



ZAPATAENGINEERING

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N60478.AR.000823
NWS EARLE
5090.3a

16 August 2005

Mr. Daniel C. Witt, P.E.
Project Manager
Tetra Tech NUS, Inc.
661 Andersen Drive, Foster Plaza
Pittsburgh, PA 15220

Re: Final Letter Report
UXO Construction Support at Naval Weapons Station Earle (NWS Earle)
Colts Neck, New Jersey
Project Number 112G00050-0000.9701
Subcontract No. 1003067 w/ Modification 001

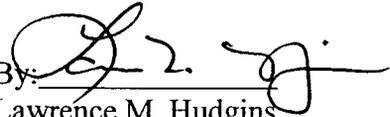
Dear Mr. Witt:

ZAPATAENGINEERING is pleased to submit this Letter Report for Unexploded Ordnance (UXO) Construction Support in supporting on-going construction activities at Site 13, the Defense Property Disposal Office (DPDO) Yard, at NWS Earle, New Jersey.

The report contains a narrative describing the UXO Construction Support provided by ZAPATAENGINEERING along with field log notes, photographs, and definitions of the new Munitions Response terminology.

If you have any questions or comments concerning this letter report, please contact me at (704) 358-8240. We look forward to supporting TtNUS on future projects,

Sincerely,
ZAPATAENGINEERING, P.A.

By: 
Lawrence M. Hudgins
Senior Project Manager

Enclosure

-Letter Report, UXO Construction Support at NWS Earle, NJ

cc:

Ruthann Baur (contract file)
Project files

NAVAL WEAPONS STATION EARLE Colts Neck, New Jersey

UXO CONSTRUCTION SUPPORT REPORT

1.0 INTRODUCTION

Site 13 is a former landfill north of the Defense Property Disposal Office (DPDO) yard located in the Mainside area of NWS Earle. Site 13 is an area of fill material extending into a marsh near the rail classification yards. The former landfill covered approximately 1.7 acres. Disposal activities at the former landfill site reportedly included storage of scrap metals and batteries and the burial of material such as cars, trucks, electronic equipment, clothing and shoes, sheet metal, and furniture. Adjacent to the landfill area is a sediment excavation area that covers approximately one acre. The sediment area required excavation down to between one to three feet in depth with the excavated soil placed on top of the landfill. Munitions debris has been noted in the landfill during previous investigations at Site 13.

Initially the Navy determined that given the information available, UXO support was not required for construction activities and if suspicious materials were encountered the NWS Earle Explosive Ordnance Disposal (EOD) unit would be called in to investigate. TN& Associates (TN&A) was accomplishing the construction under direct contract to the Navy when several inert ordnance items were discovered which had delayed work and raised concerns. The project was temporarily halted under a stop work order until unexploded ordnance (UXO) support could be provided for the site.

ZAPATAENGINEERING was contacted by Mr. Dan Witt, Tetra Tech NUS, Inc (TtNUS), on 17 June 2005, requesting UXO Construction Support for the Site 13 project. ZAPATAENGINEERING has worked for TtNUS in the past providing UXO services at various Naval installations under their Navy CLEAN contract. Mr. Witt requested that ZAPATAENGINEERING draft a Work Plan and Safety Plan for submittal to the Navy, and upon acceptance of the plans mobilize to NWS Earle to provide UXO construction support to TN&A at Site 13.

In the Scope of Work (SOW) provided by TtNUS, ZAPATAENGINEERING would be responsible for the following:

- Completion of applicable Work Plan and Safety Plan
- Responding to comments from the client (US Navy) in writing and/or orally.
- Location and identification of anomalies in the approximately one acre sediment excavation area to a depth of three feet, unless UXO or Munitions Debris is clearly visible.
- Provision of UXO Stand-by support observing the operations of the earth-moving equipment and investigating and assessing all suspect items.

- In the landfill area, sweeping ahead of earth moving equipment using magnetometers to identify anomalies and marking all large anomalies with flags.
- Investigation and assessment of all suspect munitions.
- Providing certified personnel and instruments necessary to perform the UXO clearance.

2.0 FIELDWORK

A two-man UXO team mobilized to Colts Neck, NJ on 25 June 2005, to provide UXO construction support during construction activities at Site 13, NWS Earle, NJ. On Monday, 27 June, the UXO team met with TtNUS personnel, checked in with base security, and received security badges and vehicle passes.

