APPENDIX N
TPP MEETING 2

TPP MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY
TEXAS

Remedial Investigation / Feasibility Study
Former Camp Maxey, Texas

Technical Project Planning Meeting
4 September 2008

FUDS Program

- Formerly Used Defense Sites (FUDS)

  FUDS are properties that were formerly owned, leased, possessed by, or otherwise under the operational control of the DoD or military prior to 1986.

Project Objective/Decisions

Objective:

Obtain government acceptance of a Decision Document.

Decisions:

- Implementation of selected responses
  - Further investigation
  - Institutional controls
  - Surface removals
  - Subsurface removals
  - No further action
- Recurring Reviews
- DoD maintains continuing responsibility

June 2008 Meeting Review

- Community members expressed a concern about exposure risk on the lake shore during a severe drought and suggested including warnings as part of drought emergency procedures.
- Taking into consideration the various annual activities and events concurring around Pat Mayse Lake, the TPP Members concluded that February would be the least intrusive time to conduct field activities.
- The TPP members concluded that geophysical surveying data for characterization should meet the basic minimum area requirement of 0.5% (one half of one percent). The geophysical surveying data requirement for characterization will be calculated as follows: (total acres – Pat Mayse Lake – Texas National Guard – previously investigated acres = 0.5%) This formula will be used to determine if enough data exist and/or the amount of additional data required.
- The TPP members agreed with conducting triplicate MC sampling at 10% of the total samples. Screening levels will be set at a state base value. If a state base value does not exist, EPA Region 6 will be used.
- Community members concluded that Rights of Entry and Funding will be obstacles for conducting this project.
- The EMS Director and Paris Police Chief will be added to the invitee list.
- The next meeting should be conducted at the Paris Public Library.

Data Quality Objectives (DQOs)

- DQOs are used to guide decisions and procedures for collecting, analyzing, and evaluating results to meet overall project objectives.
- Identified using the USEPA's seven step DQO development process

Munitions and Explosives of Concern (MEC) Sampling DQOs

1. **State the Problem**
   - Information regarding the potential distribution of MEC at a site is limited or unavailable.
   - The MEC site boundaries are unknown relative to the presence of MEC at a site.
   - The extent and location of field sampling for the identification of the quantity and distribution of MEC is unknown.
2. **Identify the Decision**
   - Obtain data regarding the presence of MEC at the site.
   - Define the site boundaries.
   - Define the MEC sectors.
   - Define the locations and the area to be covered during field sampling.

MEC Sampling DQOs

3. Identify Inputs to the Decision

- Historical information (e.g., interview records, field notes, aerial photos, maps) regarding potential MEC.
- Observations:
  - Visual field MEC confirmation
    - Type(s) of MEC
    - Location(s) of MEC items
  - Proximity to inhabited locations and structures (public roads, recreation paths, homes, etc.)
  - Accessibility of the site
- The Conceptual Site Model (i.e. historical information {interview records, field notes, aerial photographs, maps}, anticipated MEC type(s), anticipated MEC distribution, terrain and vegetation, current/proposed land use, and natural and cultural boundaries.)
- Statistically calculated MEC densities based on historical use of area, previous MEC investigation and removals, and current field sampling data.
- Present and/or future land use considerations (i.e., site coverage needs).
- Statistical analysis tools.

MEC Sampling DQOs

4. Define Boundaries of Study

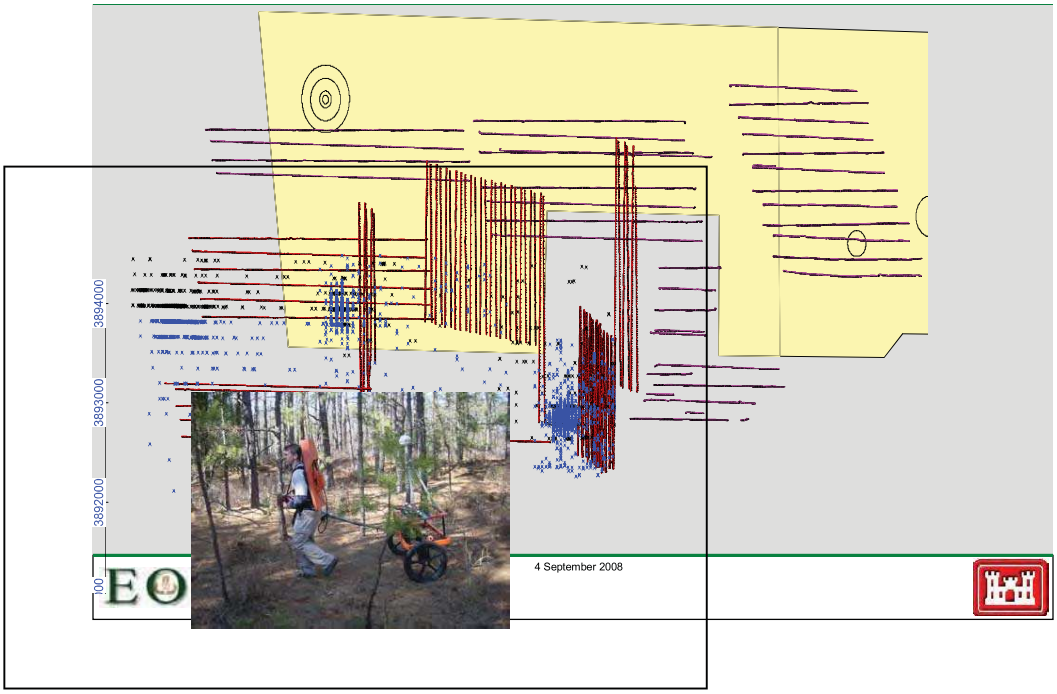
- Established Sectors from the EE/CA will be utilized.
- Limited to the ground surface and near surface.
- Exclusive of areas with thick vegetative cover.
- Time frame for collection.
- Spatial boundary based on geophysical equipment capabilities for particular MEC types and site conditions.
- Rights of Entry

MEC Sampling DQOs

5. Develop a Decision Rule

- Sampling should be at a recommended minimum survey requirement of 0.5%
- When reconnaissance indicates evidence of MEC use or proximity to areas of MEC use, field sampling for further characterization of MEC quantities and distribution will be recommended.
- If 1) historical information and 2) field sampling or statistical predictions indicate no evidence of MEC in an area, then the area may be reduced to contain only areas exhibiting evidence of MEC.
- If each sector has an approximately homogeneous MEC density, then the sectors at the site have been defined.
- If a sector is not homogenous with respect to MEC density, then the sector boundary must be redefined.
- If a sampling methodology will provide for sampling of a statistically representative portion of the site, then it will be implemented to define the locations and the area to be covered during field sampling.
- If a sampling methodology does not provide for sampling of a statistically representative portion of the site, it will be revised to do so by sampling design modification, or it will not be implemented.

Parallel Transects



MEC Sampling DQOs

6. Specify Tolerable Limits of Decision Error

– If all the inputs to the decision rule were performed to the standard of Quality Control/Quality Assurance procedures as specified in the QAPP and the Work Plan, then the error is within tolerable limits.

7. Optimize the Design for Obtaining Data

– Each Sector will be prioritized systematically based on the recommended minimum survey requirement and statistical probability tools. Transects will be utilized to establish a contamination boundary and possibly reduce the area of interest.

Munitions Constituents (MC) Sampling DQOs

1. **State the Problem:**
   - Determine whether MC associated with munitions used during training activities is present in soil at the former Camp Maxey
     - Assess concentrations of MC of concern
     - Assess potential exposure of receptors to impacted surface soil
     - Assess other media (dependent on results of soil sampling)
2. **Identify the Decision:**
   - Determine the types of MC potentially released to the surface soil as a result of Former Camp Maxey activities
   - Determine the range of MC concentrations in soil samples across the site
   - Estimate the vertical and horizontal extents of MC in surface soil
3. **Identify Inputs to the Decision:**
   - Historical information from previous uses of the site
   - Location of MEC and munitions debris identified in previous investigations at the Former Camp Maxey
   - TRRP Protective Concentration Limits (PCLs) for soil
   - Screening-level ecological risk assessment (if required)

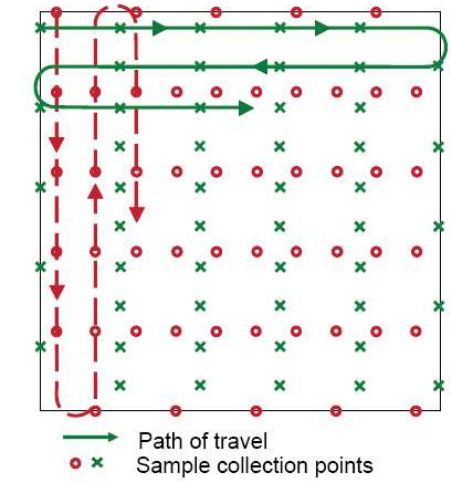
MC Sampling DQOs

4. **Define the Boundaries of the Study**
   - Overall Camp Maxey boundary; MRS boundaries
   - Multi-incremental surface soil samples
     - 10 m by 10 m sampling grid (decision unit)
     - 30 increments collected from top 2 inches of soil
   - Decision units based on documentation of previous use and previous investigations/removals
     - MC is expected to be found mainly in the impact areas
     - MEC also found in areas outside the impact areas; sample for MC
5. **Develop a Decision Rule**
   - Compare analytical results to background levels (metals) and Tier 1 Residential PCLs (metals and explosives)
   - If there are exceedances, additional samples will be collected to delineate the soil to the appropriate PCLs

MC Sampling DQOs

6. **Specify Tolerable Limits on Decision Errors**
   - Two possible decision errors for this project:
     - Concluding that the suspect medium (soil) within the boundaries of the study is contaminated when it is really not (Type I error)
     - Concluding that the soil within the boundaries of the study is not contaminated when it really is (Type II error).
   - Type I error is more tolerable; minimize Type II errors
7. **Optimize the Design for Obtaining Data**
   - Utilize multi-incremental sampling design to assure representativeness of sampling
   - Employ judgmental sampling – target areas of known training
   - Analyze at method quantitation limits (MQLs) that are equal to or lower than PCLs to minimize Type II errors

Collection of MI Sample



Project Schedule Highlights

2008

- TPP Meeting 3 — November 20

2009

- Work Plan Finalized — February
- Public Meeting 1 — March
- Field MEC / MC Sampling — March - August
- RI Report Finalized — August
- FS Report Finalized — October
- Public Meeting 2 — November
- Proposed Plan Review — November
- Decision Document — December

Remember the 3Rs

- **Recognize**
  - Recognize the munition. When you discover a suspicious item or a possible munition, remember that they can be very dangerous. Do not touch, kick, throw something or do anything else to disturb the item. Also, remember that old munitions are sometimes not readily identifiable, and may appear to be any other metallic or rusty item. Use caution, leave it alone and do not touch it.
- **Retreat**
  - Retreat from the munition. If you know or suspect that you have found a possible munition, mark the area with a small item, such as a hat or pen, and immediately walk away on the same path you came in on. Do not run.
- **Report**
  - Report the munition and its location. Report the location of the suspicious item immediately to your local law enforcement officials by dialing 911.

EOTI
EXPLOSIVE ORDNANCE TECHNOLOGIES, INC.

ORDNANCE AND EXPLOSIVE REMEDIATION
105 W. Tennessee Ave. • Oak Ridge, TN 37830
Tel: (865) 220-8668 • Fax: (865) 220-8857

September 5, 2008 Maxey-004

US Army Engineering & Support Center
ATTN: CEHNC-OE-DC (William Noel)
4820 University Square
Huntsville, AL 35816-1822

RE: TPP Meeting #2, Former Camp Maxey, Contract No. W912DY-04-D-0009; Task Order 0010

This Letter Report details the events of the Remedial Investigation / Feasibility Study at the Former Camp Maxey in Lamar County, Texas TPP meeting held at the Paris Public Library in Paris, Texas on 4 September 2008. Participants of the meeting included representatives from the USACE (Huntsville, Fort Worth District and St. Louis District), Texas Commission on Environmental Quality (TCEQ), the City of Paris, and the EOTI Team (see attendance list). This TPP Memorandum describes the purpose and objectives of the TPP, the meeting attendees, the materials and documentation discussed/reviewed during the TPP, the list of handouts, other TPP documentation, changes/deletions/modifications to the TPP material, and discussion items.

An US Environmental Protection Agency (EPA) representative was not present at the TPP meeting but was provided all handouts and briefed through conference calls and emails regarding meeting details. Texas Commission on Environmental Quality representative attended the meeting via a speaker phone.

The purpose of the TPP meeting was to provide community leaders, state regulators, and other interested parties/stakeholders an opportunity to develop draft Data Quality Objectives (DQOs).

Attendance List

Name	Title	Company	Phone	Fax	E-Mail
Shannon Barrentine	Assistant for Pete Kampfer	Paris Economic Development Corp.	903-784-2501	903-984-2503	pedc@paristexas.com
Teresa Carpenter	Chemist	USACE Huntsville	256-895-1659		Teresa.m.carpenter@usace.army.mil
Clyde P. Crews, Jr.	Deputy Chief	Paris Fire Dept.	903-784-4870	903-784-5340	ccrews@paristexas.gov
David Farmer	Project Manager	EOTI	865-220-8668	865-220-8857	dfarmer@eoti.net
Randy Fraser	UXO Safety	USACE – St. Louis	314-331-8268		Randy.fraser@usace.army.mil
Eric Kirwan	MEC Technical Lead	USACE – Ft. Worth	817-886-1673		Eric.kirwan@us.army.mil
Bob Hundley	Asst. Chief	Paris Police Depar.	903-737-4110	903-783-4710	bhundley@paristexas.gov

Kevin Kear	District 2 City Counsel	City of Paris	903-784-2504		Kevin.Kear@hp.com
Karl Louis	Chief of Police	City of Paris	903-784-5252	903-783-4710	klouis@paristexas.gov
Mike Madl	Project Manager	Malcolm Pirnie	713-960-7432	713-840-1207	mmadl@pirnie.com
Priscilla McAnally	Library Director	City of Paris	903-785-8531	903-784-6325	pmcanally@paristexas.com
Graciela Moore	Project Hydrogeologist	Malcolm Pirnie	713-960-7402	713-840-1207	grmoore@pirnie.com
William Noel	Project Manager	CEHNC-OE-DC	256-895-1933	256-895-1378	william.f.noel@usace.army.mil
Jeff Paskin	Park Ranger	USACE – Pat Mayse Lake	903-732-3020	903-732-4512	Jeffery.paskin@usccec.army.mil
Kathy Rollow	Project Manager	EOTI	865-220-8668	865-220-8857	krollow@eoti.net
Stephen Swint	Project Manager	USACE – Fort Worth	817-886-1364		Stephen.swint@usace.army.mil

Materials and Documentation Discussed/Reviewed During TPP

The following documents were discussed during the TPP in order to provide the attendees with a familiarity of the site and a source of background information:

- Aerial Depictions of the Area Designated for Characterization including
  - MEC Probability Density
  - Sector Locations
  - Ordnance Previously Found on the Site Locations
- Draft Conceptual Site Model

Handouts

The following handouts were distributed to the attendees of the TPP meeting.

- Agenda for TPP (Attachment 1)
- Attendee Sign-In Sheet

The Agenda set the stage for the meeting and was followed as provided. At the conclusion of the TPP meeting the project schedule was reviewed and copies of the invitee list were made available.

Changes/Deletions/Modifications

No significant changes, deletions, or modifications were suggested upon among parties in attendance.

Discussion Items

Ms. Kathy Rollow, the Project Manager for the EOTI Team, gave the presentation and led the discussions that arose throughout. The following is a breakdown of the major discussion topics associated with the Former Camp Maxey:

- Members of the community informed the TPP Team that a water study committee has been formed to discuss the possibility of increasing the size of Pat Mayse Lake. The decision whether or not to proceed should be made by the end of the calendar year. It would be five to seven years before the construction would begin. TPP Member discussed that a change in the shoreline would change the risk areas and agreed that submitted decisions will include a note regarding the fact that a change in the location of the shoreline could affect the recommendations. A contour map of the lake should be available within the month and will be forwarded to the TCEQ.

- The following DQOs were presented:
    - Munitions and Explosives of Concern (MEC) Sampling DQOs
        1. State the Problem
            - Information regarding the potential distribution of MEC at a site is limited or unavailable.
            - The MEC site boundaries are unknown relative to the presence of MEC at a site.
            - The extent and location of field sampling for the identification of the quantity and distribution of MEC is unknown.
        2. Identify the Decision
            - Obtain data regarding the presence of MEC at the site.
            - Define the site boundaries.
            - Define the MEC sectors.
            - Define the locations and the area to be covered during field sampling.
        3. Identify Inputs to the Decision
            - Historical information (e.g., interview records, field notes, aerial photos, maps) regarding potential MEC.
            - Observations:
                - Visual field MEC confirmation
                    - Type(s) of MEC
                    - Location(s) of MEC items
                - Proximity to inhabited locations and structures (public roads, recreation paths, homes, etc.)
                - Accessibility of the site
            - The Conceptual Site Model (i.e. historical information {interview records, field notes, aerial photographs, maps}, anticipated MEC type(s), anticipated MEC distribution, terrain and vegetation, current/proposed land use, and natural and cultural boundaries.)
            - Statistically calculated MEC densities based on historical use of area, previous MEC investigation and removals, and current field sampling data.
            - Present and/or future land use considerations (i.e., site coverage needs).
            - Statistical analysis tools.
        4. Define Boundaries of Study
            - Established Sectors from the EE/CA will be utilized.
            - Limited to the ground surface and near surface.
            - Exclusive of areas with thick vegetative cover.
            - Time frame for collection.
            - Spatial boundary based on geophysical equipment capabilities for particular MEC types and site conditions.
            - Rights of Entry
        5. Develop a Decision Rule
            - Sampling should be at a recommended minimum survey requirement of 0.5%

- When reconnaissance indicates evidence of MEC use or proximity to areas of MEC use, field sampling for further characterization of MEC quantities and distribution will be recommended.
- If 1) historical information and 2) field sampling or statistical predictions indicate no evidence of MEC in an area, then the area may be reduced to contain only areas exhibiting evidence of MEC.
- If each sector has an approximately homogeneous MEC density, then the sectors at the site have been defined.
- If a sector is not homogenous with respect to MEC density, then the sector boundary must be redefined.
- If a sampling methodology will provide for sampling of a statistically representative portion of the site, then it will be implemented to define the locations and the area to be covered during field sampling.
- If a sampling methodology does not provide for sampling of a statistically representative portion of the site, it will be revised to do so by sampling design modification, or it will not be implemented.

