

Westcliffe  
Engineers, Inc.**FIELD VARIANCE FORM**


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<b>DATE:</b> 7-07-2008	<b>PROJECT NAME:</b> FORA ESCA RP	<b>PROJECT LOCATION:</b> Former Fort Ord, CA
<b>APPLICABLE DOCUMENT / SECTION:</b>	Final Addendum to Final OE-15SEA.1-4 Site-Specific Work Plan, Phase II Seaside Munitions Response Area (MRA) Removal Action, Former Fort Ord, dated January 24, 2008 ("the SSWP Addendum")/ Sections 2.3.4, 2.3.5, 5.24, 5.25 and 5.26	
<b>SUBJECT:</b>	Redefine approach to reacquisition and excavation of anomalies	

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**FIELD CHANGE CONDITION:**

The work plan currently indicates that for digital geophysical mapping (DGM) surveys, the location of anomalies selected for investigation are flagged using Real Time Kinematic (RTK) Global Positioning System (GPS). After flagging the anomaly location, the anomaly location is refined using the same instrument used to conduct the digital geophysical survey (e.g. EM61-MK2 or G-858). This refinement requires the movement of the flag or the placement of a secondary flag to indicate the offset of the real-time peak response from the original DGM survey flag. This approach of refining the anomaly location with an EM-61 or G-858 relates to controlling navigation errors more typically associated with less accurate forms of navigation, such as line and fiducial navigation or "dead reckoning". Due to the high accuracy of target positioning using RTK GPS, used for this project, refinement of anomaly location is not necessary.

**RECOMMENDED APPROACH / CHANGE:**

Consistent with the current approach, DGM anomalies selected for investigation are located and flagged in the field using RTK GPS. RTK GPS is used to maintain the navigation accuracy required ( $\pm 0.1$  foot).

For the secondary step of refining the anomaly selected for excavation, *FORA requests a variance to modify the reacquisition and excavation procedures. Specifically, instead of refining the location of the anomaly using the same instrument used to conduct the digital geophysical survey (e.g. EM61-MK2 or G-858), FORA will investigate all anomalies found within the area 3 feet around the DGM anomaly location flagged with RTK GPS.* The UXO Dig Team will use hand held instruments, appropriate to the type of instrument used for the DGM survey (all Metals for TDEM61-MK2 data and/or, Schonstedt or Ferrex for the Magnetometer G-858 data). The UXO Dig Team will note any offset from the flag to the excavated anomaly or anomalies and log accordingly.

The QC-1 process remains intact and requires checking 100% of the anomaly excavations with the same digital instrument (i.e. TDEM61-MK2 and/or G-858 Magnetometer) used in the original DGM survey. All "failures" identified during the QC-1 process will be fully documented in order to track any deficiencies in the initial reacquisition or intrusive investigation of the selected geophysical targets. All "failures" identified during the QC-1 procedure will be reinvestigated by the intrusive team prior to performance of the QC-2 resurvey procedure.

Attached is the revised standard operating procedure *Anomaly Reacquisition and Excavation Procedure* (Op.001.reacrev3) to be incorporated as part of this work plan.

**IMPACT ON PRESENT AND COMPLETED WORK:**



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There will be no impacts to completed work. Since this is a full coverage removal action using RTK GPS positioning, and 100% of the excavations are checked using the same instrument during the QC-1 step, the reacquisition operation as defined in the work plan is not necessary to this removal action. In the event that line and fiducial is used, the reacquisition refinement approach as currently defined in the work plan will be used.

REQUESTED BY: Mark Saunders, Project Geophysicist and Bruce Moe, Senior UXO Supervisor

CLARIFICATION/FOR INFORMATION ONLY

MINOR CHANGE

MAJOR CHANGE

ESCA RP TEAM APPROVALS:

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