Demonstration of Wide Area Assessment Technologies to Characterize Munitions Density

Closed Castner Firing Range
Fort Bliss, TX

Fort Bliss Restoration Advisory Board Meeting
14 January 2010

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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

Project Purpose

Demonstrate non-traditional technology applications for detecting munitions on Army property

- Determine areas with evidence of past military munitions use
- Determine relative density of anomalies across these areas
- Determine areas with no evidence of past military munitions use

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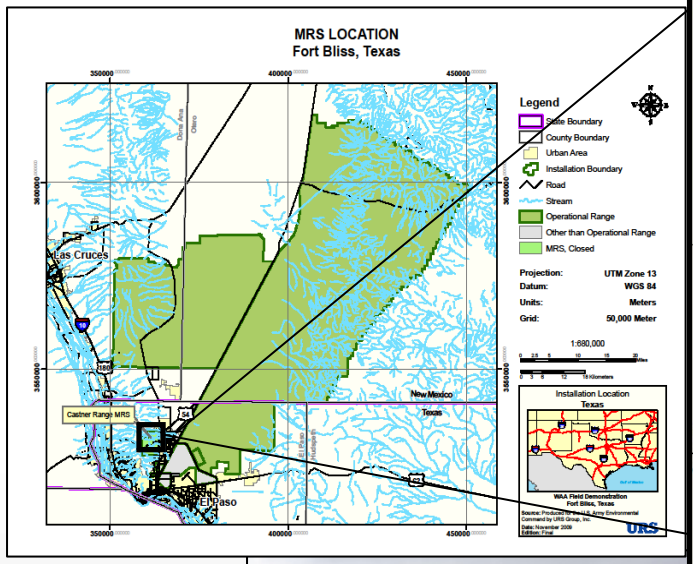
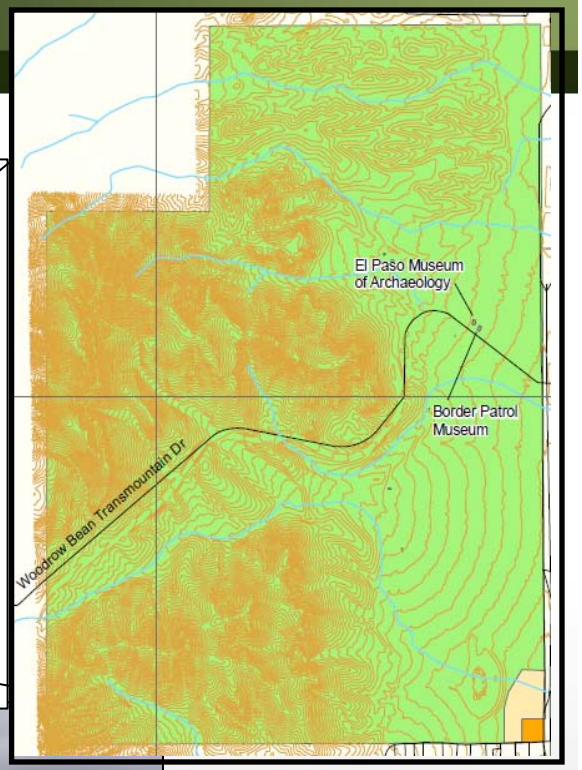
What is NOT included

- Remedial Investigation
- Decisions about future land use
- Decisions about transferring the property
- Decisions about developing the property
- Decisions regarding future munitions response actions (i.e. removal)

Castner Range Overview

- Size
- Location
- Vegetation
- Terrain
- Historical uses
- Munitions types





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What have we done so far?

