

***FORMER LOWRY BOMBING AND  
GUNNERY RANGE  
ARAPAHOE COUNTY, COLORADO***

***RESTORATION ADVISORY BOARD MEETING  
July 21, 2004***

***U.S. Army Corps of Engineers***

***Colorado Department of Public  
Health and Environment***



# ***DISCUSSION TOPICS***

- Fieldwork update
- FLBGR geophysical mapping program
- Wide -area assessment
- Other activities
- Fixed-Price Remediation with Insurance (FPRI) pilot project
- Summary

***FIELDWORK UPDATE***  
***TEAM DISTRIBUTION***

Bombing Target 6 – 3 munitions response teams

FLTA – 3 munitions response teams

# ***FIELDWORK UPDATE***

## ***TEAM DISTRIBUTION AND BREAKDOWN***

**Site Manager – Morey Engle**  
**Senior UXO Supervisor – Rick St. Amand**  
**Safety Officer – Brian Hamilton**  
**Quality Control Specialist – Jody Blakemore**

<b>TEAM 1 (BT6)</b>	<b>TEAM 2 (BT6)</b>	<b>TEAM 3 (BT6)</b>	<b>TEAM 4 (FLTA)</b>	<b>TEAM 5 (FLTA)</b>	<b>TEAM 6 (FLTA)</b>
<b>Irizarry (Team Leader)</b>	<b>Peters (Alternate Team Leader)</b>	<b>Glass (Team Leader)</b>	<b>Barker (Team Leader)</b>	<b>Asbury (Team Leader)</b>	<b>Harrison (Team Leader)</b>
	<b>Haupt</b>	<b>Sykes</b>	<b>Harbeck</b>	<b>Crowl</b>	<b>Sanders</b>
<b>Fox</b>	<b>Parker</b>	<b>Stanfield</b>	<b>Fassold</b>	<b>Rhodes</b>	<b>Young</b>
<b>Rivera</b>	<b>Pfertsch</b>	<b>Vilos</b>	<b>Czech</b>	<b>Van Deman</b>	<b>Maitri</b>
<b>Bayne</b>	<b>Roulier</b>	<b>Fenstermacher</b>	<b>Abrams</b>	<b>Galvan</b>	<b>Jennings</b>
<b>Butler</b>	<b>Chan</b>	<b>Livingstone</b>	<b>Irons</b>	<b>Gordon</b>	<b>Hodgkinson</b>
<b>Gullickson</b>	<b>Suckut</b>	<b>Miller</b>	<b>Pellegren</b>	<b>Stargardt</b>	<b>Herron</b>

# ***FIELDWORK UPDATE***

## ***BOMB TARGET 6***

- 8 grids have been completed since the last RAB meeting
- 788 live items found to date
- Summary of types of items found:
  - Incendiary bombs (4lb - 10lb)
  - 3lb & 100lb practice bombs
  - M15 WP grenade
  - M1A1 PDM
  - M1A1 spotting charge
  - 30cal & 50cal
  - Det cord conduit
  - 20mm & 37mm
  - Misc fuzes
  - Boosters
  - Burster tubes
  - Igniters/igniter tubes
  - T55E1 mechanical time fuze
  - 2.25" rocket
  - Fuze adapter for clusters
  - M125 – simulant filled

# ***FIELDWORK UPDATE***

## ***BOMB TARGET 6***

- Six demolition shots performed since the last RAB meeting
- Summary of items recovered since the last RAB meeting:

<b>MUNITION</b>	<b>QUANTITY</b>
<b>Bomb M74</b>	<b>6</b>
<b>Bomb M50 4 lb. Incendiary</b>	<b>21</b>
<b>Booster Cup</b>	<b>10</b>
<b>Frag Bomb HE</b>	<b>1</b>
<b>Fuze Bomb M1</b>	<b>6</b>
<b>Fuze Bomb M142</b>	<b>3</b>
<b>Fuze Bomb M152</b>	<b>15</b>
<b>OE Scrap (pounds)</b>	<b>1287.5</b>
<b>Small Arms</b>	<b>316</b>
<b>Rocket 2.25</b>	<b>4</b>
<b>Projectile 20mm</b>	<b>4</b>
<b>Bomb M38 100 lb Practice</b>	<b>5</b>
<b>Parachute Delay Mech M1A1</b>	<b>1</b>
<b>BDU 33</b>	<b>1</b>
<b>Signal Illumination</b>	<b>2</b>

# ***FIELDWORK UPDATE***

## ***JEEP/DEMOLITION RANGE – Proposed Plan Forward***

- **Modified conventional approach:**
  - **Cover and avoid all areas where evidence of CAIS (i.e. glassware, PIG remnants, etc.) has been identified**
  - **Resume conventional operations**
  - **If evidence of CAIS is found during conventional operations**
    - ✓ **Stop work**
    - ✓ **Cover and avoid area**
  - **After all other areas of Jeep/Demolition Range have been addressed**
    - ✓ **Return to areas that were covered and address with modified conventional operations**
      - **Work in appropriate PPE**
      - **Hotline in place, in case decontamination is required**

# ***FLBGR GEOPHYSICAL MAPPING PROGRAM***

- Objectives:
  - Determine best application of “map-and-dig” versus “mag-and-dig”
  - Post removal verification at all AOCs
  - Address Air-to-Ground Gunnery Range
  - AOC boundary delineation

# ***FLBGR GEOPHYSICAL MAPPING PROGRAM***

- Determine best application of “map-and-dig” versus “mag-and-dig”
  - Cost/benefit delineation between “map-and-dig” and “mag-and-dig” approaches
  - What is the anomaly density at which it is more cost-effective to use “map-and-dig” as opposed to “mag-and-dig”?

