

**SUBJECT: MR BCT Meeting**  
**August 22, 2006 10:00 a.m.**  
 Shaw Conference Room  
 Bldg 4522 Joe Lloyd Way, former Fort Ord

Check ( )	Name	Organization	Phone	E-mail address
<i>YJ</i>	Gail Youngblood	Fort Ord BRAC	831-242-7918	<a href="mailto:Gail.youngblood@monterey.army.mil">Gail.youngblood@monterey.army.mil</a>
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	John Chesnutt	U.S. EPA	415-972-3005	<a href="mailto:Chesnutt.john@epa.gov">Chesnutt.john@epa.gov</a>
<i>on phone</i>	Claire Trombadore	U.S. EPA	415-972-3518	<a href="mailto:Trombadore.Claire@epa.gov">Trombadore.Claire@epa.gov</a>
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Check ( )	Name	Organization	Phone	E-mail address
By phone	Christopher Prescott	COE	916-557-7227	<a href="mailto:Christopher.E.Prescott@usace.army.mil">Christopher.E.Prescott@usace.army.mil</a>
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MR BCT Meeting  
August 22, 2006

<b>Item</b>	<b>Action</b>	<b>Comment</b>
<b>Fieldwork Update</b>	<b>Update</b>	
<b>Site Security Program</b>	<b>Update</b>	
<b>MRS-16</b>	<b>Update</b>	
<b>Report Status</b>	<b>Update</b>	
<b>Property Transfer</b>	<b>Update</b>	
<b>Track 2</b>	<b>Update</b>	
<b>Track 3</b>	<b>Update</b>	
<b>FFA Schedule</b>	<b>Update</b>	
<b>Other Planning Issues</b>	<b>Discuss</b>	-DRO -Ranges 43-48 SCAs -Gen Jim Moore Blvd road project -Additional munitions investigation in parcel E20c.1
<b>Action Items</b>	<b>Update</b>	



**Fort Ord Munitions Response BCT Meeting  
Summary of Action Items (July 19, 2006)**

	<u>Action Item Description</u>	<u>Responsible Party</u>	<u>Due Date</u>	<u>Comments</u>
*	Finalize MR BCT minutes from July 19	Army		

\* indicates new action item

"R" indicates revised action item

"C" and gray cells indicate completed items to be withdrawn from list next month

Fort Ord  
Military Munitions Response  
Program  
Fieldwork  
Update

8/22/2006

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# MMRP Fieldwork Update

## MRS-16

The 79 acre area of MRS-16 have been prepared and surveyed for vegetation removal (prescribed burn) in preparation for a removal to depth munitions response. USF&W has concurred with the a plan described in the project preparation description for establishment of a primary prescribed burn containment line involving 22.5 acres of CMC with a one-time vegetation cut and subsequent blacklining. Habitat management transects have been installed to support monitoring of vegetation recovery from the planned preparatory, prescribed burn, and munitions response actions. Voluntary temporary relocation will be offered for this prescribed burn (1). Fuel moisture monitoring is in progress (2). Weather monitoring is in progress (3). Vegetation cutting and other preparatory work is complete. Air monitoring is planned for this prescribed burn. The draft work plan is out for comment. The official notification list for this prescribed burn is complete.

PHASES:	<u>Start Date</u>	<u>Date Complete</u>
Preparatory Actions	6-19-06	7-12-06
Prescribed burn		
Surface safety sweep		
Vegetation removal (remainder)		
Digital survey		
Subsurface removal		
Digital survey/QC/QA		

### ISSUES AND CONCERNS:

- (1) Voluntary temporary relocation signup period is complete.
- (2) **Average fuel moisture is 90% as of 8-17-06. Maximum prescribed average fuel moisture is 100%.**
- (3) **Weather prediction is unfavorable for burn prescription through 8-22-06.**

8/22/2006

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# MMRP Fieldwork Update

## PROJECT: Range 36A

The munitions response for Range 36A is in progress. The vegetation on the 1.8-acre area of Range 36A was removed (cut) in preparation for the munitions response action. A digital (EM-61) survey of the area has identified significant subsurface anomalies. One range-related debris item has been treated (wholly inert 250-pound General Purpose practice bomb). Excavation of peak subsurface anomalies is complete. Request for extension of closure period and proposal to amend Closure Plan (Munitions Response Work Plan) has been submitted. Further work is pending DTSC letter to grant extension for closure and comment to Army's proposed action plan.

Start date: 5-2-06      Estimated date complete: TBD

### PHASES:

Surface safety sweep	Complete
Vegetation removal	Complete
Digital survey	Complete
Subsurface sampling (peak anomalies)	Complete
Closure Plan Amendment	In progress

### ISSUES AND CONCERNS:

- 1) High density of subsurface anomalies.

8/22/2006

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# MMRP Fieldwork continued

PROJECT: Annual Impact Area Fuel Break Maintenance

Start Date: 7/06

Estimated date complete: 9/06

PHASES: Vegetation cut on existing fuel breaks adjacent to and within the impact area (MRS-BLM) (approx. 245 acres).

Issues and Concerns:

(1) Funding and contractor

8/22/2006

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MMRP Fieldwork Update  
Unexploded Ordnance (UXO)/Munitions Debris (MD)/  
Range Related Debris (RRD)  
Summary

<u>Description</u>	<u>UXO/DMM/TBD</u> <u>(Items)</u>	<u>MD</u> <u>(lbs.)</u>	<u>RRD</u> <u>(lbs.)</u>
MRS-16	0/0/6	10	2,010
Range 36A	0/0/0	0	250
SBR	0/0/0	0	10

# MMRP Site Security Program

## Trespass and MEC Incidents

- Trespass Incidents:
  - On 21 July 2006, a Seaside Police officer reported seeing a male jumped the Impact Area fence in vicinity of the Broadway Ave. gate and walked into the Impact Area.
- MEC Incidents (Reports):
  - None

Community Education: None

Other: 2005 MRS Security Annual Report has been published.



including rockets, artillery and mortar projectiles, rifle and hand grenades, practice land mines, pyrotechnics, and demolition materials.

The proposed reuse for the Impact Area MRA is habitat reserve. Management actions and mitigation measures prescribed in the HMP and biological opinions for the Impact Area include minimizing the disturbances in the habitat, conducting employee education programs, habitat monitoring, and vegetation burning in support of munitions response in maritime chaparral habitat. Longer term management activities for the habitat reserve areas within the Impact Area include habitat restoration, enhancement and monitoring, access control, controlled burning, and allowance for development-oriented use in as much as 2 percent of the area.

## Remedial Investigation Summary

The RI presents the historical use of the site, reviews and summarizes the MEC investigations completed to date, evaluates the Quality Control/Quality Assurance (QC/QA) programs used during MEC investigations, presents the nature and extent of MEC within the Impact Area based on existing data and provides a conceptual site model.

Based on review of the contractor after action reports and the QC/QA processes, the data collected during the sampling and removal actions performed within the Impact Area MRA was considered usable for preparation of the RI, RA, and FS.