- Lidar & orthophotography
- Site preparation
- Helicopter-borne magnetometry

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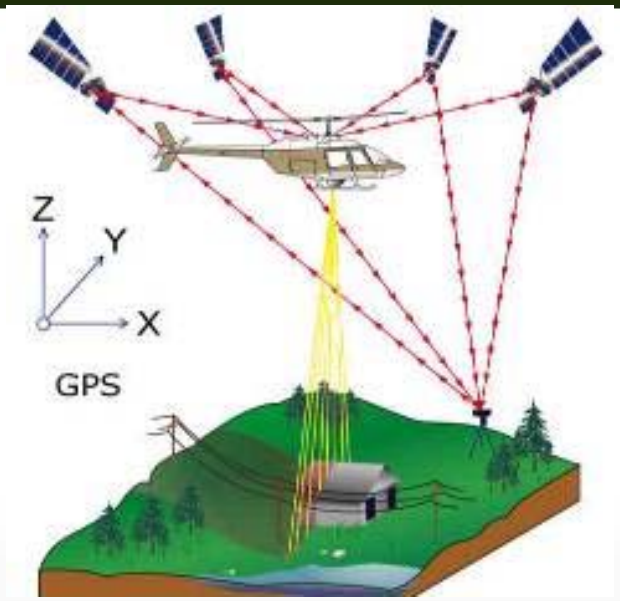
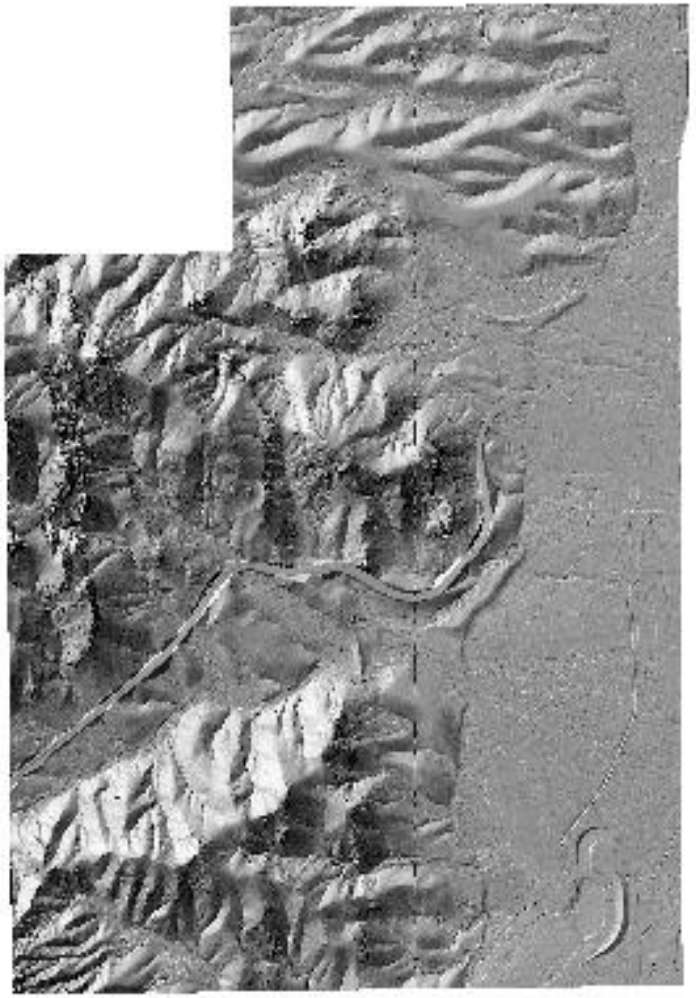
Lidar & Orthophotography

- Lidar at 20 points/m^2
- Analyzing two data sets
  - 20 points/m^2
  - 5 points/m^2
- Orthophotography at 10cm pixels
- Data acquired October 2009



