

Military Munitions Response Program Site Inspection Camp Bullis, Texas

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Talking Points

- ❑ History of Camp Bullis
- ❑ Regulatory Guidance
- ❑ RFA Goals & Process
- ❑ MRS data
- ❑ RFA Results
- ❑ Conclusions





PROJECT LOCATION MAP

Camp Bullis Military Reservation, Texas

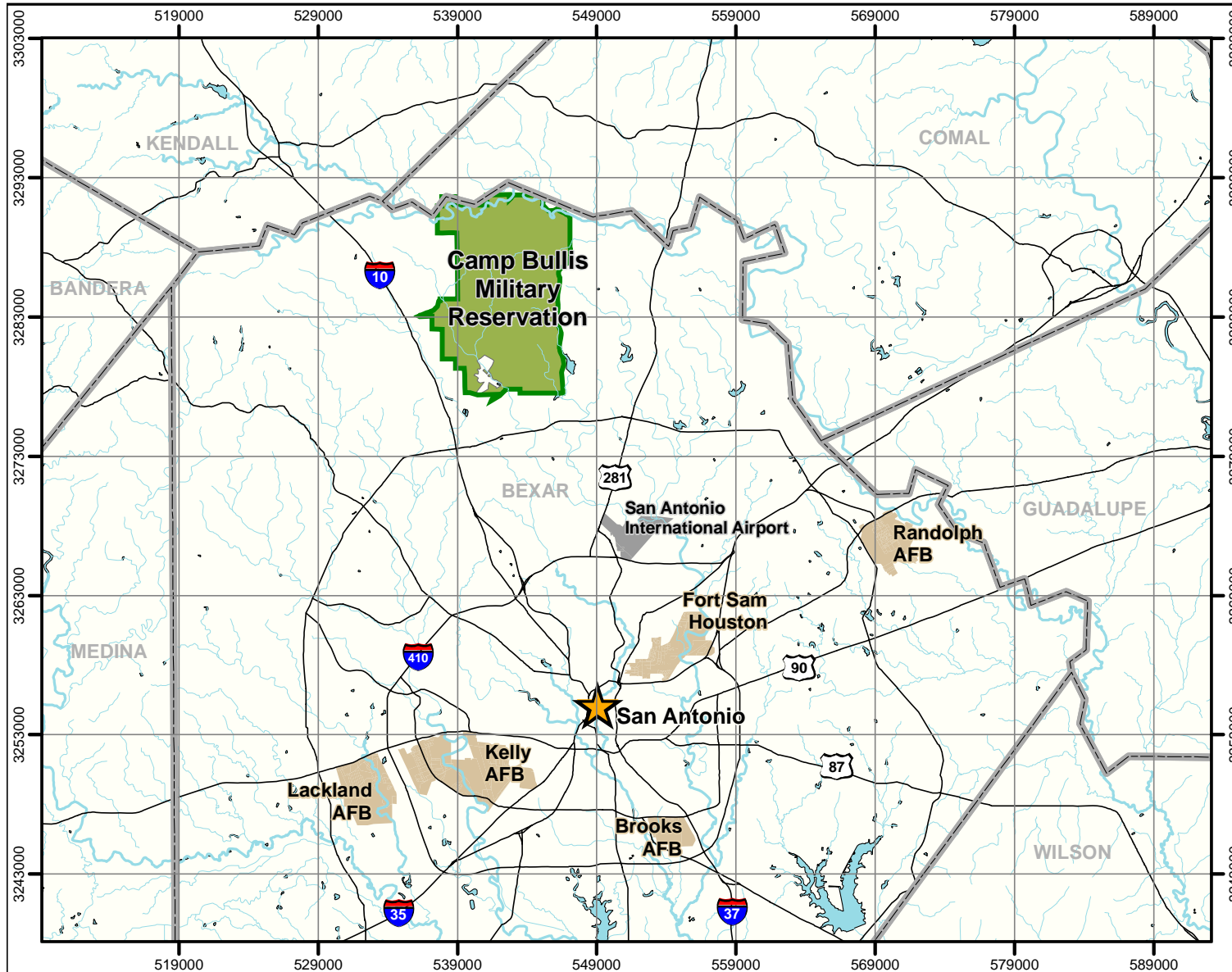
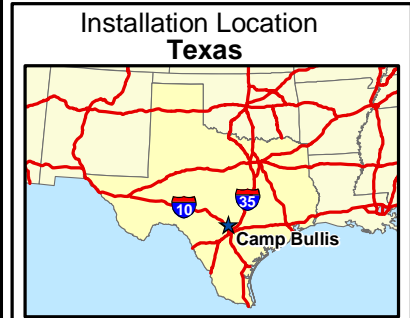
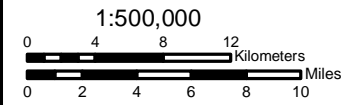


Figure 1




- County Boundary
- Installation Boundary
- Road
- Stream
- Water
- Area Status**
- Operational Range

