

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

***RESTORATION ADVISORY BOARD MEETING
January 15, 2003***

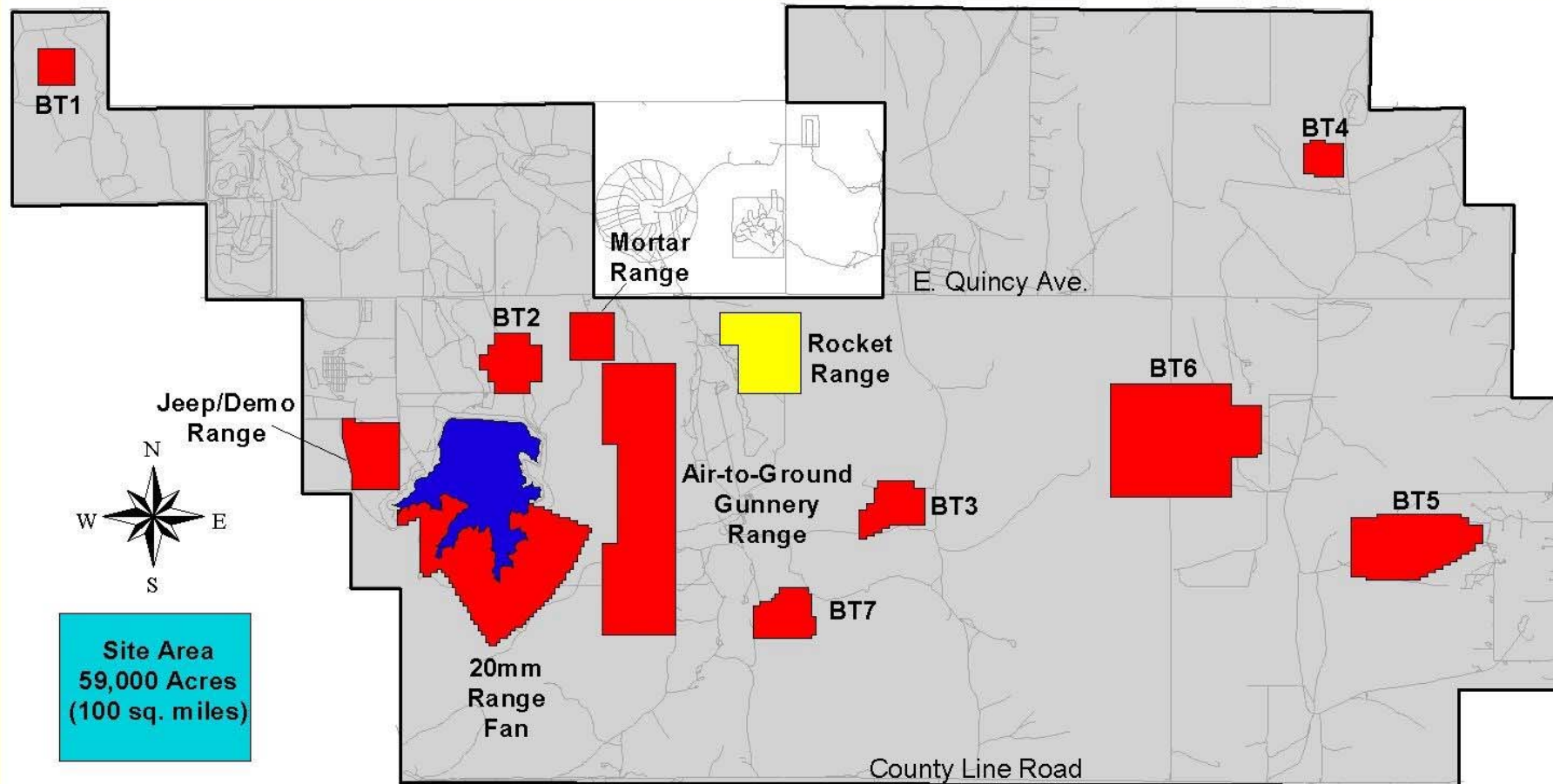
***U.S. Army Corps of Engineers
Colorado Department of Public Health and
Environment***