6. Specify Tolerable Limits of Decision Error
   - If all the inputs to the decision rule were performed to the standard of Quality Control/Quality Assurance procedures as specified in the QAPP and the Work Plan, then the error is within tolerable limits.
7. Optimize the Design for Obtaining Data
   - Each Sector will be prioritized systematically based on the recommended minimum survey requirement and statistical probability tools. Transects will be utilized to establish a contamination boundary and possibly reduce the area of interest.

- Munitions Constituents (MC) Sampling DQOs
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     - Historical information from previous uses of the site
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     - TRRP Protective Concentration Limits (PCLs) for soil
     - Screening-level ecological risk assessment (if required)
  4. Define the Boundaries of the Study
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- The TCEQ suggested that we begin collecting rights of entry as soon as possible.

- The Draft Data Quality Objectives (DQOs) will be sent out to the TPP participants and interested parties for comment.

- TCEQ verified that levels are available for the county to be used as background levels for MC.

- 10 meter x 10 meter grids for MC sampling may be too small for a site this size. The decision unit should fit the area and be placed directly in the center of potential targets.

- A quality assurance laboratory is not necessary when using testing in triplicate.

- Soil samples will not be ground when testing for metals.

- Since the Pat Mayse State Wildlife Management Area falls within the borders of the Former Camp Maxey, the Texas Parks and Wildlife Department should be included in future meetings.

- The next meeting is tentatively scheduled for 9:00 a.m. November 20, 2008 at the Paris Public Library.

Sincerely,

Explosive Ordnance Technologies, Inc.

Kathy Rollow, M.B.A.
Project Manager

APPENDIX F
TPP MEETING 3

TPP MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY
TEXAS

Remedial Investigation / Feasibility Study
Former Camp Maxey, Texas

Technical Project Planning Meeting
4 December 2008

EOTI

TPP Team

- Team Introductions

ACRONYMS

- FUDS –Formerly Used Defense Sites
- DoD–Department of Defense
- DQO –Data Quality Objective
- MC –Munitions Constituent
- MEC –Munitions and Explosives of Concern:
  - Includes
    - Unexploded Ordnance (UXO),
    - Discarded Military Munitions (DMM), and
    - Munitions Constituents (MC)
- TPP –Technical Project Planning
- PWS – Performance Work Statement

Project Objective/Decisions

Objective:

Obtain government acceptance of a Decision Document.

Decisions:

- Implementation of selected responses
  - Further investigation
  - Institutional controls
  - Surface removals
  - Subsurface removals
  - No further action
- Recurring Reviews
- DoD maintains continuing responsibility

September 2008 Meeting Review

- Members of the community informed the TPP Team that a water study committee has been formed to discuss the possibility of increasing the size of Pat Mayse Lake. The decision whether or not to proceed should be made by the end of the calendar year. It would be five to seven years before the construction would begin. TPP Member discussed that a change in the shoreline would change the risk areas and agreed that submitted decisions will include a note regarding the fact that a change in the location of the shoreline could affect the recommendations. A contour map of the lake should be available within the month and will be forwarded to the TCEQ.
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- TCEQ verified that levels are available for the county to be used as background levels for MC.
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MEC Sampling DQOs

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MEC Sampling DQOs

4. Define Boundaries of Study

- Established Sectors from the EE/CA will be utilized.
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- Exclusive of areas with thick vegetative cover.
- Time frame for collection.
- Spatial boundary based on geophysical equipment capabilities for particular MEC types and site conditions.
- Rights of Entry

MEC Sampling DQOs

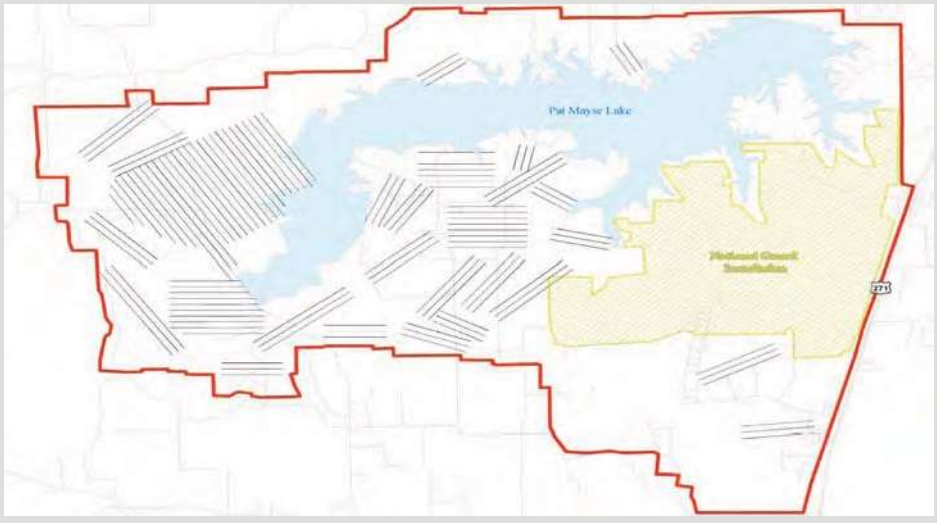
5. Develop a Decision Rule

- Sampling should be in an amount optimal to characterize the site.
  - 3 Foot Wide Transects
  - 500 foot separation
- When reconnaissance indicates evidence of MEC use or proximity to areas of MEC use, field sampling for further characterization of MEC quantities and distribution will be recommended.
- If 1) historical information and 2) field sampling or statistical predictions indicate no evidence of MEC in an area, then the area may be reduced to contain only areas exhibiting evidence of MEC.
- If each sector has an approximately homogeneous MEC density, then the sectors at the site have been defined.
- If a sector is not homogenous with respect to MEC density, then the sector boundary must be redefined.
- If a sampling methodology will provide for sampling of a statistically representative portion of the site, then it will be implemented to define the locations and the area to be covered during field sampling.
- If a sampling methodology does not provide for sampling of a statistically representative portion of the site, it will be revised to do so by sampling design modification, or it will not be implemented.

Digital Geophysical Mapping (DGM)

- ***EOTI will perform DGM, utilizing the Geonics EM61 MK2 time domain electromagnetic (TDEM) system***
- ***Transects 3 feet wide with a 500 foot separation.***
- ***Approximately 96 acres.***

Parallel Transects -- 96 Acres



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2. Identify the Decision
   – Determine the types of MC potentially released to the surface soil as a result of former Camp Maxey activities
   – Determine the range of MC concentrations in surface soil samples across the site
   – Estimate the spatial extent of MC in surface soil
3. Identify Inputs to the Decision
   – Historical information from previous uses of the site
   – Location of MEC and munitions debris identified in previous investigations at the former Camp Maxey
   – Location of range structures and other evidence of munitions based on additional MEC characterization/geophysical investigations to be completed in the field
   – TRRP Protective Concentration Levels (PCLs) for soil
   – Screening-level ecological risk assessment (if required)

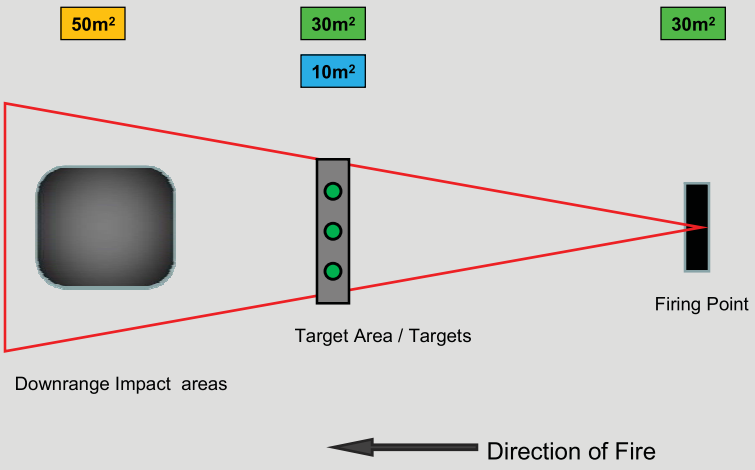
MC Sampling DQOs

4. Define the Boundaries of the Study
   - Overall Camp Maxey boundary; MRS boundaries
   - Multi-incremental surface soil samples
     - 10 meter (m) by 10 m sampling decision unit
       - 30 increments collected
     - 30 m by 30 m decision unit
       - 70 increments collected
     - 50 m by 50 m decision unit
       - 100 increments collected
   - Increments collected within the top two inches of soil

MC Sampling DQOs

4. Define the Boundaries of the Study
   - Decision units based on documentation of previous use and previous investigations/removals
     - MC is expected to be found in the known impact areas (especially areas with visible ground scarring or impact craters)
       - 50 m by 50 m grids to be used for impact areas
     - MC may be present in areas of previous removal actions and potentially areas outside the impact areas due to migration
   - Decision units based on the future (2009) MEC sampling in fixed range locations
     - 30 m by 30 m grids to be used around firing lines
     - 10 m by 10 m grids to be used in target areas
     - 50 m by 50 m grids to be used in down range impact areas

MC Sampling DQOs



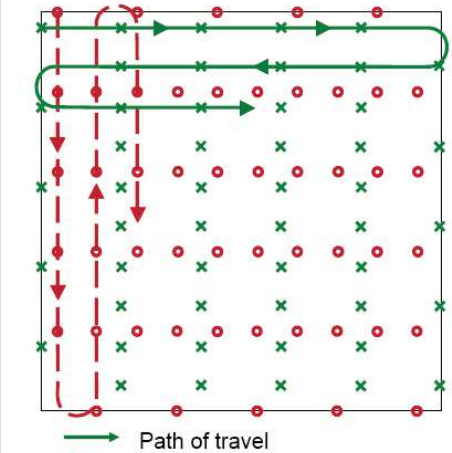
MC Sampling DQOs

5. Develop a Decision Rule
   - Compare analytical results to background levels (metals) and TRRP Tier 1 Residential PCLs (metals and explosives)
   - If there are exceedances, additional samples will be collected to delineate the soil to the appropriate assessment levels
   - If vertical delineation is necessary, a more extensive subsurface investigation will be conducted
6. Specify Tolerable Limits on Decision Errors
   - Two possible decision errors for this project:
     - Concluding that the suspect medium (surface soil) within the boundaries of the study is contaminated when it is really not (Type I error)
     - Concluding that the soil within the boundaries of the study is not contaminated when it really is (Type II error).
   - Type I error is more tolerable; minimize Type II errors

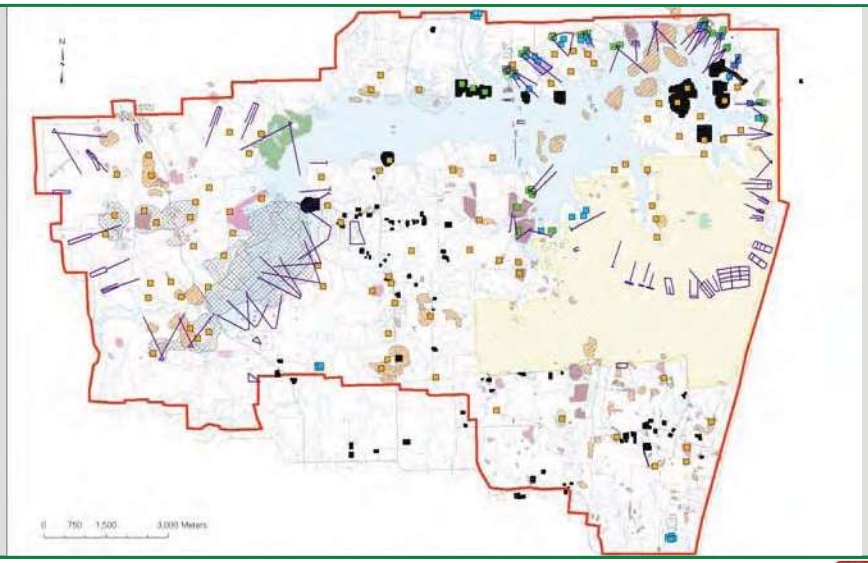
MC Sampling DQOs

7. Optimize the Design for Obtaining Data
   - Utilize multi-incremental sampling design to assure representativeness of sampling
   - Employ judgmental sampling – focus decision unit sampling locations at areas most likely to contain residual MC (firing points, target areas, impact areas)
   - Analyze at method quantitation limits (MQLs) that are equal to or lower than PCLs to minimize Type II errors

Collection of MI Sample



Proposed Decision Units



Munitions Constituents

Target Compound List (TCL) Explosives USEPA Method 8330B	Target Analyte List (TAL) Metals USEPA Method 6010B
1,3,5-TNB	Antimony (Sb)
1,3-DNB	Copper (Cu)
2,4-DNT	Lead (Pb)
2,6-DNT	Zinc (Zn)
2-A-4,6-DNT	Mercury (Hg)
2, 4, 6 Trinitrotoluene (TNT)	
2-NT	
3-NT	
4-A-2,6-DNT	
4-NT	
2,4,6-trinitrophenyl-N-methylnitramine (Tetryl)	
1,3,5,7-tetranitro-1,3,5,7-tetrazocane (HMX)	
3,5-dinitroaniline (3,5-DNA)	
Cyclotrimethylenetrinitramine (RDX)	
Nitroglycerine (NG)	
Pentaerythrite Tetranitrate (PETN)	

Project Schedule Highlights

2009

• Work Plan Finalized	February
• Public Meeting 1	March
• Field MEC / MC Sampling	March – July

2010

• RI Report Finalized	November
• FS Report Finalized	January
• Public Meeting 2	February
• Proposed Plan Review	February
• Decision Document	April

Remember the 3Rs

- **Recognize**
  - Recognize the munition. When you discover a suspicious item or a possible munition, remember that they can be very dangerous. Do not touch, kick, throw something or do anything else to disturb the item. Also, remember that old munitions are sometimes not readily identifiable, and may appear to be any other metallic or rusty item. Use caution, leave it alone and do not touch it.
- **Retreat**
  - Retreat from the munition. If you know or suspect that you have found a possible munition, mark the area with a small item, such as a hat or pen, and immediately walk away on the same path you came in on. Do not run.
- **Report**
  - Report the munition and its location. Report the location of the suspicious item immediately to your local law enforcement officials by dialing 911.

EOTI
EXPLOSIVE ORDNANCE TECHNOLOGIES, INC.

ORDNANCE AND EXPLOSIVE REMEDIATION
109 W. Tennessee Ave. • Oak Ridge, TN 37830
Tel: (865) 220-8668 • Fax: (865) 220-8857

December 6, 2012 Maxey-019

Commander, US Army Engineering & Support Center, Huntsville
Attn: USAESCH-OE-DC, John Cook
4820 University Square
Huntsville, Alabama 35816-1822

RE: Technical Project Planning (TPP) Meeting 4 Memorandum, Remedial Investigation / Feasibility Study, Former Camp Maxey, Texas

This TPP Memorandum provides a summary of the subject meeting held in Austin, TX on July 12, 2012. TPP meetings were previously held in Paris (December 2008) Powderly (June 2008) and Paris (September 2008), Texas. Participants of the meeting included representatives from the United States Army Corps of Engineers (USACE) (Huntsville and Fort Worth District), Texas Commission on Environmental Quality (TCEQ) and the Explosive Ordnance Technology, Inc. (EOTI) Team (see Exhibit A). This TPP memorandum describes the purpose and objectives of the meeting, the meeting attendees, and the materials and documentation discussed/reviewed during the meeting.

The purpose of the TPP meeting was to provide state regulators, and other interested parties/stakeholders with an understanding of the Formerly Used Defense Site (FUDS) program, an overview of the TPP process, and develop project DQOs. Meeting purpose and objectives included the following:

- Review the current status of the project
- Finalize the Munitions and Explosives of Concern (MEC) and Munitions Constituents (MC) DQOs and sampling plan in order to finalize the Work Plan and begin field work.
- Obtain concurrence from the Project Delivery Team (PDT) and stakeholders on the revised DQOs and data collection approach to fully characterize the nature and extent of munitions related hazards at the Former Camp Maxey.

Mr. James Daffron, the Project Manager for the EOTI Team, gave the presentation and led the discussions that arose throughout. The following is a breakdown of the major discussion topics associated with the Former Camp Maxey:

- Larger grids will be used in low density areas; 100 x 100 ft grids are proposed. All grids in medium and high density areas will remain at 50 x 50 ft grids.
- The attendees discussed the transect spacing design was revised based on USACE Models of the area of concern.
- It was agreed that the team should perform reconnaissance on the Cave and Mine/Booby Trap Training areas to determine if design transects are necessary.

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The following are included as exhibits to document the discussion that took place during the TPP meeting.

- Exhibit A - List of Attendees
- Exhibit B - Meeting Notes
- Exhibit C - Meeting Agenda
- Exhibit D - Draft Timeline
- Exhibit E - Data Quality Objectives
- Exhibit F - Transect Design
- Exhibit G - Meeting Slides

Please contact Mr. David Jacobs or myself at (865) 220-8668 if you have any questions or need any additional information.

Sincerely,

Explosive Ordnance Technologies, Inc.