Based on the data collected to date, which is comprised of MEC removals on road, trail, and fuel breaks; removal actions in Watkins Gate Burn Area, Eucalyptus Fire Area and other limited areas; the MRS-Ranges 43 through 48 Interim Action; and limited grid sampling; the following distribution of MEC was identified:

- The highest concentrations of MEC occur mostly within ranges identified on historical training maps. For example, mortars are found within ranges identified for mortar training and 40mm projectiles are found within grenade launcher ranges. Military munitions used prior to 1945, such as the 37mm and 75mm projectiles, are more likely than more recent munitions to be found outside of the available historical range fans. 1945 is the date of the earliest available training maps.
- Review of the vertical distribution information indicates that most MEC occurs within 1 foot below ground surface, and the densities appear to drop off quickly below 1 foot.

## Risk Assessment Summary

Following completion of the RI, a risk assessment was completed to address the explosive risk to potential human receptors associated with MEC within the Impact Area MRA. *The Fort Ord Ordnance and Explosives Risk Assessment Protocol* prepared by Malcolm Pirnie in 2002 was used to evaluate the potential explosive risks. The result of the risk assessment is a qualitative description of the risks to a receptor encountering a MEC item. The output consists of an overall MEC Risk Score designated by the letters A through E, with A representing the lowest risk and E

representing the highest risk. Data from the MRS-Ranges 43 through 48 Interim Action were used to prepare the risk assessment because of the completeness of the data set. Baseline and After Action Risks for two cleanup alternatives were evaluated. The two cleanup scenarios evaluated were (1) surface removal, and (2) removal to depth.

The potential receptors evaluated as part of the risk assessment were as follows:

- Trespassers
- Surface Only Receptors
- Shallow Intruding Receptors
- Deeper Intruding Receptors
- Construction Workers

The results of the Risk Assessment were as follows:

- The Baseline Risks for all receptors are the highest risk (E)
- The After Action Risks following implementation of a visual surface removal are highest (C) or medium for surface only receptors, and remain highest (E) for all deeper intruding receptors.
- The After Action Risk for implementation of a removal to depth for a surface only receptor and a shallow intruding receptor (intrusion of less than 1 foot) are lowest (A), and remain highest (E) for all other deeper intruding receptors.

## Feasibility Study Summary

The Feasibility Study identifies and selects a preferred remedial alternative to address potential MEC risks within the Impact Area MRA. The primary Remedial Action Objective (RAO) identified for the Impact Area MRA is to meet the requirements of “Overall Protection of Human Health and the Environment” and comply with ARARs while supporting the reuse of the Impact Area as a habitat reserve. To meet the RAO, the Feasibility Study evaluated the following four remedial alternatives:

- Alternative 1: No Further Action
- Alternative 2: Visual Surface MEC Remediation (A visual search of the ground surface, investigation and removal of any MEC, and removal of any munitions debris or range-related debris [anticipated to be 2-inches in diameter or larger] that is found on the ground surface. A post-MEC removal digital geophysical survey of the entire Impact Area MRA would also be performed to provide a record of any anomalies remaining).
- Alternative 3: Removal to Depth MEC Remediation (Identification of MEC on the ground surface and below the ground surface to depths detectable using the best available technologies and removal of any MEC and munitions debris or range-related debris [anticipated to be 2-inches in diameter or larger] identified)
- Alternative 4: Combination of Visual Surface Removal and Removal to Depth MEC Remediation

Based on review of the EPA's nine CERCLA evaluation criteria, Alternative 4 is identified as the preferred remedial alternative for implementation at the Impact Area MRA. This alternative assumes Visual Surface MEC Remediation would be conducted throughout the entire Impact Area MRA, and Removal to Depth MEC Remediation would be conducted on fuel breaks and roads essential to safe habitat reserve maintenance activities, and for other limited areas that may require MEC removal to depth during reuse (up to 10 percent of the Impact Area MRA).

The Combination of Visual and Surface MEC Remediation and Removal to Depth MEC Remediation Alternative would include the following components:

- Prescribed burning to clear vegetation and provide access for MEC personnel to conduct MEC removals;
- Visual surface MEC removal throughout the entire Impact Area MRA, and detonation with engineering controls of any MEC identified;
- MEC removal to depth (intrusive investigation of all detected anomalies) on fuel breaks and roads essential to safe habitat reserve maintenance activities, and for other limited areas that may require MEC clearance to depth for specific purposes to support the reuse (up to 10 percent of the Impact Area MRA);
- Post-remediation digital mapping of the entire Impact Area MRA to provide a record of any remaining anomalies; and investigation of remaining anomalies, if any, within the areas where removal to depth was performed;
- Implementation of Land Use Controls. Based on expected use of specific areas within the Impact Area MRA, Land Use Control could include: MEC recognition and safety training; restricted/escorted access; construction monitoring for intrusive activities; access management measures including maintaining the perimeter fence; and land reassignment documentation outlining any use restrictions or conditions;
- Post-remediation habitat monitoring within the areas of removal to depth (collecting data on HMP annual plants and habitat reserve species, and perform mapping, data management and evaluation, and reporting).

Remedial Alternative	Total Cost
Long-Term Management Measures	\$453,000
Alternative 1: No Further Action	\$8,220,000
Alternative 2: Visual Surface MEC Remediation	\$82,123,000
Alternative 3: Removal to Depth MEC Remediation	\$395,037,000
Alternative 4: Combination of Visual Surface Removal and Removal to Depth MEC Remediation	\$129,348,000

Please refer to *Draft Track 3 Impact Area Munitions Response Area (MRA) Munitions Response Remedial Investigation/Feasibility Study, Former Fort Ord, California, August 9, 2006, Administrative Record #OE-0596.*

**Former Fort Ord Property Transfer Document Status Update**  
**August 2006**

**FOST 9 – Track 0 Plug-in Group C, Track 1 and Track 1 Plug-in Parcels (29 Parcels ~1.888 acres)**

- FOST complete and signed, 17 parcels (~747 acres) transferred by deed to date.
- Five CRUPs (one per jurisdiction or PBC recipient) for 15 parcels (~855 acres) within Prohibition Zone of Fort Ord Special Groundwater Protection Zone:

CRUP restriction	Parcels	Acres	Recipient	Jurisdiction	Signatures			Status	Notes
					DTSC	RWQCB	Army		
groundwater	2	101.63	FORA	Monterey County	Yes	Yes	Yes	recorded	Property transferred.
groundwater	9	199.57	FORA	Marina	Yes	Yes	Yes	recorded	Property transferred.
groundwater	2	4.618	Veterans Transition Center	Marina	No	Yes	No	final	DTSC working with recipient on agreement for payment of DTSC's costs.
groundwater	1	476.79	California Department of Parks & Recreation	Monterey County	No	Yes	No	final	DTSC working with recipient on agreement for payment of DTSC's costs.
groundwater	1	72.139	California Department of Transportation	Marina	No	Yes	No	final	DTSC working with recipient on agreement for payment of DTSC's costs.