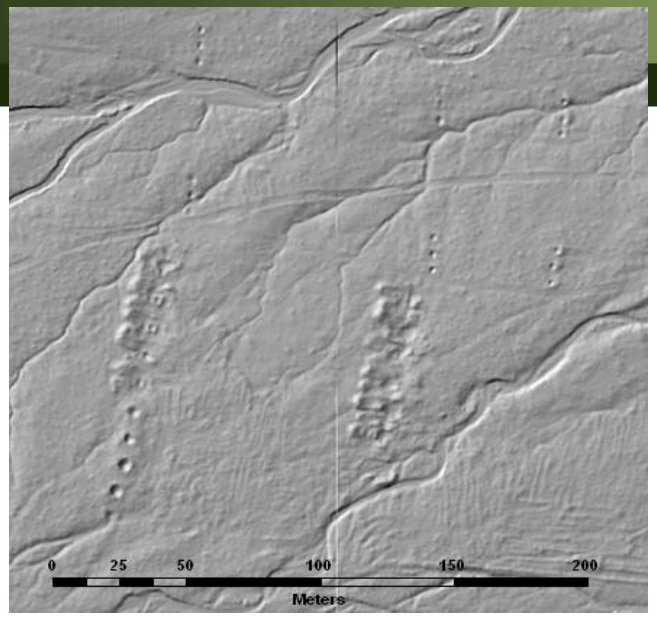
Crater and Fighting Positions

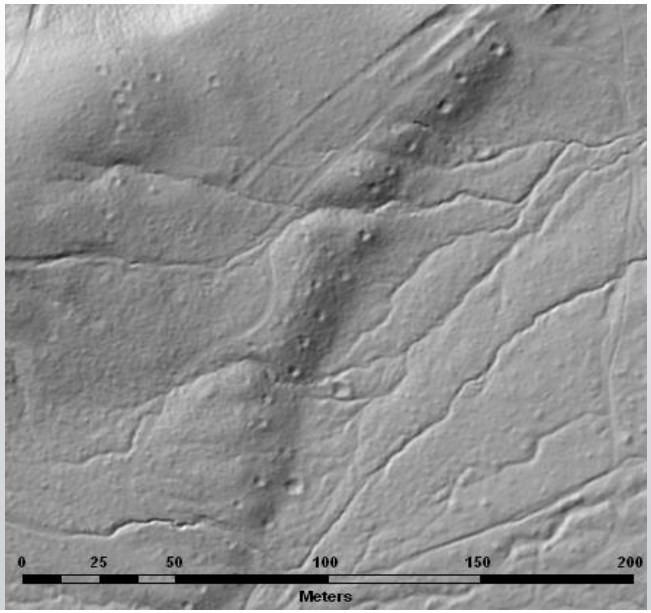
Lidar Surface Models



0 625 1,250 2,500 3,750 5,000

Meters





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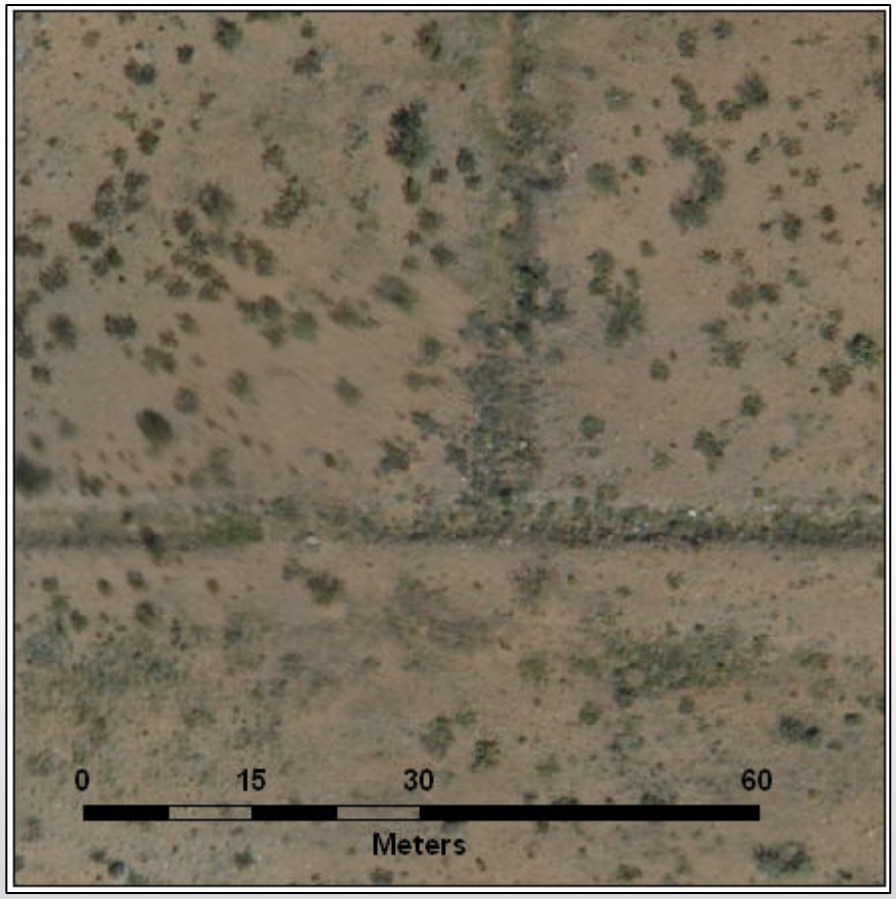
