



US Army Corps
of Engineers
Rock Island District

COFM 01-002

Defense Environmental Restoration Program
for
Installation Restoration
Ordnance and Explosives

ARCHIVES SEARCH REPORT
Conclusions and Recommendations
Findings
for the
MELROSE AIR FORCE RANGE

ROOSEVELT COUNTY, NEW MEXICO

October 2000



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
for
INSTALLATION RESTORATION

Conclusions and Recommendations

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
MELROSE AIR FORCE RANGE
ROOSEVELT COUNTY, NEW MEXICO

October 2000

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ORDNANCE AND EXPLOSIVES
 ARCHIVES SEARCH REPORT
 FOR
 MELROSE AIR FORCE RANGE
 ROOSEVELT COUNTY, NEW MEXICO

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The following conclusions and recommendations are provided by the Archives Search Report Team. These recommendations may not be the actions taken to remediate this site.

CONCLUSIONS AND RECOMMENDATIONS

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1. INTRODUCTION

a. **Subject and Purpose**

(1) This report presents the conclusions and recommendations of a historical records search and site inspection for the presence of ordnance and explosives (OE) located on the Melrose Air Force Range. This site is located in Roosevelt County, New Mexico approximately 35 miles west of the city of Clovis (see plate 1 for general location map). The investigation was performed under the authority of the Defense Environmental Restoration Program for Installation Restoration (DERP-IR).

(2) The investigation focused on approximately 81,687 acres that is used as a bomb target and an air to ground range. The Department of the Air Force has used the site for these purposes from 1952 to the present time.

(3) The purpose of this investigation was to characterize the site for potential OE presence, to include conventional ammunition and chemical warfare materiel (CWM). The investigation was conducted by experienced ordnance experts through thorough evaluation of historical records, interviews, and on-site visual inspection results.

b. **Scope**

(1) This report presents the site history, site description, real estate ownership information, and confirmed ordnance presence, based on available records, interviews, site inspections, and analyses. The analyses provide a complete evaluation of all information to assess current day potential ordnance presence, where actual ordnance presence has not been confirmed.

(2) For the purpose of this report, OE presence consists of live ammunition, ammunition components, CWM or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were either manufactured, purchased, stored, used, and/or disposed of by the Department of the

Air Force or other components of the Department of Defense. Such ammunition/components are no longer under accountable record control of any DOD organization or activity.

(3) **Expended** small arms ammunition (caliber .50 or smaller) is **not** considered OE presence. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 percent or more by weight of secondary explosives in a soil mixture is considered explosive soil.

2. CONCLUSIONS

a. **Summary of Conclusions**

Table 2-1 has been provided to summarize conclusions made on confirmed, potential OE areas and areas with no OE presence within the Melrose Air Force Range.

TABLE 2-1 SUMMARY OF CONCLUSIONS						
AREA	FORMER USAGE	CURRENT USAGE	SIZE (acres)	ORDNANCE PRESENCE		
				Confirmed Ordnance Presence	Potential Ordnance Presence	No Ordnance Presence
A	Impact Area	Same	55,745	yes	-	-
B	Old Impact Area	Buffer Area	305	-	yes	-
C	Old EOD Range and Burial Site	Impact Area, Buffer Area	1	-	yes	-
D	Burial Site	Same	1	-	yes	-
E	Buffer Area	Same	24,995	-	-	yes
F	World War II Buffer Area	Buffer Area	640	-	-	yes
		TOTAL	81,687			

b. **Historical Site Summary**

(1) The origin of the range occurred in 1952 when the Air Force acquired a leasehold interest in 7,771 acres of land for use as an air to ground gunnery range. Construction of targets was completed in 1953 and was first used by F-86 fighters stationed at Clovis Air Force Base. The targets available during this time period were limited;

there was a strafing target, a bomb target, and possibly several tactical targets.

(2) In 1969 the range was expanded to 22,120 acres to meet the needs of a new generation of aircraft. However, it was considered desirable to expand the range's capacity to meet the capabilities of the newer aircraft. The assignment of the F-111D aircraft to Cannon AFB in 1971 intensified the need for a training range that could accommodate aircraft capable of performing enhanced tactical maneuvers as well as a nuclear mission. For a number of years an annual waiver from the Air Force was required in that the buffer area did ~~not~~ meet the minimum safety criteria. ^{NST}

(3) In 1987 additional land was acquired to increase the size of the buffer area to satisfy the safety criteria. There were plans to increase the size of the impact area but this never occurred; the current size of the impact area is the same as it was in the early 1970s.

c. Visual Site Inspection

(1) Site inspection was conducted 24 May 2000. During this inspection, OE was observed.

