Appendix B
Site Evaluation Checklists

APPENDIX B
EVALUATION OF PREVIOUS WORK: EGA2
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW

TYPE OF TRAINING AND MILITARY MUNITIONS EXPECTED

	Yes	No	Inconclusive
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)?*		No	

Sources reviewed and comments
There is no evidence to indicate that the site was used as an impact area.

Training maps indicate that a small arms range was located along what is now the eastern boundary of EGA2. This small arms range, designated HA-78, appears on a photograph of East Garrison in the late-1930's and on photo maps of Fort Ord in 1942 and 1943.

A Tank Driving Area appears to the east of EGA2 in the adjacent MRS-59A on a 1956 training facilities map.

A leadership reaction course appears in the northern portion of EGA2 on an undated training facilities map. This area was also used a refuse disposal area in the 1940s and 1950s.

Other facilities identified on training facilities maps do not relate to military munitions training. These facilities consisting of an field expedient area, a food service area, and a mechanics area.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

Final Basewide Remedial Investigation/Feasibility Study Fort Ord, California, Volume II - Remedial Investigation Site 31, prepared for U.S. Army Corps of Engineers, Sacramento District, Harding Lawson Associates, October 1995.

2. *Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?*		No	

Sources reviewed and comments

Training facilities present in EGA2 do not indicate any training activities involving HE or LE items.

References:
Draft Final Site Assessment Pre-Field Data Evaluation Technical Memorandum East Garrison Areas 2 and 4, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, March 2005.

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?*

Yes		

Sources reviewed and comments
Small Arms Range HA-78 is located along the eastern boundary of EGA2. The types of military munitions expected to be found in a small arms range include small arms ammunition (SAA) and pyrotechnics.

A leadership reaction course (LRC) is located in the northern portion of EGA2. Tactical training can be associated with this type of facility. The type of munitions typically involved with tactical training includes pyrotechnics, smoke and practice grenades, simulators, and SAA.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

Draft Final Revision 0 Comprehensive Basewide Range Assessment Report, Former Fort Ord, California, Shaw Environmental Inc., March 2005.

Draft Final Site Assessment Pre-Field Data Evaluation Technical Memorandum East Garrison Areas 2 and 4, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, March 2005.

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?*

	No	

Sources reviewed and comments
There is no evidence to indicate military munitions use.
References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

		Inconclusive

Sources reviewed and comments
The current boundary is in close proximity to several training facilities . These facilities include a tank driving area identified on a 1956 training facilities map in the adjacent MRS-59A; a distance range on a 1946 training facilities map, and a small bore range and pistol range identified on a 1968 map to the northwest of EGA2; and a demolition area to the south in the adjacent East Garrison Area 4. A rifle grenade range identified on a 1946 training facilities map is located several hundred feet south of the southern EGA2 border. According to the 1997 ASR, rifle grenades were fired from near the Crescent Bluff Road/Barloy Canyon Road intersection towards this range (referred to as the Ammunition Supply Point and now known as MRS-42). However, the proximity of these facilities does not confirm nor refute the possibility that military munitions training occurred in EGA2.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

ESTABLISHMENT OF SITE BOUNDARIES

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

	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes.

References:
References: Aerial photographs dated pre-1941, 1941, and 1949.

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

	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes.

References: Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

8. *Should current boundaries be revised?*

	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes.

References:

RESULTS OF LITERATURE EVALUATION

Does the literature review provide sufficient evidence to warrant further investigation?

		Inconclusive

Comments
Based on the literature review, the type of training that occurred in EGA2 is inconclusive. During the pre-field data evaluation phase of the site assessment, which included an evaluation of the Fort Ord facilities and training maps, it was believed military munitions would not be encountered in EGA2. Only through the results of the site walk could it be determined that HA-78 small arms range and the Tank Driving Area might have been related to training activities that occurred in EGA2.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

Draft Final Revision 0 Comprehensive Basewide Range Assessment Report, Former Fort Ord, California, Shaw Environmental Inc., March 2005.

Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

APPENDIX B
EVALUATION OF PREVIOUS WORK: EGA2
EVALUATION CHECKLIST PART 2: SITE WALK EVALUATION

TYPE OF TRAINING AND MILITARY MUNITIONS EXPECTED

	Yes	No	Inconclusive
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)***		No	

Sources reviewed and comments
There is no evidence to suggest that the area was an impact area. No launched MEC or munitions debris from such items were identified during site walk activities.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

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

Sources reviewed and comments
Three expended M1 AT practice mines were encountered in the southeast portion of EGA2. The fuze primer of the M1 AT practice mine contains small amounts of low and/or high explosives.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

Technical Manual (TM), TM 43-0001-36, Army Ammunition Data Sheets for Land Mines (FSC 1345), Department of the Army Headquarters, February 1977.

	Yes		
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		

Sources reviewed and comments
An expended M125 series illumination signal (MD-E) and smoke pyrotechnic mixture (MEC) were found in the southwest portion of EGA2.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

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

	No	

Sources reviewed and comments
There is no evidence to indicate military munitions use.
References: Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

Yes		

Sources reviewed and comments
A Track 0 area borders EGA2 to the north.

EGA2 is bordered to the west by MRS-5 and MRS-59A, which are both Track 1 sites. Seven expended practice M1 and Teller AT mines were found approximately 1,000 to 2,500 from the Tank Driving Area identified on a 1956 Fort Ord training facilities map in MRS-59A.

EGA4 borders EGA2 to the south. The military munitions found in the northern border of EGA4 (an illumination signal, 40mm M583 illumination parachute round, and SAA) are consistent with the items found near the southern border of EGA2 (an illumination signal and SAA).

References:

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

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

	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes. Aerial photos of EGA2 would still not provide sufficient information to establish area boundaries.

References: Aerial photographs dated pre-1941, 1941, and 1949.

7. *Is there evidence of training on historical training maps that could be used to establish boundaries?*	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes. Historical training facilities maps of EGA2 would still not provide sufficient information to establish area boundaries.

References: Revised Archive Search Report, for Former Fort Ord,

8. *Was the site walk performed within appropriate area?*	Yes		

Sources reviewed and comments
The site walk was performed within the boundaries of EGA2. The site walk team navigated EGA2 using a pocket PC with the site map loaded on it. The site map included the historical features, aerial photo of EGA2, EGA2 boundary, and MRS boundaries. The pocket PC was linked to a Leica SR530 real-time kinematic corrected GPS and used to locate EGA2 and navigate the area.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

9. *Does reconnaissance (site walk) indicate MEC and/or munitions debris are present at the site?*	Yes		

Sources reviewed and comments
A total of 15 military munitions items were found. The items consisted of expended M1 antitank (AT) practice mines (expended munitions debris [MD-E]), expended German WWII M35 and M42 AT practice Teller mines (MD-E), an expended M125 series illumination signal (MD-E), smoke pyrotechnic mixture (MEC) and an expended 40mm cartridge case (munitions debris [MD]) that likely contained the smoke pyrotechnic mixture (MD-E), an expended rocket motor (type unknown) found in a burial pit (MD), a pressure plate from a mine (MD), and expended SAA (MD).

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

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

Sources reviewed and comments
The items found during the site walk are consistent with the historical features displayed on training facilities maps of Fort Ord and site features identified during the site walk.
Seven expended practice M1 and Teller AT mines were found approximately 1,000 to 2,500 from the Tank Driving Area identified on a 1956 Fort Ord training facilities map; SAA was found near an obstacle course and ranger training area observed in the south-central portion of EGA2; and pyrotechnics were found within the range fan of small arms range HA-78.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

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

		Inconclusive

Sources reviewed and comments
The Teller mines were produced by Germany between 1943 and 1944. Following WWII, practice versions of the mine were brought to the US for training purposes.

Technical Manual (TM), TM 43-0001-36, Army Ammunition Data Sheets for Land Mines (FSC 1345), Department of the Army Headquarters, February 1977.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1666, German Explosive Ordnance, Chapter 4, Department of the Navy, Ordnance Systems Command, June 1946.

