



FIELD VARIANCE FORM

DATE: 24-JUN-11 PROJECT NAME: Interim Action Ranges (IAR) Munitions Response Area (MRA) PROJECT LOCATION: Interim Action Ranges

APPLICABLE DOCUMENT / SECTION: Final Phase II Interim Action Work Plan IAR Munitions Response Area, Former Fort Ord, dated May 24th, 2011 – Section 2.3.3, 2.3.7 & Appendix C: Activity Hazard Analysis of Appendix B: Standard Operating Procedures Task 4 Munitions and explosives of concern, subsection A handling MEC items, bullet 13 page 11

SUBJECT: Blow in Place Demolition Procedures For Interim Action Ranges MRA

FIELD CHANGE CONDITION:

Appendix C: Activity Hazard Analysis of Appendix B: SOPs of the Final Phase II Interim Action Work Plan indicate that all non-movable MEC items are to be destroyed daily or no later than the next day. Depending on the number of non-movable MEC items identified, this could result in the shut-down of site operations for 2 to 3 hours a day. The ESCA RP recommends conducting demo operations on a weekly basis to minimize the impact to operations while maintaining safety guidelines as outlined in Appendix G - Explosive Safety Submission.

RECOMMENDED APPROACH / CHANGE:

It is recommended that the disposal of non-movable MEC items in the IAR MRA be conducted under the guidelines of the Explosive Safety Submission Appendix G of the Final Phase II Interim Action Work Plan, and adjust Appendix C: Activity Hazard Analysis task 4) Munitions and Explosives of Concern, a) Handling MEC Items, bullet 13; Appendix B: SOP's from :

- "All non-movable MEC items shall be destroyed daily or, if not feasible, low profile marking shall be used and the item will be destroyed the next working day."

To the following:

- "All non-movable MEC items shall be destroyed daily or, if not feasible, low profile marking shall be used and the items will be destroyed on a weekly basis ensuring that no MEC is left over the weekend."

And add a paragraph to sections 2.3.3.& 2.3.7 that reads as follows:

"Items that are not acceptable to move will be destroyed daily or, if not feasible, low profile marking shall be used and the items will be destroyed on a weekly basis ensuring that no identified MEC items are left over the weekend."

This will be the second to last paragraph in each section.

IMPACT ON PRESENT AND COMPLETED WORK:

No impact to present or completed work.

REQUESTED BY: Kristie Reimer, ESCA Remediation Program Manager (ARCADIS)



CLARIFICATION/FOR INFORMATION ONLY



MINOR CHANGE



MAJOR CHANGE



ESCA RP TEAM APPROVALS: G. CLARK, L. TEMPLE, B. MOE

COMMENTS

ACKNOWLEDGED BY:**GREG CLARK**
ESCA RP UXO SAFETY
OFFICER (WESTON)

SIGNATURE

DATE

ACKNOWLEDGED BY:**BRUCE MOE**
ESCA RP SENIOR UXO
SUPERVISOR (WESTON)

SIGNATURE

DATE

ACKNOWLEDGED BY:**LINDA TEMPLE**
ESCA RP REMEDIATION
PROJECT MANAGER (WESTON)

SIGNATURE

DATE

FORA APPROVAL:

COMMENTS



APPROVED



REJECTED

STAN COOKFORA ESCA PROGRAM
MANAGER

SIGNATURE

DATE

ATTACHMENTS:

Appendix C – page 11 Activity Hazard Analysis – Soil Screening Operations, of Appendix B Standard Operating Procedures of Final Phase II Interim Action Work Plan Interim Action Ranges Munitions Response Area.