After a brief tour of the site and a site-specific safety briefing, the team dressed out in Tyvek[®] coveralls and hardhats and commenced a magnetometer sweep of the wetlands area using a Schonstedt[®] Cx-52 handheld magnetometer. During the course of the sweep, the UXO team encountered ring-offs on the magnetometer that were later identified as scrap metal and slag. One large anomaly required a backhoe to intrusively investigate. After performing a magnetometer sweep of the wetlands area, TN&A started excavation of the soil in the area for use on the landfill. The UXO team provided UXO construction support during this operation. Soil was excavated in one-foot lifts down to a depth not to exceed three feet. The areas containing the large anomaly and several large stumps were avoided during the initial excavation of the wetlands area. All but two of the stumps were excavated while the UXO team provided construction support during the excavation activities performed by TN&A.

During the course of excavating the wetlands area for soil to be used on the landfill, ZAPATAENGINEERING was asked to provide a UXO-qualified excavator operator to excavate the large anomaly and two stumps in the wetlands area, as the Navy contractor, TN&A, was apprehensive about excavating in an area where potential UXO could be uncovered. TN&A was also apprehensive about excavating the trench along the south and east sides of the landfill.

ZAPATAENGINEERING negotiated a work order modification for the additional requirement. A UXO-qualified excavator operator was mobilized to the site on 5 July to augment the UXO team, start the intrusive investigation of the large anomaly in the wetlands area, and to excavate the trench at the base of the landfill. On 6 July, a tracked excavator was delivered to the UXO team and the anomaly in the wetlands area was intrusively investigated and found to be a large metal laboratory table. A large amount of scrap metal that appeared to be a metal shed and other debris was recovered during excavation and removal of two stumps. Following the excavation activities in the wetlands area, the excavator was staged for the excavation of the trench line on the south and east sides of the landfill.

Excavation of the trench line started on 7 July and continued through 20 July 2005. The trench line excavated by the UXO team was approximately 800-feet long with a width varying from 10 to 35 feet across, and a varying depth from 2 to 6 feet (averaging 4 feet). During excavation of the trench, the UXO team had trouble maintaining the 200-foot exclusion zone required for UXO operations as personnel from TN&A were constantly entering the exclusion zone to deliver and pickup construction materials, use the toilet facilities, and traverse across the site to get to other

areas. Entry into the exclusion zone forced the UXO team to stop work. Rain and lightening storms also slowed the production rate on excavating the trench.

The following ZAPATAENGINEERING personnel were involved in the UXO Construction Support at Site 13, NWS Earle, Colts Neck, NJ:

Larry Hudgins – Project Manager
Rick Funk – Senior UXO Supervisor
Ray Fillion – UXO Technician III
Chuck Tally – UXO Technician I (Equipment Operator)

Upon completion of the UXO construction support activities, the excavator was thoroughly decontaminated and picked up by the rental agency. The ZAPATAENGINEERING UXO team completed all site activities on Thursday, 21 July and demobilized from the site on Friday, 22 July 2005.

3.0 UXO CONSTRUCTION SUPPORT FINDINGS

Over one ton of scrap metal and other debris were recovered during excavation of the one anomaly and two stumps in the wetlands area and the trench line around the east and south sides of the landfill. As the metal scrap and debris was recovered from the excavation it was inspected for potential hazards. If non-hazardous and determined not to be munitions debris, the material was left on the excavated soil pile that was later returned to the excavation. If the material was determined to be munitions debris (inert ordnance items), the items were removed from the excavation area and placed in a holding area for subsequent disposal. No Munitions and Explosives of Concern (MEC) were discovered during UXO construction support activities at Site 13. MEC includes UXO, Munitions Constituents (MC), and Discarded Military Munitions (DMM). See Appendix C for Munitions Response terminology and definitions.

The UXO team encountered layers of dark ash approximately 6 – 12 inches thick along the trench line that contained bullets and small arms shell casings. It appeared that this was the residue from a small arms burn kettle that was disposed of at the landfill. The ash residue did not contain any visible explosive material; however, there were many small arm lead bullets and slag within the residue.

