

APPENDIX A

EVALUATION OF PREVIOUS WORK CHECKLIST

APPENDIX A
EVALUATION OF PREVIOUS WORK: Del Rey Oaks Munitions Response Area:
MRS-43, MRS-15 DRO 01, and MRS-15 DRO 02
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW

	Yes	No	Inconclusive
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TYPE OF TRAINING AND MEC EXPECTED

1. Is there evidence that the site was used as an impact area (i.e., fired military munitions such as mortars, projectiles, rifle grenades or other launched ordnance)?

Yes		
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Sources reviewed and comments

During sampling in MRS-43, MRS-15 DRO 01, and MRS-15 DRO 02, evidence of a 37mm impact areas were identified. Specifically, it appears that the 37mm guns were fired from within Impact area towards MRS-43. According to the ASR, the hillside within MRS-43 acted as a backstop for rifle grenades and shoulder launched projectiles. Although use of a portion of the hill as a backstop for 37mm projectiles was not documented, the presence of several 37mm UXO items and fragments from within MRS-43 indicates the hillside within MRS-43 may have been used as a backstop for 37mm projectiles. Impact areas present at Range 24 (35mm subcaliber projectiles) and the Autsin Antitank Range (2.36-inch rockets).

References

USAEDH, 1997; USA, 2001; Army, 2006.

2. Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?

Yes		
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Sources reviewed and comments

The 37mm training conducted adjacent to MRS-43 appeared to have used high and low explosive items. 2.36-inch rockets were fired at the Austin Antitank Range. 35mm subcaliber projectiles used at Range 24. Blank small arms authorized for use at Ranges 24, 25 and 26.

References

Army, 1991; USAEDH, 1997.

3. Is there historical evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?

		Inconclusive
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Sources reviewed and comments

Pyrotechnic and smoke producing items may have been utilized at the firing ranges.

References

Army, 1991; USAEDH, 1997.

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Yes No Inconclusive

DEVELOPMENT AND USE OF THE SURROUNDING AREA

4. Does subsequent development or use of the area indicate that military munitions would have been used at the site?

		Inconclusive
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Sources reviewed and comments

The area encompassing MRS-43, MRS-15 DRO 01, and MRS-15 DRO 02 has not been developed.

References

USAEDH, 1997; Aerial Photograph 2003.

5. Does use of area surrounding the site indicate that military munitions would have been used at the site?

		Inconclusive
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Sources reviewed and comments

Possibly, areas to the north and east included firing ranges. The parcels included in the Del Rey Oaks MRA are all located on the edges of the former Impact area which would indicate the potential that military munitions could have been used in the area. Parcels MRS-15 DRO 1 and MRS-15 DRO 2 also contain portions of five known firing range fans.

References

Topographic Map, Camp Ord and Vicinity 1933-34; Army, 1976, 1978, 1981, 1984; Aerial photograph 1941.

ESTABLISHMENT OF SITE BOUNDARIES

6. Is there evidence of training areas on aerial photographs that could be used to establish boundaries?

Yes		
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Sources reviewed and comments

Review of aerial photographs from the 1940s and 1950s through 1992 indicate ranges are present within the Del Rey Oaks MRA. However, the established site boundaries are based on reuse parcels rather than range boundaries. A small area of disturbed ground is present to the southeast of MRS-43 within the boundaries MRS-15 DRO 1 in the 1941 through 1992 aerial photographs. A series of roads is also present within MRS-15 DRO 01 and MRS-15 DRO 02 in the 1941 through 1992 aerial photographs.

References

Aerial photographs dated 7/25/1941; 8/17/1949; 5/14/1956; 11/4/1988, and 7/6/1992

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Yes No Inconclusive

7. Is there evidence of training on historical training maps that could be used to establish boundaries?

Yes		
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Sources reviewed and comments

Portions of several former training ranges including Range 24, Range 25, Range 26, AR Range Table VIII and the Austin Antitank Range are present within the boundaries MRS-15 DRO 1. Boundaries of the firing ranges only could be developed based on their presence. The boundaries of the Del Rey Oaks MRA are based on reuse parcels. The reuse parcels include the firing points and some targets associated with the ranges.

References

Army 1945, 1954, 1956, 1957, 1958, 1964, 1972, 1976, and 1981.

8. Should current boundaries be revised?

	No	
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Sources reviewed and comments

The site boundaries are primarily based on reuse parcels, therefore, no changes to the boundaries are suggested.

References

USAEDH, 1997.