Jim Daffron, P.E.
Project Manager

EXHIBIT A
MEETING NOTES

TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

EXHIBIT A

Attendance List:

Name	Title	Organization	Phone	E-Mail
John Cook	Project Manager	USACE -Huntsville	256-895-1218	John.T.Cook@usace.army.mil
Kelly Enriquez	Geophysicist	USACE -Huntsville	256-895-1373	Kelly.D.Enriquez@usace.army.mil
Teresa Carpenter	Tech Manager	USACE -Huntsville	256-895-1659	Teresa.M.Carpenter@usace.army.mil
Karan Holmes	Project Manager	USACE – Fort Worth	817-886-1693	Karan.L.Holmes@usace.army.mil
Eric Kirwan	Geophysicist	USACE – Fort Worth	817-886-1673	Stephen.E.Kirwan@usace.army.mil
Jim Daffron	Project Manager	EOTI	865-220-8668	Jdaffron@eoti.net
David Jacobs	Assistant Project Manager	EOTI	865-220-8668	Djacobs@eoti.net
Jen Mayers	Project Manager	Malcolm Pirnie/Arcadis	434-390-3273	Jennifer.BuckelsMayers@arcadis-us.com
Brad Wilkinson	Project manager	TCEQ	512-239-2350	Brad.Wilkinson@tceq.texas.gov
Eugene Mikell	Consultant	UXO Pro, Inc	865-816-3796	eugene@uxopro.com

EXHIBIT B
MEETING NOTES

TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

EXHIBIT B

Explosive Ordnance Technologies Inc. (EOTI)
Camp Maxey Remedial Investigation/Feasibility Study (RI/FS)
Technical Project Planning Meeting Minutes

Location: Texas Commission on Environmental Quality (TCEQ) in Austin, Texas
Date: 26 July 2012
Time: 9:00 am
Attendees:

- **EOTI:** Jim Daffron, David Jacobs
- **Malcolm Pirnie/ARCADIS:** Jen Mayers
- **Unites States Army Corps of Engineers (USACE) Ft. Worth:** Eric Kirwan, Karan Holmes
- **USACE Huntsville:** John Cook, Kelly Enriquez, Teresa Carpenter
- **TCEQ:** Brad Wilkinson
- **Unexploded Ordnance (UXO) Pro:** Eugene Mikell

- Jim Daffron (EOTI) led the meeting by presenting the Power Point handouts as well as generated maps of the Camp Maxey Area with proposed transects.
- The lake is not included within the current scope of work and will be, possibly, undertaken under another project.
- Underwater surveys were completed in the lake recently and a final report will be coming out.
  - The goal of the survey was to identify obstacles that may impede future investigations.
  - Areas of submerged trees were identified within the western portion of the lake that would limit use of a towed array; the rest of the lake was fairly clear.
- Eugene Mikell (UXO Pro) mentioned that in a recent Navy project meeting the use of Visual Sample Plan (VSP) as a characterization tool was discounted(*Note: This comment was rescinded 21 August 2012).
  - Kelly Enriquez (USACE Huntsville) mentioned that Environmental Security Technology Certification Program (ESTCP) is funding PNNL to develop tools for characterization in VSP and there is a Navy representative on the ESTCP review board.
- Eugene Mikell suggested extending transects if Munitions and Explosives of Concern (MEC) is found near the end of one, It was decided that the step out procedures are to be added to the MEC Data Quality Objectives (DQOs).
  - The Project Delivery Team (PDT) explained the intent was not to dig along transects but within grids. Grids may be placed along the boundary or transect edges. We have current step out procedures for if MEC is found along a boundary.
  - Eugene requested that the step out procedure be clarified (i.e. step out 50 ft from MEC item)
- Eugene Mikell proposed a change in the procedure for investigation of saturated grids to provide a more cost effective investigation. Eugene Mikell stated there is no reason to dig up 100% of a saturated grid; specify a percentage of anomalies to dig instead. PDT will decide on the percentage to investigate within each grid, this procedure was decided to be added to MEC DQOs.

- Larger grids will be used in low density areas; 100 x 100 ft grids are proposed. All grids in medium and high density areas will remain at 50 x 50 ft grids.
- Transect spacing designed in VSP is typically based on smallest known/suspected munition item.
  - For the west range the spacing is currently based on the 75 millimeter (mm), which have been found there previously. However this is a suspected mortar range so the team will consider adjusting spacing based on the 60 mm mortar.
  - Eric Kirwan (USACE Ft. Worth) offered a alternate solution of using the larger transect spacing based on the 75 mm, then evaluate the results and if nothing is found additional closer space transects can be added to ensure smaller munitions are found.
  - If smaller munitions are found while conducting density transects, additional transects will be added to bound the smaller targets, and this procedure is to be added to the MEC DQOs.
- Within the work plan, justification is needed on the munitions chosen for VSP transect spacing
  - This could be based on what has been found at the area previously vs. all possible munitions.
- An expected Cave area is located on the southwest region of Camp Maxey, Cave areas may possibly have been used as a training ground with ordnance items. Cave Area is of interest because locals may explore the possible Cave Areas.
  - There is little info known on the caves, such as whether the caves still exist, are they collapsed, accessible etc.
  - It was suggested that perhaps a recon should be done first at the start of the RI field activities, then adjust the field work approach.
  - VSP may not be applicable for this site and it was discussed that based on the reconnaissance results grids could be placed in areas if any indications of a cave use is verified.
- A Mine/Booby Trap Training Area was utilized at Camp Maxey in the Mid-West Region. The Mine/Booby Trap Area is of interest because the site may be located near a developed community.
  - VSP may not be applicable here since munitions were placed and there may not be a pattern
  - Suggest recon first at the start of the field work and then revise approach; some areas may be developed and not worth evaluating (munitions would be anticipated at or near the surface)
  - Suggested that UXO estimator be used to place grids in these areas vs. doing transects first.
- Munitions Constituents (MC) samples may also be collected within high density areas from previous investigations
- Karan Holmes (USACE Ft. Worth) suggested holding a public meeting prior to field work, around the October timeframe.
- The PDT discussed getting in touch with Fish and Wildlife to discuss hunting season and any limitations.

- John Cook (USACE Huntsville) is going to look into any restrictions based on endangered species in this area
- TCEQ requested to be added into the draft Quality Assurance Surveillance Plan (QASP)
- MEC DQO comments:
  - Instead of using "multi-purpose land areas" break into East and West Ranges so it matches the maps.
  - Change Geophysical Prove Out (GPO) to Geophysical System Verification (GSV)
  - Under performance criteria:
    - Clarify the daily checks for horizontal accuracy (for all Global Positioning System (GPS) units / Model EM-61)
    - Add analog since this will be using for laying out transects and surface sweeps ahead of DGM. Add sensor check daily.
    - Add IVS pass/fail criteria
  - For real time decisions made in the field, add TCEQ as a reviewer along with the PDT
- Schedule
  - TPP meeting minutes will be prepared and sent out within 2 weeks
  - EOTI will begin work plan immediately; the next version will be an updated Draft Final that will be reviewed concurrently by the PDT, Center of Expertise(CX), and TCEQ
  - Goal is to have the final Work Plan accepted and commence field work in the Fall 2012
  - Entire project must be complete by September 2013
  - The conflict with the hunting season was brought up during the TPP meeting
    - Concerns with Hunting: keeping workers in the field safe, Hunting provides a large cash flow at Maxey so it is imperative to keep the park open, working around the hunter schedule may hinder the schedule production
    - The PDT decided to contact the Wild Life Services at Camp Maxey to obtain more details on the hunting season as well as try to work out a schedule of when field personnel will be able to work with little to no disruption of the hunting season
- American Burying Beetle, an endangered species, was brought up during the TPP
  - John Cook suggested he follow up with the information needed regarding the American Burying Beetle

EXHIBIT C
MEETING AGENDA

TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

EXHIBIT C

Remedial Investigation / Feasibility Study

Former Camp Maxey, Texas

Technical Project Planning Meeting
July 26, 2012
9:00 am

- **Welcome / Introductions**
- **Meeting Purpose and Objective**
- **Site Historical Review**
  - **Key Dates in Site History**
  - **Previous Munitions Responses**
  - **Historical Range Map Review**
  - **Current Land Use Review**
- **Project Review**
  - **CERCLA Process**
  - **Project Timeline**
  - **Review of Previous TPP**
- **Path Forward**
  - **Revised Munitions and Explosives of Concern (MEC) DQOs**
    - **Analytical Approach**
    - **Plan for Obtaining Data**
  - **Revised Munitions Constituent (MC) DQOs**
    - **Analytical Approach**
    - **Plan for Obtaining Data**
  - **Sampling Design**
  - **Field Work – Methods**
  - **Right of Entry Needs**
- **Questions and Discussion**
- **MEC Safety Reminder**

EXHIBIT D
DRAFT TIMELINE

TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

EXHIBIT D

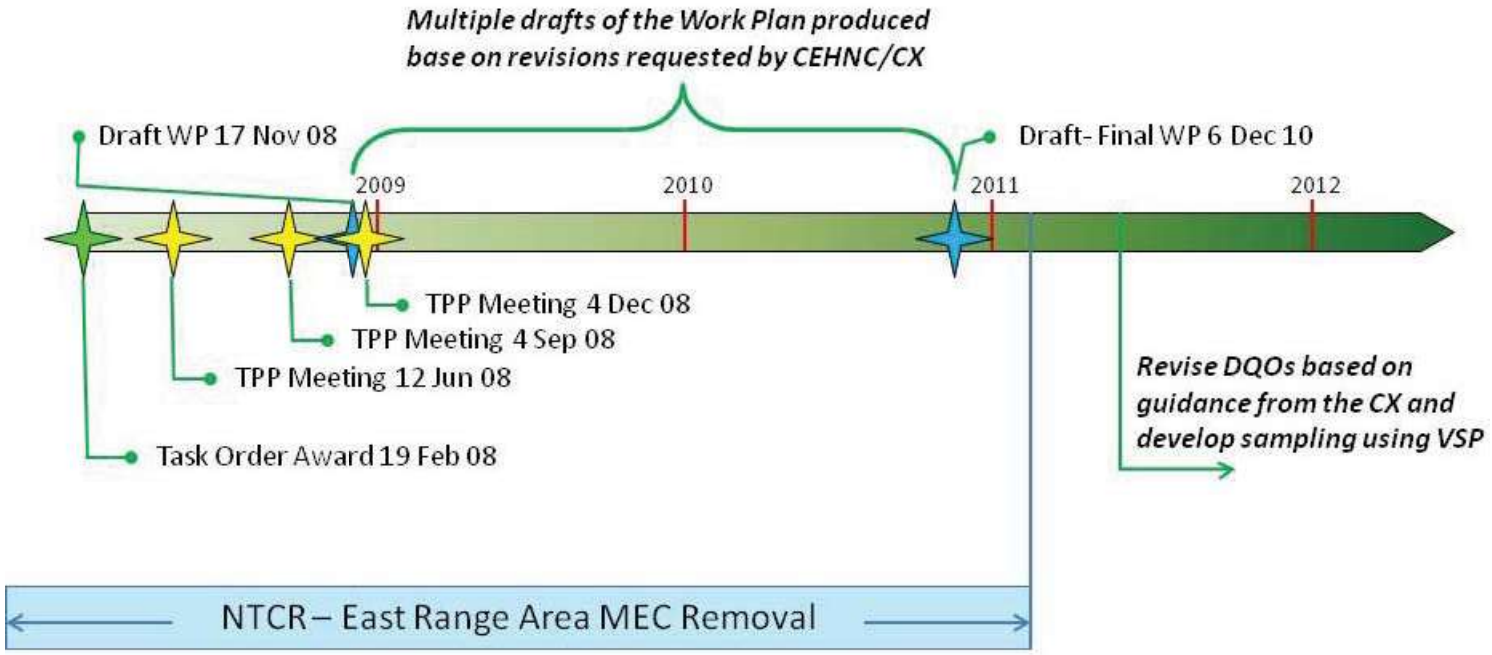

Multiple drafts of the Work Plan produced base on revisions requested by CEHNC/CX
Draft WP 17 Nov 08
Draft- Final WP 6 Dec 10
2009
2010
2011
2012
TPP Meeting 4 Dec 08
TPP Meeting 4 Sep 08
TPP Meeting 12 Jun 08
Task Order Award 19 Feb 08
Revise DQOs based on guidance from the CX and develop sampling using VSP
NTCR – East Range Area MEC Removal

EXHIBIT E
DATA QUALITY OBJECTIVES

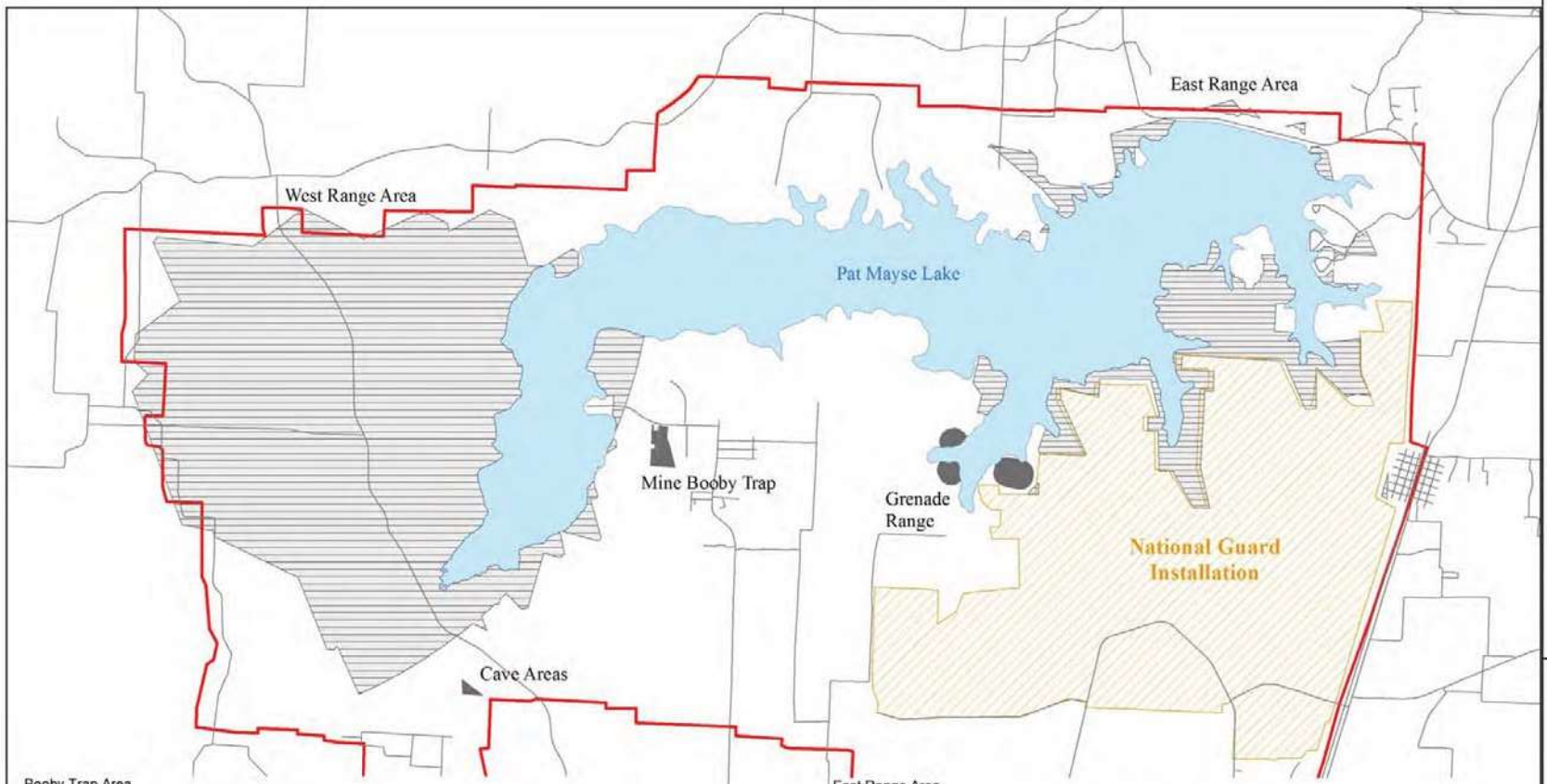
TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

DQO	*Problem Statement*	*Project Goals*	*Required Information Inputs*	*Input Boundaries*	*Analytical Approach*	*Performance Criteria*	*Plan for Obtaining Data*
Explanation	**Define the problem that necessitates this study**	**Identify study questions**	**Identify data and information needed to answer study questions**	**Specify the target population and define spatial limits**	**Develop the logic for drawing conclusions from findings**	**Specify probability limits for false rejections and false acceptance decision errors**	**Select the plan that meets the performance criteria**
MRS Characterization`	Determine the nature and Extent of MEC	-Determine the location and type of MEC present -Determine the spatial extent of MEC -Determine if MEC exposure pathways for humans are complete -Determine if MEC pose a human health risk.	-Historical data -CSM -Results of visual observations within transects and grids. -Geophysical data (digital instrument response). -Results of intrusive investigation of identified anomalies. -Survey of site receptors and land use.	Multi-Purpose Land Areas: • Non-Intrusive DGM transects- 83 acres (1 meter wide and spaced 344 ft. apart.) • 100% intrusive Investigation of grids in high, medium and low density areas. Grenade/Cave Areas: • Non-intrusive DGM transects 6.8 acres (1 meter wide and 42.5 ft. spacing) • 100% intrusive Investigation of grids in high, medium and low density areas. Mine/Booby Trap Area: • Non-intrusive DGM transects 3.6 acres (1 meter wide and 26.0 ft. spacing) • 100% intrusive Investigation of grids in high, medium and low density areas. Boundary Identification: • MEC identified along MRS boundaries will trigger step out procedures resulting in discretionary DGM transects/grids. Maximum instrument detection depth will be determined by the GPO and will be used to define the vertical extent of contamination. Investigation Areas that are **thickly vegetated will be avoided and all areas of investigation are limited to available ROE's.	-All MD, frag, and high density anomaly areas will be evaluated as possibly indicative of the location of MEC. -Dig results will be used to define the location and spatial extent of MEC. -Step out procedures will be performed to bound areas impacted by concentrated munitions use that are located at the MRS boundary. -DGM grids with 100% intrusive investigation will be used to assess high, medium and low density areas. *Alternative actions will be formulated in the Feasibility Study based on the location and density of MEC, land use, and other data gathered during the investigation and comparison of those data with criteria established herein.*	DGM system function checks: • Personnel Test • Vibration Test • Static Background / Spike • 6 Line / 2 Line Tests • Repeat Lines (2% daily) Daily GPS Checks (sub-meter for DGPS RTK; larger error up to 10m for density transects allowed) DGM Coverage tool check, coverage > 95% at planned line spacing for all non-fiducial grids DGM Along-line measurement spacing, 98% < 25cm DGM Anomaly reacquisition within 1 meter. No contacts < 15%	Determine anomaly density and distribution from DGM transects using statistical tools; perform DGM surveys of grids in high, medium and low density areas. Data collection along DGM transects -83 acres, 6.8 acres, 3.6 acres. Locations of all grids will be reviewed by USACE prior to field work. 100% intrusive investigation of anomalies identified in DGM grids. Intrusive results will be used in the MEC HA to determine the MEC hazard levels for the site.