During the excavation of the trench, several inert ordnance items were recovered. All items were thoroughly inspected and classified as Munitions Debris. The following items were recovered during the course of the UXO construction support:

- .50 caliber cartridges – 86 each
- .50 caliber Dummy Rounds (Drill Rounds) – 2 each
- 40mm cartridges – 11 each
- 3-Inch cartridges – 5 each
- 3-Inch/50 Loading Dummies (Drill Rounds) – 4 each
- 3-Inch Target Practice (TP) with cartridge – 1 each
- 20-Lb Fragmentation Bomb (empty) – 1 each
- Projectile Flash Tubes (expended) – 2 each

Note: There are discrepancies between the field log notes and this letter report in the number of munitions debris items recovered. The Senior UXO Supervisor has verified that the numbers shown above are accurate.

All munitions debris items mentioned above were reported to the Navy EOD Unit at NWS Earle for final disposal.

4.0 CONCLUSIONS

Old inert ordnance items and burnt small arms were disposed of at the base of the Site 13 landfill in the vicinity of the trench line excavation as evidenced by the items unearthed during the excavation. All munitions debris items recovered were thoroughly inspected and determined not to contain any munitions constituents (explosives) or any other hazards. The UXO team staged the recovered munitions debris out of the immediate construction area pending off-site transport and final disposal by Navy EOD.

The Navy has determined that no further UXO construction support is warranted for the completion of construction activities at Site 13.

Appendices:

- A - Field Log Notes
- B - Photographs
- C - Military Munitions-Related Terms and Definitions

APPENDIX A
FIELD LOG NOTES

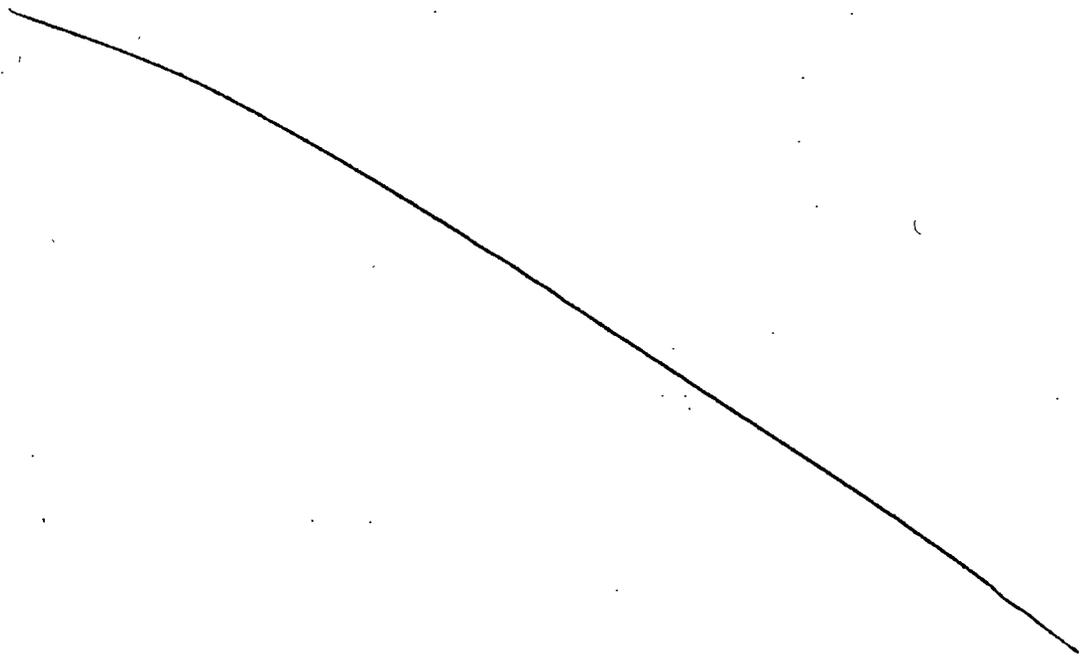
27 JUN 05

- 0630 Arrived at gate NWS Earle to start check-in
- 0700 Met with Tetra Tech personnel
- 0730 Morning safety brief
- 0800 In Tyvek and hard hat started mapping "wet land" area
- 1000 Finished preliminary on "wet land", raining, nothing real big ringing off
- 1030 Truck with "cap cloth" arrived waited while it was downloaded
- 1330 Finished with cloth, Dressed out to finish small piece of wet land Found one hit which will require backhoe along with tree stumps

Tetra Tech - asked if we could dig a ditch 200-300' long; 8' wide; and 3' deep across top of spoils pile.