DISCUSSION TOPICS

- **Fieldwork update**
- **Bombing Target 6
M125 update**
- **RCWM response
process**
- **Jeep/Demolition
Range RCWM
activities**
- **Summary**

FIELDWORK UPDATE

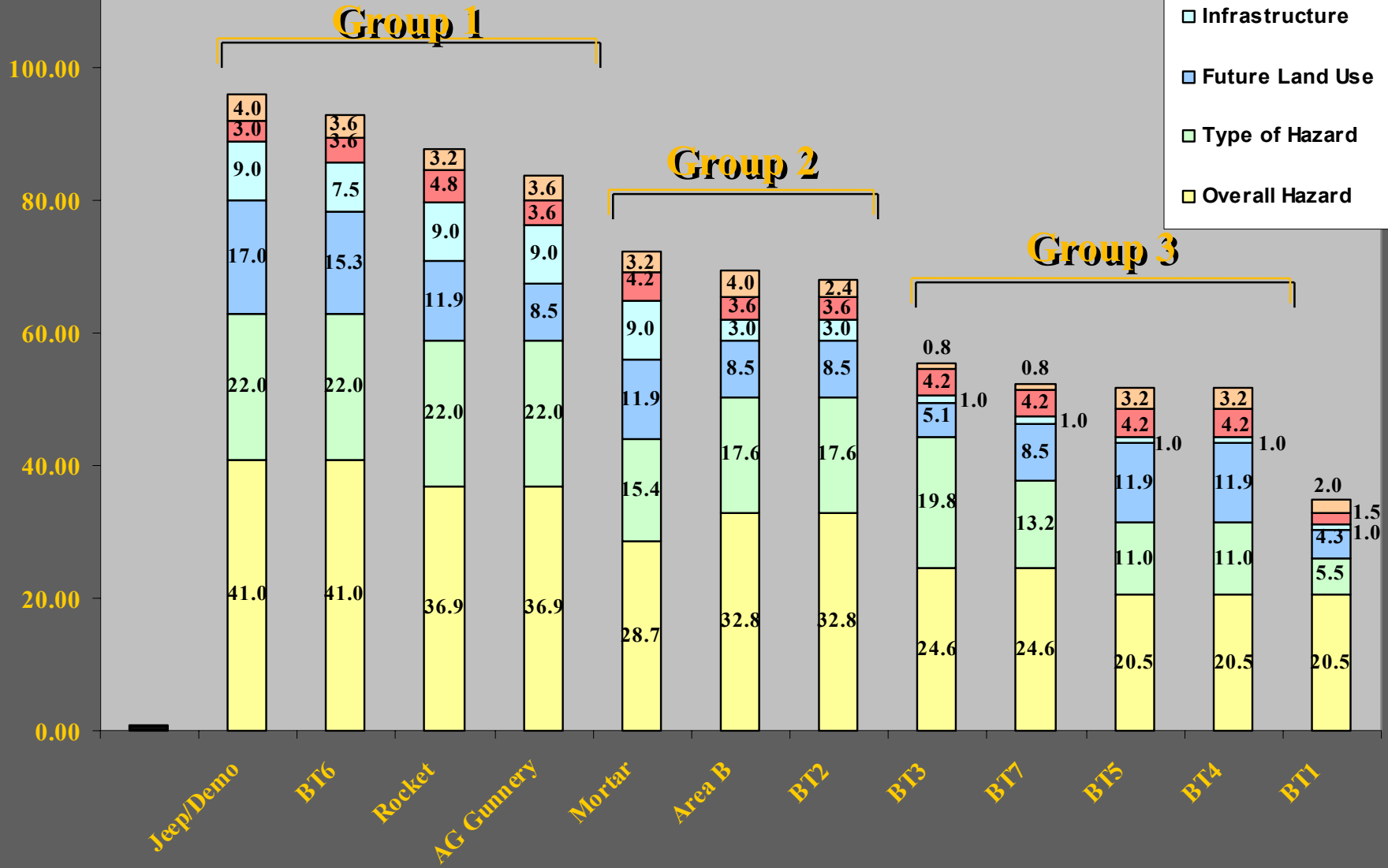
KNOWN AREAS OF CONCERN



FIELDWORK UPDATE

PROJECT PRIORITIZATION

Relative Score



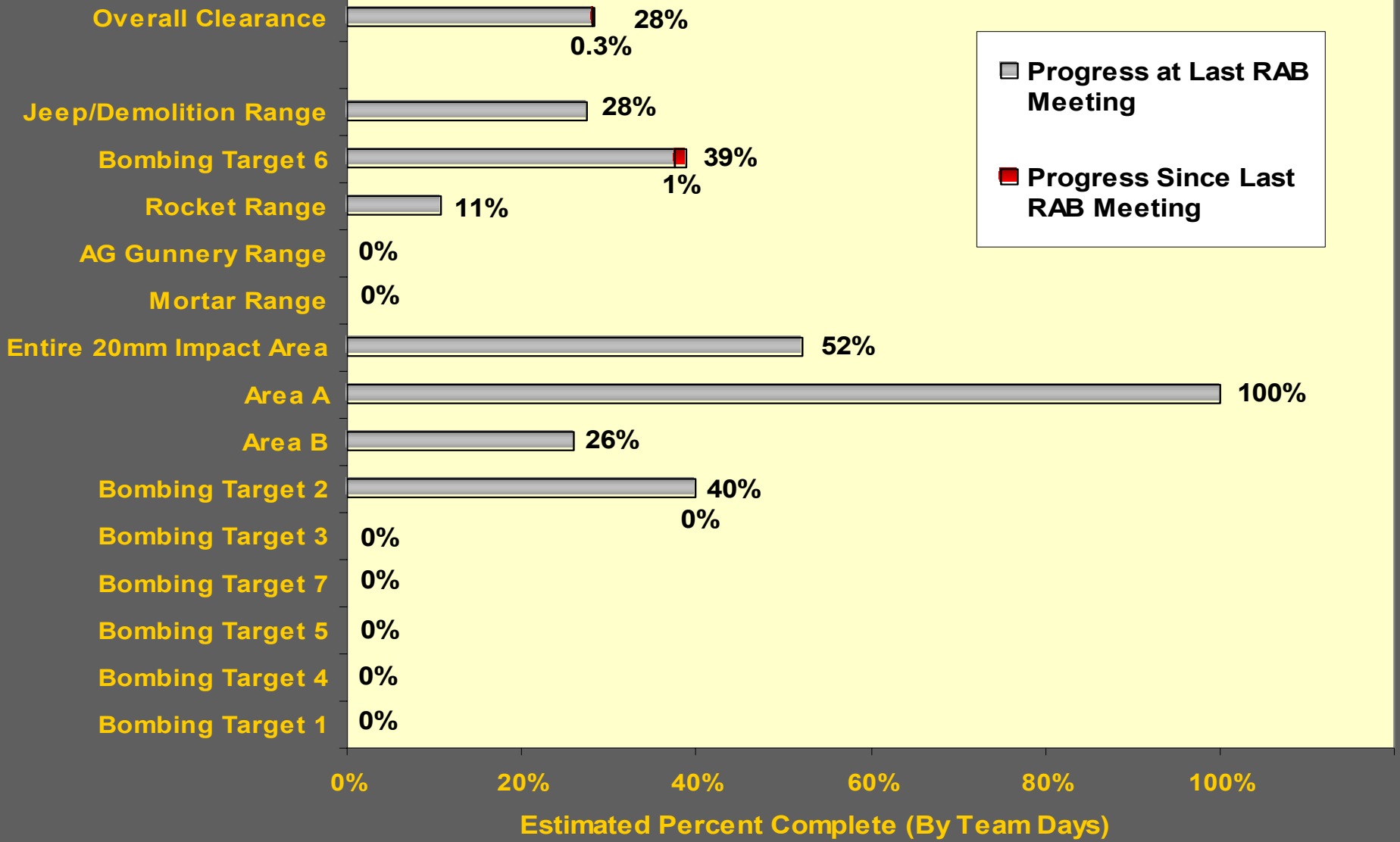
FIELDWORK UPDATE

TEAM DISTRIBUTION

- Rocket Range - 2 Teams
- FLTA - 2 Teams

FIELDWORK UPDATE

ESTIMATED PERCENT COMPLETE



JEEP/DEMO RANGE - Clearance Activities to Date

- **No grids have been completed since last RAB meeting.**
- 44 live items found to date.
- Summary of types of items found:
 - ✓ Incendiary bombs (4#, 6#, 10#)
 - ✓ Photoflash bomb and cartridges
 - ✓ GP Bombs (up to 2,000#)
 - ✓ Bomblets (BDU-28 and M139 trainer)
 - ✓ Anti-personnel mines
 - ✓ 60mm HE mortar
 - ✓ Parachute flares
 - ✓ Primer detonators
 - ✓ War head practice 2.75" rocket
 - ✓ Cartridge impulse and starter
 - ✓ M41 fragmentation bomb
 - ✓ M55 signal illumination
 - ✓ Signal illuminating, aircraft
 - ✓ 2.25" rocket
 - ✓ M125 bomb scrap
 - ✓ 20mm API