**FOST 10 – Track 0 Plug-in Group D, Track 1 Plug-in East Garrison Areas 2 and 4 NE, and Track 1 Plug-in Groups 1 – 5 Parcels (28 Parcels ~719 acres)**

- Public comment period for FOST started 7/31/2006, ends 8/29/2006. Army signature of FOST now estimated to be by 9/26/2006.
- DTSC will be submitting comments, likely regarding lead-based paint and termination of RCRA Corrective Action.
- Working with DTSC to finalize CRUPs:

CRUP restriction	Parcels	Acres	Recipient	Jurisdiction	Signatures			Status	Notes
					DTSC	RWQCB	Army		
groundwater	7	40.177	FORA	Marina	No	No	No	draft	Submitted to DTSC for review 6/1/06.
groundwater	1	4.545	Monterey-Salinas Transit	Marina	No	No	No	draft	DTSC working with recipient on agreement for payment of DTSC's costs.
residential/ excavation	1	63.689 <sup>1</sup>	FORA	Monterey County	No	No	No	draft	Revised and submitted to DTSC fo: back check 8/8/06. Army proposed reviewing site as part of 5-year review under CERCLA, but DTSC prefers site reviewed annually, possibly by County and/or FORA.

<sup>1</sup> The actual area to be restricted is approximately 0.18 of an acre within the parcel.



**Former Fort Ord Property Transfer Document Status Update**  
**August 2006**

**FOSL 12 – Military Operations on Urbanized Terrain (MOUT) Site (portion of 1 Parcel ~46 acres)**

- Army signature of FOSL pending, requires waiver of 10 U.S.C. 2692 from ACSIM for use of munitions on the property by the lessee.

**FOSET 5 – ESCA (49 Parcels ~3,478 acres)**

- USEPA does not believe the FOSET, in its current form, provides sufficient justification for deferring the CERCLA covenant. DTSC concurs with USEPA comments. Necessary revisions are under consideration. dependent on progress with ESCA.
- OU2 MEC ESD: ESD staffed to AEC, OGC and CHPPM on 6/6/2006. AEC and CHPPM had no comments. OGC provided comments 7/12/2006. ESD revised and submitted to regulatory agencies for signature on 8/16/2006. RWQCB signed 8/18/2006.

**RCRA –Corrective Action Complete Determination (CACD)**

- FOSET 2 parcels: DTSC has provided CACD.
- FOST 6 and FOST 7 parcels: Army requested CACD from DTSC in May 2003.
- FOST 8, FOST 9 and FOST 10: Army proposing CACD.
- FOSET 1 and FOSET 4 parcels: Army proposing CACD.
- All other parcels transferred prior to FOSET 1 (except BLM): Army proposing CACD.
- Ord Military Community (Army retained): Army proposing CACD.

**EPA REVIEW OF THE  
DRAFT MRS-RANGES 43-48 INTERIM ACTION  
TECHNICAL INFORMATION PAPER  
FORMER FORT ORD, CALIFORNIA  
30 MAY 2006**

**General Comments**

**Comment 1:** The presence of fired 3-inch common and 76mm gun projectiles within the Ranges 43-48 complex may indicate the presence of an unidentified tank firing range at the former Fort Ord. These items are noted in Appendix A, Items Encountered, on pages A-5 and A-6. While the 3-inch common projectile may predate the World War II time period, the 76mm projectiles were used during that period and the Korean Conflict period (and around 10 years thereafter) as well. Tanks/Gun Motor Carriages armed with these weapons were generally lightweight and were organic to the Tables of Organization and Equipment (TOEs) of the units stationed at the former Fort Ord during its operational existence. The potential presence of an unidentified tank firing range at the installation raises munitions and explosives of concern (MEC) issues as to its location, direction of fire, and target area. Please supply these parameters in the Draft MRS-Ranges 43-48 Interim Action Technical Information Paper (hereinafter referred to as the Draft MRS-Ranges 43-48 IA TIP). In addition, please identify any previous discoveries of fired Tank/Gun Motor Carriage projectiles at the former Fort Ord.

**Response:** Surface and subsurface activities at Ranges 43-48 recovered one M339 76mm armor piercing tracer projectile (munitions debris), seven M352 76mm high-explosive projectiles (six MEC and one munitions debris), and one three-inch common steel-shell projectile (munitions debris) from December 2003 to January 2005. Earlier removal activities elsewhere in the Impact Area found three M363 76mm canister projectiles in December 1997 (one UXO, two munitions debris), one M339 76mm armor piercing tracer projectile in January 1998 (munitions debris), another M363 76mm canister projectile in January 1999 (munitions debris), and one M352 76mm high-explosive projectile in February 2000 (munitions debris). Although these munitions can be associated with tanks, they are also typically used in other configurations, including antitank guns. At this time, there is insufficient information to draw any conclusion regarding the potential for an unidentified tank firing range. However, the scattered nature of these projectiles may suggest that they could have been fired during capability exercises (demonstrations for the public of various munitions used by the U.S. army).

**Comment 2:** The work done at MRS-Ranges 43-48 that is described in the Draft MRS-Ranges 43-48 IA TIP was an interim action. The results of this interim action should not be used as a basis to suggest transfer of any of the property located within the boundaries of the MRS until the Remedial Action Objectives of the Interim Action Record of Decision are achieved, or accomplished through another CERCLA action. The nature of many of the munitions items used inside the boundaries of this MRS are such that transfer of parcels adjacent to the SCAs would serve to increase the proximity of persons using the transferred parcels to some of the more hazardous munitions used at the former Fort Ord. Further, Range 45 is intended for reuse under ESCA by Monterey Peninsula College as a firing range. The recommendations should discuss the safety of reuse of the

surrounding area which includes SCAs and what Land use controls might be necessary to protect future users of range 45 and the buffer zone around it.

**Response:** In accordance with the IA ROD for interim actions at Ranges 43-48, Range 30A, and Site OE-16, the operations described in this TIP are selected interim remedial actions for reducing immediate hazards from MEC at these sites while a comprehensive study of long-term cleanup needs for MEC at the former Fort Ord is conducted under the MR RI/FS program. The interim cleanup goals for these sites are to (1) take quick action to protect human health from an immediate threat and/or (2) institute temporary measures to stabilize the interim action sites in the short term until the Army develops a final remedial solution.

Subsurface removal was completed in the Range 45 area where the anticipated reuse includes a firing range for Monterey Peninsula College, with the exception of 1.2 acres (the Range 45 trench). A portion of MRS-Ranges 43-48 immediately adjacent to the area proposed for the firing range will be maintained as habitat reserve; the TIP identifies several areas where subsurface removal was not completed. The Army will follow the CERCLA RI/FS process to evaluate the areas where subsurface MEC is suspected to remain. Until the CERCLA process is completed, any proposal for interim use of the area will be evaluated; the Army will require appropriate safety precautions specific to the proposed interim use.

**Comment 3:** The Technical Information Paper (TIP) should include the Remedial Action Objectives specified in the Interim Action Record of Decision. The conclusions of the TIP should state what RAO's were achieved and what remain to be completed and discuss the Army's proposed approach for how the remaining areas will be addressed under CERCLA.