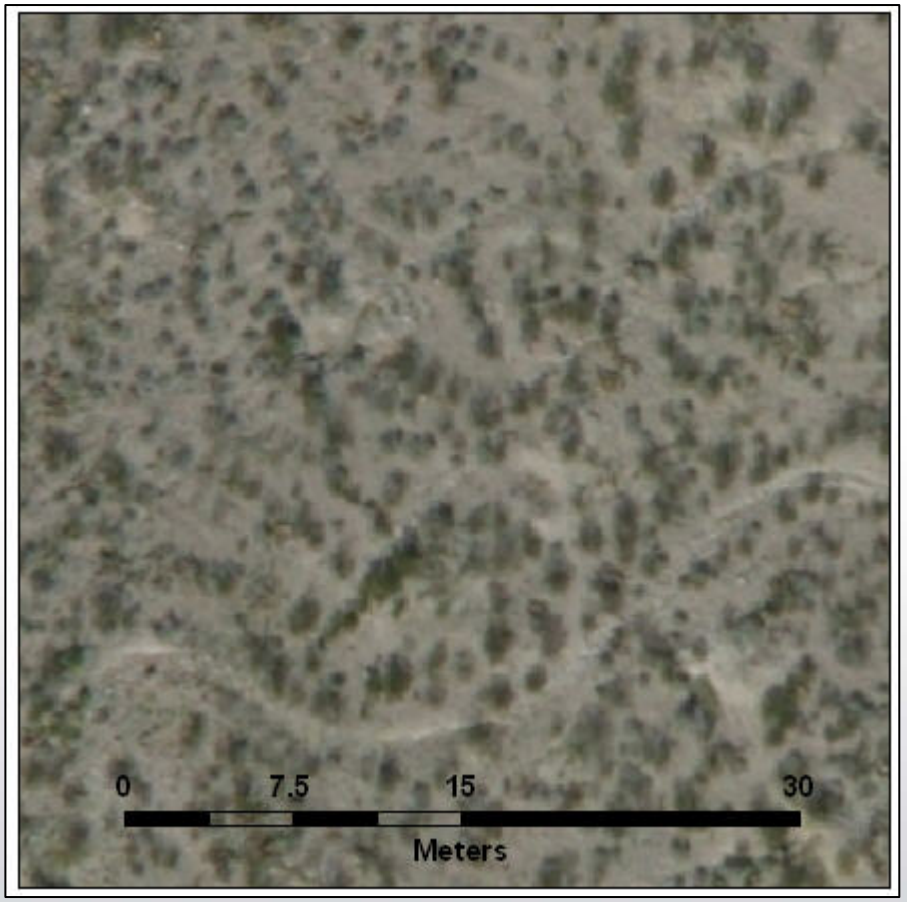
Orthophotos





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Site Preparation

- Site survey
- Installed instrument verification site
- Establishing transects
- Blind production seeds