12. *Was HE fragmentation found?*

	No	

Sources reviewed and comments
No HE fragmentation were found during the 2005 site walk.
References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

13. *Was HE found?*

	No	

Sources reviewed and comments
No HE were found during the 2005 site walk.
References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

14. *Was LE found?*

	No	

Sources reviewed and comments
No LE were found during the 2005 site walk.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

15. *Were pyrotechnics found?*	Yes		

Sources reviewed and comments
An expended M125 series illumination signal (MD-E), smoke pyrotechnic mixture (MEC), and an expended 40mm cartridge case (MD) that likely contained the smoke pyrotechnic mixture were found in the southwest portion of EGA2.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

16. *Were smoke-producing items found?*	Yes		

Sources reviewed and comments
Four expended Teller AT practice mines (MD-E) were found in the southwestern portion of EGA2 (three near the MRS-59A border and one near the MRS-59 border) and three expended M1 AT practice mines (MD-E) were encountered in the southeastern portion near Crescent Bluff Road. When these mines function, they produce smoke and/or noise.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

Technical Manual (TM), TM 43-0001-36, Army Ammunition Data Sheets for Land Mines (FSC 1345), Department of the Army Headquarters, February 1977.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1666, German Explosive Ordnance, Chapter 4, Department of the Navy, Ordnance Systems Command, June 1946.

17. *Were explosive items found (e.g. rocket motors with explosive components, fuzes with explosive components)?*		No	

Sources reviewed and comments
No explosive items were found during the 2005 site walk.
References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

18. *Do items found in the area indicate training would have included use of training items with energetic components?*	Yes		

Sources reviewed and comments

Three expended M1 AT practice mines were encountered in the southeast portion of EGA2. The fuze primer of the M1 AT practice mine contains small amounts of low and/or high explosives.

An expended M125 series illumination signal (MD-E) and smoke pyrotechnic mixture (MEC) were found in the southwest portion of EGA2.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

19. *Were items found in a localized area (possibly the remnants of a cleanup action)?*

Yes		

Sources reviewed and comments
The expended M1 AT practice mines and a pressure plate were all encountered in one area in the southeast portion of EGA2 along Crescent Bluff Road.

Three of the four expended Teller AT practice mines (MD-E) were found in the southwestern portion of EGA2 near the MRS-59A border.

References: Draft Final, East Garrison Area 2 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, July 2005.

20. *Is it appropriate to divide the site into sectors to focus on areas of common usage, similar topography and vegetation, and/or unique site features?*

	No	

Sources reviewed and comments
There are no distinct site features that would support dividing the site.

21. *Should site boundaries be revised?*

	No	

Sources reviewed and comments
Boundaries of EGA2 and other parcels in the East Garrison Area were established for land transfer purposes.

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

Yes		

Sources reviewed and comments

The site walks were conducted in accordance with the site walk plan established for EGA2 and EGA4 in the Pre-Field Data Evaluation Technical Memorandum. The site walk conducted by three-person teams that included MEC technicians. The site walk team visually searched the open, accessible portions of EGA2 while operating geophysical detection instruments to locate subsurface geophysical anomalies. The paths walked, locations of detected anomalies, and any site features related to military munitions training were identified using a Leica SR530 real-time kinematic (RTK) corrected global positioning system (GPS) and then recorded in a pocket PC. The site walk team excavated 48% of the anomalies detected (a minimum of 20% was required) and recorded the anomaly excavation results in the pocket PC.

Result of Reconnaissance Evaluation

Does the site walk evaluation provide sufficient evidence to warrant further investigation?		No	

Comments
The site walk was performed to identify any evidence of military munitions training in EGA 2. The type of military munitions encountered do not pose a threat to human health or life.

APPENDIX B
EVALUATION OF PREVIOUS WORK: EGA4 NE
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW

TYPE OF TRAINING AND MILITARY MUNITIONS EXPECTED

	Yes	No	Inconclusive
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)?***		No	

Sources reviewed and comments
There is no evidence to indicate that the site was used as an impact area.

Just outside the southwest corner of EGA4 NE there are three facilities identified on training facilities maps of Fort Ord: a demolition area that appears on 1945 and 1946 maps to the east of EGA4 NE; a mechanic training area that appears on a 1956 map, and an engineer training area that appears on 1956 and 1957 maps. The 1997 ASR states that the engineer training area (designated MRS-23) was used as a quarry for training near the Crescent Bluff area and physical evidence exists that the area was also used to test amphibious vehicles.

