

FIELD WORK VARIANCE

Project Name/Number	Fort Ord / 846075	CTO/WAD	CTO 16 / WAD 06
Applicable Document:	Draft Final Work Plan, MRS-16	Date:	12/27/06
Munitions and Explosives of Concern Removal, Former Fort Ord, California, August 2006, Revision 1			

Problem Description:

Digital Geophysical Mapping (DGM) is to be performed at MRS-16 with the intent to identify anomalies for subsequent excavation by UXO Team. Current plan for field work is to conduct Schonstedt-assisted surface removal over the entire site prior to DGM. Approximately 13.5 acres of the site (See Figure 1) contains significant metallic debris on the surface. If there is significant debris in the subsurface, this may preclude identification of distinct anomalies by DGM. Current Work Plan text reads as follows: *In areas where anomaly density is high as shown by the initial DGM, mag and dig or dig and sift operations may be conducted to locate and remove subsurface anomalies prior to the second DGM survey.*

Recommended solution:

This FWV proposes to perform a magnetometer assisted subsurface removal in selected grids prior to DGM. Production rate and cost data will be collected to evaluate whether the magnetometer assisted subsurface removal improves cost efficiency compared with grids where only surface removal is conducted prior to DGM.

Impact on present and completed work:

Should have minor impact on MRS 16 cost and schedule. Results may indicate most cost effective solution for similar future sites.

Requested by: Kevin Siemann

Recommended revisions to the plan: Conduct magnetometer assisted surface and subsurface removal in 23 grids (See Attachment 1) within the approximately 13.5 acres prior to DGM implementation. Subsurface removal may allow for better mapping of distinct anomalies during initial DGM phase.

Technical Scope

A new approach is going to be used in the MMRP clean-up effort at Ft Ord's MRS-16. The goal is to use a surface sweep to perform an initial clearance then to apply a dynamic and iterative DGM and reacquisition protocol to remove all detected subsurface anomalies equivalent to, or greater than that characteristic of the smallest MEC. The iterative approach is designed to focus on the most contaminated areas with a footprint reduction between each phase. It is assumed that at least 2 or 3 phases of DGM surveys will be required to achieve clean-up standards. The basis behind this approach is that past operations demonstrated the high costs associated with analog clearance to depth and noted that there was a limited reduction in the total number of anomalies that passed through to DGM activities. Due to the size of MRS-16, it was determined that this range is an ideal site to evaluate the cost effectiveness of such a repeat DGM process.

At the initiation of the project, a comparative analysis is to be performed in the most contaminated 13.5 acres of the site. The grids in this area have been divided roughly in half. Half the grids are to be initially analog cleared to depth while the other half is to be surface cleared. Once completed, both sets of grids will be subjected to the iterative DGM approach. Production time, including all man hours associated with analog and DGM operations will be tracked by grid and grid type (analog to depth vs. surface sweep). Sweeps and analog clearance operations will focus on grid-types and not work on multiple grid types during the same day to aid in tracking costs. DGM data will be collected in grid blocks where all grids within a block are of a unique grid type. Thus, as data is processed, targets picked and reacquired, the activities and times involved are automatically accounted for by grid type (and as a function of initial data acquisition). Following completion of the 13.5-acre clean-up data regarding all labor efforts associated with the analog clearance, surface sweep, DGM activities and digital reacquisitions will be compiled by grid and a cost comparison performed.

Personnel

Current field personnel will conduct work addressed in this FWV.

Clarification Minor Change Major Change

Affects Budget Yes No
Affects Schedule Yes No

Signature [Signature] Date 12/12/06
Technical Reviewer

Shaw Approvals:

Signature [Signature] Date 12-12-06
SUXOS

Signature [Signature] Date 12/12/06
Project Manager

Signature [Signature] Date 12-12-06
UXOQCS

USACE Approval: If Major Change:

Signature [Signature] Date 12/27/06
OE Safety Specialist

Signature [Signature] Date 12/27/06
USACE COR or TM

Attachment 1

DGM GRIDS

C3A2H1
C3A2H2
C3A2H3
C3A2H4
C3A2H5
C3A2H6
C3A2G2
C3A2G3
C3A2G4
C3A2G5
C3A2G6
C3A2G7
C3A2F4
C3A2F5
C3A2F6
C3A2F7
C3A2E5
C3A2E6
C3A2E7
C3A2D6
C3A2D7
C3A2D8

ANALOG GRIDS

C3A1G0
C3A2G1
C3A1F0
C3A1E0
C3A2F1
C3A2F2
C3A2F3
C3A2E1
C3A2E2
C3A2E3
C3A2E4
C3A2D1
C3A2D2
C3A2D3
C3A2D4
C3A2D5
C3A2I1
C3A2I2
C3A2I3
C3A2I4
C3A2I5
C3A2J2
C3A2J3



FIGURE 1
MRS 16 BOWL GRIDS
-FT. ORD, CA -



-  SURFACE/DGM
-  SURFACE/MAG & DIG/DGM
-  FIRE BREAK

REFERENCE/PROJECTION: NAD83 STATE PLANE CA IV
 OFFICE
 DRAWN BY
 FT. ORD T. Smith
 NUMBER 12/12/06
 DRAWING PRJ_846075_Fig1BowlGrids.mxd