DQO	*Problem Statement*	*Project Goals*	*Required Information Inputs*	*Input Boundaries*	*Analytical Approach*	*Performance Criteria*	*Plan for Obtaining Data*
Explanation	**Define the problem that necessitates this study**	**Identify study questions**	**Identify data and information needed to answer study questions**	**Specify the target population and define spatial limits**	**Develop the logic for drawing conclusions from findings**	**Specify probability limits for false rejections and false acceptance decision errors**	**Select the plan that meets the performance criteria**
MRS Characterization*	Determine the nature and Extent of MC associated with munitions use during training activities at the Former Camp Maxey.	-Determine the types of MC potentially released to the surface soil as a result of Former Camp Maxey activities. -Determine the range of MC concentrations across the site. -Determine the spatial extent of MC across the site. -Determine if MC exposure pathways for humans/ecological are complete. -Determine if MC pose a human health risk. -Determine if MC poses an ecological risk.	-Historical data -Locations of high/medium density DGM grids. -Location of range structures, firing points and other evidence of munitions based on observations in the field. -TRRP Protective Concentration Levels (PCL) for soil. -Risk Assessment -Survey of site receptors and land use.	Multi-Purpose Land Areas: • Firing Points • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Grenade/Cave Areas: • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Mine/Booby Trap Area: • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Background: • Surface background samples will be collected from within the MRS boundary but in areas determined not to have been impacted by DoD use. Samples will be 50ft x 50ft MIS samples collected from 0-6" and sampled in triplicate. • If sub-surface samples are required, then 10 discrete sub-surface background samples (6-12") will be collected during the sub-surface sampling mobilization in a location within the MRS boundary that does not have any indication of MEC use. Sub-surface background samples will be analyzed for only those metals that were found to be above the screening criteria in the MIS surface samples.	-Compare analytical results to site specific background values and TRRP Tier 1 Residential PCL. -If the analytical results exceed the agreed upon screening criteria, additional sub-surface samples will be collected in the affected density areas. -If an IS sample indicates risk for human health or the environment, additional step out samples will not be collected. The extent of the horizontal contaminations will equal the extent of the density area from which the sample was collected. -If firing points are identified an IS sample will be collected and analyzed for target metals. -If a subsurface sample is collected adjacent to a MEC item below 6" and is above screening criteria, additional sampling will be conducted to determine vertical delineation. - If a IS decision unit is detected above screening criteria, the grid will be broken up into 4 quadrants, with one subsurface sample collected from each quadrant. These samples will be collected using a geoprobe.	Two possible decision errors for this project: Type I: concluding that there is MC contamination within the MRS boundary of Camp Maxey when there is none. Type II: Concluding that there is no MC contamination within the MRS boundary of Camp Maxey when there is. Type 1 errors are more tolerable; therefore, we need to minimize type II errors. • Utilize IS samples in high/medium density areas to assure samples are representative of DoD use. • When possible, analyze at the MQL that are equal to or lower than the PCL's.	Collect IS samples at Firing Points. Collect IS samples in High/Medium density grids associated with Munitions use. Samples will be analyzed for explosives and a select metals in all of the high/medium density" IS". Samples will be analyzed for select metals in the IS samples collected at the firing points. IS resulting in exceedance of the screening criteria will require additional sub-surface sampling (6-12") to establish extent. In the event that MEC items are consolidated for demolition, a post detonation composite sample will be collected. The sample results will be compared to the TCLP values, if the results are > than 20 times the TCLP values, then the sample would be reanalyzed by the laboratory for TCLP analysis. In the event that an approved screening value is below the approved laboratory's LOD, and the results indicate a non-detect, it will be assumed that the screening value has not been exceeded.

EXHIBIT F
TRANSECT DESIGN

TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS



Legend

- Local Roads
- Investigation Transects
- Former Installation Boundary
- National Guard Installation
- Munition Response Sites (MRS)
- Pat Mayse Lake

Notes:
All transects will be investigated up to the lake's shoreline.

03°68'

UTM Zone 15 NAD 83 (Meters)
Data Provided By:
U.S. Army Engineering & Support Center, Huntsville, AL

Miles
1 0.5 0 1
1 0.5 0 1
Kilometers

Location Map:
Former Camp Maxey Lamar County, TX

Booby Trap Area

If 1 meter wide transects with a parallel pattern are spaced 4 meters between transects (5 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 120 foot diameter (60 foot radius) circular target area having a bivariate normal distribution with an average density of 60 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.

Cave and Grenade Area

If 1 meter wide transects with a parallel pattern are spaced 9 meters between transects (10 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 160 foot diameter (80 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.

East Range Area

If 1 meter wide transects with a parallel pattern are spaced 81 meters between transects (82 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 450 foot diameter (225 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.

West Range Area

If 1 meter wide transects with a parallel pattern are spaced 100 meters between transects (101 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 600 foot diameter (300 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.

PROPOSED
TRANSECT LOCATION
June 19, 2012
FORMER CAMP MAXEY
LAMAR CO., TX

Prepared For:
U.S. Army Engineering and Support Center, Huntsville

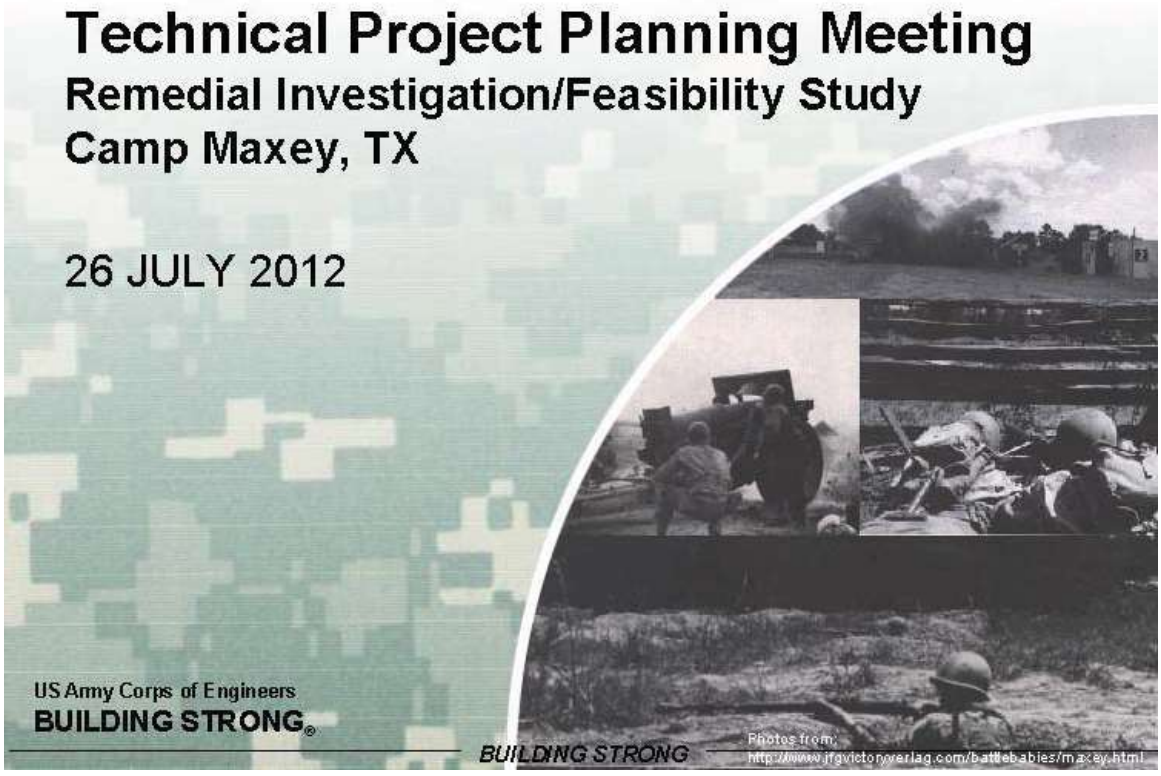
Prepared By:
Explosive Ordnance Technologies, Inc.

DRAWN	VERIFIED	APPROVED
M. Norris	D. Farmer	J. Daffron
DATE: 06/19/12	FILE: Transect 6-19-2012.mxd	
PAGE #: 1	SCALE: 1 inch = 1 miles	

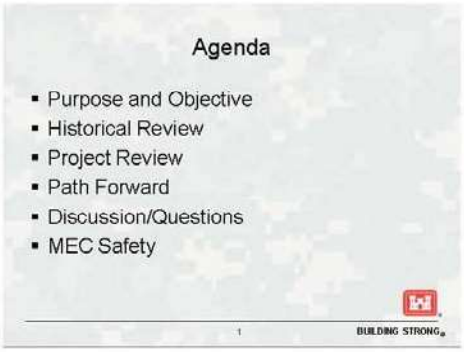
EXHIBIT G
MEETING POWERPOINT SLIDES

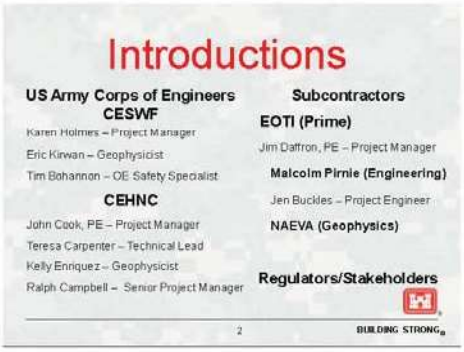
TPP MEETING 4 MEMORANDUM
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
FORMER CAMP MAXEY, TEXAS

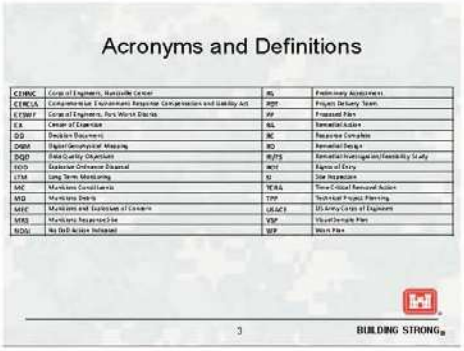
EXHIBIT G


Technical Project Planning Meeting
Remedial Investigation/Feasibility Study
Camp Maxey, TX
26 JULY 2012
US Army Corps of Engineers
BUILDING STRONG®
BUILDING STRONG
Photos from:
http://www.jfgvictoryverlag.com/battlebabies/maxey.html

Handout


Agenda
Purpose and Objective
Historical Review
Project Review
Path Forward
Discussion/Questions
MEC Safety
1
BUILDING STRONG


Introductions
US Army Corps of Engineers
CESWF
Karen Holmes – Project Manager
Eric Kirwan – Geophysicist
Tim Bohannon – OE Safety Specialist
CEHNC
John Cook, PE – Project Manager
Teresa Carpenter – Technical Lead
Kelly Enriquez – Geophysicist
Ralph Campbell – Senior Project Manager
Subcontractors
EOTI (Prime)
Jim Daffron, PE – Project Manager
Malcolm Pirnie (Engineering)
Jen Buckles – Project Engineer
NAEVA (Geophysics)
Regulators/Stakeholders
2
BUILDING STRONG


Acronyms and Definitions
3
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Handout

Purpose and Objective

Purpose:

Review the current status of the project and finalize the DQOs and sampling plan in order to finalize the Work Plan and begin field work.

Objective:

Obtain concurrence from the PDT and stakeholders on the revised DQOs and data collection approach to fully characterize the nature and extent of munitions related hazards at the Former Camp Maxey.

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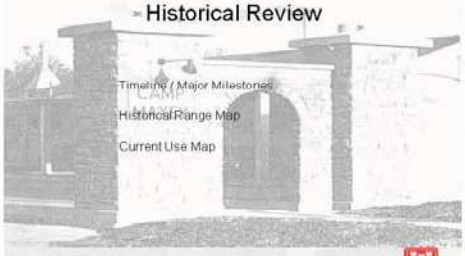
Historical Review



Timeline / Major Milestones

Historical Range Map

Current Use Map

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Camp Maxey Historical Review

- 15 July 1942 – Camp Maxey activated as infantry basic training camp
- October 1944 – Designated as infantry Advanced Replacement Training Center
- 1 October 1945 – Camp Maxey was deactivated
- 1948-1949 USACE issued certificates of decontamination which included land use restrictions
- 1967 – Sanders Creek dammed to form Pat Mayes Lake

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Handout

Camp Maxey History of Munitions Response

- 1965-1990 Military EOD Team Dispatched
- 1994 Archive Search Report
- 1997 Time-Critical Removal Action (HFA)
  10-Acres surface/subsurface & 85 acres surface clearance in Rat Mayse Park
- 1997 Surface and Subsurface Ordnance and Explosive Survey and Sampling (UXB)
  Approximately 115 acres – grids placed throughout Former Camp Maxey
- 2000 Engineering Evaluation/Cost Analysis (Parsons)
- 2000 Non Time-Critical Removal Action (UXB)
  Approximately 270 acres – 21 UXO located in Camp areas
- 2005-2006 Non Time-Critical Removal Action (Tetra Tech)
  Clear private parcels around structures in active use
- 2008 Non Time-Critical Removal Action (USAE)
  Transects and grids in the East Range Area

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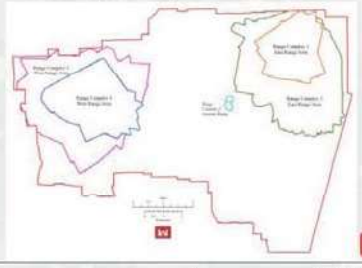
Camp Maxey Historical Use



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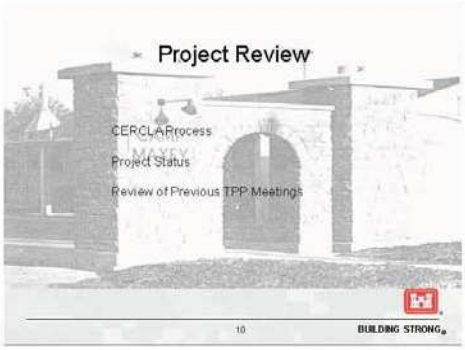
Camp Maxey Current Use

9 BUILDING STRONG®

Handout


Project Review
CERCLA Process
Project Status
Review of Previous TPP Meetings
10
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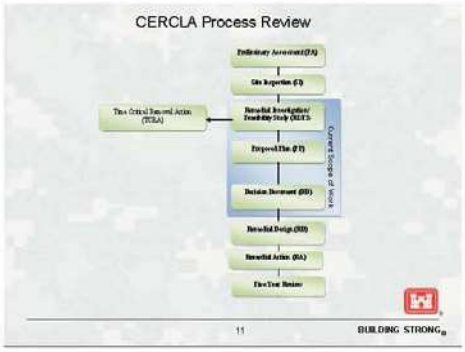
CERCLA Process Review
11
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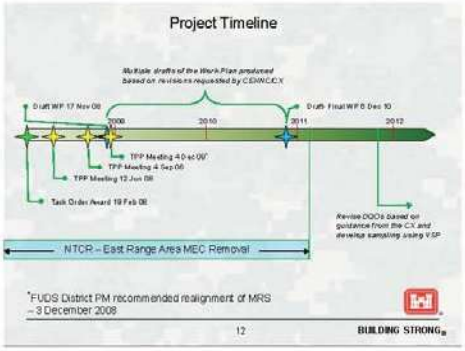
Project Timeline
2008
2010
2011
2012
TPP Meeting 4 Dec 08
TPP Meeting 4 Sep 08
TPP Meeting 12 Jun 08
Task Order Award 19 Feb 08
NTCR – East Range Area MEC Removal
*FUDS District PM recommended realignment of MRS – 3 December 2008
12
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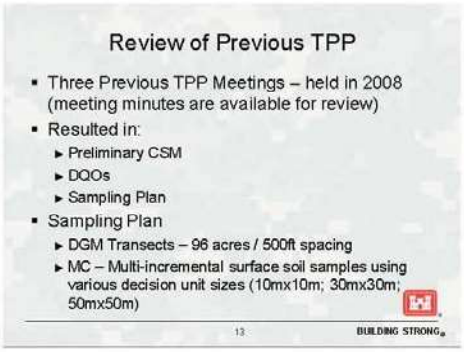
Handout


Review of Previous TPP
▪ Three Previous TPP Meetings – held in 2008 (meeting minutes are available for review)
▪ Resulted in:
► Preliminary CSM
► DQOs
► Sampling Plan
▪ Sampling Plan
► DGM Transects – 96 acres / 500ft spacing
► MC – Multi-incremental surface soil samples using various decision unit sizes (10mx10m; 30mx30m; 50mx50m)
13
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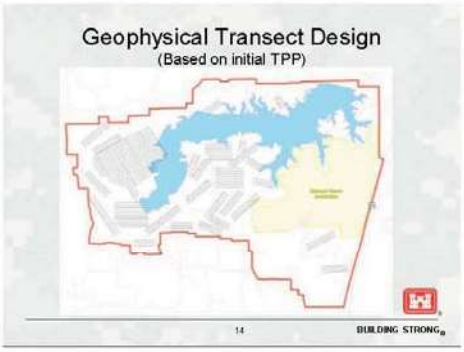
Geophysical Transect Design
(Based on initial TPP)
14
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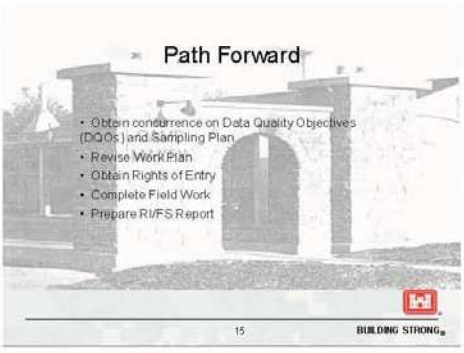
Path Forward
• Obtain concurrence on Data Quality Objectives (DQOs) and Sampling Plan
• Revise Work Plan
• Obtain Rights of Entry
• Complete Field Work
• Prepare RI/FS Report
15
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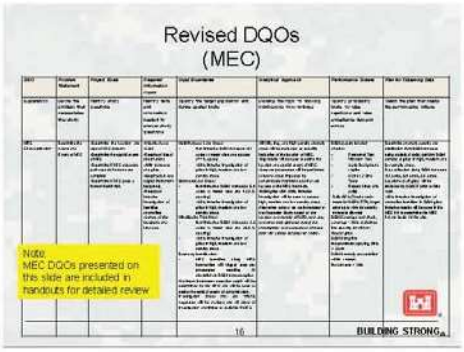
Handout