Projection: UTM, Zone 14
 Horizontal Datum: NAD83
 Units: Meters
 Grid: 10,000 Meter



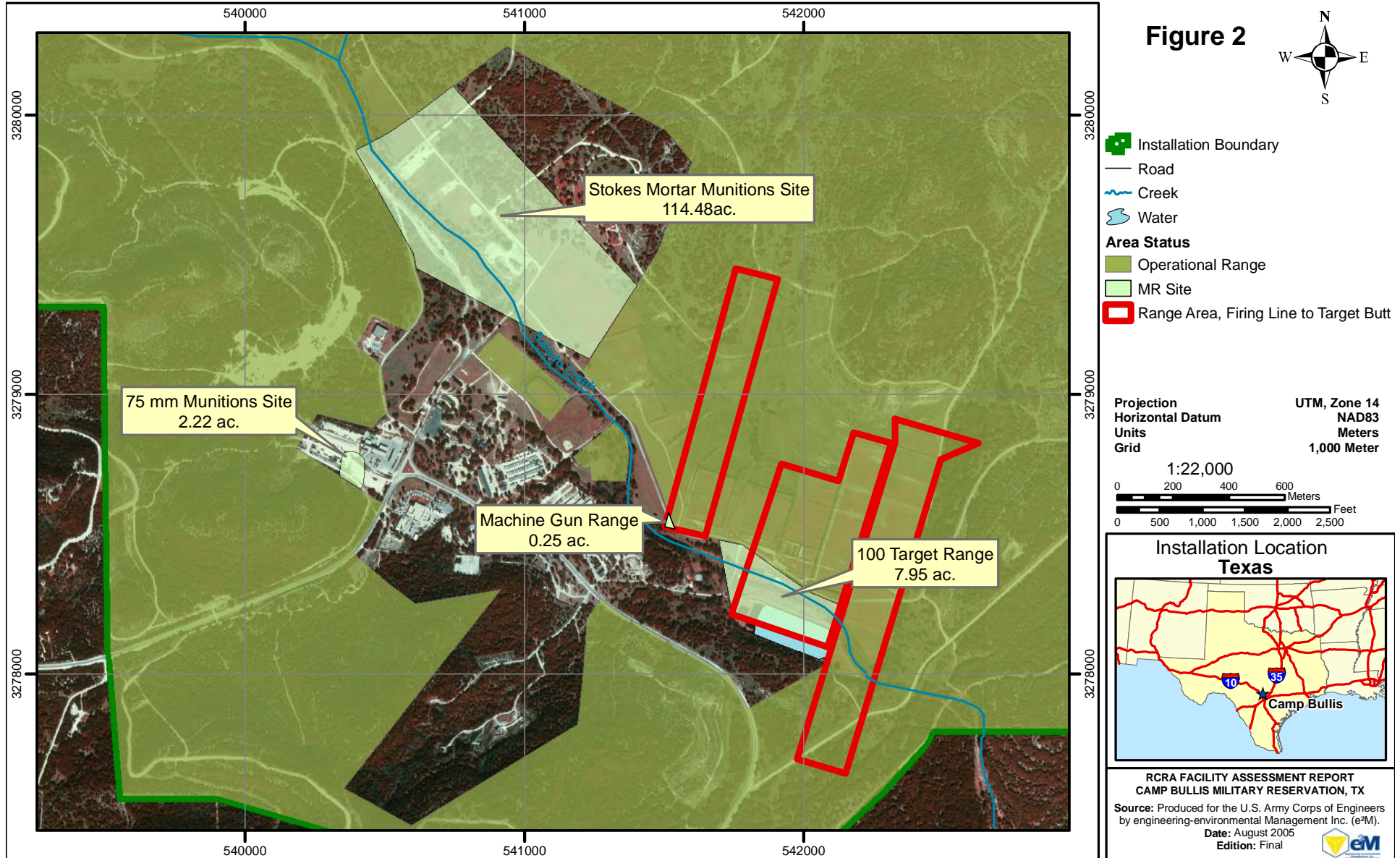
RCRA FACILITY ASSESSMENT REPORT
 CAMP BULLIS MILITARY RESERVATION, TX
 Source: Produced for the U.S. Army Corps of Engineers
 by engineering-environmental Management Inc. (e²M).
 Date: August 2005
 Edition: Final





LOCATIONS of MR SITES

Camp Bullis Military Reservation, Texas





Regulatory Guidance

- ❑ CERCLA preferred MMRP regulatory guidance
- ❑ However, state may exercise authority under RCRA
- ❑ Camp Bullis has RCRA permit
- ❑ TCEQ requested Camp Bullis be evaluated under RCRA
- ❑ Army agreed, TCEQ is the lead regulatory agency