A military munitions burial site (MRS-33, formerly "OE Cache") is located in the northeast portion of EGA4 NE. Federal police identified this site, a foxhole that contained small arms ammunition and several 40mm cartridges.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

	Yes	No	Inconclusive
2. ***Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?***		No	

Sources reviewed and comments
Training facilities present in EGA4 NE do not indicate any training activities involving HE or LE items.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 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?*

	No	

Sources reviewed and comments
There are no facilities on historical training maps that would indicate use of pyrotechnics or smoke producing items.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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?*

	No	

Sources reviewed and comments
There is no evidence to indicate military munitions use.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

	No	

Sources reviewed and comments
EGA4 NE is bordered to the south by BLM lands, Reservation Road to the north and east, and EGA4 to the west. Historical training facilities are located in EGA4, but they are not in close proximity to EGA4 NE and thus would not indicate military munitions training. The closest historical training facility in EGA4 is a rifle grenade range (MRS-42), but it is relatively distant from EGA4 NE. MRS-60 borders the southeastern end of EGA4 NE. A site walk was conducted there in 1995, but only expended pyrotechnics and flares were found in the site. EGA2 borders EGA4 NE to the northwest, but the training facilities on historical maps of that area are not related to military munitions training.

References:
Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

ESTABLISHMENT OF SITE BOUNDARIES

6. *Is there evidence of training areas on <u>aerial photographs</u> that could be used to establish boundaries?*

	No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes. Aerial photos of EGA4 NE would still not provide sufficient information to establish area boundaries.

References: Aerial photographs dated pre-1941, 1941, and 1949.

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

	No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes. Historical training facilities maps of EGA4 NE would still not provide sufficient information to establish area boundaries.

References: Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

8. *Should current boundaries be revised?*

	No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes.

References:

RESULTS OF LITERATURE EVALUATION

Does the literature review provide sufficient evidence to warrant further investigation?

		Inconclusive

Comments
Based on the literature review, the type of training that occurred in EGA4 NE is inconclusive. During the pre field data evaluation phase of the site assessment, it was believed military munitions would not be encountered in EGA4 NE. Only through the results of the site walk could it be determined that training activities might have occurred in the area.

References:
Draft Final Site Assessment Pre-Field Data Evaluation Technical Memorandum East Garrison Areas 2 and 4, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, March 2005.

APPENDIX B

EVALUATION OF PREVIOUS WORK: EGA4 NE

EVALUATION CHECKLIST PART 2: MUNITIONS RESPONSE REVIEW (MRS-33)

	Yes	No	Inconclusive
1. *Is there evidence that the site was used as an impact area (i.e., fired OE such as mortars, projectiles, rifle grenades or other launched ordnance)?*		No	

Sources reviewed and comments

MRS-33 is a single foxhole in which military munitions were buried.

References

Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

2. *Is there evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?*		No	

Sources reviewed and comments

No training activities occurred in MRS-33. It is a single foxhole in which military munitions were buried. Items removed from MRS-33 did include 40mm cartridges, which have primers that include a small amount of low and/or high explosives.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

3. *Is there evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?*		No	

Sources reviewed and comments

No training activities occurred in MRS-33. It is a single foxhole in which military munitions were buried. Items removed from MRS-33 did include five 40mm smoke cartridges (model unknown)..

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

4. *Was removal performed within the appropriate area?*

Yes		

Sources reviewed and comments
MRS-33 is a single foxhole identified by POM Federal Police. The munitions response occurred in the 0.1-acre covered by the foxhole.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

5. *Does removal indicate OE and/or ordnance-related scrap are present at the site?*

Yes		

Sources reviewed and comments
The items removed from MRS-33 consisted of five 40mm smoke cartridges (model unknown), a 40mm M781 practice cartridge, and 8,773 SAA.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

	No	

Sources reviewed and comments
No evidence of military munitions training activities was found in MRS-33.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

		Inconclusive

Sources reviewed and comments
No training activities occurred in MRS-33. In addition, it is unknown when foxhole was used as a military munitions burial site.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

8. *Was HE fragmentation found?*

	No	

Sources reviewed and comments
Items removed from MRS-33 did not include HE fragmentation.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