Revised DQOs
(MEC)
Note:
MEC DQOs presented on this slide are included in handouts for detailed review
16
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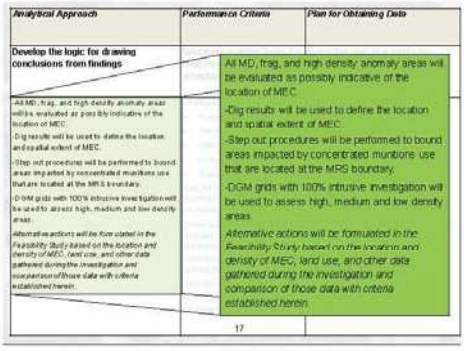
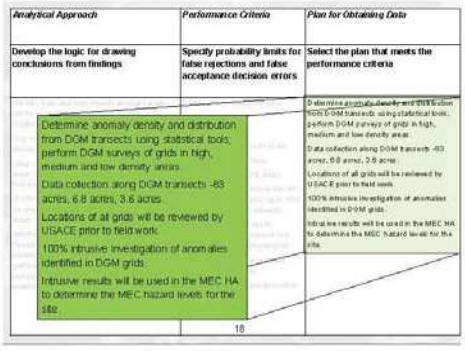
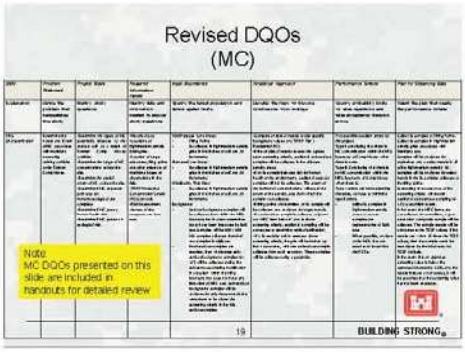
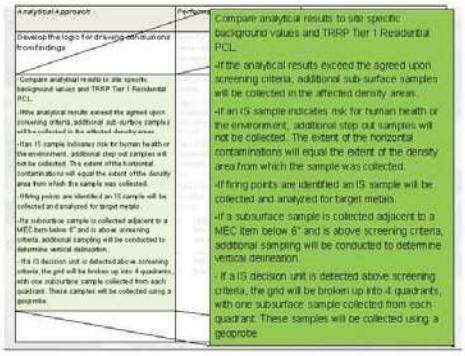
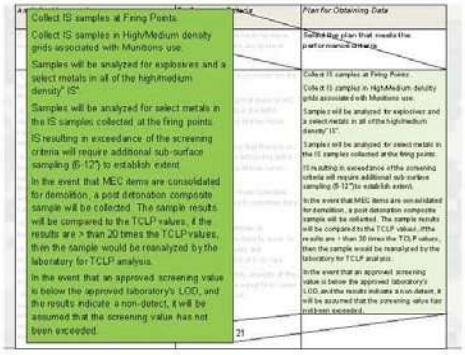

Analytical Approach
Performance Criteria
Plan for Obtaining Data
Develop the logic for drawing conclusions from findings
All MD, frag, and high density anomaly areas will be evaluated as possibly indicative of the location of MEC
-Dig results will be used to define the location and spatial extent of MEC
-Step out procedures will be performed to bound areas impacted by concentrated munitions use that are located at the MRS boundary.
-DGM grids with 100% intrusive investigation will be used to assess high, medium and low density areas
Alternative actions will be formulated in the Feasibility Study based on the location and density of MEC, land use, and other data gathered during the investigation and comparison of those data with criteria established herein.
17


Analytical Approach
Performance Criteria
Plan for Obtaining Data
Develop the logic for drawing conclusions from findings
Specify probability limits for false rejections and false acceptance decision errors
Select the plan that meets the performance criteria
Determine anomaly density and distribution from DGM transects using statistical tools; perform DGM surveys of grids in high, medium and low density areas
Data collection along DGM transects -83 acres, 6.8 acres, 3.6 acres
Locations of all grids will be reviewed by USACE prior to field work
100% intrusive investigation of anomalies identified in DGM grids
Intrusive results will be used in the MEC HA to determine the MEC hazard levels for the site
18

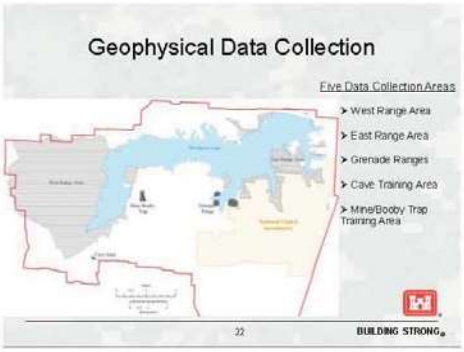
Handout


Revised DQOs
(MC)
Note:
MC DQOs presented on this slide are included in handouts for detailed review
19
BUILDING STRONG


Compare analytical results to site specific background values and TRRP Tier 1 Residential PCL.
-If the analytical results exceed the agreed upon screening criteria, additional sub-surface samples will be collected in the affected density areas.
-If an IS sample indicates risk for human health or the environment, additional step out samples will not be collected. The extent of the horizontal contaminations will equal the extent of the density area from which the sample was collected.
-If firing points are identified an IS sample will be collected and analyzed for target metals.
-If a subsurface sample is collected adjacent to a MEC item below 6" and is above screening criteria, additional sampling will be conducted to determine vertical delineation.
- If a IS decision unit is detected above screening criteria, the grid will be broken up into 4 quadrants, with one subsurface sample collected from each quadrant. These samples will be collected using a geoprobe


Collect IS samples at Firing Points.
Collect IS samples in High/Medium density grids associated with Munitions use.
Samples will be analyzed for explosives and a select metals in all of the high/medium density" IS"
Samples will be analyzed for select metals in the IS samples collected at the firing points.
IS resulting in exceedance of the screening criteria will require additional sub-surface sampling (6-12") to establish extent.
In the event that MEC items are consolidated for demolition, a post detonation composite sample will be collected. The sample results will be compared to the TCLP values, if the results are > than 20 times the TCLP values, then the sample would be reanalyzed by the laboratory for TCLP analysis.
In the event that an approved screening value is below the approved laboratory's LOD, and the results indicate a non-detect, it will be assumed that the screening value has not been exceeded.
21

Handout


Geophysical Data Collection
Five Data Collection Areas
➢ West Range Area
➢ East Range Area
➢ Grenade Ranges
➢ Cave Training Area
➢ Mine/Booby Trap Training Area
22
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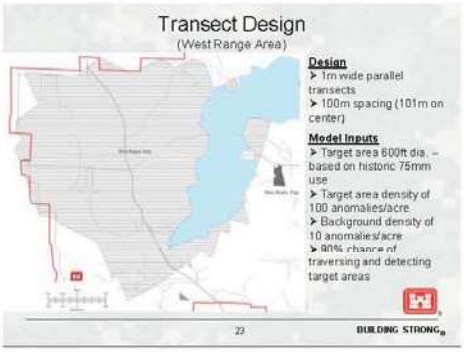
Transect Design
(West Range Area)
Design
➢ 1m wide parallel transects
➢ 100m spacing (101m on center)
Model Inputs
➢ Target area 600ft dia. – based on historic 75mm use
➢ Target area density of 100 anomalies/acre
➢ Background density of 10 anomalies/acre
➢ 90% chance of traversing and detecting target areas
23
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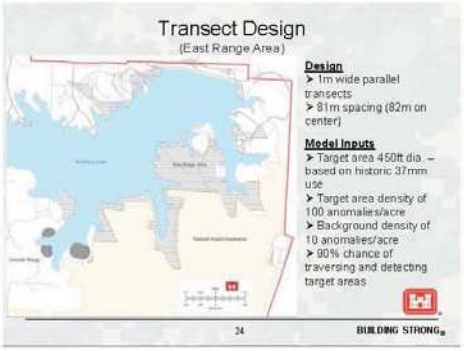
Transect Design
(East Range Area)
Design
➢ 1m wide parallel transects
➢ 81m spacing (82m on center)
Model Inputs
➢ Target area 450ft dia. – based on historic 37mm use
➢ Target area density of 100 anomalies/acre
➢ Background density of 10 anomalies/acre
➢ 90% chance of traversing and detecting target areas
24
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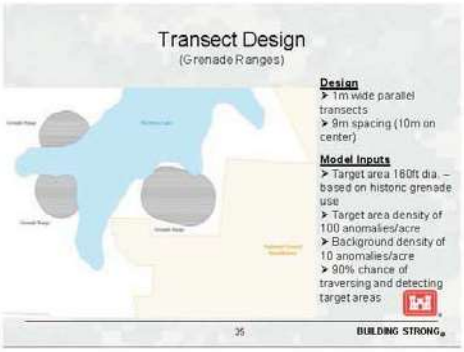
Handout


Transect Design
(Grenade Ranges)
Design
➤ 1m wide parallel transects
➤ 9m spacing (10m on center)
Model Inputs
➤ Target area 160ft dia. – based on historic grenade use
➤ Target area density of 100 anomalies/acre
➤ Background density of 10 anomalies/acre
➤ 90% chance of traversing and detecting target areas
25
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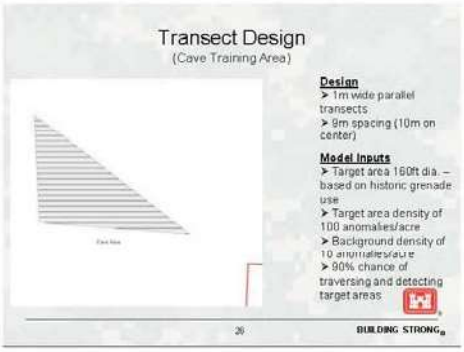
Transect Design
(Cave Training Area)
Design
➤ 1m wide parallel transects
➤ 9m spacing (10m on center)
Model Inputs
➤ Target area 160ft dia. – based on historic grenade use
➤ Target area density of 100 anomalies/acre
➤ Background density of 10 anomalies/acre
➤ 90% chance of traversing and detecting target areas
26
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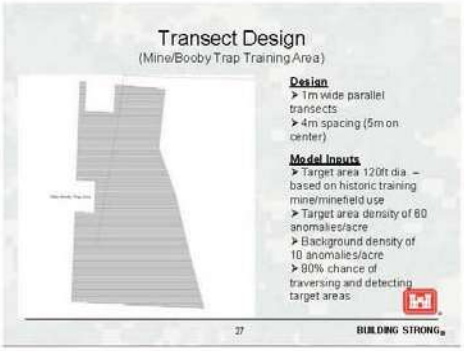
Transect Design
(Mine/Booby Trap Training Area)
Design
➤ 1m wide parallel transects
➤ 4m spacing (5m on center)
Model Inputs
➤ Target area 120ft dia. – based on historic training mine/minefield use
➤ Target area density of 60 anomalies/acre
➤ Background density of 10 anomalies/acre
➤ 90% chance of traversing and detecting target areas
27
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Handout

Field Work
(Geophysical Transects)

- Data collected along transects are analyzed and geophysical anomalies are investigated to determine the boundaries of MEC contamination.
- Data collected using DGM with an EM-61
- Transect Spacing – determined using VSP to ensure 80% chance of detecting a target of a certain size within the area
- Four areas identified within the MRS:
  - **West Range Area** - 100m spacing (~65 acres of transects)
  - **East Range Area** – 81m spacing (~16 acres of transects)
  - **Grenade /Cave Training Area** – 9m spacing (~9.25 acres of transects)
  - **Mine/Booby Trap Area** – 4 m spacing (~6.75 acres of transects)

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Field Work
(Grids)

- Grids used to determine the concentration and nature of MEC in target areas.
- Data collected using DGM with an EM-61
- Grid location are based on the results of the transect investigation – includes areas with low, medium, and high concentrations of MEC indicators.
- Grid size – 50ft by 50ft (larger grids may be used in low density areas)
- The grid area is estimated to be 10% of the transect area.
- Four areas identified within the MRS:
  - **West Range Area** - 114 grids (~5.5 acres of grids)
  - **East Range Area** – 28 grids (~1.6 acres of grids)
  - **Grenade Area** – 16 grids (~ 0.925 acres of grids)
  - **Mine Area** – 12 Grids (~0.675 acres of grids)

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Field Work
(MC Sampling)

- MC soil sample locations will be determined based on the grid intrusive investigation results
- Decision units for incremental sample collection will be placed within moderate and high density grids selected by the PDT
- Discretionary samples may be collected in other areas of interest, such as firing points
- Decision unit size will match the grid (50 ft x 50 ft)
- 30 increments will be collected for each decision unit sample
- 10% of the samples will be collected in triplicate
- Initial phase will be surface soil sampling only
  - Dependent on the results of the surface soil sampling, subsurface samples may be collected to determine vertical delineation
- MC sampling results will be used to conduct a human and ecological risk assessment as part of the RI

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Handout

Potential Munitions Constituents (MC)

Target Compound List (TCL) Explosives USEPA Method 8330B	Target Analyte List (TAL) Metals USEPA Method 6010B
1,3,5-TNB	Aluminum (Al)
1,3-DNB	Barium (Ba)
2,4-DNT	Copper (Cu)
2,6-DNT	Magnesium (Mg)
2-A-4,6-DNT	Nickel (Ni)
2, 4, 6 Trinitrotoluene (TNT)	Lead (Pb)
2-NT	Antimony (Sb)
3-NT	Zinc (Zn)
4-A-2,6-DNT	
4-NT	
2,4,6-trinitrophenyl-N-methylnitramine (Tetryl)	
1,3,5,7-tetranitro-1,3,5,7-tetrazocane (HMX)	
3,5-dinitroaniline (3,5-DNA)	
Cyclotrimethylenetrinitramine (RDX)	
Nitroglycerine (NG)	
Pentaerythrite Tetranitrate (PETN)	

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Right of Entry

We have identified 68 private parcels (shown in green and yellow) that planned transects cross. Of these, 26 (shown in green) have large areas within the study area and are considered priority for obtaining ROEs.

Of the 26 priority parcels, we have ownership data associated with 15 of them.

Parcel Map came from Lamar County Tax Assessor & Lamar County Mapping Department

Partial property ownership information is available from True Automation Company

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Questions and Discussion

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Handout

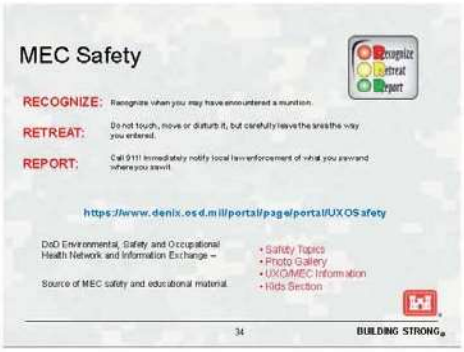
MEC Safety
Recognize
Retreat
Report
RECOGNIZE:
RETREAT:
REPORT:
https://www.denix.osd.mil/portal/page/portal/UXOSafety
DoD Environmental, Safety and Occupational Health Network and Information Exchange –
Source of MEC safety and educational material
• Safety Topics
• Photo Gallery
• UXO/MEC Information
• Kids Section
34
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EXHIBIT G

Revised MC DQOs – Camp Maxey FUDS, TX **May 2012**

DQO	Problem Statement	Project Goals	Required Information Inputs	Input Boundaries	Analytical Approach	Performance Criteria	Plan for Obtaining Data
Explanation	**Define the problem that necessitates this study**	**Identify study questions**	**Identify data and information needed to answer study questions**	**Specify the target population and define spatial limits**	**Develop the logic for drawing conclusions from findings**	**Specify probability limits for false rejections and false acceptance decision errors**	**Select the plan that meets the performance criteria**
MRS Characterization	Determine the nature and Extent of MC associated with munitions use during training activities at the Former Camp Maxey.	-Determine the types of MC potentially released to the surface soil as a result of Former Camp Maxey activities. -Determine the range of MC concentrations across the site. -Determine the spatial extent of MC across the site. -Determine if MC exposure pathways for humans/ecological are complete. -Determine if MC pose a human health risk. -Determine if MC poses an ecological risk.	-Historical data -Locations of high/medium density DGM grids. -Location of range structures, firing points and other evidence of munitions based on observations in the field. -TRRP Protective Concentration Levels (PCL) for soil. -Risk Assessment -Survey of site receptors and land use.	Multi-Purpose Land Areas: • Firing Points • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Grenade/Cave Areas: • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Mine/Booby Trap Area: • IS collected in high/medium density grids in 0-6 inches of soil and 30 increments Background: • Surface background samples will be collected from within the MRS boundary but in areas determined not to have been impacted by DoD use. Samples will be 50ft x 50ft MIS samples collected from 0-6" and sampled in triplicate. • If sub-surface samples are required, then 10 discrete sub-surface background samples (6-12") will be collected during the sub-surface sampling mobilization in a location within the MRS boundary that does not have any indication of MEC use. Sub-surface background samples will be analyzed for only those metals that were found to be above the screening criteria in the MIS surface samples.	-Compare analytical results to site specific background values and TRRP Tier 1 Residential PCL. -If the analytical results exceed the agreed upon screening criteria, additional sub-surface samples will be collected in the affected density areas. -If an IS sample indicates risk for human health or the environment, additional step out samples will not be collected. The extent of the horizontal contaminations will equal the extent of the density area from which the sample was collected. -If firing points are identified an IS sample will be collected and analyzed for target metals. -If a subsurface sample is collected adjacent to a MEC item below 6" and is above screening criteria, additional sampling will be conducted to determine vertical delineation. - If a IS decision unit is detected above screening criteria, the grid will be broken up into 4 quadrants, with one subsurface sample collected from each quadrant. These samples will be collected using a geoprobe.	Two possible decision errors for this project: Type I: concluding that there is MC contamination within the MRS boundary of Camp Maxey when there is none. Type II: Concluding that there is no MC contamination within the MRS boundary of Camp Maxey when there is. Type 1 errors are more tolerable; therefore, we need to minimize type II errors. • Utilize IS samples in high/medium density areas to assure samples are representative of DoD use. • When possible, analyze at the MCL that are equal to or lower than the PCL's.	Collect IS samples at Firing Points. Collect IS samples in High/Medium density grids associated with Munitions use. Samples will be analyzed for explosives and a select metals in all of the high/medium density" IS". Samples will be analyzed for select metals in the IS samples collected at the firing points. IS resulting in exceedance of the screening criteria will require additional sub-surface sampling (6-12") to establish extent. In the event that MEC items are consolidated for demolition, a post detonation composite sample will be collected. The sample results will be compared to the TCLP values, if the results are > than 20 times the TCLP values, then the sample would be reanalyzed by the laboratory for TCLP analysis. In the event that an approved screening value is below the approved laboratory's LOD, and the results indicate a non-detect, it will be assumed that the screening value has not been exceeded.