**Response:** Section 1.2 of the draft final now includes the following text: "The IA ROD Section 2.10 presents the interim remedial action objectives (RAOs) for Ranges 43-48: 'Interim RAOs are to reduce risks to human health and the environment associated with OE and comply with federal and state ARARs.'"

The conclusion in the draft final now includes the following text: "The IA ROD states that the interim RAOs for the Ranges 43-48 removal action are to reduce risks to human health and the environment associated with ordnance and explosives and to comply with federal and state ARARs [Ref. 2]. Areas that received the full removal process through QC/QA meet the IA ROD RAOs. SCAs and non-completed areas also meet the interim objectives of taking quick action to protect human health from an immediate threat and/or instituting temporary measures to stabilize the sites in the short term until development of a final remedial solution under the MR RI/FS program. The Army will assess the site conditions and evaluate alternatives to address remaining risks in accordance with the CERCLA RI/FS program. The Army intends to discuss options for documenting the final remedy with the BRAC Cleanup Team."

### **Specific Comments**

**Comment 1:** Section 2.2.3, Accessibility, Page 2-5: The last two sentences of the last paragraph of this section read, "In previous cases, children have trespassed on Range 45, picked up 40 millimeters (mm) practice grenades (projectiles), brought them home or to school, and threw them against walls. Fortunately, the rounds were non-explosive."

although items encountered on the surface can be live and cause property damage, serious injury, or even death when encountered." The first sentence has some tense changes that make it difficult to understand. Also, the word "millimeters" should be changed to "millimeter." The second sentence refers to the 40mm grenades as "rounds," which is incorrect usage of that term. If the items thrown against the wall were complete rounds (cartridges), they should have been referred to as such in the first sentence. Please revise the cited sentences as noted.

**Response:** The sentences in the draft final now read. "In previous cases, children trespassed onto Range 45, picked up 40-millimeter (mm) practice grenades (projectiles), brought them home or to school, and threw them against walls. Fortunately, the projectiles were non-explosive, although items encountered on the surface can be live and cause property damage, serious injury, or even death when encountered."

**Comment 2:** Section 2.3.2.3, Range 44 Grid Sampling, Page 2-8: The last sentence in this section states that, "No items were encountered during this sampling activity [Ref. 12]." Please insert the acronym "MEC" between the words "No" and "items" in the sentence to better reflect what was not found during the sampling.

**Response:** The sentence in the draft final now reads. "No MEC items or munitions debris were encountered during this sampling activity."

**Comment 3:** Section 2.3.2.12, Surface TCRA, Page 2-11: The second paragraph of this section lists some of the MEC encountered during the Surface TCRA. A spot comparison of these numbers with those found in Appendix A, Items Encountered, reveals a number of discrepancies. In one of these (90mm projectiles) the number stated in Section 2.3.2.12 is more than the total in the summary listing. If the initial listing in Appendix A (Summary of Items Encountered) is a listing of only the items discovered during the subsurface removal, please so state. However, if it includes all of the items removed during both the surface and subsurface removals, this should be stated as well. Any discrepancies between the cited section and the listings in Appendix A should be corrected. Please make the cited evaluation and correct any titles, references, and numbers as necessary.

**Response:** As in previous reports, the Items Encountered appendix lists only those items encountered during the site investigation that is the subject of the report. Section 2.3.2 Previous Site Investigations/Activities provides brief synopses of operations on Ranges 43-48 that occurred before those discussed in this TIP, along with references to guide readers to the documents or databases for additional information about a given previous operation. For example, Subsection 2.3.2.12 refers TIP readers to the Fort Ord Military Munitions Response Program Database and to the Final Technical Information Paper, Surface Removal, Ordnance and Explosives Site Ranges 43-48, produced by Parsons and distributed in February 2002. Using the most current Fort Ord Military Munitions Response Program Database, Section 2.3.2.12 of the draft final for this TIP updates the number of 60mm M49 series HE projectiles classified as MEC items and the number of rocket motors from M222 Dragon guided missiles classified as munitions debris (OE scrap in the terminology of the surface removal TIP).

**Comment 4:** Section 3.2.2, Debris Removed, Page 3-11: The first paragraph of this section states that, "MEC was identified as acceptable to move and was then hand-carried to the locations of other suspected MEC awaiting demolition on MRS-Ranges 43-48, or it

was identified as a blow-in-place (BIP) item. All identified BIP items were safely moved with armored equipment to a safe holding area for later demolition in accordance with the demolition SOP of the PWP [Ref. 4]." However, on the next page, Section 3.3, Demolition Operations, states that, "The MEC items and suspected MEC items (items later determined to be MD-E) were identified as either acceptable or unacceptable to move based on their explosive filler, fuzing, and condition. The unacceptable-to-move items were too sensitive to move and thus detonated in the location where they were found (BIP). The acceptable-to-move items were hand-carried a short distance to the locations of other identified MEC awaiting demolition and then destroyed (referred to as a consolidated demolition shot)."

It appears that the process for dealing with unacceptable-to-move (BIP) items is markedly different in these two sections. The first listed section states that BIP items will be moved to a holding area using an armored vehicle, while the second section states that they will be detonated where they are found. Please review the two cited sections and revise them as necessary to reflect a consistent process for handling the items determined to require detonation in place (unacceptable to move). Ensure that the revised process is the one actually used during the MRS-Ranges 43-48 removal actions.

**Response:** Except for the Range 45 sifting operation (discussed in Chapter 7), BIP items were detonated where found. The draft final corrects the first paragraph of Section 3.2.2 to read, "MEC items were either identified as acceptable to move and were then hand-carried to the locations of other suspected MEC awaiting demolition on MRS-Ranges 43-48 or were identified as blow-in-place (BIP) items too sensitive to move and thus detonated in the location where found, in accordance with the demolition SOP of the PWP."

**Comment 5:** Section 4.5, Geophysical Walk-Through, Page 4-7: The last sentence in the subsection indicates that, "Grenade fuzes, illumination signals, and other nonferrous components are detectable with an EM61-MK2 but not with a G-858." This statement is somewhat inaccurate. It is true that an EM61-MK2 will detect nonferrous items and a G-858 will not. However, a G-858 will detect grenade fuzes with the safety lever and safety pin attached. It will also detect some illumination signals due to their ferrous content. It is also true that the G-858 will not detect them at the same depth as the EM61-MK2. While it is believed that the best instrument was selected for the work to be done, the non-detect statement concerning the G-858 is incorrect. Please revise the cited sentence to correct it as necessary.

**Response:** The draft final revises the sentence to read, "Unlike the G-858, the EM61-MK2 can detect nonferrous items, and the EM61-MK2 can also detect ferrous items at a greater depth than the G-858 can. Because of these capabilities, the EM61-MK2 can detect grenade fuzes without the safety lever and safety pin attached and can detect certain illumination signals that the G-858 cannot."