 - ✓ M44A1 aircraft flare
 - ✓ JATO
 - ✓ 2.75" rocket motor
 - ✓ Misc fuzes
 - ✓ Small arms
 - ✓ CAIS

BOMB TARGET #6 - Clearance Activities to Date

- **11 grids have been completed since last RAB meeting.**
- **700+ 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**
 - ✓ **20mm & 37mm**
 - ✓ **Det cord conduit**
 - ✓ **Misc fuzes**
 - ✓ **Boosters**
 - ✓ **Burster tubes**
 - ✓ **Igniters/igniter tubes**
 - ✓ **T55E1 mechanical time fuze**
 - ✓ **2.25" rocket**
 - ✓ **Fuze adapter for clusters**
 - ✓ **M125 – simulant filled**

ROCKET RANGE - Clearance Activities to Date

- **No grids have been completed since last RAB meeting.**
- **29 live items found to date.**
- **Summary of types of items found:**
 - ✓ **Small arms**
 - ✓ **20mm**
 - ✓ **3lb. practice bomb**
 - ✓ **2.25" rocket**
 - ✓ **Misc fuzes**
 - ✓ **Igniters**
 - ✓ **2.75" war head**
 - ✓ **MK76 practice bomb**

20mm RANGE FAN - Clearance Activities to Date

Area B

- **No grids have been completed since last RAB meeting.**
- **Six live items found to date.**
- **Summary of types of items found:**
 - ✓ **30 cal. & 50 cal.**