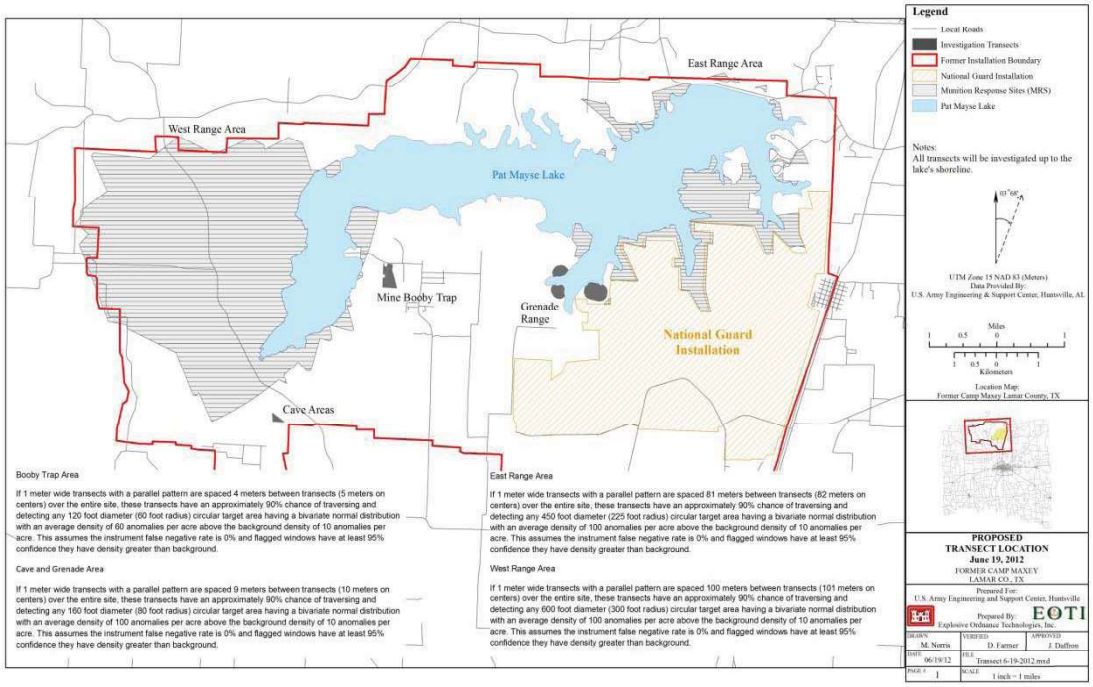
Page 1 of 1

Revised MEC DQOs – Camp Maxey FUDS, TX **May 2012**

DQO	Problem Statement	Project Goals	Required Information Inputs	Input Boundaries	Analytical Approach	Performance Criteria	Plan for Obtaining Data
Explanation	**Define the problem that necessitates this study**	**Identify study questions**	**Identify data and information needed to answer study questions**	**Specify the target population and define spatial limits**	**Develop the logic for drawing conclusions from findings**	**Specify probability limits for false rejections and false acceptance decision errors**	**Select the plan that meets the performance criteria**
MRS Characterization	Determine the nature and Extent of MEC	-Determine the location and type of MEC present -Determine the spatial extent of MEC -Determine if MEC exposure pathways for humans are complete -Determine if MEC pose a human health risk.	-Historical data -CSM -Results of visual observations within transects and grids. -Geophysical data (digital instrument response). -Results of intrusive investigation of identified anomalies. -Survey of site receptors and land use.	Multi-Purpose Land Areas: • Non-Intrusive DGM transects- 83 acres (1 meter wide and spaced 344 ft. apart.) • 100% intrusive Investigation of grids in high, medium and low density areas. Grenade/Cave Areas: • Non-intrusive DGM transects 6.8 acres (1 meter wide and 42.5 ft. spacing) • 100% intrusive Investigation of grids in high, medium and low density areas. Mine/Booby Trap Area: • Non-intrusive DGM transects 3.6 acres (1 meter wide and 26.0 ft. spacing) • 100% intrusive Investigation of grids in high, medium and low density areas. Boundary Identification: • MEC identified along MRS boundaries will trigger step out procedures resulting in discretionary DGM transects/grids. Maximum instrument detection depth will be determined by the GPO and will be used to define the vertical extent of contamination. Investigation Areas that are "thickly vegetated will be avoided and all areas of investigation are limited to available ROE's.	-All MD, frag, and high density anomaly areas will be evaluated as possibly indicative of the location of MEC. -Dig results will be used to define the location and spatial extent of MEC. -Step out procedures will be performed to bound areas impacted by concentrated munitions use that are located at the MRS boundary. -DGM grids with 100% intrusive investigation will be used to assess high, medium and low density areas. *Alternative actions will be formulated in the Feasibility Study based on the location and density of MEC, land use, and other data gathered during the investigation and comparison of those data with criteria established herein.*	DGM system function checks: • Personnel Test • Vibration Test • Static Background / Spike • 6 Line / 2 Line Tests • Repeat Lines (2% daily) Daily GPS Checks (sub-meter for DGPS RTK; larger error up to 10m for density transects allowed) DGM Coverage tool check, coverage > 95% at planned line spacing for all non-fiducial grids DGM Along-line measurement spacing, 90% < 25cm DGM Anomaly reacquisition within 1 meter. No contacts < 15%	Determine anomaly density and distribution from DGM transects using statistical tools; perform DGM surveys of grids in high, medium and low density areas. Data collection along DGM transects -83 acres, 6.8 acres, 3.6 acres. Locations of all grids will be reviewed by USACE prior to field work. 100% intrusive investigation of anomalies identified in DGM grids. Intrusive results will be used in the MEC HA to determine the MEC hazard levels for the site.

Page 1 of 1

EXHIBIT G


East Range Area
West Range Area
Pat Mayse Lake
Mine Booby Trap
Grenade Range
National Guard Installation
Cave Areas
Legend
Local Roads
Investigation Transects
Former Installation Boundary
National Guard Installation
Munition Response Sites (MRS)
Pat Mayse Lake
Notes:
All transects will be investigated up to the lake's shoreline.
UTM Zone 15 NAD 83 (Meters)
Data Provided By:
U.S. Army Engineering & Support Center, Huntsville, AL
Miles
Kilometers
Location Map:
Former Camp Maxey Lamar County, TX
Booby Trap Area
If 1 meter wide transects with a parallel pattern are spaced 4 meters between transects (5 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 120 foot diameter (60 foot radius) circular target area having a bivariate normal distribution with an average density of 60 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.
Cave and Grenade Area
If 1 meter wide transects with a parallel pattern are spaced 9 meters between transects (10 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 160 foot diameter (80 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.
East Range Area
If 1 meter wide transects with a parallel pattern are spaced 81 meters between transects (82 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 450 foot diameter (225 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.
West Range Area
If 1 meter wide transects with a parallel pattern are spaced 100 meters between transects (101 meters on centers) over the entire site, these transects have an approximately 90% chance of traversing and detecting any 600 foot diameter (300 foot radius) circular target area having a bivariate normal distribution with an average density of 100 anomalies per acre above the background density of 10 anomalies per acre. This assumes the instrument false negative rate is 0% and flagged windows have at least 95% confidence they have density greater than background.
PROPOSED
TRANSECT LOCATION
June 19, 2012
FORMER CAMP MAXEY
LAMAR CO., TX
Prepared For:
U.S. Army Engineering and Support Center, Huntsville
Prepared By:
Explosive Ordnance Technologies, Inc.
EOTI
DRAWN
M. Norris
VERIFIED
D. Farmer
APPROVED
J. Daffron
DATE
06/19/12
FILE
Transect 6-19-2012.mxd
PAGE #
1
SCALE
1 inch = 1 miles

Jim Daffron

From: Jim Daffron
Sent: Tuesday, April 02, 2013 12:34 PM
To: Cook, John T HNC
Cc: Matt Hughs; David Jacobs; Matt Norris
Subject: RE: MAXEY: Discussion with TCEQ on the WP (UNCLASSIFIED)

Maxey WP RTC - 11 Mar 13.xlsx

John

TCEQ comments are addressed on the last tab of the attached spreadsheet.

Jim

-----Original Appointment-----
From: Cook, John T HNC [mailto:John.T.Cook@usace.army.mil]
Sent: Tuesday, April 02, 2013 12:12 PM
To: Otto, Sarah SWF; Brad Wilkinson Texas Commission on Environmental Quality; Jim Daffron; Matt Norris; David Jacobs; Jennifer Buckels; Bradley, Scott G HNC; Selfridge, Bob J HNC; Campbell, Ralph L HNC
Subject: MAXEY: Discussion with TCEQ on the WP (UNCLASSIFIED)
When: Tuesday, April 02, 2013 3:30 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Call-IN: 877-873-8017 Password: 4178870; Security Code, if needed: 4178870

Classification: UNCLASSIFIED
Caveats: NONE

Team – I realize this is extremely short notice but, it is believed we need to do this today. Thanks, JTC

Classification: UNCLASSIFIED
Caveats: NONE

2 April 2013, 1430 CT

Camp Maxey Call

Purpose: Review responses to final Work Plan comments

Participants:

John Cook, CEHNC
Ralph Campbell, CEHNC
Teresa Carpenter, CEHNC
Kelly Enriquez, CEHNC
Sarah Otto, CESWF
Brad Wilkinson, TCEQ
David Jacobs, EOTI
Jim Daffron, EOTI

The team reviewed the three comments that TCEQ had on the Draft-final work plan. EOTI sent draft responses to comments prior to the meeting and the responses were reviewed during the call. It was agreed that Table 4.3 would be added to the work plan to provide QC requirements corresponding to definable features of work. Minor changes to the DQOs were discussed and it was agreed that a revised Table 3.1 would be sent out for review. The proposed responses comments were acceptable to the Corps and TCEQ and Brad Wilkinson requested access to the EOTI ftp site where the Final Work Plan would be posted. It was agreed that EOTI would provide a link to TCEQ through the USACE.

Jim Daffron

From: Otto, Sarah SWF [Sarah.N.Otto@usace.army.mil]
Sent: Friday, April 05, 2013 10:05 AM
To: Brad Wilkinson
Subject: RE: Camp Maxey
Attachments: Part 1 Maxey Work Plan Final April 2013.pdf

Brad,

I've split it up into two parts to send via email. Let me know if you receive them. Attached is the first part. :)

-Sarah

-----Original Message-----
From: Brad Wilkinson [mailto:brad.wilkinson@tceq.texas.gov]
Sent: Friday, April 05, 2013 8:43 AM
To: Otto, Sarah SWF
Subject: RE: Camp Maxey

Sarah,

I tried 3 separate times and I was unable to access the document. I did use (maxeyftp) and pass (eotiftp). Thanks.

Brad

-----Original Message-----
From: Otto, Sarah SWF [mailto:Sarah.N.Otto@usace.army.mil]
Sent: Thursday, April 04, 2013 3:35 PM
To: Brad Wilkinson
Subject: RE: Camp Maxey

Brad,

Were you able to get it working?

-Sarah

-----Original Message-----
From: Brad Wilkinson [mailto:brad.wilkinson@tceq.texas.gov]
Sent: Thursday, April 04, 2013 1:46 PM
To: Otto, Sarah SWF
Subject: RE: Camp Maxey

Sarah,

You did send me a DQO table yesterday and it looks fine. I am still not able to access the WP with mark ups. Sorry it asked for my ID and Password. Thanks.

Brad

-----Original Message-----
From: Otto, Sarah SWF [mailto:Sarah.N.Otto@usace.army.mil]
Sent: Thursday, April 04, 2013 1:36 PM
To: Brad Wilkinson
Subject: Camp Maxey

Brad,

Have you had a chance to review the Final Work Plan and the attachment I sent out last week? Do you have any other questions? John Cook plans on publishing tomorrow, pending any other comments.

Thank you,

Sarah Otto, EIT, LEED, AP.
Environmental Engineer
U.S. Army Corps of Engineers
Planning, Environmental, and Regulatory Division
Phone: (817) 886-1695

APPENDIX J: MINE AND BOOBY TRAP TRAINING AREA RECON REPORT
MILITARY MUNITIONS RESPONSE PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

FORMER CAMP MAXEY
Paris, Texas

MUNITIONS AND ENVIRONMENTAL SERVICES
9050 Executive Park Drive, Suite 106 A • Knoxville, TN 37923
Tel: (865) 200-8081 • Fax: (865) 766-5971

March 10, 2014 Maxey-036

Commander, US Army Engineering & Support Center, Huntsville
Attn: USAESCH-OE-DC, Dorothy Richards
4820 University Square
Huntsville, Alabama 35816-1822

RE: Remedial Investigation / Feasibility Study, Former Camp Maxey, Texas – Mine and Booby Trap Training Area Recon Report – Revision 1

1. The Former Camp Maxey Range 64 (RMIS Range ID: K06TX030501R05) is believed to have been used for mine and booby trap training between 1942 and 1945. The area identified as Range 64 on historical maps is approximately 36 acres and is located on the east side of the west impact area. No specific information related to the layout of the training area is available. It is believed that M1 practice mines along with flares, simulators and screening smoke may have been used in the training area. In accordance with FM 5-31, *Land Mines and Booby Traps*, 1 November 1943, the normal density of mines was 1½ mines per yard of front. Mines were placed in one of four types of belts, uniform pattern, extended pattern, hasty-mine, or deliberate. It is likely that all four types were emplaced during training at the Former Camp Maxey. It was common practice to recover practice mines after training; and therefore it is unlikely complete practice mines field remain on site. It is more likely that individual mines remain scattered throughout the training area.

2. There is no indication that live mine training ever took place on Camp Maxey; however it is known that M1 antitank practices mines were used. According to TM 9-1940, *Land Mines*, 15 July 1943 these consisted of three parts: empty mine body, spider, and fuze. The three parts are shown in Figure 1. Two types of practice fuzes were used. Dummy fuzes were completely inert but other fuzes contained a smoke-puff charge used to simulate detonation. It is possible that practice mines used at Camp Maxey contained fuzes with smoke-puff charges. According to *The American Arsenal* (Hogg, 2001), the smoke-puff charges contained 60 grains of army black powder designed to ignite 100 grains of red phosphorous, which created a loud noise and smoke which escaped through the holes in the side of the practice mine.

Figure 1 – M1 Practice Mine Components

3. The majority of the former training area lies on three private land parcels. Eight other private parcels overlap smaller portions of the perimeter of the former training area. In order to investigate the area, the Corps of Engineers requested rights of entry (ROE) from each property owner with parcels that contain a portion of the former training area. ROEs were not obtained for large portions of the central and southern portions of the training site, however access was granted in the northern portion and along the perimeter. Enclosure 1 shows the location of the former training area as well as the parcels that now make up the site. Access was granted by owners of the parcels shown in green. The owner of the parcel shown with the red hatching indicates a parcel which the owner retracted

right of entry and so even though a ROE was initially received, the Government does not have access to the property.

4. EOTI conducted an instrument-assisted visual inspection of the portion of the former training area where access was granted on 17 August 2013. EOTI had access to approximately 23.6 % of the suspected former training area. During the inspection, two UXO Technicians walked a meandering path through the accessible area using a Minelab metal detector to help visually identify MD or other indicators of previous mine or booby trap training. The total length of the path (shown in Enclosure 2) was approximately 13263.41 feet. GPS waypoints were recorded at the transect end points and were used to generate the figure showing the approximate path traveled by the team.

5. EOTI did not locate any MEC, MD or indicators of MEC during the inspection; however, a property owner showed the team items that were discovered previously on Parcel 110663 (an area without current authorization to access). The items were identified as M1 practice mines and what appear to be smoke canisters, both consistent with mine training suspected in the area. Enclosure 3 shows photographs from the site inspection and the MD previously discovered in the area.

6. There is strong historical evidence that mine training was conducted in the area designated as the Mine and Booby Trap Training Area. There is also strong indication that practice mines and other MD associated with the training may remain in the area. Mine training, at the time that it was conducted at Camp Maxey, involved placing practice mines in belts that make up the mine fields. Practice mines were typically recovered after training but some were not recovered from the site at Camp Maxey and some likely remain undiscovered. The remaining practice mines are discrete points that would be difficult to locate with certainty by investigating sample areas with evenly spaced transects or representative grids in a manner similar to that used to locate potential target areas for fragmenting munitions used in other areas. The likelihood of discovering individual mines remaining from the previous training during the RI is also reduced significantly by the lack of access to the entire central portion of the site.

7. Since available evidence supports the historical training records, it is recommended that the area be characterized as likely to contain practice mines, smoke canisters and booby trap devices without the collection of additional data. Alternatives considered during the Feasibility Study would consider the potential hazards associated with these devises and would include risk reduction alternative that encompass the entire site.

8. Please let me know if you have any question or need any additional information. Point of contact for this memo is the undersigned at (865) 200-8081.

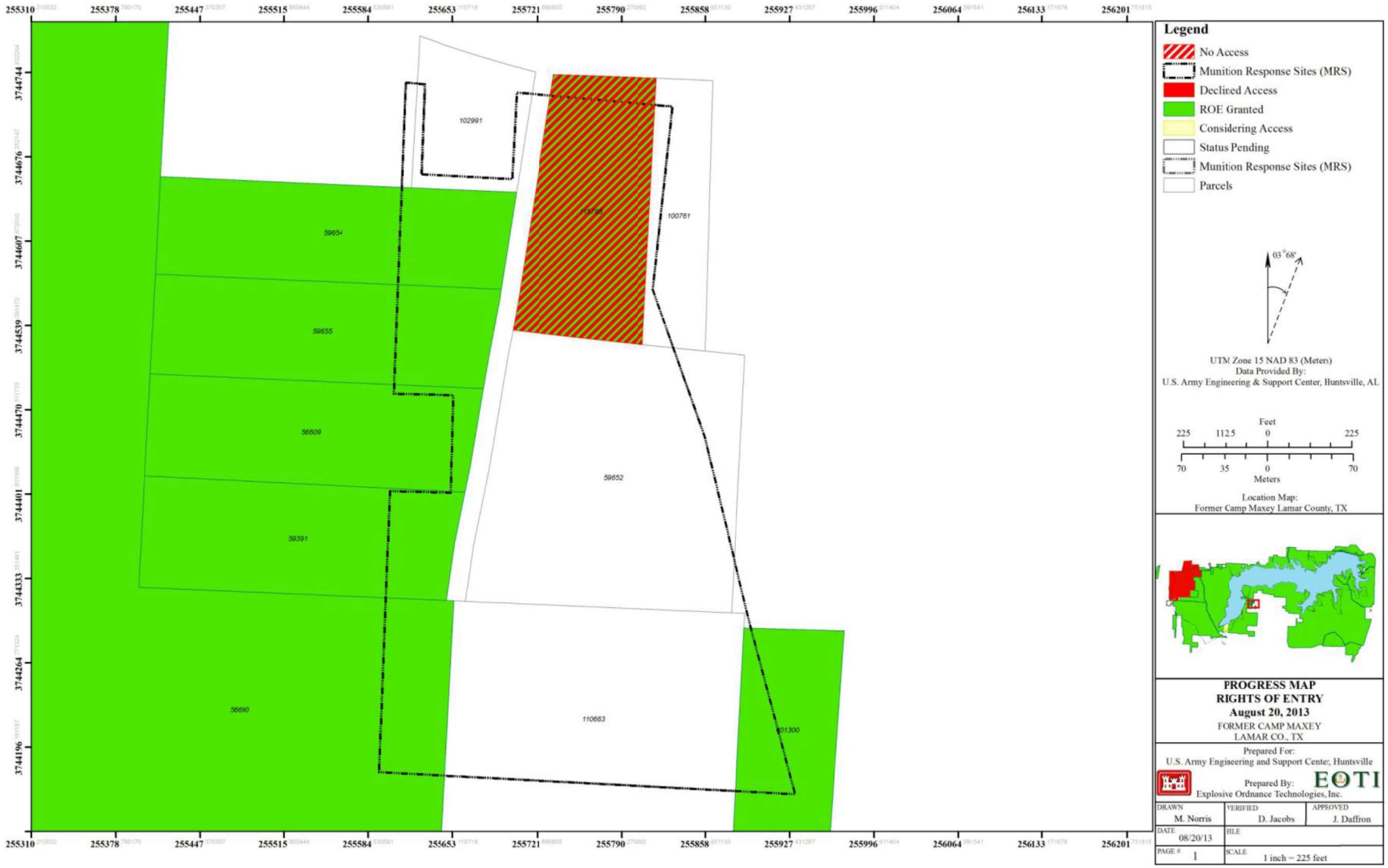
Sincerely,

Explosive Ordnance Technologies, Inc.