**Comment 6:** Map 4-2, MRS-Ranges 43-48 Anomaly Density Estimate Based on Geophysical Transect Sampling: The map shows a number of grids within the boundaries of MRS-Ranges 43-48 that are not filled in with any of the colors describing anomaly density for the grid. Please revise the map legend to include a statement as to what the absence of an anomaly density color indicates (i.e., no survey conducted).

**Response:** A note added to Map 4-2 in the draft final now explains that unshaded grids either had an anomaly density of zero or had undergone analog removal before the geophysicist performed geophysical transect sampling collected density data.

**Comment 7:** Chapter 5, Analog Removal, Page 5-1: In the introductory statements found preceding Section 5.1, it is stated that, "The analog removal consisted of two major operations: 1) sweeping the ground surface with Schonstedt magnetometers to detect and remove subsurface MEC (by detonation) and MD and 2) identifying special-case areas (SCAs)" but it is unclear what the statement "...remove subsurface MEC (by detonation)..." implies. While it is very unlikely that the subsurface MEC items were removed by detonation without having been first excavated, the statement does not specifically state this. As a result, individuals that do not have a MEC removal background may read the statement and incorrectly infer that the MEC was removed by detonation without first excavating the item. Please revise the cited text to eliminate this potential misinterpretation.

**Response:** The draft final omits "(by detonation)" from the sentence.

**Comment 8:** Section 6.3.1, Intrusive Investigation Results, page 6-8: The first sentence states that the anomaly excavations produced 440 MEC items. Other parts of the document (Tables 6-1 and 6-2, §13.1.3) indicate that 409 MEC items were excavated during the digital mapping anomaly excavations. Please check the values and revise the text as appropriate.

**Response:** The draft final corrects 440 MEC items to 409 MEC items.

**Comment 9:** Figure 6-2, Digital Mapping Anomaly Excavation Results, page 6-13: There are no MEC items identified on this graph. Section 6 indicates that more than 409 MEC items were excavated during the digital mapping excavations. Either include MEC in this figure or change the title to indicate it represents non-MEC excavated items.

**Response:** To better reflect the figure's intention, the title now reads, "Results for Digital Mapping Anomaly Excavations Not Producing MEC Items"

**Comment 10:** Section 8 and Section 13: This section discusses Pending Actions and Special Case Areas. However, there is no definition of what differentiates a Pending Action from a Special Case Area (SCA). Is there a difference? If so, please provide a definition. Additionally in Chapter 13, on page 13-2 a new term is introduced: "low priority areas", which appears distinct from Special Case Areas or Pending Actions. Please use the same terminology for describing the yet to be completed areas. Also as SCAs were not remediated to depth as the interim action ROD selected remedy requires, the Army should respond with specific plans as to how the SCAs will be resolved under CERCLA. Will the interim action ROD be amended or will the changes be captured in the Track 3 RI/FS, proposed plan and ROD? The BCT should discuss this issue further.

**Response:** The draft final now uses the term "non-completed area" rather than "pending action area." The definitions following the table of contents now explain that for this site, a non-completed area is "an area in an MRS in which MEC removal was not completed due to money or time restrictions. This became necessary because higher-than-expected anomaly densities in Ranges 43-48 made it impossible to complete the subsurface removal over the entire site within the time and funding constraints of the contract. As a result, USACE prioritized the subsurface removal work in portions of Ranges 43-48 based on which areas most enhanced public and personnel safety and

enabled reuse of the land.” This differs from an SCA, which is “An area in an MRS in which MEC removal cannot be completed within the scope of work due to metallic clutter or obstructions that compromise instrument performance or technician safety or because the removal process would cause a serious adverse impact to the habitat.”

The Army will assess the site conditions and evaluate alternatives to address remaining risks in accordance with the CERCLA RI/FS program. The Army agrees that a discussion with the BRAC Cleanup Team is the appropriate next step in accomplishing this task. The southern portion of MRS-Ranges 43-48 that is part of the transfer parcel F1.13 is included in the RI/FS evaluation for the majority of the former Impact Area. Please see *Draft Track 3 Impact Area Munitions Response Area, Munitions Response RI/FS*, dated August 9, 2006.

**Comment 11:** Section 9.5.3, Digital Quality Assurance, Page 9-10: This section notes that, "The USACE project geophysicist conducted independent digital geophysical surveys with an EM61-MK2, interpreted the data collected and selected anomalies for the USACE OESS to intrusively investigate. The results of these activities can be found in the digital QA report, which will be included in the draft final version of this report." The EPA will review this report when it is provided and will provide comments as to the effectiveness of the US Army Core of Engineers Quality Program at that time.

**Response:** No response needed.

**Comment 12:** Section 9.5.3, Digital Quality Assurance, page 9-10: This section notes that, "The USACE project geophysicist conducted independent digital geophysical surveys with an EM61-MK2, interpreted the data collected and selected anomalies for the USACE OESS to intrusively investigate. The results of these activities can be found in the digital QA report, which will be included in the draft final version of this report." The EPA will review this report when it is provided and will provide comments as to the effectiveness of the COE Quality Program at that time.

**Response:** No response needed.

DTSC REVIEW OF DRAFT MRS-RANGES 43-48 INTERIM ACTION TECHNICAL  
INFORMATION PAPER, MAY 2006  
August 1, 2006

**General Comments:**

**Comment 1:** The work was conducted in accordance with the selected remedy documented in the Record of Decision Interim Action for Ordnance and Explosives at Ranges 43-48, Range 30A and Site OE-16. The surface and subsurface removal entailed visually searching for and removing Munitions and Explosives of Concern (MEC) from the surface (Chapter 3), operating geophysical detection equipment to locate and remove MEC in the subsurface (subsurface removal work was divided into analog and digital operations). The analog work involved detecting anomalies (metallic items potentially representing MEC in the subsurface) with a Schonstedt GA-52/Cx magnetometers and then digging each anomaly location until the source of the anomaly was removed (Chapter 5). The digital operations consisted of mapping the post-removal site conditions with both the individually operated and towed-array EM61-MK2 electro-magnetometers and then investigating and resolving all anomalies detected by the instruments (Chapter 6). Quality control and quality assurance (QC/QA) inspections were conducted to verify that detectable items had been removed and that the Interim Action was performed completely, effectively, and in accordance with the Fort Ord programmatic work plan (PWP) and the MRS-Ranges 43-48 site-specific work plan (SSWP) [Refs. 4 and 5] (Chapter 9).

**Response:** Comment acknowledged.

**Comment 2:** The project Remedial Action Objectives (RAOs) were not completed, (approximately half of the intended area was completed). An Interim Action was needed to protect human health from the imminent threat posed by MEC. The remaining area consists of 1100 grids which did not go through QC/QA or were designated as Special Case Areas (SCAs); therefore, a threat still exists to human health within Ranges 43-48. The visual surface clearance operation removed a total of 4563 MEC items. The surface sweep recovered over 600 high explosive projectiles (543 items designated as dangerous to move and were blow-in-place). The amount of dangerous MEC recovered during the surface clearance indicates a significant surface hazard existed and has been removed. The analog instrument subsurface removal recovered 3242 MEC items. Please explain the decision process or rationale for not completing the RAOs. In addition, the RAO's should be clearly stated at the beginning of the document.