 - ✓ **20 mm, 37mm & 75mm**
 - ✓ **Misc fuzes**
 - ✓ **2.75" rocket**
 - ✓ **3lb practice bomb**
 - ✓ **100lb practice bomb**
 - ✓ **Small arms**

Area A

- **100% complete**

BOMB TARGET #2 - Clearance Activities to Date

- **No grids have been completed since last RAB meeting.**
- **1000+ live items found to date.**
- **Summary of types of items found:**
 - ✓ **Incendiary bombs (4lb to 10lb)**
 - ✓ **2.25" rockets**
 - ✓ **3lb & 100lb practice bombs**
 - ✓ **M12 burster tube**
 - ✓ **M9 igniter tube**
 - ✓ **Det cord conduit**
 - ✓ **Misc fuzes**
 - ✓ **50cal**
 - ✓ **20mm, 37mm**
 - ✓ **M38 spotting charge**
 - ✓ **Boosters**
 - ✓ **M1A1 PDM**
 - ✓ **M74 WP cup**
 - ✓ **Blasting cap (non-electric)**

BOMB TARGET #6 - M125 Update

- December 18, 2002 - UXO team uncovered a simulant-filled M125
 - ✓ M125 is a chemical munition
 - ✓ For war time use, it was filled with Sarin
 - ✓ For testing purposes, it was filled with ethylene glycol (primary ingredient in antifreeze)
 - ✓ Item was most likely made at Rocky Mountain Arsenal
 - ✓ Most likely used at the FLBGR to test effectiveness of detonation system