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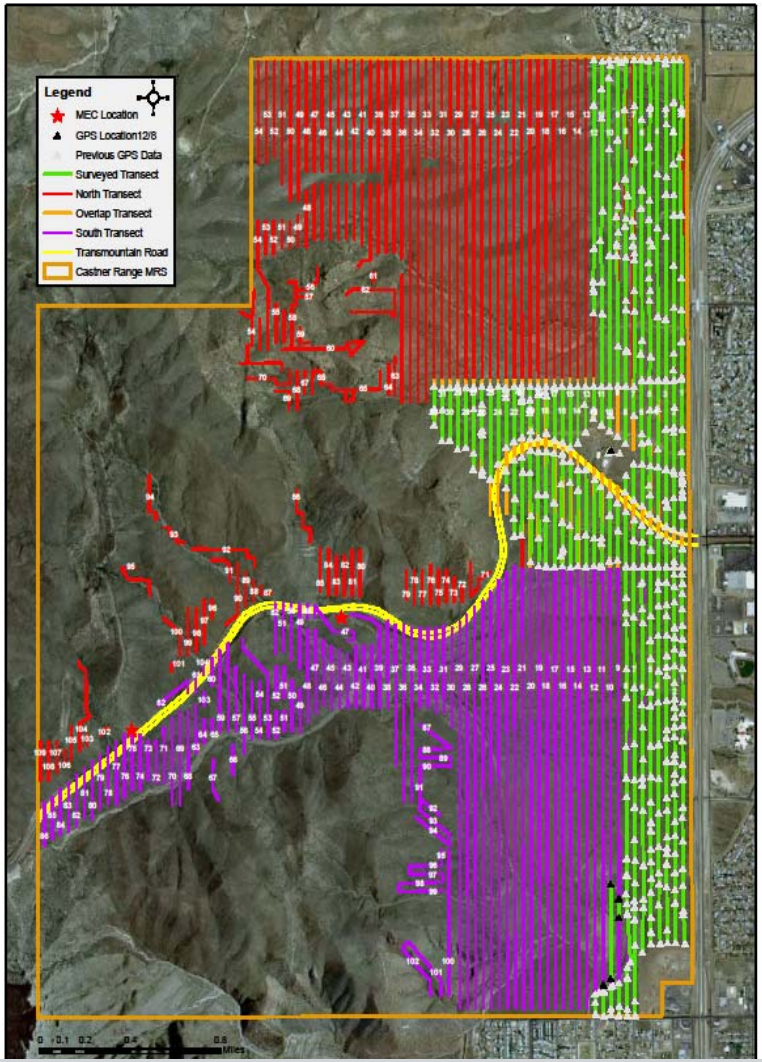
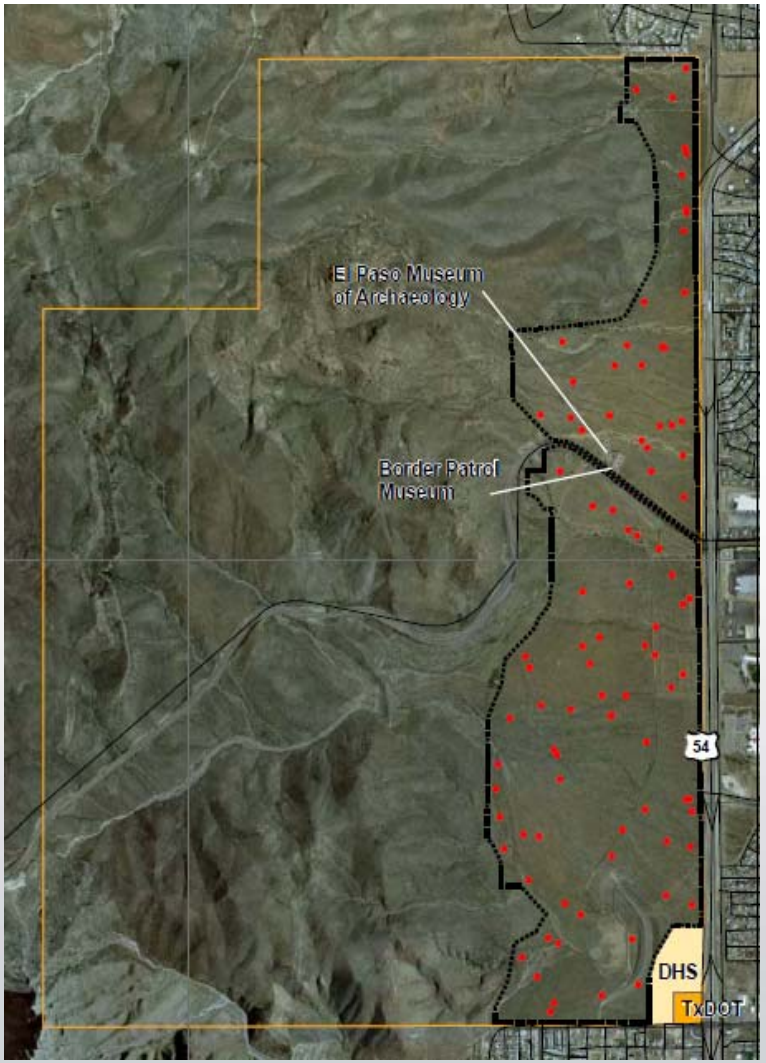
Site Preparation

DGM Transects



Heli-mag Blind Seeds



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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 - 16 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/orthophotography can identify munitions related features
- Finding lots of munitions debris and cultural features