MMRP RFA Goals

- Primary Goal
 - To support one of the following recommendations
 - No Further Action
 - Immediate Response;
 - Further Characterization
- Secondary Goal
 - To apply the information to:
 - Refine the MMRP CTC estimates by Army
 - Upload RFA analytical data into ERIS
 - Populate the MRS-PP & calculate draft scores for each MRS





MMRP RFA Process

- ❑ Establish and involve stakeholders throughout
- ❑ Develop/accomplish DQOs
- ❑ Perform historic records review
- ❑ Develop CSM and determine data gaps
- ❑ Design Work Plan and perform field work
- ❑ RFA





STOKES MORTAR MUNITIONS MR SITE SAMPLE LOCATION

Camp Bullis Military Reservation, Texas

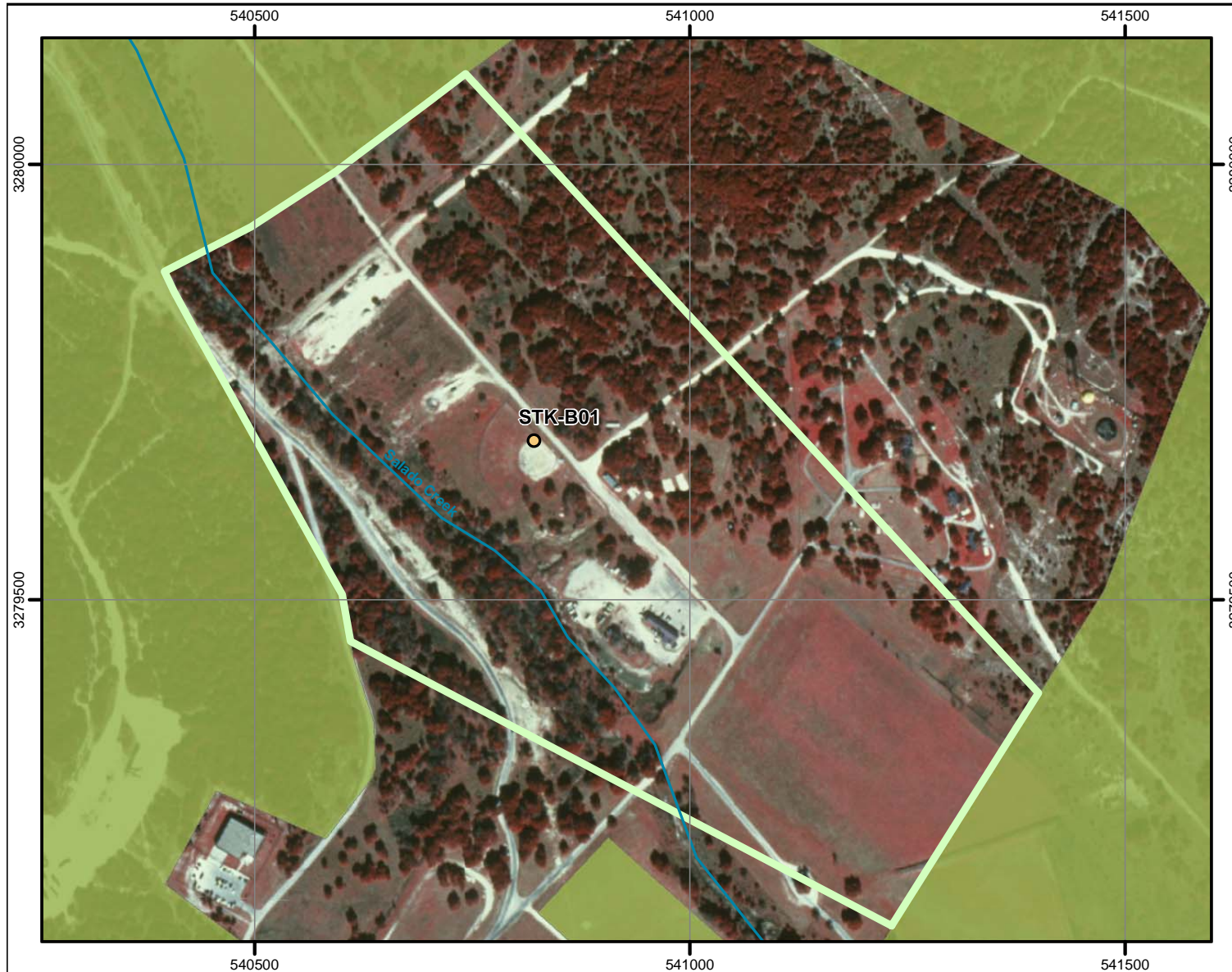
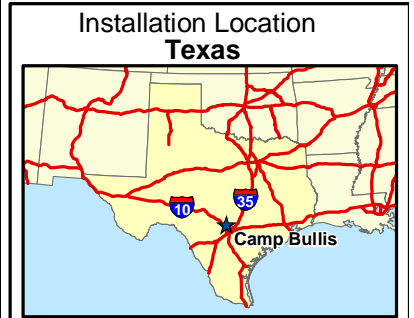
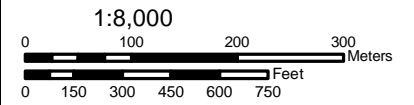