**Response:** Section 1.2 of the draft final now contains the following text: "The IA ROD Section 2.10 presents the interim remedial action objectives (RAOs) for Ranges 43-48: 'Interim RAOs are to reduce risks to human health and the environment associated with OE and comply with federal and state ARARs.'"

Surface removal reduced the immediate surface threat. As stated in Chapter 8 and Sections 5.4, 13.1, and 13.2 of the draft and draft final, the unexpected and unusually high density of anomalies encountered in Ranges 43-48, the probability of extensive environmental impact, and limited time and money prevented completion of the subsurface removal in parts of Ranges 43-48.



**Comment 3:** The digital intrusive investigation recovered an additional 440 MEC items that were not detected by the surface and or analog subsurface investigation. A significant number of large ordnance was left unrecovered by the analog subsurface removal. It is significant that an analog subsurface clearance left behind 40mm grenades, 60mm and 81mm mortars, 57mm-155mm HE projectiles. The inability to detect many of the MEC items was often times attributed to areas of high metallic debris or procedures not followed by the Unexploded Ordnance (UXO) technicians. This is of particular concern, since other areas of the former Fort Ord have MEC removals completed by only analog instrumentation. The detection capabilities and limitations of the Schonstedt GA-52/CX should be discussed and evaluated for effectively locating all MEC identified during the Ranges 43-48 removal.

**Response:** Section 1.3 of the draft now includes the following text: "Earlier subsurface removal work at the OE-15 Del Rey Oaks site and the MRS Seaside site showed that reliance on the single best available technology, whether analog or digital, for a given area was less effective than a two-stage process using first analog and then digital instruments. As a result of this experience, the Ranges 43-48 SSWP specified that subsurface removal would involve (1) detecting and removing subsurface OE to depth with Schonstedt GA-52Cx magnetometers (analog) and then (2) digitally mapping the post-removal conditions with an EM61-MK2 metal detector or a G-858 magnetometer followed by investigating and resolving any remaining items detected during the mapping process. As discussed in section 4.5 of this TIP, the geophysical walkthrough demonstrated that for the conditions present at Ranges 43-48, the EM61-MK2 provided better follow-up to the Schonstedt GA-52Cx than did the G-858." Please note that quality control (QC-3) was conducted after both analog and digital processes were completed. One grid failed QC; the grid was resurveyed and subsequently passed QC-3. All other subsurface removal grids passed QC-3 inspection. All grids that passed QC-3 passed Government QA inspection.

**Comment 4:** As a QC check on the analog removal process, 121 blue-painted, inert ordnance items were planted at various locations and depths below ground surface (bgs) before the analog removal. The QC analog check recovered 98 of the 121 QC seeds planted. The report indicates that of 23 non-recovered items, 12 were determined to be non-detectable and 11 were missed by the analog removal process. Non-detectable seeds are seed items that were placed and checked by the QC department and were detectable at the time they were placed. Non Conformance Reports (NCRs) were issued for the 11 missed QC seeded. There are a high number of non-detectable seeds which may be a result of improper seeding methods, seeds, and changing geophysical equipment. QC checks utilizing inert seeds are an invaluable tool in determining the validity of MEC removal. Please provide additional information as to the reason for this discrepancy.

**Response:** The QC seed process separately evaluates the two steps of the removal procedures: 1) analog detection and removal and 2) digital mapping and excavation. At the time of placement, all seeds were checked and detectable. However, changing environmental conditions and removal operations in nearby large fields of debris items can affect local electromagnetic fields, which in turn affects signals from seed items. This affected some QA seeds as well as some QC seeds.

Of the 121 seed items placed to evaluate the analog removal process, 12 were later found to be non-detectable. For the 123 placed seed items for the digital removal process, nine

were non-detectable. Of all seeded items placed, only two were non-detectable by both processes, providing further evidence for the importance of the dual-technology removal process used on MRS-Ranges 43-48.

**Comment 5:** As a QC check on the digital survey and removal process, 123 blue-painted, inert ordnance items were planted at various locations and depths bgs before the digital survey. The QC digital check recovered 111 or the 123 QC seeds planted. The report indicates that of the 12 non-recovered items, 9 were determined to be non-detectable and 3 were missed by the digital survey and removal process. Non-detectable seeds are seed items that were placed and checked by the QC department and were detectable at the time they were placed. NCRs were issued for the 3 missed QC seeded items. There are a high number of non-detectable seeds which may be a result of improper seeding methods, seeds, and changing geophysical equipment. QC checks utilizing inert seeds are an invaluable tool in determining the validity of MEC removal. Please provide additional information as to the reason for this discrepancy.

**Response:** See the response to general comment 4.

**Comment 6:** The USACE geophysicist conducted QA seeding, digital geophysical mapping and excavations. A report detailing the digital QA activities and seeded item results will be included in the draft final version of the MRS-Ranges 43-48 IATIP. DTSC will provide comments on this report when available as to the effectiveness of the U. S. Army Corps Quality Assurance Program.

**Response:** No response needed.

**Comment 7:** The areas which posed a significant impact to habitat, project time and funding were deemed a Special Case Areas or Pending Area. These areas require evaluation as to whether the present condition impacts public safety and complies with the Ranges 43-48 IAROD. The document explains that the actions exceeded the scope of funding and time available in the contract. Further intrusive activities should not be allowed within the areas without practicing UXO avoidance. The surface clearance likely mitigated most of the surface hazard, except in the areas masked by the fence. A significant hazard to the public may exist in areas paralleling the roads and metallic fences. A significant subsurface hazard exists within some of the SCA and pending areas. Please provide information regarding how these SCAs or Pending areas will be addressed and deemed safe for reuse.

**Response:** Section 13.3 Recommendations in the draft final now reads, "The MR RI/FS program should evaluate the remaining explosive risks and the IA work completed at MRS-Ranges 43-48. This evaluation should include future reuse of and activities in the SCAs and non-completed areas." Surface removal was completed in the entire MRS-Ranges 43-48, including the area adjacent to the perimeter fence.

#### **Specific Comments:**

**Comment 1:** The provided quality forms do not have the QC inspectors name and signature. Most NCRs were initiated by the Quality Control Manager. This appears to deviate from procedures utilized previously. Please provide information and rationale for this change in procedure.

**Response:** Response is in progress. The following description of the NCR procedure may be helpful:

Initiation by the QC manager is part of the NCR process: On determination by the QC department of nonconformance, the QC manager files an NCR stating the area affected and the nonconformance observed. The NCR is forwarded to the field operations manager and the senior UXO supervisor, who propose a corrective action for the nonconformance. The QC manager approves or disapproves the proposed corrective action. Once approved, the correction action is implemented, after which the QC department inspects for compliance. If no further noncompliance is found, the area passes QC inspection; if re-inspection finds additional nonconformances, the area fails and undergoes corrective action until it passes.