Final Phase II Interim Action Work Plan IAR Munitions Response Area, Former Fort Ord, dated May 24th, 2011 – Sections 2.3.3 & 2.3.7

ACTIVITY HAZARD ANALYSIS

Activity: Soil Screening Operations

Analyzed By: Greg Clark

Reviewed By: Bruce Moe

Interim Action Ranges MRA, Former Fort Ord

Activity Hazard Analysis – Soil Screening			
<i>Task</i>	<i>Potential Hazard(s)</i>	<i>Control Measure(s)</i>	<i>Personal Protective Clothing</i>
4) Munitions and Explosives of Concern (MEC) (continued)	a) Handling MEC (continued)	<ul style="list-style-type: none"> Always base operational plans on minimizing the exposure of site personnel to MEC, consistent with efficient operations. Do not rely on color-coding of MEC for positive identification of contents. Munitions having either none, incomplete, or improper color codes have been encountered. An MEC exclusion zone will be established during all excavation and MEC handling phases of work. A safety arc will be established around MEC items that are unsafe to handle (blow in place). At no time will non-UXO-trained employees or subcontractors be responsible for identifying, handling, or removing MEC items. All movable MEC items shall be removed from site (at least daily) and taken to Magazine for storage, utilizing an approved Explosive Transport Vehicle. All non-movable MEC items shall be destroyed daily or, if not feasible, low profile marking shall be used and the item will be destroyed the next working day. 	Tyvek, hard hat, safety glasses with side shields or goggles, steel-toe safety boots, reflective vests, ear protection (single or double), and leather/rubber/cotton gloves, as necessary.

The UXO Teams supporting the sifting operations will be provided with the appropriate digital forms to record relevant data. Annotations will be recorded for MEC that can be positively identified. Annotations will include site name, grid number (when known), type of item (i.e., UXO, discarded military munitions [DMM]), description, weight, and subsequent actions taken. During the Design Study, annotations will include the transect of origin. During follow-up interim actions, annotations will include SCA or NCA of origin (as appropriate). The MEC items located will be initially classified as MPPEH until the items are fully inspected and can be identified as MEC, MD, or metal scrap/cultural debris. If MEC items are encountered that are suspected of containing unknown filler, MEC disposition will be conducted in accordance with the SOP for MEC with Unknown Filler presented in Appendix B.

The material not collected by the magnet will continue on a heavy duty conveyor belt through dual-layered vibrating screens, 2-inch (top screen) and 3/4-inch (bottom screen) or 3/8-inch (bottom screen) if the harp screen is used. The top 2-inch screen is sized to reject larger potential MEC items while minimizing the potential for blockage by vegetative matter. The material less than 3/8 or 3/4 inch will continue on a heavy duty conveyor belt leading to the second magnet. The second magnet will collect ferrous metal, which will be inspected for MEC. The MEC will be handled as discussed in the above paragraph. The non-MEC items will be transported to an approved off-site facility. Any material that passes through the second magnet is the final screened material and will be deposited by a radial stockpiling conveyor into soil piles to be eventually hauled to previously scraped areas.

The material not passing through the 2-inch and 3/8- or 3/4-inch screens will be inspected for MEC. The MEC will be handled as discuss in the above paragraph and the non-MEC items will be transported to the size-reduction equipment.

This sifting operation will comply with ARARs listed in Appendix A of the Army's Interim Action ROD.

2.3.3 Magnetometer Surveys to Depth

Schonstedt magnetometer sweeps (i.e., "mag and dig") are included in this work plan in the unlikely case there is a situation where DGM surveys cannot be conducted (e.g., in areas with steep slopes).

The UXO Team Leader will direct personnel to establish individual search lanes approximately 3 feet wide and to begin searching each lane using a Schonstedt Model GA-52/Cx magnetic gradiometer and White's All Metals detector. UXO Technicians will start at one end of each lane and move forward toward the opposing base line. During the forward movement, the technician will move the magnetometer back and forth from one side of the lane to the other. Both forward movement and the swing of the magnetometer are performed at a pace that ensures that the entire lane is searched and that the instrument is able to appropriately respond to subsurface anomalies. Whenever a subsurface anomaly or metallic surface object is encountered, the technician will halt and investigate the anomaly. Throughout this operation, the UXO Team Leader will closely monitor individual performance to ensure that these procedures are being performed with due diligence and

attention to detail in accordance with the Quality Assurance Project Plan (QAPP) presented in Appendix C of this work plan.