28 JUN 05

- 0700 Morning muster / site safety brief
- 0730 Started digging north end of wet lands to one foot. Both Ray and myself down range
- 0900 Break
- 0930 Decided that we will take shifts down range, since there is no real reason, other than giving someone a warm fuzzy for us to be down there
- 1200 Lunch
- 1230 Continued watching digging
- 1500 Trackhoes stopped
- 1530 Secured.



29 JUN 05

0700 ~~2:45~~ Continue Morning muster; site safety brief

0745 Continued stand-by

1100 Came out of Kyveck while trackhoes moved dirt piles - watched dirt going into pile do not have to watch it be moved.

1350 Trackhoe started moving fresh dirt

1445 Lightening/thunder union rules even more worker friendly than UXO rules

1530 Secured

30 JUN 05

0700 Morning muster; site safety brief

0800 started moving piles of dirt which had been previously dug; no need to watch close-up

1400 Dump arrived

1415 Finished with piles; no need to start fresh dig

1530 Secured

Talked to office guessed @ 20 days to scrape s/wale, Tech I to show on Tuesday; excavator to show ~ 0900 on Wednesday.

120605

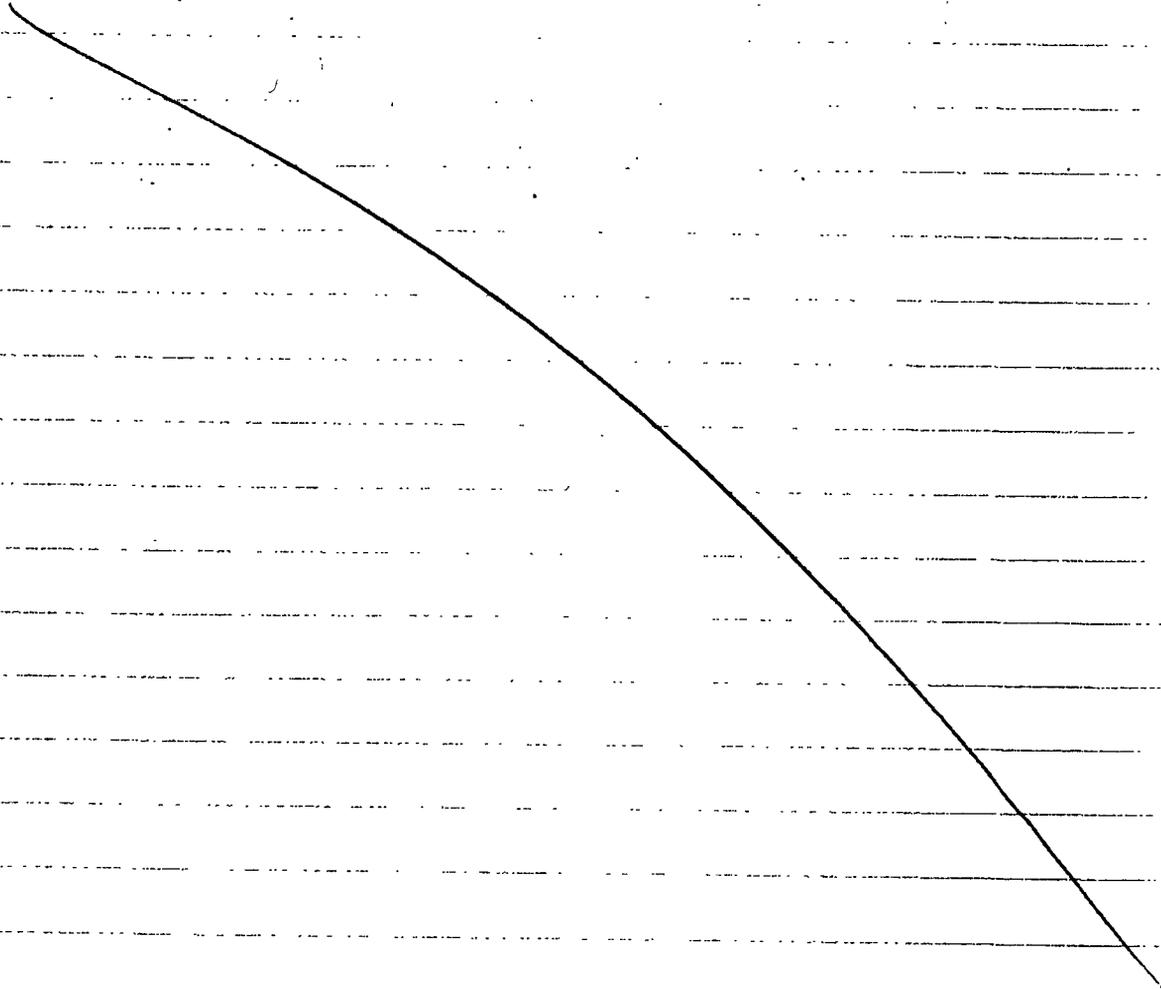
0700 Morning muster; site safety brief

0800 Started putting dirt in truck

0930 started pulling stumps; requires UXO support in area. Building "road" in wet lands.

