Demonstration of Wide Area Assessment Technologies to Characterize Munitions Density

Closed Castner Firing Range
Fort Bliss, TX

Fort Bliss Restoration Advisory Board Meeting
13 January 2010
Agenda

• Project Purpose
• What is not included in this project?
• Castner Range Overview
• What have we done so far?
• What have we learned so far?
• What is still to do?
• Project Points of Contact
Demonstrate innovative munitions detection technologies on Army property

- Provide measures of relative munitions densities
- Identify areas of concentrated munitions use
- Identify areas with no indication of munitions presence
What is NOT included

- Remedial Investigation
- Decisions about future land use
- Decisions about transferring the property
- Decisions about developing the property
- Decisions about mapping individual ordnance items
- Decisions about cleaning-up all the munitions
Castner Range Overview

- Size
- Location
- Vegetation
- Terrain
- Historical Uses
- Munitions Types
What have we done so far?

- Lidar & Orthophotography
- Site Preparation
- Helicopter-Borne Magnetometry
Lidar & Orthophotography

- Lidar at 20 points/m²
- Analyzing two data sets
  - 20 points/m²
  - 5 points/m²
- Orthophotography at 10cm pixels
- Data acquired October 2009

Crater and Fighting Positions
Lidar Surface Models
Orthophotos
Site Preparation

- Site Survey
- Installed Instrument Verification Site
- Establishing Transects
- Blind Production Seeds
Site Preparation

DGM Transects

Heli-mag Blind Seeds
Helicopter-Borne Magnetometry

- Flown 1 – 3 m above ground surface
- 7 magnetometer sensors will provide swath width of approx 9m
- Estimated characterized acres 1,577
- Approx 350-500 acres/day
- Scheduled 11 - 14 January 2010
What have we learned so far?

- Terrain is tougher than we thought (no towed-array; site survey very difficult)
- Lots of magnetic noise
- Lidar can see munitions related features
- Finding lots of munitions debris and cultural features
What is still to do?

- Ground-Based Geophysics
- Anomaly Reacquisition & Intrusive Investigation
- Report Writing
Ground-Based Geophysics

- Man-portable (litter-carried) EMI array with transect-based coverage
- Estimated characterized acreage is 4,020
- Approximately 1 million linear feet of transect
- Work scheduled February – April 2010
Anomaly Reacquisition & Intrusive Investigation

- Develop target lists (i.e., “dig sheets”) for the reacquisition of anomalies using data from Helicopter-Borne Magnetometry & Ground-Based Geophysics
- Graphically display anomalies on the geophysical transect maps
- Coordinate dig areas with Fort Bliss Environmental Staff to minimize disturbance of sensitive areas
- Section 106 Consultation through Fort Bliss Programmatic Agreement with continued consultation with the Tribes
- Excavate anomalies
  - If MEC, detonate using commercial explosives
  - If not MEC, manage as MPPEH (inspect, document as “safe”, dispose as scrap metal)
- Work scheduled October – December 2010
Revised Wide Area Assessment Cost-Benefit Analysis: Active Army Military Munitions Response Program

Prepared for:
U.S. Army Environmental Command

Prepared by:
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August 2011

WAA FIELD DEMONSTRATION REPORT FOR THE CLOSED CASTNER RANGE FORT BLISS, TEXAS

PREPARED FOR U.S. ARMY ENVIRONMENTAL COMMAND

AUGUST 2011

USACE CONTRACT NUMBER W91208-08-D-0011
TASK ORDER NUMBER D301
URS PROJECT NUMBER 39455651

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Questions