Figure 10



- Creek
- Grab Sample Location, Biased
- Area Status**
- Operational Range
- MR Site, Revised Boundary

Projection: UTM, Zone 14
 Horizontal Datum: NAD83
 Units: Meters
 Grid: 500 Meter



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75 mm MUNITIONS MR SITE SAMPLE LOCATIONS

Camp Bullis Military Reservation, Texas

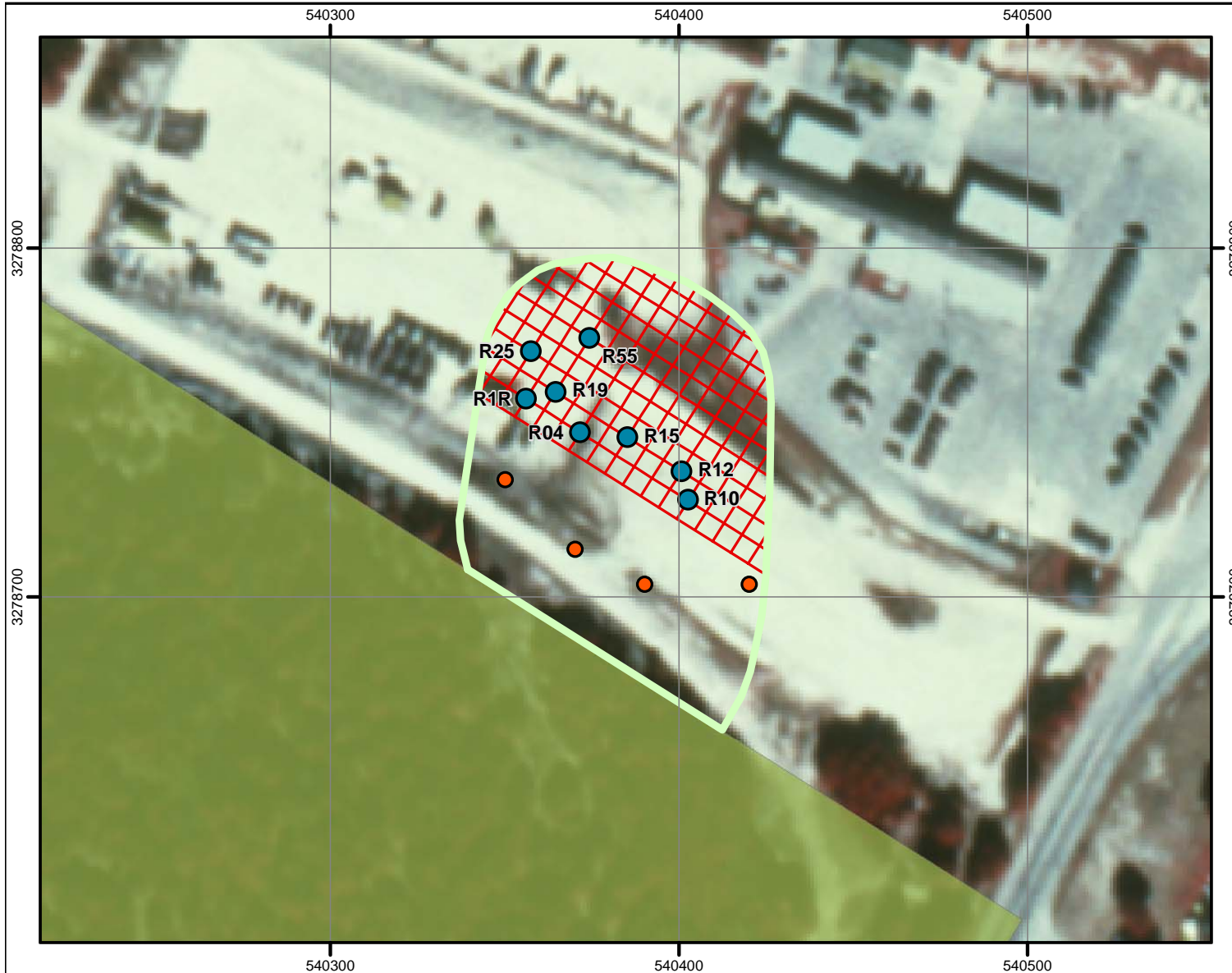
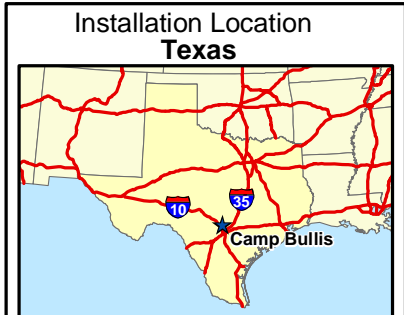
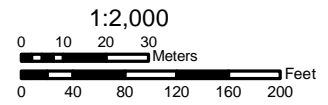