**Comment 2:** QC documentation of inspections was not provided. Please provide information or reference the documentation.

**Response:** QC documentation is electronically filed in the field on PDAs. This information is stored in the database, and has been included in the draft final as Appendix E.

**Comment 3:** Each non-detectable seed should have a corresponding NCR. The cause for every missed seed should be listed. All NCRs need to be reviewed for project impact. Please provide the missing NCRs.

**Response:** NCRs have been used, among other things, to document failure by UXO teams to recover detectable items; NCRs have not been used for non-detectable seed items because such items do not constitute a nonconformance or failure. The Army allows contractors to propose their own QC processes in the site-specific work plans, and considers specific suggestions during development of those plans.

**Comment 4:** A significant number of 40mm HE grenades were found and missed during various operations. What is the detection capability of the Schonstedt and EM-61 MK2 as it relates to 40mm grenades?

**Response:** Due to the large amount of nonferrous metal and the minimal amounts of ferrous metal in 40mm grenade projectiles, the Schonstedt has difficulty detecting this item. However, the EM61-MK2 proved to be very effective at detecting and locating these items. During the subsurface removal using EM-61 over 272.4 acres, six high explosive 40mm MEC items were recovered. During the digital process within the Range 45 excavation area, an additional six high explosive 40mm MEC items were recovered. This provides further confirmation of the viability and importance of the dual-technology removal process, which takes advantage of the various strengths of these two instruments, both of which were selected as the best available instrument for the work they do. All grids accepted by the Army received both analog removal using Schonstedt magnetometers and digital removal using EM61-MK2 electromagnetic sensors.

**Comment in Cover Letter from Fort Ord Environmental Justice Network, Inc.:**

Community members want to express their concern about the Army adequately communicating problems with the Superfund clean-up process at Fort Ord. Ranges that have already been burned have not been cleared of munitions and debris which is lying around to be easily accessed by the public. Since this area has already been burned the removal of munitions should have taken place. It is a health [threat] to leave the UXO lying in the open, and a human health threat to burn the vegetation. We are willing to look at available technologies as a possible solution and help to choose the method best suited to our communities.

**Response:** The Army provides opportunities for community members to express their concerns about the environmental cleanup of the former Fort Ord through the Community Involvement Workshop program, community interest surveys, and the (800) 852-9699 telephone line.

A removal of Munitions and Explosives of Concern (MEC) on the surface has been completed on all munitions response sites (MRSs) of the former Fort Ord where the vegetation has been burned either by prescribed burning or wildfires. This action removes MEC from the surface of the ground and significantly reduces the possibility of casual contact by the public. The Army has also completed MEC removal from the subsurface in 272 acres of the Ranges 43-48 site. Subsurface removal in some areas of Ranges 43-48 was not possible with the available resources and technologies. The Army will use information developed during the Remedial Investigation and Feasibility Study (RI/FS) to examine alternatives to address the areas where subsurface MEC is suspected to remain.

Data collected during recent prescribed burns on the former Fort Ord indicates that the smoke generated by these events is not a threat to healthy local residents nor those with respiratory or other illness provided that they take reasonable precautions when smoke is in the air. The Army makes every effort to reduce the impact of smoke from prescribed burns on the residents of local communities. The Army will not conduct prescribed burns unless optimal conditions for good smoke management are determined to be present.

The Army remains interested and receptive to input from community members concerning innovations that will allow the most effective and efficient environmental cleanup of the former Fort Ord.

**Comments Prepared by Environmental Stewardship Concepts**

**General Comments**

**Comment 1:** ESC agrees with Parsons that removal operations in 225.4 acres where analog removal actions have not taken place should continue. However, we urge that these actions be funded and undertaken as soon as possible rather than waiting for the review of the RI/FS as suggested. As long as these munitions are present there is a public safety concern due to poor site security. This is demonstrated by the June 2005 unauthorized access to the site that resulted in the destruction of a mechanical sifter's electrical control trailer, a pickup truck on site, and the extensive repairs required for the armored front-end loader that caused the havoc described above. Parsons cited the large amount of debris in these areas as one reason that removal actions have not been completed. There is a very real possibility that lives could be lost in addition to loss of

property as a result of future trespassing. Because preventing future trespassing will be difficult, the most logical solution to this hazard is the immediate removal of these items. **Response:** The Army remains committed to the expeditious removal of MEC items from the MRSs of the former Fort Ord, and the Military Munitions Response Program is progressing as quickly as possible. The applicable RI/FS review process is necessary to ensure that timely and appropriate actions are taken in regard to prioritization and the application of removal techniques and technologies.

The Fort Ord MRS security program is a system of administrative and engineering controls, law enforcement, and community education. It has been described by a national public interest group that examines issues surrounding military range cleanup as "an example of a comprehensive program to address public safety." The June 2005 trespass incident involved heavy earth moving equipment stolen from a civilian construction company not associated with the Fort Ord cleanup, used to break down the Fort Ord impact area perimeter fence. The fact that the 12-mile perimeter of the impact area is surrounded with a barrier which cannot withstand a deliberate assault by criminals using heavy earth moving equipment is not considered a weakness in the design or implementation of the MRS security program. The Fort Ord MRS Security Program continues to protect law-abiding citizens from inadvertent contact with MEC.

The large amount of debris detected in some areas of Ranges 43-48 interfered with the contractor's ability to distinguish individual anomalies. To attempt a subsurface removal in these areas using the current field technologies would have violated habitat protection agreements currently in place and placed removal workers in unnecessary danger. While the possibility exists that a person may be injured or killed as the result of simply trespassing on portions of the Fort Ord Impact Area, there is no record of such an occurrence. Injuries and deaths related to MEC from Fort Ord have regularly involved, in addition to trespass, theft of government property and the criminal use of government explosives. The Army agrees that MRS security alone is not the best solution to protect the public from MEC. The Army will continue to act as quickly as possible to effectively address MEC that presents a hazard to public safety.

**Comment 2:** To continue providing for the public's safety, the Army should also delay all planned prescribed burns and major removal actions until these areas have been cleared of all munitions. Future burns would expose even more MEC to trespassers. In addition to posing a risk on-site, these munitions could potentially be taken off site and put even more people at risk. Part of the Army's security plan at Fort Ord should include minimizing the opportunities for trespassers to encounter exposed MEC in both the long and short term. Clearing more brush while literally hundreds of acres of Fort Ord that have already been burned still have high densities of MEC would not meet this goal.

**Response:** In areas of the former Fort Ord where MEC is suspected or known to remain on the surface, the vegetation that covers that MEC must be removed before an effective removal can be accomplished. Trespassers who acquire munitions virtually always take those exposed on the ground surface. Burning allows UXO teams to safely enter the areas cleared of vegetation to perform surface removal, thereby eliminating the greatest source of munitions illegally acquired by trespassers. All areas in the former Fort Ord Impact Area that have been cleared of vegetation, as with prescribed burns, have been immediately subject to removal of all MEC items and munitions debris from the surface

because these items pose the greatest risk. The Army's MRS security program addresses short-term hazards to public safety that result from the potential exposure to MEC. This program must eventually be supplanted by the application of long-term solutions to public exposure to MEC.