BOMB TARGET #6 - M125 Update

- December 18, 2002 – Notification to appropriate agencies made, per site-specific procedures and applicable protocol
- December 19, 2002 - Army Explosive and Ordnance Disposal (EOD) soldiers from Ft. Carson identified stenciling on casing indicating that the M125 was simulant filled
- December 21, 2002 - Technical Escort Unit (TEU) arrived onsite to perform further analysis of M125

BOMB TARGET #6 - M125 Update

- December 23, 2002 – TEU preliminary findings indicated item was simulant filled
- December 31, 2002 - Official Munition Assessment Review Board (MARB) report released by TEU confirming the M125 was simulant filled. Item was disposed of as conventional UXO following standard site procedures.
- Assessment of potential for encountering RCWM in BT6 is ongoing
- Teams will remain in Rocket Range until assessment is complete

RCWM RESPONSE PROCESS

RESPONSIBILITIES

- Project Manager for FLBGR – Omaha District (CENWO)
- RCWM Implementing Agency – U.S. Army Engineering and Support Center, Huntsville (USAESCH)
- Preparation of CSS – USAESCH
- Review of CSS and Concurrence – USAESCH, TEU, Edgewood Chemical Biological Center (ECBC), Product Manager for Non-Stock-pile Chemical Materiel (PMNSCM), HQ Department of Army (HQDA), U.S. Army Technical Center for Explosive Safety (USATCES), Department of Defense Explosive Safety Board (DDESB), CENWO, CDPHE, TAPP Contractor
- Anomaly Excavation – Parsons
- Site Infrastructure Support – Shaw
- Site Safety & Health Officer – Parsons

RESPONSIBILITIES

- On-Site Safety Specialist – USAESCH
- On-site Medical Support – Rural Metro
- Air Monitoring – ECBC
- RCWM/Munitions Assessment - TEU
- Soil analysis
 - ✓ RCWM - ECBC
 - ✓ Hazardous Waste Characterization - Shaw
- RCWM Transport & Disposal
 - ✓ PMNSCM
- Soil and Scrap Disposal - Shaw

PLANNING

MPM/MCE SELECTION

- MPM – Most probable munition
- MCE – Maximum credible event
- Probability Assessment
 - ✓ Based on recent discoveries
 - ✓ Defines the credible event(s)
 - ✓ MCE evaluations performed by USAESCH

PLANNING – EXCLUSION ZONE

- A controlled distance for the public and non-protected staff
- The greater of -
 - ✓ **Munitions**
 - Fragment distance
 - Definition: Maximum distance fragment from a munition will travel
 - Over pressure distance
 - Definition: Maximum distance a munition will produce an overpressure of a certain magnitude
 - ✓ **RCWM**
 - No significant effects distance (NOSE)
 - Definition: The distance beyond which the public or unprotected workers will not experience any adverse health effects associated with the chemical agent release of the MCE

CSS and WORK PLAN

- **Chemical Safety Submission (CSS)**
 - ✓ Documents those activities specific to RCWM and RCWM safety
 - ✓ Reviewed/coordinated w/ Huntsville, Omaha District, TEU, ECBC, PMNSCM, CDPHE
 - ✓ Approved by DDESB, USATCES, CDPHE, DHHS
- **Work Plan**
 - ✓ Contains Procedures and Plans (IDW, SAP, Etc.)
 - ✓ Site Health and Safety Plan

PRE-OPERATIONAL SURVEYS

- **Huntsville**
 - ✓ **Testing for the Department of Army (DA) pre-op**
 - ✓ **Run through scenarios**
 - Find an item
 - Wet soil/leaking item
 - Someone gets hurt
- **DA pre-op**
 - ✓ **Run through scenarios**
 - Find an item
 - Someone gets hurt

CHEMICAL AGENT IDENTIFICATION SETS (CAIS)

- K941, Toxic Gas Set M1
- K951, Instructional M1 Set
- Navy X Sets, Identification and Instructional

POTENTIAL CHEMICAL AGENT IDENTIFICATION SETS (CAIS)

- Purpose
 - ✓ Train soldiers in the identification of Chemical Warfare Materiel

CHEMICAL WARFARE MATERIEL and HTW COMPOUNDS RELATED TO CAIS

- Chemical Warfare Materiel potentially present
 - ✓ Sulfur mustards (H, HD, HS),
 - ✓ Nitrogen mustards (HN1 and HN3),
 - ✓ Lewisite (L),
- HTW compounds found in CAIS but not considered RCWM agent
 - ✓ Phosgene (CG) (unless in a munition)
 - ✓ Triphosgene
 - ✓ Chloracetophenone (Tear Gas) (CN)
 - ✓ Chloropicrin (PS)
 - ✓ Adamsite (DM)
 - ✓ Chloroform (CF) - Used as an agent dilutant in the K951 Set.