9. *Was HE found?*

	No	

Sources reviewed and comments
Items removed from MRS-33 did not include HE.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

10. *Was LE found?*

	No	

Sources reviewed and comments
Items removed from MRS-33 did not include LE.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

11. *Were pyrotechnics found?*

	No	

Sources reviewed and comments
Items removed from MRS-33 did not include pyrotechnics.
References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

12. *Were smoke producing items found?*

Yes		

Sources reviewed and comments
Items removed from MRS-33 did include five 40mm smoke cartridges (model unknown).
References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

	No	

Sources reviewed and comments
Items removed from MRS-33 did not include items with explosive components.
References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

14. *Do items found in the area indicate training would have included use of training items with other energetic components?*

	No	

Sources reviewed and comments
No training activities occurred in MRS-33. In addition, the items removed from MRS-33 consisted of five 40mm smoke cartridges (model unknown), a 40mm M781 practice cartridge, and 8,773 SAA. These items do not indicate that training occurred with items containing other energetic components.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

15. *Were items found in a localized area (possibly the remnants of a cleanup action)?*

Yes		

Sources reviewed and comments
All items were found in a single foxhole.
References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

16. *Has the site been divided into sectors to focus on areas of common usage, similar topography and vegetation, and/other unique site features?*

	No	

Sources reviewed and comments
Not applicable: MRS-33 is a single foxhole.
References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

17. *Should current site boundaries be revised?*

	No	

Sources reviewed and comments
MRS-33 is a single 0.1-acre foxhole identified by POM Federal Police.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

		Inconclusive

Sources reviewed and comments
MRS-33 was investigated to a 4-ft depth with Schonstedt GA-52/Cx magnetometers. Based on results of the Ordnance Detection and Discrimination Study (ODDS), the instrument is effective at detecting ferrous items in the near surface. The military munitions removed from MRS-33 (40mm cartridges and SAA) are non-penetrating items and would be expected to be found in the near-surface. However, these items were buried rather than fired; therefore, their recovery depth (4 ft bgs according to the Fort Ord MMRP database) was subject to the depth in which they were initially buried and natural processes (e.g. erosion) that may have occurred between the time the items were buried and recovered.

It should be noted that the Schonstedt may have been able to detect the items found at MRS-33 because they were buried together. Similar burial pits at the former Fort Ord have been discovered with the Schonstedt.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

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, Parsons, 2001.

Penetration of Projectiles Into Earth, An Analysis of UXO Clearance Depths at Ft. Ord.
Appendix F of the Phase 2 EE/CA, USAESCH, 1997.
.

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

Yes		

Sources reviewed and comments
The military munitions removed from MRS-33 (40mm cartridges and SAA) are ferrous items that would be expected to be detected with a Schonstedt GA- 52/Cx magnetometer.

References
Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

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, Parsons, 2001.

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

	No	

Sources reviewed and comments
MRS-33 was investigated to a 4-ft depth with Schonstedt GA-52/Cx magnetometers. Based on results of the ODDS, the instrument is effective at detecting ferrous items in the near surface with its effectiveness decreasing below 6 in. bgs. According to the Fort Ord MMRP database, the military munitions encountered in MRS-33 (40mm cartridges and SAA) were found 4 ft bgs.

It should be noted that the Schonstedt may have been able to detect the items found at MRS-33 because they were buried together. Similar burial pits at the former Fort Ord have been discovered with the Schonstedt.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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, Parsons, 2001.

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

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?*			Inconclusive

Sources reviewed and comments

According to the Fort Ord MMRP database, the military munitions encountered in MRS-33 (40mm cartridges and SAA) were found 4 ft bgs. These munitions are non-penetrating items that would be expected to be found in the near-surface. Furthermore, the 4-ft recovery depth exceeds the performance expectation of the Schonstedt GA- 52/Cx magnetometer.

It should be noted that the Schonstedt may have been able to detect the items found at MRS-33 because they were buried together. Similar burial pits at the former Fort Ord have been discovered with the Schonstedt.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

Sources reviewed and comments

Field QC procedures for the detection instruments used are not described in the source material.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

Sources reviewed and comments

Data processing is not described in the source material. However, work was done with Schonstedt magnetometers, which would essentially require recording items encountered descriptions, depths, locations, and other related information. This information was recorded by the contractor on a spreadsheet. The data on the spreadsheet has since been transferred to the Fort Ord MMRP database.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

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

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

Yes		

Sources reviewed and comments

The contractor recorded the pertinent data in a spreadsheet and the data on the spreadsheet has since been transferred to the Fort Ord MMRP database. Parsons UXOQC has performed QC of this data.