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EVALUATION CHECKLIST PART 1: LITERATURE REVIEW

RESULTS OF LITERATURE EVALUATION

	Yes	No	Inconclusive
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Does the literature review provide sufficient evidence to warrant further investigation?

Yes		
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Comments

Based on the location of the sites adjacent to the Impact area and the evidence of a possible 37mm impact area adjacent to MRS-43A additional investigation as discussed in sampling checklist was warranted.

References

- USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey County, California. Prepared by US Army Corps of Engineers St. Louis District. HLA#33006
- US Army (Army), 2006. track 1 Plug-In Approval Memorandum, Multiple Sites, Groups 1-5, Former Fort Ord California. August 15.
- Army, 1991. Training, Fort Ord Range/Training Area Operating Procedures and Usage Guide. June 20.
- USA Environmental, Inc., (USA) 2001. Final After Action Report, Geophysical Sampling, Investigation and Removal, Site Del Rey Oaks Group, Inland Range Contract, Former Fort Ord, California.
- Army, 1945. Training Facilities, Fort Ord and Vicinity, California. Revised August 1945.
- Training Areas That Cannot Be Used at The Same Time, Circa 1954. (HR 00035) LR03.
- Fort Ord Training Areas and Facilities, December 20, 1956. LR08
- Army, 1957. Map of Fort Ord Training Areas & Facilities. Revised July 15.
- Army, 1958. Map of Fort Ord Training Areas & Facilities. Revised January 10.
- Basic Information Ranges & Training Facilities, December 31, 1958.
- Basic Information Ranges & Training Facilities, Revised December 31, 1961
- Field training Areas and range Map, April 27, 1964 (HR_lit0007) LR07.
- Army, 1967. Back Country Roads, Field Training Area and Range Map. January.
- Ranges And Training Area Overlay, Revised July 15, 1976
- Ranges And Training Area Overlay, Revised January 1978
- Ranges And Training Area Overlay, Revised June 1, 1981
- Ranges And Training Area Overlay, Revised April 1, 1982
- Ranges And Training Area Overlay, Revised November 15, 1987

Note: Checklist questions have been updated to reflect current Department of Defense military munitions terminology.

Checked BPF
 Approved BLW

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EVALUATION OF PREVIOUS WORK: DRO MRA
EVALUATION CHECKLIST PART 2: REMOVAL CHECKLIST

Yes No Inconclusive

HISTORICAL INFORMATION

1. Is there evidence that the site was used as an impact area (i.e., fired military munitions such as mortars, projectiles, rifle grenades or other launched ordnance)?

Yes		
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Sources reviewed and comments

Mortars, practice rifle grenade parts and 2.36-inch rockets were found during the removal action in MRS-15 DRO 01 and MRS-15 DRO 02. 37mm projectiles were found within the boundaries of all Del Rey Oaks MRA areas. 35mm subcaliber were found within MRS-15 DRO 01 (Range 24)

References

USA, 2001, Fort Ord Military Munitions Response Program Database (USACE, 2007)

2. Is there evidence that training involved use of explosive items?

Yes		
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Sources reviewed and comments

2.36-inch rockets were found within MRS-15 DRO 01 and MRS-15 DRO 02. These are high explosive items; evidence suggested that they had been fired.

References

USA, 2001, Fort Ord Military Munitions Response Program Database (USACE, 2007)

3. Is there evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?

Yes		
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Sources reviewed and comments

Evidence of smoke-producing or pyrotechnic items was found within MRS-15 DRO 01 and MRS-15 DRO 02.

References

Fort Ord Military Munitions Response Program Database (USACE, 2005)

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Yes No Inconclusive

REMOVAL RESULTS

4. Was removal performed within the appropriate area?

Yes		
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Sources reviewed and comments

With the exception of MRS-43 the removal actions were performed within designated parcel boundaries to facilitate property transfer. Review of sampling and reconnaissance information for MRS-43 indicate that the removal was performed in the appropriate area.

References

USA, 2001a

5. Were the type(s) of items found consistent with the type of training identified for the site?

Yes		
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Sources reviewed and comments

The items found within the DRO MRA areas were consistent with the types of training identified on historical training maps with the exception of the 37mm projectiles, and hand grenades and hand grenade fuzes. Ranges where these items may have been used are not documented on historical training maps or in interview records. The 37mm use was likely prior to the 1940s, while the hand grenade training could have been conducted before and after the 1940s.