1340 Stopped work for holiday

1400 Secured.



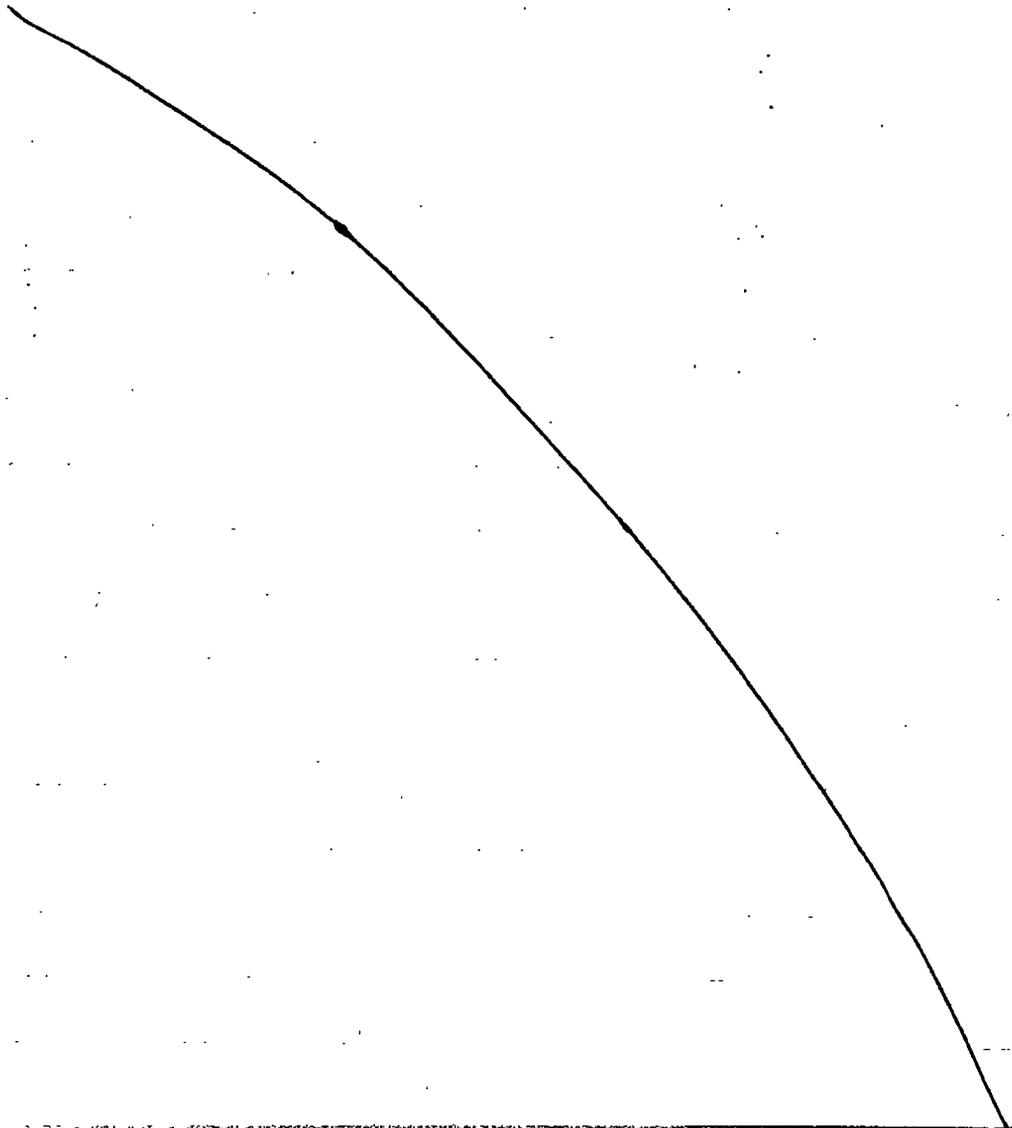
5 JUL 05

0700 Morning muster; site safety brief

0800 started digging; R. FILLION to Wal-Mart
to buy rubber boots; TN&A no longer
furnishing yellow over boots