Figure 7



- Sample Location
- Prior UXO Finding
- Area Status**
- Operational Range
- MR Site, Revised Boundary

Projection: UTM, Zone 14
 Horizontal Datum: NAD83
 Units: Meters
 Grid: 100 Meter

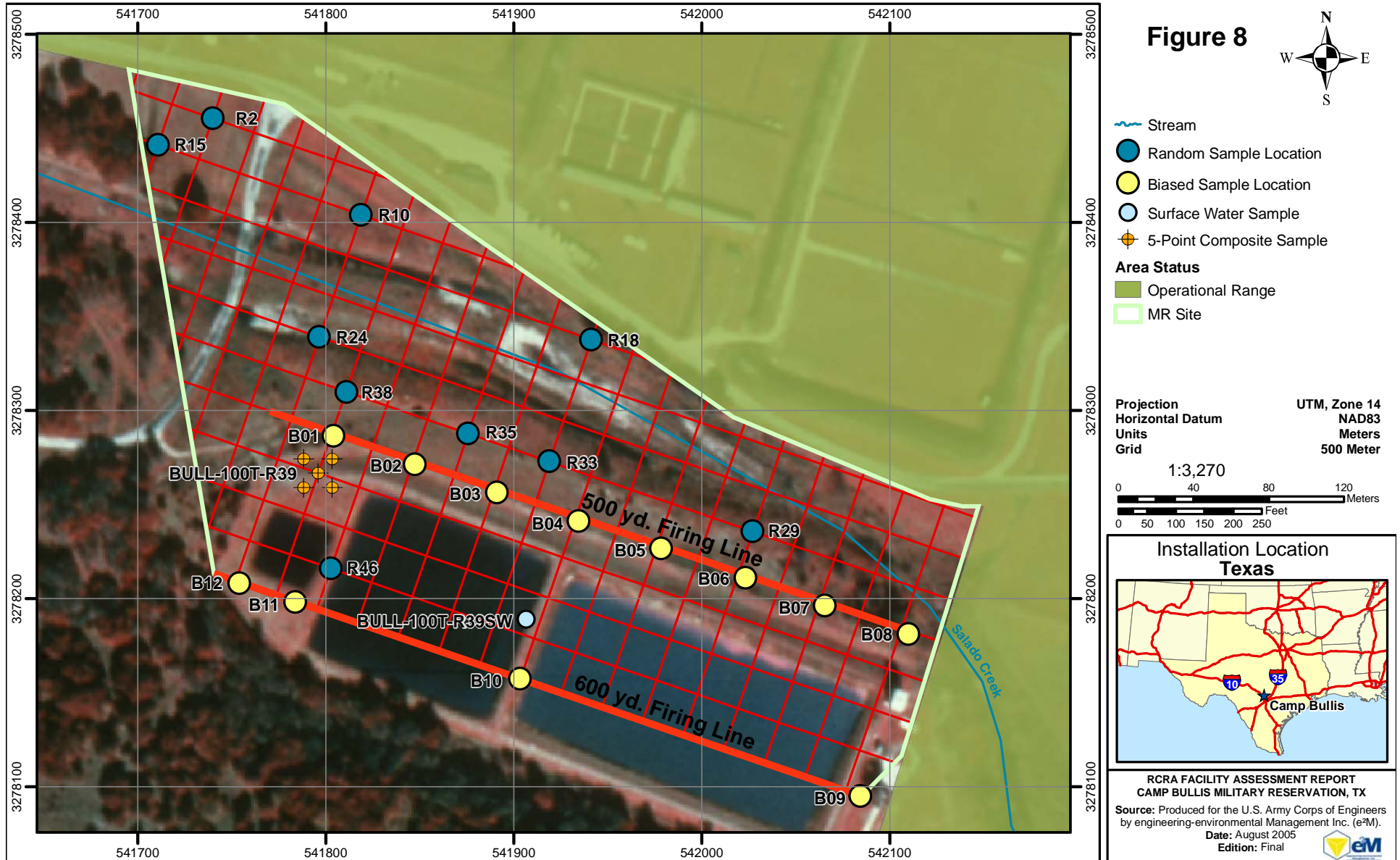


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100 TARGET RANGE MR SITE SAMPLE LOCATIONS