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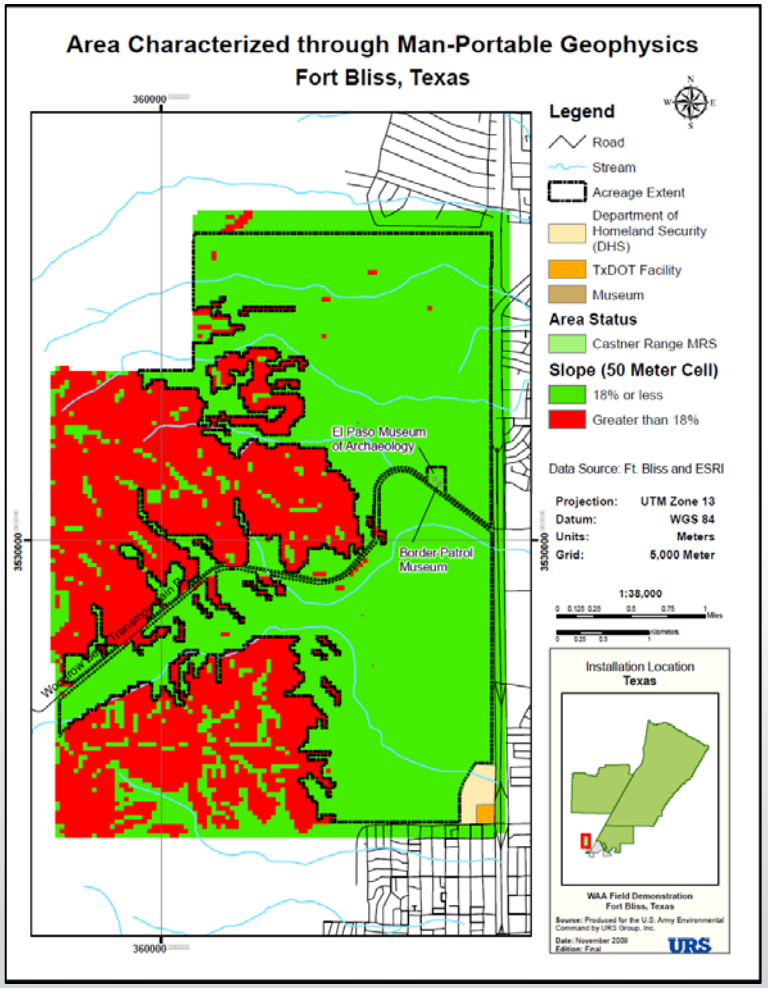
What is still to do?

- Ground-based geophysics
- Anomaly reacquisition & intrusive investigation
- Report writing

Ground-Based Geophysics

- Man-portable (litter) EMI array with transect-based coverage
- Estimated characterized acreage is 4,020
- Approximately 1 million linear feet of transects
- 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 the 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