1505 stopped digging; clean-up

1530 secured



6 JUL 05

- 0700 Morning muster; site Safety Brief.
Charles TALLY mob'ed in; given safety
brief by site PM & supervisor. Included
heavy equipment safety
- 0815 Tractor arrived from Hertz.
- 1000 Finally got a pair of rubber boots for
Tally.
- 1030 started digging out stumps & one
anomaly. Worked during Union lunch
so they can have 1/2 hour free range on
spoils after lunch.
- 1510 stopped digging
- 1530 Secured

7 JUL 65

0700 Morning muster; site safety brief

0745 started digging "DITCH"

1230 Lunch

1300 Continued digging

1510 stopped digging

1530 secured

Turned over to Base EOD
an object which looked like a
goblet; $\approx 4"$ in diameter; 12" long;
stem $\approx 4"$ long



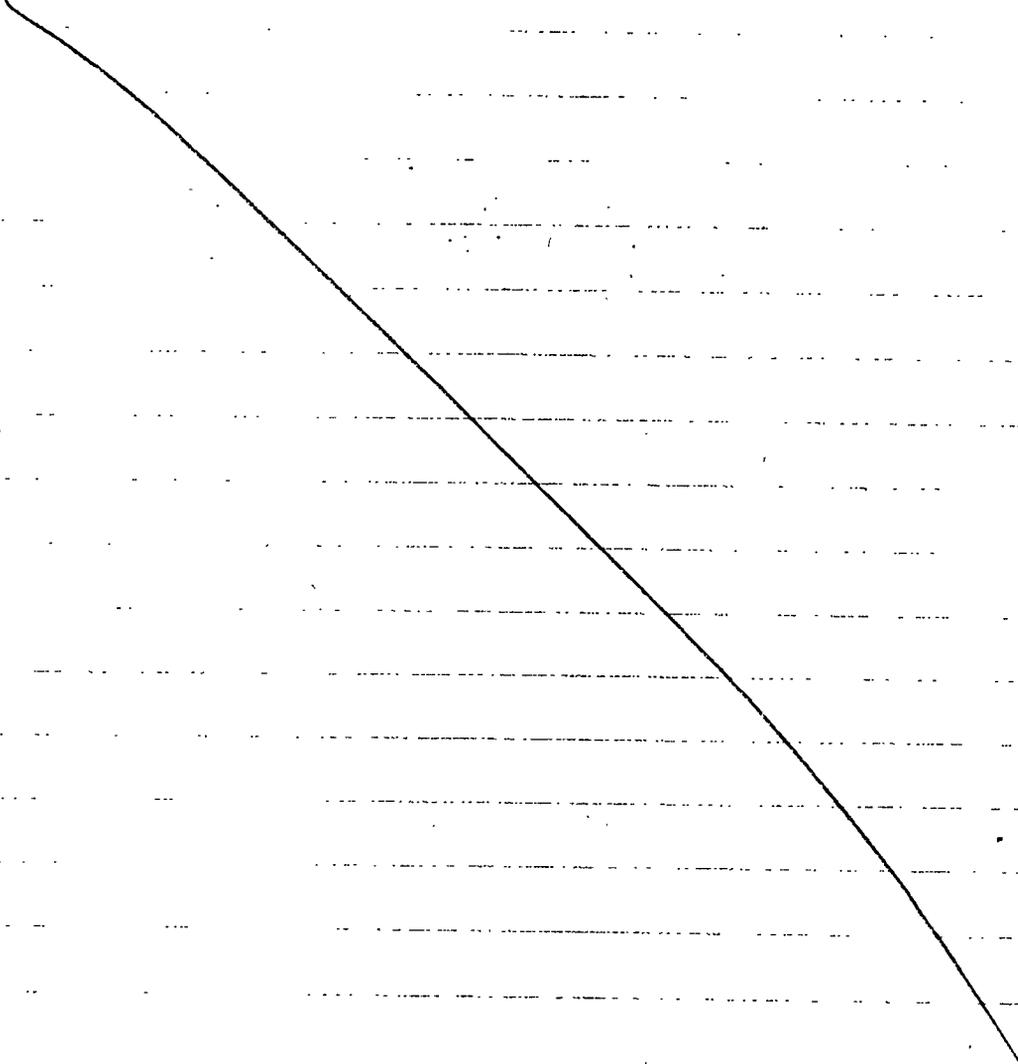
internal in base looked
like a cap well.