Camp Bullis Military Reservation, Texas





MACHINE GUN RANGE MR SITE SAMPLE LOCATIONS

Camp Bullis Military Reservation, Texas

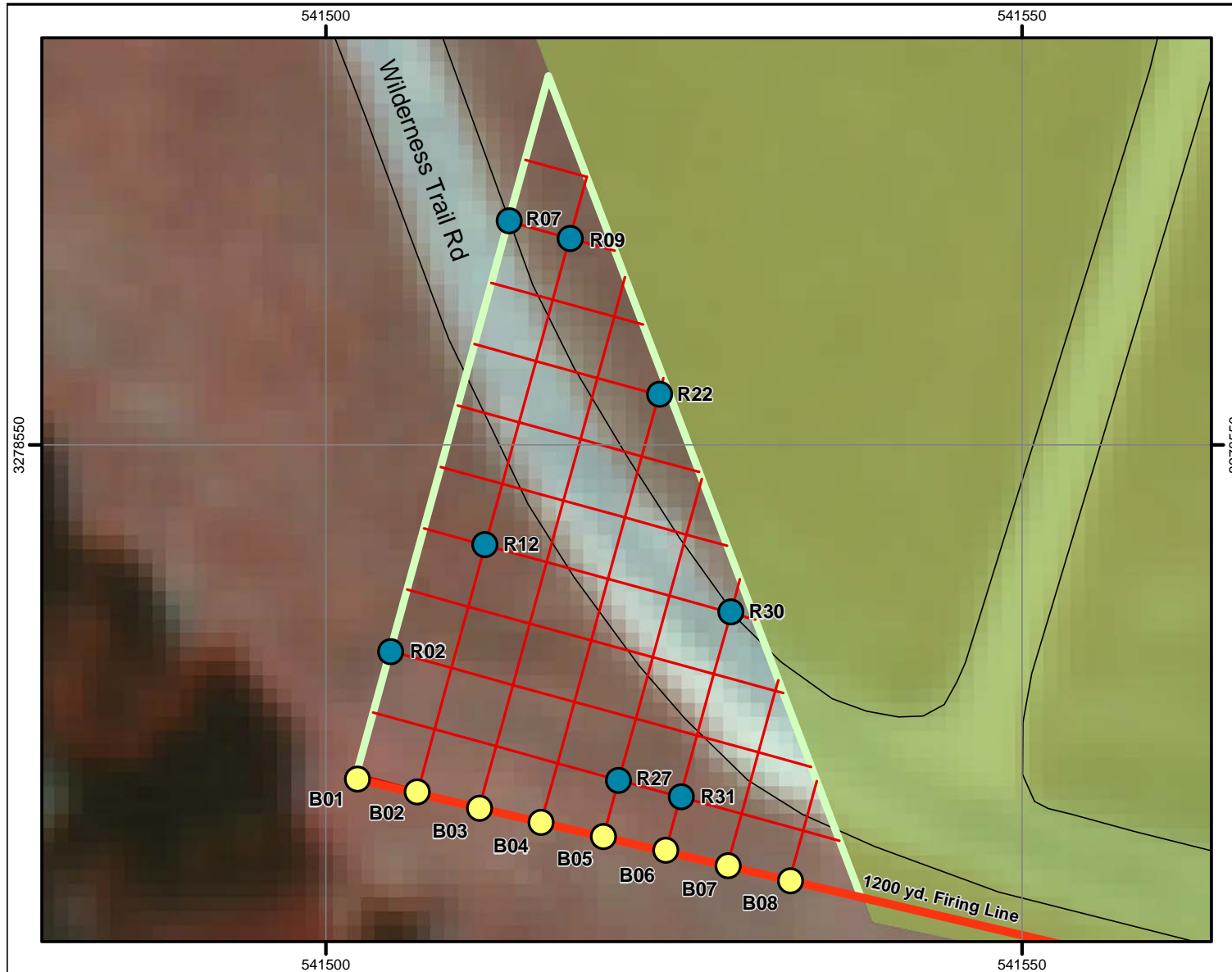
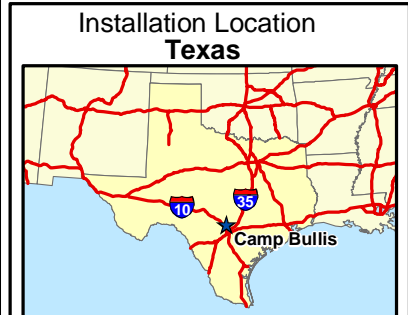
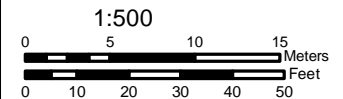


Figure 9



- Road
- Random Sample Location
- Biased Sample Location
- Area Status**
- Operational Range
- MR Site

Projection UTM, Zone 14
Horizontal Datum NAD83
Units Meters
Grid 50 Meter



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RFA Results - MC

- ❑ As TCEQ is lead agency, stakeholders agreed
 - ❑ Use TRRP PCLs for residential levels in soil for comparison
- ❑ Explosives (EPA Method 8330) assessed at two MRSs.
 - ❑ No explosive compounds detected
- ❑ TAL Metals (EPA Method 6010B) assessed at all four MRSs.
 - ❑ Metals detected at 2 MRSs





RFA Results - MC

MRS	MC Detected	TRRP Tier 1 PCLs
75 mm Munitions Site	thallium 8.07-12.0 mg/kg	thallium 6.3 mg/kg

- ❑ All 8 samples collected showed slightly elevated levels of thallium.
- ❑ Thallium is associated with the potassium minerals in clay soils.
- ❑ Camp Bullis IRP is investigating thallium throughout the installation.
- ❑ Stakeholders felt thallium issue not related to munitions.