The Army is taking every opportunity to address the risk of public exposure to MEC. Removing vegetation that hides the surface and then removing the exposed MEC are significant and effective measures in achieving this goal.

**Comment 3:** Despite the vegetative clearance resulting from the prescribed burn, \$843,911 was still spent on manual and mechanical vegetation clearance, according to Table 12-1 in this report. The 2002 ROD evaluation of vegetation clearance alternatives estimated that it would cost slightly less to clear Ranges 43-48 mechanically than a prescribed burn, or approximately 1.4 million dollars versus 17.7 million. The additional vegetation clearance expenditures listed in Table 12-1 were needed to "mechanically and manually cut the unburned brush and leftover standing burnt stems and branches from the surface cleared grids" to make it accessible to geophysical instrument operators. These costs appear to be unavoidable in the context of a prescribed burn, regardless of how successful it was. In short, the mechanical clearance of vegetation is required even if a prescribed burn is originally used. This report makes it clear that the Army did not accurately estimate the costs of a prescribed burn, underestimating it by nearly 50%. The mechanical clearance of vegetation is actually significantly less expensive and more efficient than burning as it prevents such repetitive actions. There is therefore no justification to continue risking public health and property by continuing prescribed burns at the former Fort Ord.

**Response:** To conduct survey and geophysical processes linked to subsurface MEC removal, some mechanical cutting in the protected habitat portions of the Interim Action MRS of the former Fort Ord, such as MRS Ranges 43-48, is frequently necessary due to the characteristics of the vegetation after it is burned. For example, cutting of burned vegetation was essential before conducting digital mapping and excavation operations. In most areas, such cutting is appropriate only after burning the vegetation. Approximately 28 of the 499.5 acres of the MRS Ranges 43-48 were cut without prior burning. This acreage was determined to contain insufficient fuel (vegetation) to carry a fire (burn by itself) or was otherwise disposed in manner that precluded further burn attempts (loss of weather prescription, too small, etc.).

Mechanical and manual cutting impose greater danger to workers and damage to the fire-adapted CMC habitat than does burning (a prescribed burn allows native foliage to regenerate itself; mechanical and manual cutting of remaining stubs and stalks after burning makes the area accessible). Cost was not the primary factor in determining the preferred process for the removal of vegetation in IA OE RI/FS. Cutting alone as a vegetation removal technique is contrary to biological and conference opinions issued by the United States Fish and Wildlife Service (USFWS) in 1993, 1999, and 2004 in accordance with the Endangered Species Act (ESA)- (The ESA is one of the Applicable or Relevant and Appropriate Requirements [ARARs] that MEC removal actions must comply with-). Also, cutting after the prescribed burn minimizes impacts on the rare species and habitat, since the fire has treated the seedbank, allowing the habitat to

naturally recover. All post-burn cutting of vegetation was conducted in a manner consistent with the HMP.

**Comment 4:** The technical report should also include more information regarding the depth of MEC encountered when available. These data are important to make future removal actions more effective. It also prevents any discussion about the effectiveness of the operations detailed in this report. Deeper munitions still present a threat to public safety, particularly in areas slated for redevelopment. The report also does not discuss the limitations of the Schonstedt magnetometer. This equipment has difficulty detecting objects at any significant depth. No mention of this is made in the text and QA/QC sampling did not seed any MEC at a depth greater than 24 inches. Other reports have noted the deficiency of the Schonstedt to locate items at depths greater than two feet. This report should as well.

**Response:** Appendix A: Detail of MEC Encountered in the draft included depths at which all MEC items were encountered. While many tables in the draft TIP repeated this information for readers' convenience, it was inadvertently omitted from three others. The draft final adds depth information to Tables 5-2, 6-2, and 7-1. The depth information for analog removal shows items that were detected by the Schonstedt and removed from depths well in excess of two feet. As now explained in draft final Section 1.3, the SSWP specifies that subsurface removal use the Schonstedt for analog detection and removal followed by digital mapping and excavation using EM61-MK2s. All grids accepted by the ~~army~~ Army received both analog removal using Schonstedt magnetometers and digital removal using EM61-MK2 electromagnetic sensors. This two-stage approach takes advantage of the various strengths of these two instruments, both of which were selected as the best available instrument for the work they do. Typical maximum seeding depths are based on Table 7.3 of EM1110-1-4009.

**Comment 5:** Regardless of the above issues, overall the report is well organized and well written. This is critical to successful community involvement, as it aids in making information more accessible and understandable to technical reviewers and the public in general. We look forward to reviewing more documents of the same quality.

**Response:** No response needed.

### Specific Comments

**Comment 1:** Section 4.3, page 4-2: What was the rough percentage of the area burned that required vegetation clearance of any kind afterwards? This information would aid in better assessing the costs of future burns.

**Response:** All acreage burned during the October 2003 prescribed burn received follow-up mechanical or manual cutting. ~~The prescribed burns are performed to meet the CERCLA requirement that munitions and debris removal action protect not only human health but also the environment, as discussed in the~~ Please also see response to general comment 3.

**Comment 2:** Section 5.3.1. Table 5-1: This table should include the average depth of each item found as done in previous tables.

**Response:** Table 5-1 in the draft final now includes the depths at which the items were found.

**Comment 3:** Section 6.3.1, Table 6-1: This table should also include the average depth of each type of MEC item excavated.

**Response:** Table 6-1 in the draft final now includes the depths at which the items were found.

**Comment 4:** Section 7.2.1, page 7-4, third paragraph: The vandalism involving the armored front-end loader was apparently not reported to the press. This was a major breach of security that should have been disclosed, particularly given the dangerous nature of the site. Have any improvements been made to site security to prevent such an occurrence from happening again?

**Response:** Local coverage of the vandalism appeared in the 16 June 2005 issue of the Monterey Herald. Salinas television station KSBW aired an interview with Lyle Shurtleff of the former Fort Ord BRAC office on the evening news shortly after the incident. In addition, the Army covered this incident at its annual Site Security Update at the April 12, 2006 Community Involvement Workshop (attended by a representative of the FOEJN) and the April 13 Technical Review Committee as well as in the publicly distributed Former Fort Ord MMRP Fact Sheet for summer 2005. The Army has no record of coverage on a regional or national scale. As stated in the draft document, as a result of the incident, the Army modified security barriers around the site and added patrols by a private security firm, First Alarm. See also response to general comment 1.

#### **Recommendations**

- Fund and continue work in all of the special case areas (SCAs) cited by Parsons
- Provide more data detailing the depth of MEC removals when available
- Delay any future prescribed burns and major removal actions until the 225.4 acres of Ranges 43-48 where analog removal could not be completed are cleared of unexploded ordnance and munitions related debris
- Include the costs of mechanical and manual clearance of vegetation in the cost of future prescribed burns
- The Army needs to address site security to prevent any more occurrences similar to the incident in June 2005.

**Response:** See responses above.