Result of Removal Evaluation

Does the removal evaluation provide sufficient evidence to warrant further investigation?

	No	

Sources reviewed and comments

MRS-33 was investigated to a 4-ft depth with Schonstedt GA 52/Cx magnetometers beginning 3 April 1995. During this munitions response, six MEC and 8,773 SAA were encountered. The six MEC consisted of five 40mm smoke cartridges (model unknown) and a 40mm M781 practice cartridge. The munitions response was completed 8 April 1995. The AAR had no further specific recommendations for MRS-33.

References

Final Report for Ordnance and Explosives Removal Action Fort Ord OE Cache, prepared for U.S. Army Corps of Engineers, Sacramento District, November 1995.

APPENDIX B
EVALUATION OF PREVIOUS WORK: EGA4 NE
EVALUATION CHECKLIST PART 2: SITE WALK EVALUATION

TYPE OF TRAINING AND MILITARY MUNITIONS EXPECTED

	Yes	No	Inconclusive
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)***		No	

Sources reviewed and comments
A tail fin assembly from a rifle grenade was found in the southeast portion of EGA4 NE; however, no other rifle grenades or fragments were found in the vicinity of the tail fin. It is therefore likely that the tail fin originated from an M20 or M22 smoke rifle grenade, which are used for screening and signaling purposes, respectively, typically during troop maneuvering exercises (tactical training). The finding of the tail fin does not indicate that the area was used as an impact area.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1660, Part 4—Chapter 12, Department of the Navy, Sea Systems Command,

2. ***Is there evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?***		No	

Sources reviewed and comments
A tail fin assembly from a rifle grenade was found in the southeast portion of EGA4 NE; however, no other rifle grenades or fragments were found in the vicinity of the tail fin. It is therefore likely that the tail fin originated from an M20 or M22 smoke rifle grenade rather than from a high explosive model such as the M9 AT series or M17 fragmentation.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1660, Part 4—Chapter 12, Department of the Navy, Sea Systems Command, January 1969.

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		

Sources reviewed and comments
A tail fin assembly from a rifle grenade was found in the southeast portion of EGA4 NE, and It is likely that the tail fin originated from an M20 or M22 smoke rifle grenade.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

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

	No	

Sources reviewed and comments
There is no evidence to indicate military munitions use.
References: Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

		Inconclusive

Sources reviewed and comments
EGA4 NE is bordered by BLM lands to the south, Reservation Road to the north and east, and EGA4 to the west. Historical training facilities are located in EGA4, but they are not in close proximity to EGA4 NE and thus would not indicate military munitions training in EGA4 NE. In 1995, a site walk was conducted in MRS-60, which borders the southeastern end of EGA4 NE. During the site walk, only illumination signals and flares (MD-E) were found.

References: Revised Archive Search Report, for Former Fort Ord, CA, U.S. Army Corps of Engineers, St. Louis District, 1997.

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

	No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes. Aerial photos of EGA4 NE would still not provide sufficient information to establish area boundaries.

References: Aerial photographs dated pre-1941, 1941, and 1949.

7. *Is there evidence of training on <u>historical training maps</u> that could be used to establish boundaries?*

	No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes. Historical training facilities maps of EGA4 NE would still not provide sufficient information to establish area boundaries.

References: Revised Archive Search Report, for Former Fort Ord,

8. *Was the site walk performed within appropriate area?*

Yes		

Sources reviewed and comments
The site walk was performed within the boundaries of EGA4 NE. The site walk team navigated EGA4 NE using a pocket PC with the site map loaded on it. The site map included the historical features, aerial photo of EGA4 NE, EGA4 NE boundary, and MRS boundaries. The pocket PC was linked to a Leica SR530 real-time kinematic corrected GPS and used to locate EGA4 NE and navigate the area and stay within its boundaries.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

9. *Does reconnaissance (site walk) indicate MEC and/or munitions debris are present at the site?*

Yes		

Sources reviewed and comments
A total of 3 military munitions items were found in EGA4 NE: the tail fin assembly from a rifle grenade (MD-E), SAA clips (MD), and expended SAA (MD).