RFA Results - MEC

- ❑ Stokes Mortar Range
 - ❑ MEC confirmed during HRR
- ❑ 75 mm Munitions Site
 - ❑ DGM – performed to refine MRS boundary and support historic evidence of site as DMM site.
 - ❑ Covered 76 % of the MRS.



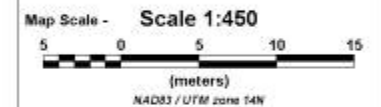
Figure C-2

Digital Geophysical Mapping for UXO
EM61 MK2 Geophysical Data

75-mm Munitions Site
Camp Bullis
San Antonio, Texas

LEGEND

- Target ID X
- fenceline
- inaccessible or culturally influenced areas



Notes: Channel 3 data, targets picked at 3mV threshold

Project Area Index Map



Client: e2M

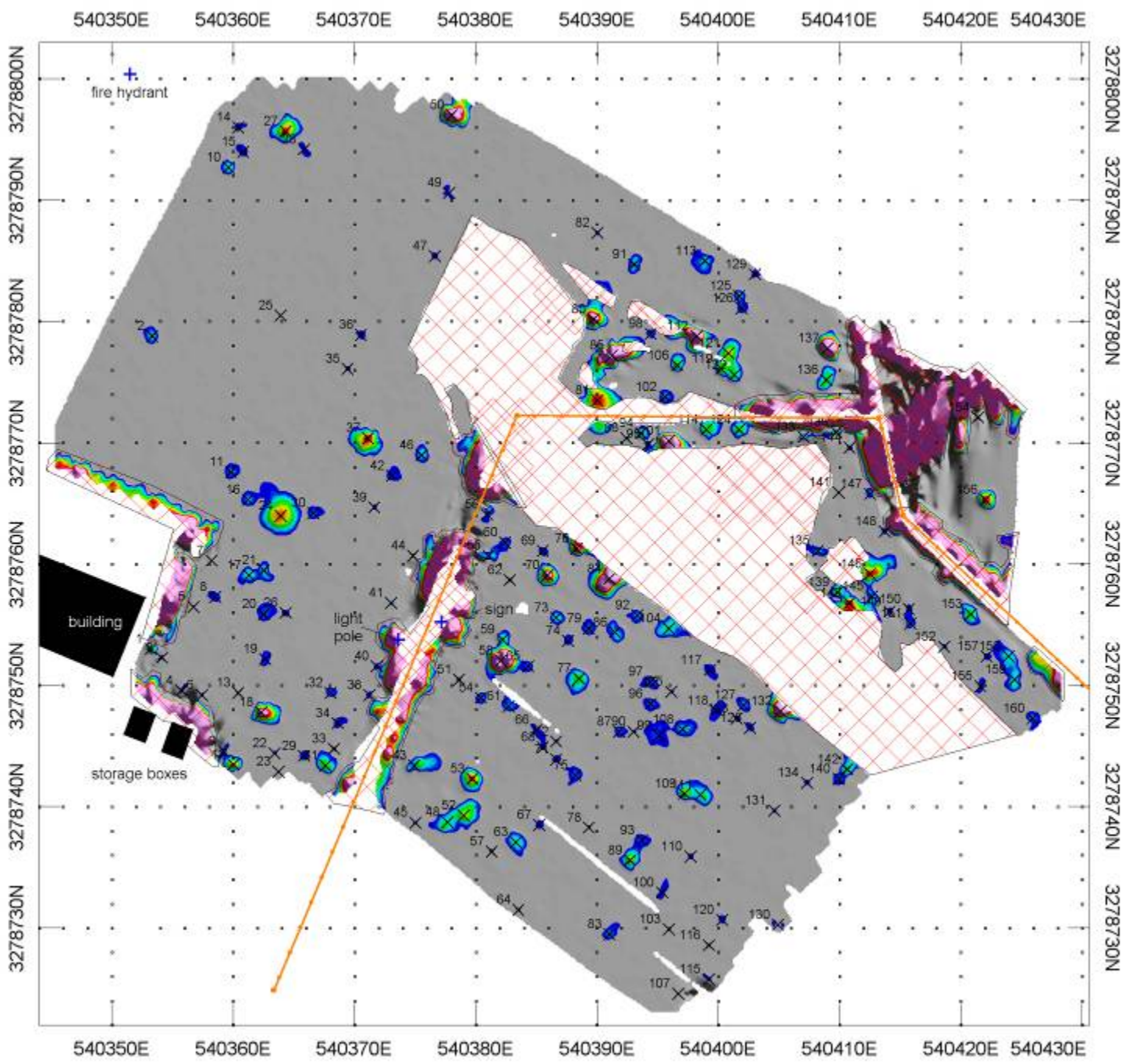
Project: Camp Bullis - 502-05-126

Contractor: Power Surveying Company, Inc.