The UXO Teams will be provided with the appropriate digital forms to record relevant data related to their investigation. Annotations will be recorded for MEC and MD that can be positively identified. Annotations will include site name, instrument used, easting and northing coordinates (in local NAD 1983 State Plane Coordinates, California Zone IV, U.S. survey feet) for MEC or MPPEH items, inclination and declination of MEC, grid number, type of item (i.e., MEC, MD), description, approximate weight, depth, and subsequent actions taken in accordance with the QAPP presented in Appendix C. If the anomaly yields a non-military munitions item or fragments or pieces of MEC items that are not intact and cannot be positively identified, then the approximate total weight of the item(s) will be recorded, but the type of MEC item(s) and the inclination and declination of MEC item(s) will not be recorded.

The MEC items located will be initially classified as MPPEH until the items are fully inspected and can be identified as MEC, MD, or metal scrap. MD and metal scrap will be transported from the area and stored until it can be disposed of by a foundry and/or recycler, where it will be processed through a smelter, shredder, or furnace prior to resale or release. Prior to leaving the MRA, the MD and metal scrap will be inspected by a SUXOS and a UXOQCS to verify that it is free from explosives (FFE) and documented using DD Form 1348.

Near-surface anomalies are those subsurface anomalies that are within 3 inches of the surface and can be excavated using hand tools. Throughout the excavation, the UXO Technician will use a magnetometer to check and verify the location of the anomaly. If work must be performed at a location where rodent infestation is evident, appropriate personal protective equipment (PPE) should be worn in accordance with the SOP for Hantavirus Exposure Protection presented in Appendix B of this work plan.

Some anomalies are more deeply buried and require excavation using heavy equipment (i.e., backhoe). Excavations using heavy equipment will be conducted in accordance with the SOP for Backhoe/Excavator Operators presented in Appendix B of this work plan. Prior to the arrival of the heavy equipment, the UXO Team Leader will ensure that a cleared entrance and egress path is available for the heavy equipment. Once at the work area, the heavy equipment will be used to excavate the earth overburden from the suspect anomaly. The distance to the anomaly will be checked during the excavation. A UXO Technician will remove the final 1 foot of overburden using hand tools.

If MEC are encountered that are suspected of containing unknown filler, MEC disposition will be conducted in accordance with the SOP for MEC with Unknown Filler presented in Appendix B of this work plan.

2.3.4 Digital Geophysical Mapping Surveys

The objective of the geophysical survey is to accurately locate and record the locations of anomalies that potentially represent subsurface MEC. The geophysical survey will be

identification number will be placed at the anomaly coordinates in accordance with Section 6 and Appendix C of this work plan.

2.3.7 Excavation of Digitally Reacquired Anomalies

This section summarizes procedures for excavation, recording, and removal or detonation in place of selected subsurface anomalies. UXO Teams for the excavation of anomaly targets are normally composed of a UXO Team Leader and up to six UXO Technicians. UXO Teams will perform all intrusive operations and operate under the direct supervision of a SUXOS. A UXOSO will closely monitor the safety of the UXO Teams in accordance with the QAPP presented in Appendix C.

The Department of Defense Explosives Safety Board (DDESB) Technical Paper No. 18, "Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel," dated December 20, 2005 (DDESB 2005), identifies the various UXO-related positions and outlines their duties and responsibilities. Based on this technical paper, only personnel qualified as UXO Technician II (at a minimum) will escort personnel who are not directly involved in UXO-related operations (e.g., personnel performing environmental monitoring), but have activities to perform within exclusion areas.