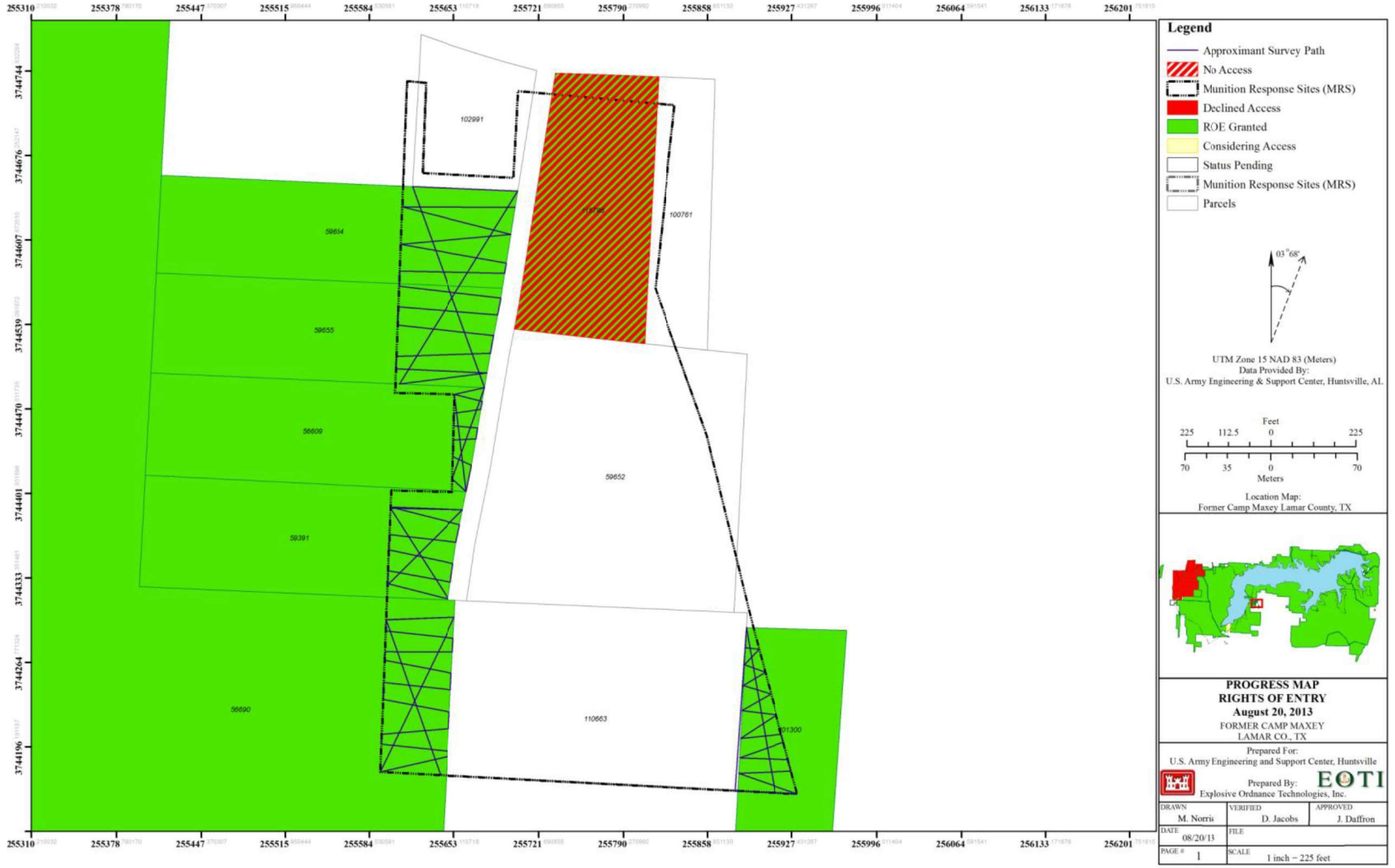
James Y. Daffron, PE
Project Manager

Enclosure: as

Enclosure 1 – Former Mine and Booby Trap Training Area



Enclosure 2 – Reconnaissance Path



Enclosure 3 – Representative Photographs

Photograph taken during the inspection shows typical terrain and vegetation in wooded portions of the site.

Portions of the former training area contain residential development on privately owned property.

Concentrations of cultural debris, including vehicle parts, as shown in this photograph were discovered during the inspection.

MD items previously discovered by a property owner indicate previous training in the area, consistent with historical records. The photograph shows two M1 practice mines and two smoke canisters typical of those used during mine training at Camp Maxey.

APPENDIX K: REMEDIAL ALTERNATIVES COST ESTIMATES
MILITARY MUNITIONS RESPONSE PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

FORMER CAMP MAXEY
Paris, Texas

Table K-19
Eastern Range C
Alternative 4: 100% Subsurface Clearance

ITEM		QUANTITY	UNITS	UNIT COST	CAPITAL COST	ANNUAL O&M COST	PRESENT WORTH COST[a/]	ASSUMPTIONS
I. ADMINISTRATIVE ACTIONS								
1. Planning								
a. Remedial Design	*Labor*	80	Hour	$150	$12,000	$0	—	Engineering estimate for labor to draft, submit, and finalize the remedial design
b. Remedial Action Work Plan	*Labor*	550	Hour	$150	$82,500	$0	—	Engineering estimate for labor to draft, submit, and finalize the remedial action work plan
c. Explosive Safety Submittal	*Labor*	100	Hour	$150	$15,000	$0	—	Engineering estimate for labor to draft, submit, and finalize the ESS
SUBTOTAL					$109,500	$0	$0	
II. GENERAL ACTIONS AND SITE PREPARATION								
1. Mobilization / Demobilization	*Labor & Materials*	1	LS	$35,000	$35,000	$0	—	Engineering estimate to mobilize equipment and personnel to and from the site
2. Land Survey	*Labor & Materials*	1	LS	$168,900	$168,900	$0	—	Engineering estimate to conduct survey activities on removal action areas
3. Brush Cutting	*Labor & Materials*	563	per acre	$1,200	$675,600	$0	—	Engineering estimate to conduct brush cutting
4. DGM	*Labor & Materials*	563	per acre	$2,000	$1,126,000	$0	—	Engineering estimate to conduct DGM
4. Surface/Subsurface Clearance	*Labor & Materials*	563	per acre	$4,000	$2,252,000	$0	—	Engineering estimate for UXO technicians to conduct removal action
5. Demolition and Scrap Management	*Labor & Materials*	10	per shot	$8,000	$80,000	$0	—	Engineering estimate for explosive demolition of MEC items (cost includes delivery and storage of demolition materials) and scrap management / disposal
SUBTOTAL					$4,337,500	$0	$0	
SUBTOTAL (I and II)					$4,447,000	$0	$0	
III. LONG-TERM MANAGEMENT, MONITORING & REVIEW								
1. Five Year Review Reports		6	LS	$15,500	$0	$93,000	$11,100	Engineering estimate to compile the Draft, Draft Final, and Final versions of the Five Year Review Report
SUBTOTAL					$0	$93,000	$11,100	
SUBTOTAL (I, II and III)					$4,447,000	$93,000	$11,100	
IV. IMPLEMENTATION COSTS								
1. Administration and Legal	5% of Capital Costs	1	LS	$222,400	$222,400	$0	—	
2. Procurement	5% of Capital Costs	1	LS	$222,400	$222,400	$0	—	
3. Construction Management	12% of Capital Costs	1	LS	$533,600	$533,600	$0	—	
4. Completion Report		1	LS	$20,000	$20,000	$0	—	Engineering estimate to compile the Draft, Draft Final, and Final versions of the Completion Report
5. Cost Contingency	15% of Capital Costs	1	LS	$667,100	$667,100	$0	—	
6. O&M Contingency	15% of O&M Costs	1	LS	$14,000	$0	$14,000	$5,800	
SUBTOTAL					$1,665,500	$14,000	$5,800	
SUBTOTAL (I, II, III, and IV)					$6,112,500	$107,000	$16,900	
A. TOTAL CAPITAL COSTS					$6,113,000			
B. TOTAL ANNUAL COSTS						$107,000		
C. TOTAL PRESENT WORTH OF ANNUAL COSTS							$17,000	
TOTAL PRESENT WORTH OF CAPITAL AND ANNUAL COSTS (A + C)							**$6,130,000**	

LS - Lump Sum
All construction assumed to be conducted in Level D PPE

APPENDIX L: RESIDENTIAL AND COMMERCIAL/INDUSTRIAL TIER 2 PCL CALCULATION SUMMARY
MILITARY MUNITIONS RESPONSE PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

FORMER CAMP MAXEY
Paris, Texas

Appendix L

Residential and Commercial/Industrial Tier 2 $^{GW}SOIL_{Ing}$ PCL Calculation Summary Former Camp Maxey Artillery Ranges, Texas

Chemical of Concern	Maximum Detected Soil Concentration (mg/kg)	Tier 1 $^{GW}Soil_{Ing}$ PCL (mg/kg)	Tier 1 $^{GW}GW_{Ing}$ PCL (mg/L)	Kd (cm^3/g)	H' (unitless)	pH	Calculated Tier 2 $^{GW}Soil_{Ing}$ PCL (mg/kg)
Lead	42 (surface); 86 (subsurface)	1.5	0.015	597	0.00E+00	5.2	90

EQUATION DEFINITION

Tier 2 $^{GW}Soil_{Ing}$ = (GW PCL * LDF / K_{sw})
where:

$K_{sw} = \rho b / (\theta_{ws} + Kd * \rho b + H' * \theta_{as})$
and where:

H'	Henry's Constant, chemical specific, TCEQ Chemical Physical Properties Table, June 2012.
Kd	Lead Kd value based on pH of 5.2 and loamy soil taken from TRRP Figure 30 TAC 350.73(f)(1)(A).
LDF	Leachate dilution factor, TCEQ default for 30 acre (10).
θ_{ws}	Volumetric water content of vadose zone soils (0.16 cm^3-water/cm^3-soil), TCEQ default.
θ_{as}	Volumetric air content of vadose zone soils (0.21 cm^3-air/cm^3-soil), TCEQ default.
ρ_b	Soil bulk density (1.67 g/cm^3), TCEQ default.

APPENDIX M: INSTITUTIONAL ANALYSIS REPORT
MILITARY MUNITIONS RESPONSE PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

FORMER CAMP MAXEY
Paris, Texas

Institutional Analysis Report

Former Camp Maxey RI/FS

1.1 Purpose of Study

The institutional analysis process is conducted during the Remedial Investigation (RI) phase of a munitions and explosives of concern (MEC) site evaluation. This Institutional Analysis Report identifies and analyzes the institutional framework necessary to support the development of institutional controls (ICs) as an effective response action alternative for the Former Camp Maxey Artillery Ranges munitions response sites (MRSs). As stated in the United States (U.S.) Army Corp of Engineers (USACE) Engineer Pamphlet (EP) *Establishing and Maintaining Institutional Controls for Ordnance and Explosives Projects* (EP-1110-1-24), the objectives of the institutional analysis are to:

- illustrate opportunities that exist to implement an IC program at a specific site;
- identify government agencies having jurisdiction over MEC-contaminated lands; and
- assess the appropriateness, capability, and willingness of government agencies to assert their control over MEC contaminated lands.

The IC program and its site-specific objectives are developed during the Feasibility Study (FS) phase of the investigation. The establishment of this program is an important component of a comprehensive risk management strategy for sites containing MEC. The IC program may consist of a single IC or a combination of control strategies. The program should be developed consistent with the desires and requirements of the local community and stakeholder interests. The ultimate product of the IC program is the selection of ICs that are supported locally and reflect specific goals for the site. The specific IC program for each MRS was developed as part of the FS report.

1.2 Methodology

This institutional analysis was conducted through the identification of the relevant stakeholders for the Former Camp Maxey Artillery Ranges (hereafter referred to as Former Camp Maxey). Subsequently, a qualitative assessment was conducted for USACE and each identified stakeholder's capability, interest, and degree of authority to develop, implement, and enforce potential ICs for the areas of concern. Data to support the qualitative assessment were compiled from site investigation reports and stakeholder websites, as well as interviews with stakeholder points of contact, if required.

1.3 Scope of Effort

The scope of this institutional analysis consists of the evaluation of USACE as the lead agency, and stakeholders including: the Texas Commission on Environmental Quality (TCEQ) and local city / county governments. USACE and the identified stakeholders are governmental agencies responsible in some way for activities conducted at the Former Camp Maxey.

Preliminary remediation goals, identified in Section 3 of the RI/FS report, are used to define remedial action objectives (RAOs), which address: (1) MEC, (2) media of concern, (3) potential exposure pathways, and (4) remediation goals. The primary RAO is the protection of human health and the environment from explosive hazards. ICs and land use controls (LUCs) are important considerations during the evaluation of remediation / removal action goals.

Potential ICs and LUCs considered in the FS for the Former Camp Maxey are identified in the following section. The development of specific ICs to implement at the eight MRSs at the Former Camp Maxey was conducted as part of the FS. Although the MRSs do not have an established IC program at this time, it is noted here that mechanisms currently in place restrict access to the MRSs and serve as controls. However, these mechanisms are not specific to the explosive hazards associated with the potential MEC.

1.3.1 Identification of ICs and LUCs for Potential Implementation

ICs are mechanisms that protect property owners and the local community from residual risk on a property contaminated by MEC. ICs are substantially the same as "land use controls" as defined in the Department of Defense's (DoD's) *Interim Policy on LUCs Associated with Environmental Restoration Activities* (31 August 2000). There are three major IC mechanisms/controls: (1) legal mechanisms, (2) engineering controls, and (3) education controls. ICs were developed in detail for each of the eight MRSs as part of the FS. A single IC, a mix of ICs, or ICs in conjunction with removal action will be selected for each of the eight MRSs.

It should be noted that USACE, while the lead agency, has no authority to implement ICs included in any preferred remedial action. ICs included as part of any preferred remedial alternative must be implemented by state, county, municipal, or other local governmental authority. USACE does have the authority to implement LUCs in the form of educational awareness. Potential ICs are as follows:

1.3.1.1 *Legal Mechanisms*

Legal mechanisms do not require the physical maintenance that may be necessary for other ICs; however, they require constant oversight and support in order for them to remain effective. The following legal mechanisms may be used in conjunction with other controls. The list below is not a full list of the potential legal mechanisms but the most commonly utilized. Legal mechanisms would have to be implemented and controlled by local state, city, or county governmental agencies.

1. Proprietary Controls
    a. Easements
        i. Gross Easement - A gross easement is one in which the holder, usually a company or public entity, does not own the land, but has the ability to use it (e.g., land could be continued to be leased for agricultural purposes or as a wildlife management area).

ii. Negative Easement - A negative easement prohibits the use of the land in a manner that would otherwise be legal (e.g., the owner of a property is prohibited from developing the property for another use because of the past use of the site).

iii. Statutory Easement - An easement which restricts the property use to one that is compatible with a specific scenario (e.g., conservation of the environment or scenery, or level of munitions clearance). In the particular case of sites contaminated with MEC, an easement may be enacted that would restrict the new property owner to land uses that are compatible with the level of clearance performed during the removal action. Easements have been used to ensure that the federal government has access to a site to conduct additional response actions or to perform any necessary operations and maintenance at a site that is undergoing active remediation of residual contamination.

b. Restrictive Covenant (also known as a deed restriction)

i. Prohibiting certain types of development, use, or construction

ii. Restricting land use to a limited number of personnel

iii. Restricting purpose for accessing the site

2. Local Government Controls

a. Zoning Restrictions - The primary method of locally controlling land use is through the development of zoning ordinances and community master plans. A typical zoning program geographically divides an area into zones with different regulations written to apply to each zone. The regulations vary between zones but apply equally to all properties within a zone. Generic zoning categories include residential, commercial, and industrial.

b. Permit Programs - In establishing a permit program, the permitting agency determines specific conditions which must be met before a certain use or action is allowed on a property. In the particular case of an MEC-contaminated site, a permit program can be established that would require a user to conduct MEC clearance operations prior to excavation or intrusive activities.

1.3.1.2 *Engineering Controls*

These ICs would limit the public's access or exposure to the site. Depending on the MRS, the engineering controls may be used in conjunction with other controls. USACE only has the authority to implement engineering controls on property that is USACE-owned, which includes the property around Pat Mayse Lake. However, implementation of engineering controls on private property cannot be authorized by USACE and would have to be implemented by local city or county governments.

1. Fencing (Fencing is an often utilized option; however, no remedial alternatives for any of the MRSs at the Former Camp Maxey utilize fencing.)

2. Signage - Signs cautioning access to the site and warning of potential MEC at the surface and subsurface.

1.3.1.3 *Educational Controls*

The use of educational controls is a good strategy to manage and reduce residual risk because it makes people aware of and understand the hazards associated with the site so that they will take the necessary precautions to avoid exposure. The educational controls may be used in conjunction with other controls. Educational controls are the preferred and most utilized IC at the Former Camp Maxey. USACE has the authority to implement educational controls for all of Former Camp Maxey.

1. Formal educational programs
    a. Education for USACE and Texas Parks and Wildlife Department (TPWD) personnel as well as permitted hunters and campers concerning MEC safety, avoidance, and, response
2. Public notice
    a. Informational meetings regarding site risks for USACE and TPWD employees, residents, and recreational users
    b. Information meetings for surrounding public to discourage trespassing
    c. Education on the proper MEC reporting process
        i. 3Rs (Recognize, Retreat, and Report)

Examples of Mixed ICs:

- Signage and education programs
- Signage, education programs, and restricting access to a limited number of personnel and contractors
- Signage, education programs, restricting access to a limited number of personnel and contractors, and limit access purpose

1.4 Selection Criteria

The USACE and each stakeholder was evaluated for the five elements essential to the institutional analysis as identified in USACE EP *Ordnance and Explosives Response* (EP-1110-1-18):

- Jurisdiction of agency
- Authority exercised by the agency within its jurisdiction
- Mission of the agency
- Capability of the agency
- Desire of the agency to participate in the IC program

Summaries of the stakeholders' evaluations are provided in Tables 1 through 4. Agency acceptance and capability to participate in the IC program are described in Sections 1.5 and 1.6, respectively.