Created by: David Hollema Verified by:

Date: 16 February 2005 File: c:\active\projects\502-05-126

Page Number: C-2 Scale: 1:450





RFA Results - MC

100 Target Range	MC Detected	TRRP Tier 1 PCLs
RFA Field Work	copper 3390 mg/kg thallium 6.4 & 7.24 mg/kg	copper 550 mg/kg thallium 6.3 mg/kg
e ² M resample – 5-point composite	copper 10.8 mg/kg	copper 550 mg/kg
FSH resample	copper 6.2 – 10.5 mg/kg	copper 550 mg/kg

- Copper Conclusion: “ Due to the very low detections of copper from the samples analyzed on 3 June 2005 and 14 July 2005, there does not appear to be a concern with high levels of copper at the site.”*

•Memorandum, to TCEQ, Region 13, RE: Copper sampling Results from MMRP Site, 100 Target Range, US Army Camp Bullis, Texas, from Director, Environmental and Natural Resources Office.





RFA Conclusion – Stokes Mortar Munitions Site

- Further Characterization:
 - **MEC:** Documentation indicates MEC has been found throughout the MRS.
 - **MC:** Metals and explosives were not detected





RFA Conclusion – 75 mm Munitions Site

- Further Characterization
 - **MEC:** MEC has historically been discovered at this MRS and DGM detected 160 anomalies supporting reasonable cause for further investigation.
 - **MC:** Thallium detected in all 8 surface soil samples.





RFA Conclusion - 100 Target Range

- ❑ No Further Action
 - ❑ **MEC:** MEC is not associated with the MRS.
 - ❑ **MC:** Copper and thallium exceeded PCLs.
 - ❑ Copper was determined to be an outlier by follow up sampling
 - ❑ Thallium determined not a contaminant of concern by stakeholders.





RFA Conclusion – Machine Gun Range

- No Further Action
 - **MEC:** MEC is not associated with the MRS.
 - **MC:** MC was not detected in levels which exceed TRRP Tier 1 PCLs at the MRS.



Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marques, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

29 August 2005

Colonel Garry Atkins
Garrison Commander - Fort Sam Houston
MCC Building 122
1206 Stanley Road, Ste. A
Fort Sam Houston, Texas 78234-5001

CERTIFIED MAIL 9265
RETURN RECEIPT REQUESTED

Re: Approval with Conditions *Final RCRA Facility Assessment Report, Military Munitions Response Program Site Inspection, Munitions Response Sites, Camp Bullis*, dated 17 August 2005
U.S. Army- Camp Bullis, Bexar County
TCEQ SWR No. 69062
TCEQ Hazardous Waste Compliance Plan No. CP -50292
EPA ID No. TX3214020429

Dear Colonel Atkins:

The Texas Commission on Environmental Quality received by the Corrective Action Unit was prepared by engineering-4 Camp Bullis to determine the response (MR) sites (identified Range) and to evaluate the potential of the 75-mm Munitions MR Site. The Stokes Mortar Munitions Site which was identified in the "Draft Work Plan - Munitions Response Sites RCRA Facility Assessment Camp Bullis, Texas" will be further evaluated during the RCRA Facility Investigation (RFI) phase. The RFA documents the following activities which include: on-site work (e.g. a site walk and inspection); geophysical survey/sweep used as a screening tool only to confirm that MEC is not present in the event the land is transferred, and on site-sampling for MEC constituents. Results of the RFA indicate that the 75-mm Munitions Site and Stokes Mortar Munitions Site require further investigation to evaluate the potential presence of MC and munitions and explosives of concern (MEC), and recommends no further action (NFA) for the 100 Target Range and Machine Gun Range MR Sites. Based on our review, the TCEQ approves the RFA and NFA for the two MR Sites, 100 Target Range and Machine Gun Range. (At this time, the TCEQ shall require that Camp Bullis to submit a schedule for completion of the RFI activities at the 75-mm Munitions Site and Stokes Mortar Munitions Site within ninety (90) days of the date of this letter.)

constituents. Results of the RFA indicate that the 75-mm Munitions Site and Stokes Mortar Munitions Site require further investigation to evaluate the potential presence of MC and munitions and explosives of concern (MEC), and recommends no further action (NFA) for the 100 Target Range and Machine Gun Range MR Sites. Based on our review, the TCEQ approves the RFA and NFA for the two MR Sites, 100 Target Range and Machine Gun Range. (At this time, the TCEQ shall require that Camp Bullis to

Effective 1 September 2005 the Remediation Division shall be reorganized. Therefore, when responding by mail, please submit an original and one copy of the RFI schedule, future correspondence and reports to the TCEQ Environmental Cleanup Section II at Mail Code MC-221 with an additional copy submitted

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