8 JUL 05

0700 Morning muster

Raining; to get heavier during the day
working in a 3 to 4 ft deep hole deemed
to be hazardous. Secured work for the
day. Prime sent union guys home; thought
we could work; I did not.

0800 Secured; 2hr. show-up pay



11 JUL 05

0700 Morning muster; site safety brief

0745 started digging; having some trouble maintaining
200 ft separation.

1230 Tetratech supervisor found grease on ground by
scrap metal pile which was next to area
where we removed a stump on Wed. There
was no grease on ground when we left the
area @ 1225 on Wed; that was the last
time Zapata was in that area

1510 stopped digging

1530 secured

12 JUL 05

0700 Morning muster, site safety brief

0800 started digging

1100 Got into an area with burned out
0.50 cal carts, 40mm carts, 1 ea 3" cart
and a 3" YP

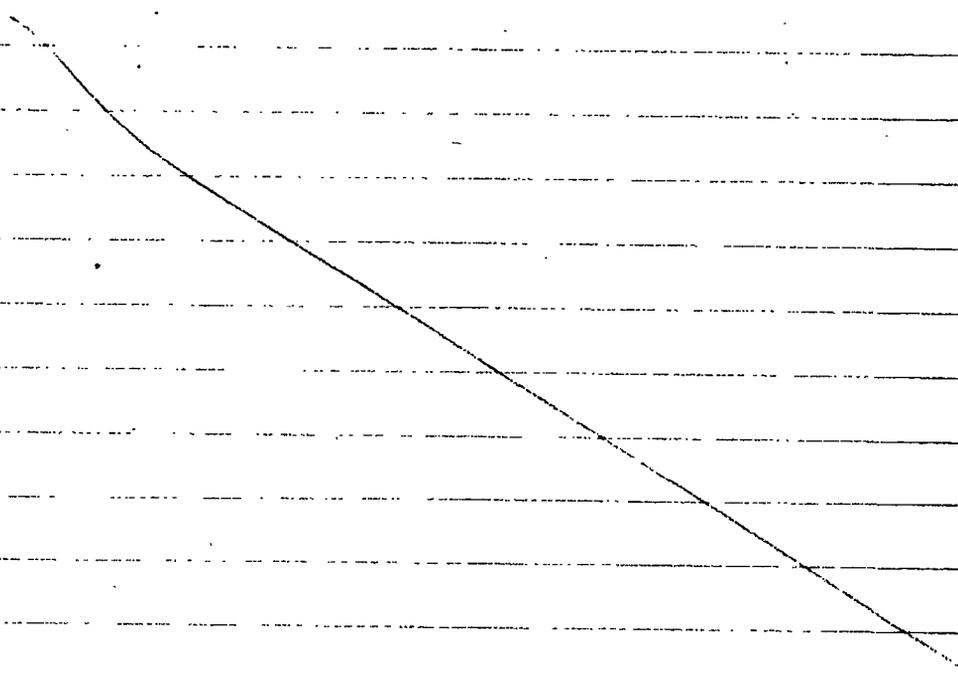
1500 stopped digging

1510 Called office:

1) We are out of here 22 Jul

2) Will need pictures and OE count

1530 Secured



12/01/05

DE scrap

0.50 cal Cart - 86 ea

0.50 cal Dummy - 2 ea

40mm Cart - 11 ea

3" TP \bar{w} Cart - 1 ea

13 JUL 05

- 0700 Morning meeting; site safety brief
- 0745 Tried to dig area closing in on 1st Trench asked to move. TN&A said stay w/ 1st trench and stop when their people got to within 200'
- 0815 Mapped area from toe to new cut. Two weeks ago we said this area could not be cleared w/ mag's and shovels in a reasonable length of time. Now they want it dug with our excavator
- 0915 Break
- 0930 Moved to new area so that TN&A can keep on digging.
- 1115 broke safety bolt in bucket knuckle.
- 1125 Called Hertz
- 1230 On lighten hold; went to Home Depot to get replacement bolt
- 1245 Hertz repair man on base; but raining
- 1345 Sight reopened for digging
- 1400 Excavator repaired; started digging
- 1515 Stopped
- 1530 Secured

13 JUN 05

OE scrap

0.50^{cal} cart - 2ea

40mm Cart - 1ea

2016 Frag Bomb - 1ea

14 JUL 05

0700 Morning Muster; site safety brief

0815 started digging; had to wait for
Kiln Dust delivery and decou of
truck

1145 stopped digging; TNA gave us the
200' completed \approx 150' fo of trench.