(2) Interviews were conducted with the current range manager and a senior EOD technician, whose experience at the Melrose range dates to 1988 and 1986 respectively. Both of these gentlemen stated that to their knowledge no high explosive munitions were used on the range.

(3) The assessment found that the public is not exposed to the hazards of the range. The Melrose range is located in a sparsely populated portion of the high plains. The impact area is over three miles from the nearest homestead. A fence surrounds the impact area and a second fence surrounds most of the buffer area. As the land is flat with sparse vegetation, the range operation personnel observed the assessment team several miles before the team reached the impact area.

d. Confirmed Ordnance Sites

(1) Confirmed ordnance and explosives (OE) presence is based on verifiable historical record evidence or direct witness of OE items (with explosive components and/or inert debris/fragments). Additional field data are not needed to identify a confirmed site.

(2) Verifiable historical record evidence is based on OE items actually seen on site and authenticated by: historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and law enforcement agencies/bombs squads, military Explosive Ordnance Disposal (EOD) Units, newspaper articles, photographs, or maps.

(3) Direct witness of OE items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, workers on-site, soldiers who served there, etc.) verifying that they have seen OE presence on the surface or subsurface.

(4) The Impact Area, Area A, was determined to have **confirmed** OE presence. It is an active impact area and OE will continue to be used in this area for the foreseeable future. The majority of OE items used in the impact area have been inert items or items with a pyrotechnic spotting charge. However fire bombs, which have a WP igniter, have been recovered from this area. Also two recovered 2.75-inch warheads, a HEAT and a WP, contained high explosives.

e. **Potential Ordnance Sites**

(1) Potential ordnance and explosives (OE) presence is based on a lack of confirmed OE presence. Potential OE presence is inferred from records, present day site features, non-verifiable direct witness, or indirect witness. Additional field data are needed to confirm potential OE sites.

(2) Inference from historical records is based on no OE items actually seen on site and would include documentation (records, aerial photographs, maps) indicating possible OE presence derived from common practice in production, storage, use, or disposal at that time and from records indicating known OE usage.

(3) Inference from present day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops, OB/OD areas/pits, etc. Indirect witness would be people who have stated that they have heard of OE presence on-site (hear-say evidence).

(4) The Old Impact Area, Area B; the Old EOD Range and Burial Site, Area C; and the Burial Site, Area D, were determined to have **potential** OE presence.

(a) The Old Impact Area, Area B, was determined to have potential ordnance presence due to the presence of ground targets visible in an old aerial photograph; additional fieldwork will be required to determine if OE exists in this area.

(b) The Old EOD Range and Burial Site, Area C; and the Burial Site, Area D, were determined to have potential ordnance presence due to the uncertainty that the scrap metal in these areas are 100 percent free of hazardous material.

f. Subsites with No Ordnance Presence

No ordnance presence is attributed to areas that lack confirmed or potential ordnance presence. The Buffer Area, Area E, and the World War II Buffer Area, Area F, were determined to have **no ordnance presence**.

3. RECOMMENDATIONS

a. Summary of Recommendations

Table 3-1, on the next page, includes an overall summary of the site recommendations. Explanations are included in the following paragraphs.

b. Ordnance and Explosive Actions

(1) Implement Interim Removal Actions

The ASR team did not identify any immediate hazard to health or safety. Therefore, no interim removal actions are recommended.

(2) Perform Further Study

While additional study will be needed to determine if areas with potential ordnance presence actually contain OE, no further studies are recommended. The only hazard that is likely to exist in these areas is that of unexpended pyrotechnics. The areas are within or immediately adjacent to an active impact area. The general public is kept several miles distant from these areas by fences and observation by range personnel. In that no hazard exists to the public, no further study is recommended.

(3) No DOD Action Indicated

No further OE actions, other than normal range maintenance, is recommended for the Melrose Air Force Range.

**TABLE 3-1
SUMMARY OF RECOMMENDATIONS**

AREA	FORMER USAGE	SIZE (acres)	OE Actions		
			No DOD Action Indicated	Implement Interim Removal	Perform Further Study
A	Impact Area	55,745	Yes	-	-
B	Old Impact Area	305	Yes	-	-
C	Old EOD Range and Burial Site	1	Yes	-	-
D	Burial Site	1	Yes	-	-
E	Buffer Area	24,995	Yes	-	-
F	World War II Buffer Area	640	Yes	-	-
TOTAL		81,687			

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REPORT PLATES

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