References

Fort Ord Military Munitions Response Program Database (USACE, 2007) and Fort Ord training facilities maps

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Yes No Inconclusive

6. Were the type(s) of items found consistent with the era(s) in which training was identified?

Yes		
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Sources reviewed and comments

Items found were consistent with training in this area occurring from the 1920s through the 1980s

References

Fort Ord Military Munitions Response Program Database (USACE 2007), various Fort Ord Training maps

7. Was HE fragmentation found?

Yes		
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Sources reviewed and comments

HE fragmentation was found within all three DRO MRS areas.

References

Fort Ord Military Munitions Response Program Database (USACE, 2007)

8. Was HE found?

Yes		
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Sources reviewed and comments

One 37 mm projectile was found in MRS-15 DRO 02 and 58 fragmentation hand grenades were found (in buried pits) in MRS-43 and MRS-15 DRO 01.

References

Fort Ord Military Munitions Response Program Database (USACE, 2007)

9. Was LE found?

Yes		
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Sources reviewed and comments

LE items including 37mm LE projectiles were found within the DRO MRA..

References

Fort Ord Military Munitions Response Program Database (USACE, 2007)

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Yes No Inconclusive

10. Were pyrotechnics found?

Yes		
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Sources reviewed and comments

Pyrotechnic items were found within MRS-15 DRO 01 and MRS-15 DRO 02.

References

Fort Ord Military Munitions Response Program Database
(USACE, 2007)

11. Were smoke producing items found?

Yes		
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Sources reviewed and comments

Smoke producing items including smoke pots were found within the DRO MRA.

References

Fort Ord Military Munitions Response Program Database
(USACE, 2007)

12. Were explosive items found (e.g. rocket motors with explosive components, fuzes with explosive components)?

Yes		
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Sources reviewed and comments

Explosive items including grenade fuzes were found within the DRO MRA.

References

Fort Ord Military Munitions Response Program Database
(USACE, 2007)

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	Yes	No	Inconclusive
13. Do items found in the area indicate training would have included use of training items with other energetic components?	Yes		

Sources reviewed and comments

Items found indicate that training utilizing practice hand grenades and illumination and smoke items may have occurred within the DRO MRA..

References

Fort Ord Military Munitions Response Program Database (USACE, 2005)

14. Were items found in a localized area (possibly the remnants of a cleanup action)?	Yes		
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Sources reviewed and comments

Several burial pits containing fragmentation hand grenades were identified in MRS-43 and MRS-15 DRO 01 during the removal action. The grenades were present within the pit located in MRS-43. In addition, the majority of the MEC items were found in the northern/southern portions of the Del Rey Oaks MRA in the vicinity of the former firing ranges.

References

Fort Ord Military Munitions Response Program Database (USACE, 2007, USA, 2001)

SITE INVESTIGATION DESIGN

15. Was the site divided into subareas to focus on areas of common usage, similar topography and vegetation, and/other unique site features?			Inconclusive
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Sources reviewed and comments

The site was not divided into sectors based on site usage or site features. The site boundaries were identified based on reuse plans rather than historical range usage information. However, some sub areas within the site were based on sampling information.

References

USA 2000

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Yes No Inconclusive

16. Should the site be divided into subareas based on the above features?

		Inconclusive
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Sources reviewed and comments

As part of the initial sampling activities the site was divided into sectors; however, the final removal action was designed to clear the entire parcel, so no further subdivision of the parcel was conducted. NOI removal areas were based on sampling information which did not identify much MEC outside of the NOI removal areas.

References

Ford Ord Military Munitions Response Program Database (USACE, 2005)

17. Should current site boundaries be revised based on sampling results?

	No	
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Sources reviewed and comments

Current site boundaries are based on existing parcel boundaries and should not be modified.

References

USA, 2001

EQUIPMENT REVIEW

18. Was equipment used capable of detecting items suspected at the site at the maximum expected depth?

		Inconclusive
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Sources reviewed and comments

The types of items that might be expected at the three DRO areas are detectable using the Schonstedt 52Cx, G858, and the EM-61 based on the results of the ODDS; however, detection capabilities below about a foot drop off. QA associated with all instruments was met; however, due to the presence of metallic debris in grids adjacent to the berm located on Range 26 (MRS-15 DRO 01) the detection of UXO below 4 ft was noted as a concern.

References

USAESCH, 1997; Parsons 2001; USA 2001.

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Yes No Inconclusive

19. Was equipment used capable of detecting the types of items (e.g., non-ferrous) suspected at the site?

Yes		
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Sources reviewed and comments

The types of items that might be expected at the DRO MRA are detectable using the Schonstedt 52Cx, G858, and the EM-61 based on the results of the ODDS; however, detection capabilities below about a foot drop off. QA associated with all instruments was met; however, due to the presence of machine gun links in grids adjacent to the berm located on Range 26 (MRS-15 DRO 01) the detection of UXO in this area below 4 ft was noted as a concern.