1.4.1 Jurisdiction of Agency

FUDS eligibility criteria (ER-200-3-1, Section 1-1.6.2 and Chapter 3) state that sites must meet the following requirements to be included in the FUDS funding program:

- The site must contain one or more releases or threatened releases of a similar response nature, treated as a discrete entity or consolidated grouping for response purposes.
- The release occurred prior to 17 October 1986.
- The property was transferred from the DoD's control prior to 17 October 1986.

If the FUDS eligible hazards or CERCLA hazardous substances, pollutants, and contaminants at a property do not pose a threat to public health, safety, or the environment, the eligible property will be closed out. Regulatory concurrence will be sought but is not required for FUDS close-out (ER-200-3-1, Section 4-7.3).

1.4.2 Authority Exercised by Agency

The second element in the institutional analysis is the degree of authority exercised by the agency. Several aspects of authority are evaluated (see Tables 1 through 4 below):

- Limits of the agency's authority
- Origin of the agency's authority
- Degree of control exercised by the agency
- Whether the agency has enforcement authority

1.4.3 Mission of Agency

The mission of the agency enables the determination of whether that agency can implement, maintain, monitor, or enforce ICs. Public safety and land use control aspects are often the primary mission elements necessary to ensure agency agreement in developing and carrying out an IC program. Each agency's broad mission and public safety and LUC functions are described in the tables below.

1.4.4 Capability of Agency

Even if an agency has the jurisdiction, authority, and mission to be involved in an institutional control program, if it does not have the capability, it cannot be an effective partner. In the case of local government agencies, the capabilities may be unique and are often a reflection of the desires of the local community. In some cases, the capabilities of a government or private agency can be augmented with additional funding in order to implement the additional requirements of the proposed institutional control program.

1.4.5 Desire of the Agency to Participate in the IC Program

The desire of a particular government or private agency to participate in an institutional control program is absolutely critical to its success. If local officials are convinced that participation in an institutional control program is in their best interests they are more apt to participate. In some cases, as with the capability of an agency, resources in the form of funding for the agency's implementation costs may overcome the initial hesitancy to become involved**.**

Table 1: USACE	
Origin of Institution	The USACE was established in 1775 by the Continental Congress and operated intermittently until it was reestablished as a separate entity in 1802. The USACE has operated continuously since that date, tasked with the design and construction of both military and civil projects.
Geographic Jurisdiction	The USACE is organized geographically into eight divisions in the United States and 41 subordinate districts throughout the United States, Asia, and Europe. The districts oversee project offices throughout the world. Divisions and districts are defined by watershed boundaries, not by states. Site restoration activities at the Former Camp Maxey are funded by the Fort Worth District and managed by the Huntsville Center.
Basis of Authority	In managing and executing the FUDS program, the USACE conducts projects under the DERP statute (10 U.S.C. 2701 et seq.), Executive Orders 12580 and 13016, and all applicable DoD and Army policies (e.g., *DoD Management Guidance for the DERP* [28 September 2001]).
Limits of Authority	The performance of environmental restoration activities for sites within the FUDS program at which a release of hazardous substance may have occurred must be implemented in accordance with the CERCLA (42 U.S.C. § 9601 et seq.) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).
Degree of Control Exercised	The USACE has authority to propose potential ICs for implementation at FUDS properties. However, as ICs require a consensus among affected parties (e.g., TCEQ, TPWD, and private owners), the USACE has no authority over the implementation, maintenance, and enforcement of ICs on private property. USACE has limited authority over the implementation of ICs on land around Pat Mayse Lake owned by the federal government and managed by the State of Texas as a wildlife management area and state park. USACE may be able to implement public awareness actions for both public and private property.
Enforcement Authority	The USACE has no enforcement authority of ICs on privately owned property. Any legal mechanism must be implemented and enforced by state or local governments.
Sunset Provisions	Not applicable to this assessment
Mission of Agency	The USACE mission is divided into five broad areas encompassing water resources, environment, infrastructure, homeland security, and warfighting. The environmental mission states: "Focus USACE talents and energy to sustain the environment, to enable our worldwide missions and secure the future." This environmental mission is of primary importance to this project, as the USACE is tasked with addressing potential MEC and MC contamination on FUDS properties.
Public Safety Function	USACE's *Military Munitions Response Process* (EP 1110-1-18) states that the primary goal of the USACE MMRP is to take such actions as are necessary to ensure protection of human health, welfare, and the environment from the hazards associated with MEC and MC.
LUC Function	LUCs can be implemented with other federal entities, when requested.
Financial Capability	Defense Environmental Restoration Account funds are provided for the assessment and remediation of FUDS properties.
Desire to Participate in IC Program	The USACE would support the local government's implementation of ICs in the form of limited deed restrictions on public property, an educational program, and limited signage when such controls act to reduce the risk of explosive hazards associated with interaction with MEC. ICs are evaluated in the FS report, but some type of IC is likely to be selected as part of or the entire recommended response alternative for the MRSs at the Former Camp Maxey.
Constraints to Institutional	The USACE would be responsible for the IC program, but would not have the local authority to implement, maintain, and enforce the provisions of the ICs on private

Table 1: USACE	
Effectiveness	property. USACE has limited authority over ICs on land around Pat Mayse Lake owned by the federal government and managed by the State of Texas as a wildlife management area and state park. Any legal mechanism must be implemented and enforced by state or local governments.

Source: http://www.usace.army.mil/

Table 2: Texas Commission on Environmental Quality	
Origin of Institution	In 1993, the State of Texas legislature combined the Texas Water Commission (formed in 1962) and the Texas Air Control Board (formed in 1965) into the Texas Natural Resource Conservation Commission (TNRCC) to be the overall environmental agency for the state. The TNRCC was renamed the TCEQ in 2002.
Geographic Jurisdiction	The TCEQ has approximately 3,000 employees within 16 regional offices, with its principal headquarters located in Austin, Texas.
Basis of Authority	30 Texas Administrative Code (TAC) 350
Limits of Authority	The TCEQ enforces their authority within the provisions of the rules and regulations of the Texas Risk Reduction Program, 30 TAC 335, and other applicable regulations. TCEQ does have the authority to require institutional controls be placed on affected property depending on the specific circumstances as part of completing a response action.
Degree of Control Exercised	The TCEQ has the equivalent regulatory control to that of the USEPA but on the state level. The TCEQ has the lead regulatory role for the Former Camp Maxey investigation.
Enforcement Authority	The TCEQ's Office of Compliance and Enforcement can issue notices of violation and notices of enforcement for sites not in compliance with state regulations. The TCEQ can also issue orders to compel responsible parties to complete site restoration to include ICs.
Sunset Provisions	In 2011, a Sunset Advisory Commission voted to recommend that the agency be continued for 12 years (2023) under House Bill 2694. The current form and organization of the TCEQ are not expected to change in the future.
Mission of Agency	The TCEQ is the environmental agency for the state and strives to protect the state's human and natural resources consistent with sustainable economic development. Its stated mission is to "protect our state's human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste."
Public Safety Function	Other than its overall mission to protect human health and the environment, the TCEQ has no public safety function.
LUC Function	The TCEQ, in conjunction with the USEPA, would provide regulatory oversight of any LUCs implemented at the Former Camp Maxey
Financial Capability	The TCEQ has a $379 million operating budget for the 2014 fiscal year (including both baseline and contingency appropriations). Most of the budget is funded by program fees ($317 million).
Desire to Participate in IC Program	The TCEQ's degree of willingness to participate in the program will be contingent upon the findings of the RI and FS reports (extent of remaining MEC, location, proposed alternatives, etc.).
Constraints to Institutional Effectiveness	The TCEQ can enforce ICs, but would not be involved in the implementation or maintenance of the controls.

Source: http://www.tceq.state.tx.us/

Table 3: Lamar County	
Origin of Institution	Lamar County was formed by the Congress of the Republic of Texas in 1840.
Geographic Jurisdiction	Lamar County is located in northeast Texas adjacent to the Texas-Oklahoma border. The 2012 estimated population of Lamar County is 49,811. Lamar County has a total area of 933 square miles with the County Seat located in Paris, Texas.
Basis of Authority	The Texas Constitution (Article 9) allows for the creation and maintenance of counties and defines county government structure.
Limits of Authority	Texas grants narrow government authority to counties. Counties in Texas have limited regulatory (ordinance) authority and cannot pass ordinances (local laws with penalties for violations). Counties in Texas do not have zoning power (except for limited instances around some reservoirs, military establishments, historic sites and airports, and in large counties over "communication facility structures": visible antennas). However, counties can collect a small portion of property tax and spend it to provide residents with needed services or to employ the power of eminent domain. Counties do not have "home rule" authority; whatever powers they enjoy are specifically granted by the State. Lamar County does have the ability to record property restrictions established by landowners on their own property.
Degree of Control Exercised	Lamar County has very limited control over properties within its jurisdiction.
Enforcement Authority	Lamar County has limited to no enforcement authority related to ICs on property not owned and managed by the county.
Sunset Provisions	Not applicable to this assessment.
Mission of County	Texas county services, as defined by the state, include support of public safety and jails, effective regional transportation, support for the court system, reliable record-keeping for deeds and public documents, operating elections and certain environmental, health and human services.
Public Safety Function	Several Lamar County offices have public safety roles; however, there are no functions currently defined which would provide for the implementation of maintenance of ICs at the Former Camp Maxey.
LUC Function	There are no known aspects of the Lamar County government to support LUCs at the Former Camp Maxey.
Financial Capability	There are no known financial capabilities of the Lamar Count government able to support ICs at the Former Camp Maxey.
Desire to Participate in IC Program	The extent to which the Lamar County government is willing and able to support an IC program at the Former Camp Maxey is uncertain.
Constraints to Institutional Effectiveness	The ability of Lamar County to support ICs at the Former Camp Maxey is limited by statutory constraints related to Texas county government. Given the information available to date, it is unlikely that Lamar County could effectively contribute to a IC program.

Source: http://www.co.lamar.tx.us/

Table 3: Texas Parks and Wildlife Department	
Origin of Institution	In 1895 the legislature created the Fish and Oyster Commission to regulate fishing. The Game Department was added to the commission in 1907. The State Parks Board was created as a separate entity in 1923. In the 1930s, projects of the federal Civilian Conservation Corps added substantially to the state's parklands. In 1951, the term oyster was dropped from the wildlife agency's name, and in 1963, the State Parks Board and the Game and Fish Commission were merged to form the TPWD. The legislature placed authority for managing fish and wildlife resources in all Texas counties with the TPWD when it passed the Wildlife Conservation Act in 1983. Previously, commissioners courts had set game and fish laws in many counties, and other counties had veto power over department regulations.
Geographic Jurisdiction	The TPWD has authority for managing fish and wildlife in all Texas Counties. Currently, the agency has 11 internal divisions: Wildlife, Coastal Fisheries, Inland Fisheries, Law Enforcement, State Parks, Infrastructure, Legal, Administrative Resources, Communications, Human Resources and Information Technology. TPWD headquarters are located in Austin, TX.
Basis of Authority	Wildlife Conservation Act of 1983 and Texas Parks and Wildlife Code
Limits of Authority	WILDLIFE - The department may: (1) collect and enforce the payment of all taxes, licenses, fines, and forfeitures due to the department; (2) inspect all products required to be taxed by the laws relating to game, fish, oysters, and marine life and verify the weights and measures of the products; (3) examine on request all streams, lakes, and ponds for the purpose of stocking with fish best suited to the locations; (4) manage the propagation and distribution of fish in state fish hatcheries; and (5) manage the propagation and distribution of birds and game in state reservations. PARKS AND RECREATIONAL AREAS - Except as otherwise provided by law, the following are under the department's control and custody: (1) all recreational and natural areas designated as state parks; and (2) all historical sites under the jurisdiction of the department.
Degree of Control Exercised	TPWD has significant control over parks and wildlife throughout the State.
Enforcement Authority	The TPWD Law Enforcement Division provides a comprehensive statewide law enforcement program to protect Texas' wildlife, other natural resources, and the environment. The Division also provides safe boating and recreational water safety on public waters by ensuring compliance with applicable state laws and regulations. Texas Game Wardens are responsible for enforcement of the Parks and Wildlife Code, all TPWD regulations, the Texas Penal Code and selected statutes and regulations applicable to clean air and water, hazardous materials and human health. Wardens fulfill these responsibilities through educating the public about various laws and regulations, preventing violations by conducting high visibility patrols, and apprehending and arresting violators. Operation Game Thief provides citizens with a toll-free number to report poaching and other violations. The Law Enforcement Division employs about 500 wardens throughout the state and operates 27 field offices that sell licenses, register boats, and provide the public with local information across the state.
Sunset Provisions	The TPWD is subject to Chapter 325, Government Code (Texas Sunset Act). Unless continued in existence as provided by that chapter, the department is abolished 1 September 2021.
Mission of Agency	To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.
Public Safety Function	Texas Game Wardens have the same authority as a sheriff and are responsible for

Table 3: Texas Parks and Wildlife Department	
	enforcement of the Parks and Wildlife Code, all TPWD regulations, the Texas Penal Code and selected statutes and regulations applicable to clean air and water, hazardous materials and human health.
LUC Function	TPWD supports LUCs as they relate to their mission of managing the natural and cultural resources of Texas. If LUCs are implemented on property under the jurisdiction of the TPWD and support their objectives, it is likely the TPWD will agree to participate in the management of ICs at the Former Camp Maxey.
Financial Capability	The Fiscal Year 2013 combined budget for TPWD, which includes operating expenses, capital projects, grants and employee benefits, totals approximately $357.5 million. It is likely the TPWD will support ICs on property under their jurisdiction as part of normal operating procedures as long as costs are not prohibitive.
Desire to Participate in IC Program	The TPWD currently manages the Pat Mayes Wildlife Management Area in the western portion of the Former Camp Maxey. It is likely that they will support any ICs in the WMA that coincide with their mission to manage and conserve natural and cultural resources of Texas.
Constraints to Institutional Effectiveness	The ability of TPWD to support ICs at the Former Camp Maxey is likely limited by additional labor and expenses required for the establishment and enforcement of ICs.

Source: http://www.tpwd.state.tx.us/

1.5 Acceptance of Joint Responsibility

This section describes each agency's desire to participate in an IC program at the Former Camp Maxey. The USACE supports the implementation of ICs to minimize the explosive safety risk associated with MEC within the site. The TCEQ generally support IC programs at sites at which the selected controls reduce the risks to the public and can be monitored and enforced. Any IC program developed during the FS must meet these requirements for regulatory acceptance. The TPWD personnel and recreational users of the wildlife management area and state park (and the landowner, USACE) would be most directly affected by the implementation and enforcement of ICs. Therefore, the USACE must ensure direct coordination and joint development of the IC program with the TPWD, as well as TCEQ, so that all parties reach a consensus for responsibility of the program.

1.6 Technical Capability

All governmental entities engaged with the Former Camp Maxey have the necessary technical and financial capability to support an IC program. TPWD personnel would likely have a limited technical capability for implementing the IC program, other than adherence to potential controls, such as site avoidance and education.

1.7 Intergovernmental Relationships

The degree to which governmental agencies are willing to partner together can impact the degree of success of an IC program. USACE and TCEQ representatives have been willing in the past to coordinate efforts for site investigation activities at the Former Camp Maxey, and both entities would likely be open to partnering for the development and implementation of ICs. It is anticipated that the TPWD is willing to participate in an IC program so long as its main mission at the Pat Mayse Wildlife Management Area and Pat Mayse State Park is not impacted. The TCEQ supports the implementation of IC programs, so long as they protect human health and the environment and are developed, monitored, and enforced according to the requirements of the program.

1.8 Stability

Each governmental entity identified as a stakeholder at the Former Camp Maxey has sufficient administrative, technical, and financial stability necessary to support an IC program. There are no plans for these entities to close under sunset provisions in the future.

1.9 Funding Sources Recommended for Detailed Analysis

The USACE is funded annually by the federal government and should have sufficient funds to support an IC program. Likewise, the TCEQ and TPWD are funded annually by the State of Texas and has sufficient funds to support the program. The ICs most likely to be implemented at the site (signage, education, easements, and permitting) may require limited initial capital investments, as well as limited monitoring and enforcement expenditures, but these costs are likely to be supported via integration into existing activities. For example, TPWD personnel already enforce such restrictions by preventing unauthorized visitors and trespassers from entering the property. Therefore, limited additional funding may be required to maintain or

augment controls. Any private property owners impacted have less financial capability than these agencies and may be most directly affected by implementation of ICs.

1.10 Recommendations

The analysis provided above has determined that each agency can and will likely support an IC program that is developed consistent with each stakeholder's site-specific requirements. Therefore, pursuit of an IC program is recommended via development of IC alternatives in the FS phase. As this institutional analysis has been conducted separate of the development of the specific ICs that could be implemented at the site, the degree to which each agency can and will support ICs will be refined in the FS.

1.11 References

DoD, 2000. *Interim Policy on LUCs Associated with Environmental Restoration Activities*.

TCEQ, 1999. *Texas Risk Reduction Program*. 30 TAC 350.

TCEQ, 2010. *Institutional Controls under TRRP*. RG-366/TRRP-16

USACE, 2004. *Environmental Quality - Formerly Used Defense Sites (FUDS) Program Policy*. ER-200-3-1. Regulation No. 200-3-1.

USACE, 2000. *Establishing and Maintaining Institutional Controls for Ordnance and Explosives (OE) Projects*. EP-1110-1-24.

USACE, 2000. *Ordnance and Explosives Response*. EP 1110-1-18.

USEPA, 1980. *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)*. 42 U.S.C. s/s 9601 et seq.

APPENDIX N: QUALITY DOCUMENTATION AND OTHER FIELD DATA IN ELECTRONIC FORMAT
FORMER CAMP MAXEY
Paris, Texas

This appendix contains quality documentation and other field data in electronic format. Contents of this appendix include:

1. UXOQCS Daily Inspection Reports

2. UXOQCS Weekly Inspection Reports

3. Quality Control Inspection Reports documenting inspection of specific inspection of brush cutting and anomaly resolution in grids.

4. Equipment Function Tests for GPS and magnetometers (when used for reacquisition and resolution of anomalies).

5. Documentation of MDAS certification and transfer for recycling

6. Field Logs – During the majority of the effort personnel operated as one team, however during some phases personnel were reorganized into two teams. Activity logs for both teams as well as the one associated with MC sampling are included.

7. Quality documentation addressing corrective action taken and root cause analysis of quality concerns.

Additional Quality Control documentation is included in the Geophysical database included in Appendix B; in the MC Investigation Data in Appendix C; and in the GIS Database in Appendix H.