J/D RANGE MPM and MCE

- Based on items recovered to date and past usage of the site
- Most Probable Munition (MPM)
 - ✓ MK 15 Practice Bomb with a 3-pound spotting charge
 - ✓ Minimum Separation Distance – 473 Feet
- Maximum Credible Event (MCE)
 - ✓ Instantaneous release of a single 40-milliliter vial of phosgene
 - ✓ NOSE distance w/o Engineering Controls – 433 feet
- Exclusion Zone based on the greater of the two
 - ✓ 473 Feet

ENGINEERING CONTROLS

J/D RANGE

- Tent - To contain a vapor release

ENGINEERING CONTROLS

J/D RANGE

- **Chemical Agent Filtration System**
 - ✓ **Provides negative pressure**
 - ✓ **Twin Bed**
 - ✓ **Flatbed trailer mounted**

ON-SITE MEDICAL SUPPORT

- Treatment and Transport of Chemical Injuries

ANOMALY EXCAVATION

- Excavate anomaly under engineering controls
- Excavate by mechanical means and by hand
- Expose to determine disposition of anomaly
- If anomaly is potential RCWM, determine lateral extent of anomaly

EXCAVATION ACTIVITIES

- **Soil**
 - ✓ Placed in 55 gallon poly containers staged in Engineering Control Structure (ECS)
 - ✓ Obtain a composite representative of the accumulated soil
 - ✓ Soil sample submitted for RCWM and HTW analysis
- **Intact Containers**
 - ✓ Placed in Multiple Round Container (MRC) and moved to Staging Area
 - ✓ Stored in Interim Holding Facility (IHF)
 - ✓ PINS and x-ray analysis

ITEM DISPOSAL

- **Munitions Assessment Review Board (MARB)**
 - ✓ **Reviews data and renders decision**
- **Disposition/Disposal**
 - ✓ **RCWM**
 - Transport by TEU for disposal by PMNSP, or PMNSP Portable Explosive Destruction System (EDS)

J/D RANGE RCWM ACTIVITIES

Status Update

- Geophysical mapping - collection of Electromagnetic and Magnetometer data sets complete
- Discrimination study - in progress
- CSS – external review
- Draft Work Plan – in review
- RCWM site compound preparation - in progress

J/D RANGE RCWM ACTIVITIES

Status Update

- Current FY03 funding level is \$8M
- Funding level is not sufficient to begin intrusive activities at the J/D Range
- \$6M required to maintain ongoing OE response activities
- \$7.5M required for J/D Range RCWM response activities
- \$13.5M total funding required to support ongoing OE response activities and J/D Range RCWM response activities through FY03

JEEP/DEMO RANGE

RCWM ACTIVITIES – Status Update

- \$6M allocated to maintain on-going OE response activities
- \$2M allocated to J/D Range RCWM activities
 - ✓ Develop site compound
 - ✓ Complete discrimination study
 - ✓ Purchase equipment
- If full funding were received today (additional \$5.5M) the earliest intrusive activities would begin in May 2003 due to:
 - ✓ Excessive delays in siting the RCWM site compound and geophysical test plot
 - ✓ Other delays associated with project start-up
- Additional delays could be incurred due to availability of key personnel

SUMMARY

- **Conventional OE response activities on-going – well below Management Plan baseline**
- **J/D Range RCWM activities – mostly on hold**
- **Corps/CDPHE team continues to work together to secure additional funding and execute on-going project activities as effectively as possible with current funding.**
- **The next RAB meeting is scheduled for March 19, 2003 – Doubletree Hotel (6:00-8:30pm)**