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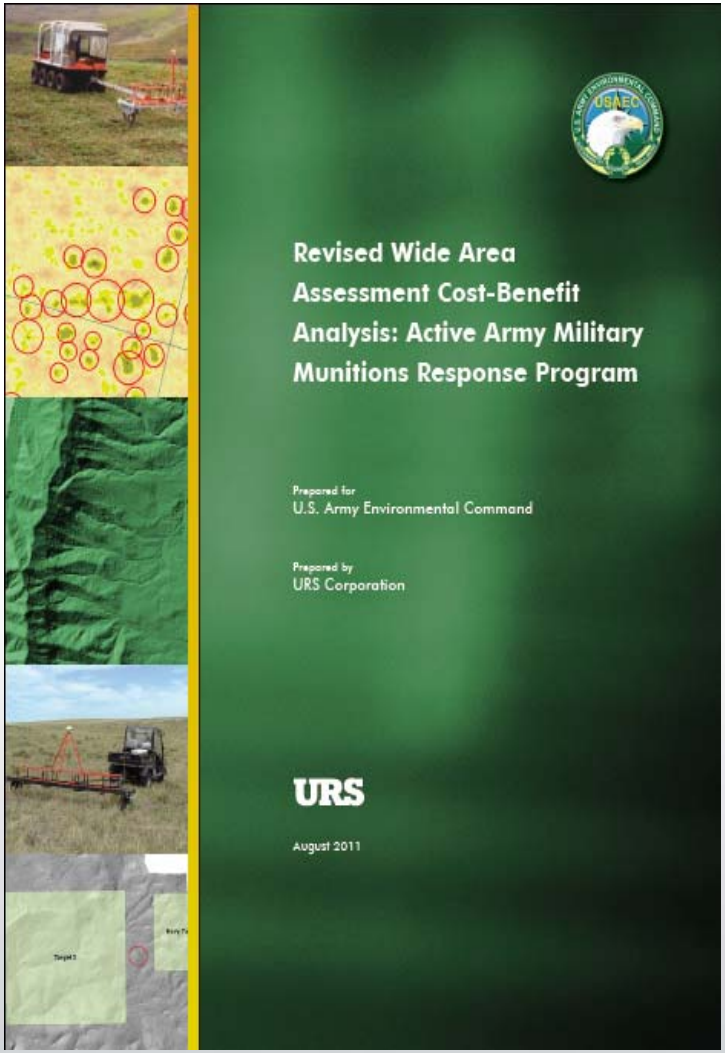
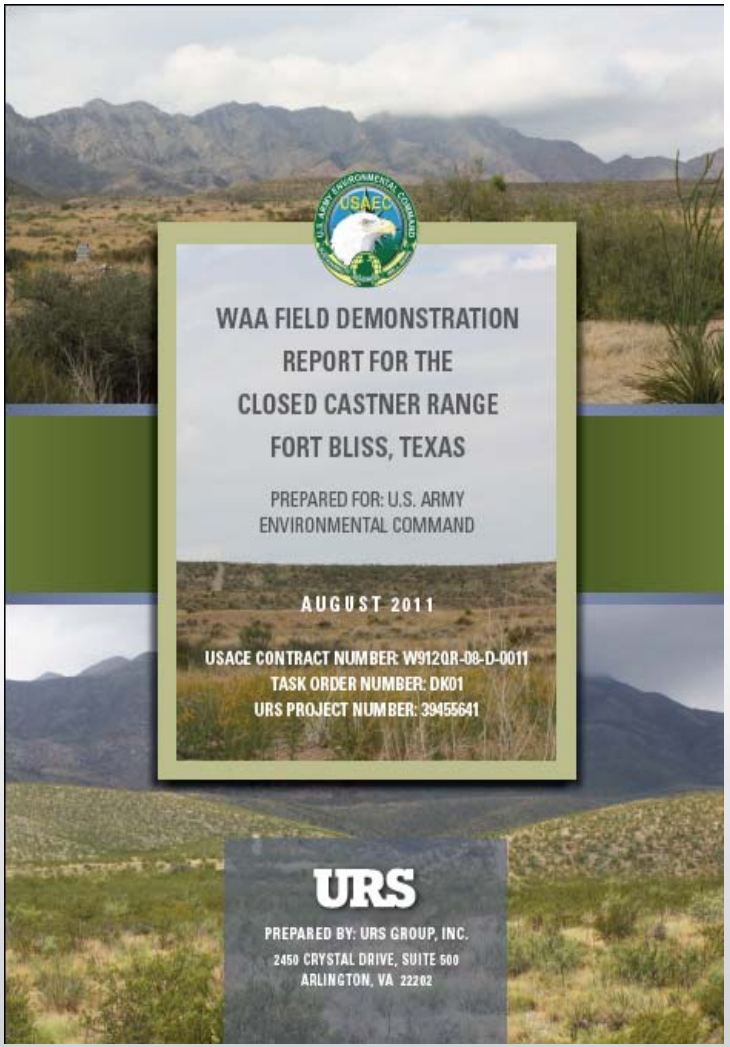
Reports


Revised Wide Area
Assessment Cost-Benefit
Analysis: Active Army Military
Munitions Response Program
Prepared for
U.S. Army Environmental Command
Prepared by
URS Corporation
URS
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: W912QR-08-D-0011
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Points of Contact

- US Army Environmental Command: Ms. Kimberly Watts and Mr. Scott Reed
- US Army Corps of Engineers, Omaha: Mr. Jerry Hodgson
- US Army Corps of Engineers, Huntsville: Mr. Andy Schwartz and Mr. Bill Veith
- URS: Ms. Victoria Kantsios and Mr. Brian Helmlinger

Questions