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

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

		Inconclusive

Sources reviewed and comments
Based on the literature review, no type of training could be identified for EGA4 NE.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

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

Sources reviewed and comments
Based on the literature review, no type of training could be identified for EGA4 NE; therefore, it cannot be concluded whether the items found are consistent with the era(s) in which they were used.

The M20 and M22 smoke rifle grenades are both WW II munitions, and a potentially relevant historical training facility in the adjacent EGA4 (rifle grenade range [MRS-42]) is shown on a 1945 training facilities map.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1660, Part 4—Chapter 12, Department of the Navy, Sea Systems Command, January 1969.

12. *Was HE fragmentation found?*		No	

Sources reviewed and comments
No HE fragmentation were found during the 2005 site walk.
References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

13. *Was HE found?*		No	

Sources reviewed and comments
No HE were found during the 2005 site walk.
References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

14. *Was LE found?*		No	

Sources reviewed and comments
No LE were found during the 2005 site walk.
References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

15. *Were pyrotechnics found?*		No	

Sources reviewed and comments
No pyrotechnics were found during the 2005 site walk.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

16. *Were smoke-producing items found?*

Yes		

Sources reviewed and comments
A tail fin assembly from a rifle grenade was found in the southeast portion of EGA4 NE; however, no other rifle grenades or fragments were found in the vicinity of the tail fin. It is therefore likely that the tail fin originated from an M20 or M22 smoke rifle grenade, which are used for screening and signaling purposes, respectively.

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1660, Part 4—Chapter 12, Department of the Navy, Sea Systems Command, January 1969

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

	No	

Sources reviewed and comments
No explosive items were found during the 2005 site walk.
References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

18. *Do items found in the area indicate training would have included use of training items with energetic components?*

	No	

Sources reviewed and comments
No items were found during the 2005 site walk that would indicate training with items with energetic components..

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

U.S. Explosive Ordnance, Ordnance Publication (OP) 1660, Part 4—Chapter 12, Department of the Navy, Sea Systems Command, January 1969

19. *Were items found in a localized area (possibly the remnants of a cleanup action)?*

Yes		

Sources reviewed and comments

All three military munitions found in EGA4 NE were encountered in the southeast portion of the site. The rifle grenade tail fin and SAA clips were found almost in the same spot.

Note that these findings are not remnants of a prior cleanup action. (Munitions response investigations in EGA4 NE were isolated to MRS-33 prior to the site walk.)

References: Draft, East Garrison Area 4 Site Assessment Site Report, prepared for U.S. Army Corps of Engineers, Sacramento District, Parsons, September 2005.

20. *Is it appropriate to divide the site into sectors to focus on areas of common usage, similar topography and vegetation, and/or unique site features?*		No	

Sources reviewed and comments
There are no distinct site features that would support dividing the site.

21. *Should site boundaries be revised?*		No	

Sources reviewed and comments
Boundaries of EGA4 NE and other parcels in the East Garrison Area were established for land transfer purposes.

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

Sources reviewed and comments
The site walks were conducted in accordance with the site walk plan established for EGA2 and EGA4 in the Pre-Field Data Evaluation Technical Memorandum. The site walk conducted by three-person teams that included MEC technicians. The site walk team visually searched the open, accessible portions of EGA4 NE while operating geophysical detection instruments to locate subsurface geophysical anomalies. The paths walked, locations of detected anomalies, and any site features related to military munitions training were identified using a Leica SR530 real-time kinematic (RTK) corrected global positioning system (GPS) and then recorded in a pocket PC. The site walk team excavated 100% of the anomalies detected (a minimum 20% was required) and recorded the anomaly excavation results in the pocket PC.

Result of Reconnaissance Evaluation

Does the site walk evaluation provide sufficient evidence to warrant further investigation?

	No	

Comments

The site walk was performed to identify any evidence of military munitions training in EGA 4 NE. The type of military munitions encountered do not pose a threat to human health or life.