Complete	04/2008	09/2017
01	LTM	Remedial Response	Underway	10/2020	09/2050
02	RI/FS	Remedial Response	Future	09/2036	10/2036
02	RA-C	Remedial Action	Future	09/2048	10/2048
02	LTM	Remedial Response	Future	10/2052	09/2077
03	RI/FS	Remedial Response	Future	09/2035	10/2035
03	RA-C	Remedial Action	Future	09/2049	10/2049
03	LTM	Remedial Response	Future	10/2053	09/2078
04	RI/FS	Remedial Response	Future	09/2038	10/2038
04	RD	Remedial Response	Future	09/2039	10/2039
04	RA-C	Remedial Action	Future	09/2049	10/2049
04	LTM	Remedial Response	Future	10/2053	09/2078

#### Five-Year Review

**Status:** Future

**Previous Completion:**  
**Next Scheduled:** 09/2022

### **C. Project Descriptions**

Please see **Appendix II** for detailed MMRP project descriptions

**D. Costs**

**Funding To Date\* (\$K):** \$9,898

**2021 Funding (\$K):** \$32

**CTC (\$K):** \$8,330

Project No	Phase	Status	< 2021	2021	2022	2023	2024	2025	2026	2027 +
01	SI	Complete								
01	RI/FS	Complete								
01	EE/CA	Complete								
01	RD	Complete								
01	RA-C	Complete								
01	LTM	Underway								
02	RI/FS	Future								
02	RA-C	Future								
02	LTM	Future								
03	RI/FS	Future								
03	RA-C	Future								
03	LTM	Future								
04	RI/FS	Future								
04	RD	Future								
04	RA-C	Future								
04	LTM	Future								

\*Past costs are approximate and not inflated to reflect current year fiscal dollars.

= phase funded

## VII. Community Involvement

Since 1993, the Department of Defense (DOD) has supported the development, implementation, and maintenance of the Restoration Advisory Board (RAB) program. Through the RAB program, communities provide input into the decision - making process of DOD's environmental cleanup program. A RAB is a group, equally co - chaired by a DOD representative and a community member, that serves as a forum for exchange of information between government officials and members of the local community on property cleanup issues. In addition to regular RAB meetings, a combination of activities may be conducted to enhance this process. Such activities may include coordinating installation site tours or providing interactive presentations with the use of cleanup technology models. Members of a RAB may include local citizens and representatives of the U.S. Environmental Protection Agency (EPA) and state, local, and tribal governments. The RAB team should reflect the diverse interests of the community and help identify possible issues associated with an installation's environmental cleanup program. RABs provide a link between the community and cleanup decision makers, and should complement other community involvement activities, such as holding public meetings, distributing informative mailings to the public on installation cleanup activities, and establishing local information repositories.

In fiscal year 1998 (FY98), DOD continued to build trust with local communities surrounding military installations by strengthening the RAB program and making new resources available; including the implementation of the Technical Assistance for Public Participation (TAPP) program. The TAPP program was designed to help community members of RABs and TRCs better understand the scientific and engineering issues underlying their properties' environmental cleanup activities. Under TAPP, the installation may contract for an independent technical consultant to advise the RAB on a specific project, which must be identified in the TAPP application. Typical projects may involve reviewing proposed remedial technologies, interpreting health and environmental effects data, or reviewing cleanup documents.

**RAB Established:** 06/2005

**RAB Members:** Business Community, Environmental Protection Agency, Local Environmental Groups/Activists, Local Government Officials, Local Residents, Native Americans, State Regulators



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## **APPENDIX I**

### **IRP Project Descriptions**

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There are no IRP projects on this installation.

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**APPENDIX II**  
**MMRP Project Descriptions**

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## 1. Identification

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**Project ID:** 01

**Project Name:** N-2/NDA

**Legal Driver:** CERCLA

**Closeout**

**RIP Date:** 02/2018 Actual

**RC Date:** 02/2018 Actual

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## 2. Project Description

The N-2/NDA project consists of 1,252 acres located just north of the Double Eagle II Airport on the west side of Albuquerque, Bernalillo County, New Mexico. The project area was used by bombardier trainees from Kirtland Field from 1942 to 1947. Munitions used included general purpose bombs, practice bombs with spotting charges and aircraft flares for target illumination. With the exception of a utility corridor of water, electrical, phone and communications cables that runs through the southeast portion, and a gas transmission line that runs in the northwest part, the project area is mostly undeveloped desert land. However, the City of Albuquerque intends to develop the land as part of a Double Eagle II Airport expansion and for commercial purposes.

## 3. Restoration History

MEC2007 to 2008: Conduct a RI/FS for the remaining 15,246 to establish a long term strategy for low risk MRS areasNone

## 4. Cleanup/Exit Strategy

LTM phase underway. Remedy was surface clearance and subsurface clearance of high density area using advance sensor technology to depth of 4 ft. with IC. IC is education, signs, and other regulatory controls. ICs in place. Anticipated length of LTM phase is a minimum of 30 years. FYR inhouse in FY22.