The UXO Teams will be provided with the appropriate digital forms to record relevant data related to their target investigation and digital information to excavate the targets. Annotations will be recorded for MEC and MD that can be positively identified. Annotations will include site name, instrument used, easting and northing coordinates (in local NAD 1983 State Plane Coordinates, California Zone IV, U.S. survey feet), distance and direction from the flag, inclination and declination of MEC, grid number, instrument response and units, source type of response, type of item (i.e., MEC, MD, cultural debris), description, weight, depth, and subsequent actions taken in accordance with the QAPP presented in Appendix C. If the anomaly is a MEC item or MD that can be identified, the type of munitions, approximate weight, and inclination and declination of the item will be recorded in accordance with the QAPP presented in Appendix C of this work plan. If the anomaly yields a non-military munitions item or fragments or pieces of MEC items that are not intact and cannot be positively identified, then the approximate total weight and depth of the item(s) will be recorded, but the type of MEC item(s) and the inclination and declination of MEC item(s) will not be recorded.

The MEC items located will be initially classified as MPPEH until the items are fully inspected and can be identified as MEC, MD, or metal scrap. MD and metal scrap will be transported from the area and stored until it can be disposed of by a foundry and/or recycler, where it will be processed through a smelter, shredder, or furnace prior to resale or release. Prior to leaving the MRA, the MD and metal scrap will be inspected by a SUXOS and a UXOQCS to verify that it is FFE and documented using DD Form 1348.

Near-surface anomalies are defined as those subsurface anomalies that are within 3 inches of the surface and can be excavated using hand tools. Throughout the excavation, the UXO Technician will use a magnetometer to check and verify the location of the anomaly. If work

must be performed at a location where rodent infestation is evident, PPE will be worn in accordance with the SOP for Hantavirus Exposure Protection presented in Appendix B.

Some anomalies are more deeply buried and require excavation using heavy equipment (i.e., backhoe). Excavations using heavy equipment will be conducted in accordance with the SOP for Backhoe/Excavator Operators presented in Appendix B. Prior to the arrival of the heavy equipment, the UXO Team Leader will ensure that a cleared entrance and egress path is available for the heavy equipment. Once at the work area, the heavy equipment will be used to excavate the earth overburden adjacent to the suspect anomaly. A UXO Technician will remove the final 1 foot of overburden using hand tools.

If MEC items are encountered that are suspected of containing unknown filler, MEC disposition will be conducted in accordance with the SOP for MEC with Unknown Filler presented in Appendix B.

2.3.8 Quality Control

Quality control is addressed in Sections 6 and 11 of this work plan and in the QAPP presented in Appendix C. Section 11 is the Quality Control Plan (QCP), which establishes and describes the general quality requirements for the program, and the QAPP (Appendix C) addresses quality related to geophysical operations. The QCP applies to all work performed by the ESCA RP Team and their subcontractors. Section 6 of this work plan is the Geophysical Investigation Plan, which includes a description of QC procedures specific to geophysical operations.

2.3.9 Quality Assurance

WESTON will implement a Quality Assurance (QA) Program for the IAR MRA. It is WESTON's policy to apply sound and cost-effective QA principles to all of its activities. This assists in ensuring the proper execution of work, the management of liability, and the maintenance of WESTON's professional reputation for excellence. The WESTON QA Program is an integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement used to ensure that processes and services are of the type and quality needed to meet the project requirements. This includes assessment of QC procedures, to ensure that they are functioning and that all contract/regulatory requirements have been met. QA of the interim action includes periodic surveillance/audit activities performed by competent personnel from appropriate disciplines (e.g., engineers, UXO-qualified personnel, geophysicists), review of project documents/status, observation of field operations for compliance with plans and procedures, seeding of geophysical survey areas and sifting operations to ensure recovery, and QC processes. The established project quality policies and procedures are applicable to all participating project personnel and subcontractors and are applicable to all site activities affecting quality including, but not limited to, MEC removal operations, demolition operations, handling of demolition materials, geophysical operations, and data management.