# ***FLBGR GEOPHYSICAL MAPPING PROGRAM***

- **Post removal verification**
  - **Final QA of clearance efforts**
  - **Military Standard 1916 (Mil-Std 1916) will be utilized**
  - **Similar to final QA approach used at private clearance sites**

# ***FLBGR GEOPHYSICAL MAPPING PROGRAM***

- **Air-to-Ground Gunnery Range (AGGR)**
  - Geophysical transects will be performed (in three phases) to identify high-density munitions areas in AGGR
  - Focus munitions response in AGGR (i.e. Mag-and-dig high-density areas, map-and-dig lower density areas)

# ***FLBGR GEOPHYSICAL MAPPING PROGRAM***

- **AOC boundary delineation**
  - **Phase 1 – 20 grids in southeast corner of BT6 will be mapped (100% coverage)**
  - **Phase 2 – Additional grids will be mapped, based on Phase 1**
    - ✓ **Apply less than 100% mapping methodology over additional grids (i.e. transects)**
    - ✓ **Map 100%**
    - ✓ **Analyze results**
  - **Develop plan forward for delineating boundaries of AOCs across the site**

# ***WIDE-AREA ASSESSMENT***

- Final wide-area assessment (WAA) areas of interest (AOIs) field verifications took place July 13<sup>th</sup> and 14<sup>th</sup>
  - USACE, CDPHE, TAPP, Sky, and Shaw
  - Objective: Identify, investigate, and document remaining AOIs
- Areas to be field-verified were derived from:
  - LiDAR data
  - Orthophotography
  - SAR data
  - HSI data
  - “Presumptively clean” areas

# ***WIDE-AREA ASSESSMENT***

- Crater areas
  - Derived from LiDAR data
  - Used to identify craters, berms, and other munitions-related terrain features
  - Seven AOIs identified for field verification
- Ortho areas:
  - Derived from Orthophotography data in conjunction with SAR and HSI
  - Used to identify other munitions-related features within the imagery
  - Twenty AOIs identified for field verification
- “Presumptively Clean” areas:
  - Derived from all WAA data (i.e. SAR, HSI, Orthophotography, and LiDAR)
  - Randomly chosen areas with no AOIs to conduct a QC validation of entire presumptively clean area
  - Twenty areas identified for field verification

# ***WIDE-AREA ASSESSMENT - Results***

- **Crater areas (7 AOIs)**
  - Grenade pieces, frag, and 20mm casings discovered at one AOI
  - Remaining 6 AOIs had no evidence of munitions-related material
- **Ortho areas (20 AOIs)**
  - 100lb practice bomb pieces and .50 caliber casings discovered at one AOI
  - Remaining 19 AOIs had no evidence of munitions-related material
- **“Presumptively Clean” areas (20 AOIs)**
  - No munitions-related material was found at any of the areas
  - Confirmation of “presumptively clean” areas at these sites

## ***WIDE-AREA ASSESSMENT – Plan Forward***

- Both AOs at which munitions-related materials were found will be further investigated
- Plan for investigating these areas is currently being developed (i.e. geophysics, visual surface reconnaissance, test grids, etc.)

## ***WIDE-AREA ASSESSMENT – Summary***

- WAA was successful in identifying “presumptively clean” areas and potential areas of concern to be addressed
- WAA efforts have provided a high degree of confidence that all AOCs across the site have been located
- Allows us to focus munitions response efforts on known AOCs (less than 10% of the total 59,000 acre area)

# ***OTHER ACTIVITIES***

- The Final Management Plan, Revision 1 was distributed to RAB members on June 4, 2004
- The FLBGR website ([www.flbgr.org](http://www.flbgr.org)) has been updated with a new, more-user friendly, format.
  - Note: The latest news postings and announcements now located on “News and Updates” page instead of on the home page

# ***FIXED PRICE RESPONSE w/INSURANCE (FPRI) PILOT PROJECT – Status***

- Phase 1 – initial screening of potential contractors complete
  - X contractors selected for Phase 2
- Phase 2
  - Proposals were submitted on July 14, 2004
  - Oral presentations July 15 – July 21, 2004
  - Task order award to occur prior to September 30, 2004

# ***THE END***

- Your next RAB meeting is scheduled for September 15, 2004 at the Doubletree Hotel (6:00 – 8:30pm)