## 5. Status

### MRSP

MRSP: 10	EHE: 3	CHE: No Known or Suspected Hazard	HHE: No Known or Suspected Hazard
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**MRSPP Army Quality Assurance (QA) Panel Review**

Result: Approved	Date: 9/16/2014
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**Media**

NLR, RC- 02/2018
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**Munitions**

Type: High explosive (used or damaged)
Source of Hazard: Former range
Location: Confirmed surface

**CWM**

Type: Evidence of no CWM
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**Phases**

Phase	Status
SI	Complete
RI/FS	Complete
EE/CA	Complete
RD	Complete
RA-C	Complete
LTM	Underway

## 1. Identification

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**Project ID:** 02

**Project Name:** Oil Refinery Target

**Legal Driver:** CERCLA

**Closeout**

**RIP Date:** 09/2048 Scheduled

**RC Date:** 09/2048 Scheduled

---

## 2. Project Description

The Oil Refinery Target project consists of 687 acres located on the west side of Albuquerque, Bernalillo County, New Mexico. The project area was used by bombardier trainees from Kirtland Field from 1942 to 1947. Munitions used included practice bombs with spotting charges, and aircraft flares for target illumination. The project is on open land currently owned by the City of Albuquerque and private landowners.

## 3. Restoration History

No restoration history reported.

## 4. Cleanup/Exit Strategy

No cleanup/exit strategy reported.

## 5. Status

### MRSP

MRSP: 05	EHE: 5	CHE: No Known or Suspected Hazard	HHE: No Known or Suspected Hazard
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### MRSP Army Quality Assurance (QA) Panel Review

Result: Approved	Date: 9/16/2014
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### Media

No media
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### Munitions

Type: Pyrotechnic (used or damaged)
Source of Hazard: Former practice munitions range
Location: Suspected (physical evidence)

**CWM**

Type: Evidence of no CWM
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**Phases**

<b>Phase</b>	<b>Status</b>
RI/FS	Future
RA-C	Future
LTM	Future

## 1. Identification

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**Project ID:** 03

**Project Name:** N-4/Volcano Target

**Legal Driver:** CERCLA

**Closeout**

**RIP Date:** 09/2049 Scheduled

**RC Date:** 09/2049 Scheduled

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## 2. Project Description

The 1,889-acre N-4/Volcano Target project is located on the west side of Albuquerque, Bernalillo County, New Mexico. The project area was used by bombardier trainees from Kirtland Field from 1942 to 1947. Munitions used included practice bombs with spotting charges, and aircraft flares for target illumination. The majority of the project land is within the Petroglyph National Monument operated by the National Park Service. A portion of the project area has been developed for private residences.

## 3. Restoration History

In July 2003, a Time Critical Removal Action (TCRA) was initiated by USACE in support of utility construction. The path of the utilities (approximately 8 miles) passed through and adjacent to the MRS (as well as two others, and the rangeland between the MRS's). Only MD from practice bombs with expended spotting charges, and parachute flares were found.

Subsurface investigations were conducted as part of the 2007 EE/CA in the areas of OOU-5, OOU-6 and OOU-7 that collectively cover the majority of the MRS. Of the 854 anomalies detected along transects, 314 were investigated. Only munitions debris from practice bombs and parachute flares were found, and no MEC items were located. During the 2007 EE/CA, a single surface soil sample was collected near the center of the primary target of the N-4 range on the MRS. Background soil samples were also collected from discrete locations not impacted by historical bombing activities. Detected concentrations of metals were comparable to background soil sample concentrations and no HE MC were detected.

## 4. Cleanup/Exit Strategy

Begin RI/FS phase and delineate N4 and Volcano sites into separate projects. Project area used by bombardier trainees using practice bombs w/ spotting charges and aircraft flares. Area to be inspected is area being developed for private residences. Area on Parks land will need ROE refusal for National Volcano Monument area and then delineate that portion out of N-4 MRS.

**5. Status**

**MRSPP**

MRSPP: 05	EHE: 5	CHE: No Known or Suspected Hazard	HHE: No Known or Suspected Hazard
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**MRSPP Army Quality Assurance (QA) Panel Review**

Result: Approved	Date: 9/16/2014
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**Media**

No media
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**Munitions**

Type: Pyrotechnic (used or damaged)
Source of Hazard: Former practice munitions range
Location: Suspected (physical evidence)

**CWM**

Type: Evidence of no CWM
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**Phases**

Phase	Status
RI/FS	Future
RA-C	Future
LTM	Future



## 1. Identification

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**Project ID:** 04

**Project Name:** N-1/N-3/Railroad Roundhouse Target

**Legal Driver:** CERCLA

**Closeout**

**RIP Date:** 09/2049 Scheduled

**RC Date:** 09/2049 Scheduled

---

## 2. Project Description

The 2,639-acre N-1/N-3/Railroad Roundhouse Target project is located on the west side of Albuquerque, Bernalillo County, New Mexico. The project area was used by bombardier trainees from Kirtland Field from 1942 to 1947. Munitions used included practice bombs with spotting charges, and aircraft flares for target illumination. Current uses of the project land include a Bio Solids Facility and a public firing range complex both owned by the City of Albuquerque, and undeveloped areas that extend into privately owned areas.

## 3. Restoration History

No restoration history reported.

## 4. Cleanup/Exit Strategy

No cleanup/exit strategy reported.

## 5. Status

### MRSP

MRSP: 04	EHE: 4	CHE: No Known or Suspected Hazard	HHE: No Known or Suspected Hazard
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### MRSP Army Quality Assurance (QA) Panel Review

Result: Approved	Date: 9/16/2014
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### Media

No media
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**Munitions**

Type: Pyrotechnic (used or damaged)
Source of Hazard: Former practice munitions range
Location: Confirmed surface

**CWM**

Type: Evidence of no CWM
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**Phases**

<b>Phase</b>	<b>Status</b>
RI/FS	Future
RD	Future
RA-C	Future
LTM	Future