References

USAEDH, 1997; USA, 2001

20. Do the results of the ODDS indicate that items suspected at the site would have been detected by the instrument used at the time of investigation?

		Inconclusive
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Sources reviewed and comments

The results of the ODDS seeded test indicate that the items suspected at the site, (practice hand grenades, fuzes, practice rifle grenades, practice smoke grenades, illumination signals, 2.36-inch rockets, and 37mm projectiles) and used in the ODDS study were, with the exception of a illumination signal, detectable in the top 6 inches using a Schonstedt 52CX; however, the detection rates drop between 6 inches and 1 foot bgs and to zero for some items below 2 feet. The ODDS seeded test indicated that the suspected items were detectable using the EM61 and G-858 instruments; however, several of the seeded items were indistinguishable from the background "noise" due to their locations. The technical analysis provided as Appendix P to the After Action Report concluded that the work completed met the objectives of the work plan and the imminent safety hazards had been removed.

References

Parsons, 2001; USAESCH, 1997, USA, 2001

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21. Do results of the investigation indicate that suspected items could be detected with a high level of confidence at observed and expected depth ranges?

Yes	No	Inconclusive
		Inconclusive

Sources reviewed and comments

Although not directly comparable to the three DRO areas, results of the ODDS suggest that the equipment used should be able to detect ferrous MEC to a depth of 2 feet bgs. The results of the Technical Analysis performed at the DRO Group indicate that 86 percent of the detectable seeded items were located during the removal action.

References

USA, 2001

22. Were all the instruments used to evaluate the site maintained and calibrated in accordance with associated work plan and manufacturer's specifications?

Yes		
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Sources reviewed and comments

Final Del Rey Oaks Geophysical Work plan (USA, 2000) details calibration requirements for the instruments utilized for the project. According to USA, 2001, work was completed in accordance with the Work plan.

References

USA 2000, USA, 2001

DATA PROCESSING AND DATA MANAGEMENT

23. Was the appropriate data processing scheme used for the site, and how was the data processed?

Yes		
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Sources reviewed and comments

All EM61 and G858 data were processed according to the approved work plan for the site.

References

USA, 2001

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Yes No Inconclusive

24. Has the field data been collected and managed in accordance with quality control standards established for the project?

Yes		
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Sources reviewed and comments

The data was collected and maintained according to the Project work plans and QA/QC procedures as documented in the USA After Action Report.

References

USA 2001

RESULTS OF REMOVAL EVALUATION

A. Can the data be used to perform a risk assessment?

Yes		
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Comments

Review of the available data indicates that the data can be used for performance of the risk assessment. The uncertainties related to the 11 grid area should be considered when preparing the risk assessment.

B. Can the data be used to perform a feasibility study?

Yes		
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Comments

Review of available data indicates that the data can be used to prepare the feasibility study. The uncertainties related to the 11 grid area should be considered when preparing the feasibility study.

References

USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey California. Prepared by US Army Corps of Engineers St Louis District.

Army, 1980. Fort Ord Regulation 350-5, Appendix-B Training Area and Assignment of Training Facilities B-1, Department of the Army. September 9.

USACE, 1961. Basic Information, Training Facilities. June 30.

USACE, 2005. Fort Ord Military Munitions Response Program Database, currently maintained by Parsons. January 4.

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	Yes	No	Inconclusive
Parsons, 2001. Draft Final Ordnance Detection And Discrimination Study, Volume I Text, Former Fort Ord, California, Presidio of Monterey, California. Prepared for US Army Corps of Engineers Sacramento District. December. USAESCH, 1997. Penetration of Projectiles Into Earth, An Analysis of UXO Clearance Depths at Ft. Ord. September 10. Appendix F of the Phase 2 EE/CA.			
USA Environmental, Inc., (USA) 2000. Final Del Rey Oaks Geophysical Work plan, Former Fort Ord, California, Contract Number DACA87-96-D-0019, Task Order Number 0001 USA Environmental, Inc., (USA) 2001. Final After Action Report, Geophysical Sampling, Investigation and Removal, Site Del Rey Oaks Group, Inland Range Contract, Former Fort Ord, California.			

Note: Checklist questions have been updated to reflect current Department of Defense military munitions terminology.

Checked BPE
Approved BLW