1200 Message from Larry; Request from
Weekly progress meeting; work Sat & Sun
change work schedule to 12-2000. This
meeting had been over for \approx 30 min and
I get informed via voicemail

After talking it over with Team and ~~Fred~~
TetraTech rep: ① Our original offer was
refused - no Sat or Sun come in 2 hours
early and work 2 hours over to get
the job done; ② counter offer was 10-1800

each day and Sat a MUST. Final agreed
to: ① R. Fillion will support Friday ops 7-1530;
R. FUNK & C. Tally off;

② R. FUNK, R. Fillion & C. Tally will work Sat

7-1530; ③ R. FUNK & C. Tally will run excavator
Mon 10-1800, R. Fillion off and ④ Full team

will work 10-1800 Tue-Fri unless digging
is completed then excavator will be

cleaned and deconed on regular hours
7-1530.

1300 started digging, but had numerous stops
for intrusion into to 200' EZ by trucks
and excavators ~~on~~ under the direction
of TN+A's field supervisor. This resulted
in getting only 10' of trench dug in hr. 45min.
1445 stopped for TN+A to fill in trench
so trucks may enter the land fill.

As an example of TN+A's poor planning
stumps have been piled along 75' of the swale.
These stumps must be remove prior to us
working. This will make the third time these
things will have to be moved. This afternoon
they dumped 4 more truck loads of stumps
~~into~~ in this pile; while we sat.

15 JUL 05

ONLY R. Fillion working in support he will have Monday off.

Charged off admin stuff since this wa a day off.

16 JUL 05

0700 Morning muster; Tetrtech gave safety brief

0715 started digging in "wet lands" and investigating hits. Most were hot rocks

0845 Finished "wet lands", TN&A remark to upper swale.

0915 Started digging swale; With the amount of metal we are pulling out it seems that they missed the edge of the land fill.

1515 stopped digging.

Found: 2 ea - 1/4 Deck 3" charts

2 ea - 3" / 50 Loading Dummies.

1530 secured

18 JUL 05

1000 Morning muster; R. FUNK, C. TALLY

1015 started digging - stopped eight times for personnel and equipment inside 200' Infractions of 200' zone down to 2 after 1200. It is as if someone is trying to say if we would have taken the 1200-2000 time slot there would be no problems.

1530-1645 Lighter hold

1645 Continued digging

1800 stopped

Only about 30' left to dig
Bringing in surveyors 19 JUL to determine if we dug the swale in the correct location to the proper depth. Location has always been iffy because the piled then removed 100' length of stumps on the swale ditch site effectively remove all marking stakes

Found - 2 ea - 3" / 50 Loading Dummies

19 JUL 05

1000 Morning muster; R. FUNK, R. Fillion, C. Tally

1010 Started digging at lower end of swale. Surveyors to come in sometime

1130 Surveyor finally showed; stopped digging

1300 Not only was the swale dug in the wrong location, but the specs provided by TN+A were wrong. To correct the location problem will have to fill in the present ditch. TN+A gave us a bulldozer and operator to do this.

Later F. Anzel, TN+A's field man, told me that we should be glad that they gave us this help because he could make things really tough for us if he wanted. This problem was of their doing. TN+A still thinks that we are construction support, but when statements like we should never have been working the same shift as them; are made it tell me that we were never considered "construction support" but construction. A way to get some of their lost time back.

1500 Down for an hour, while TN+A cleans

up, moves dirt inside the 200' EZ and generally disregards the fact that we have a tight schedule.

1800 Went to wash my boots and found that someone had turned off the emergency water. Personnel safety from the heat is also an issue well down on TNA's priority list.

20 JUL 05

1000 Morning muster; R. FUNK, C. TALLY, R. Fillion - Physical

1010 Started digging

1450 Finished digging ditch

Removed tank

1530 Started cleaning Excavator; TNA rep
accepted the ditch.

* 1330 R. FILLION returned from Physical.

1800 Secured

21 JUL 05

0700 Morning muster; site safety brief

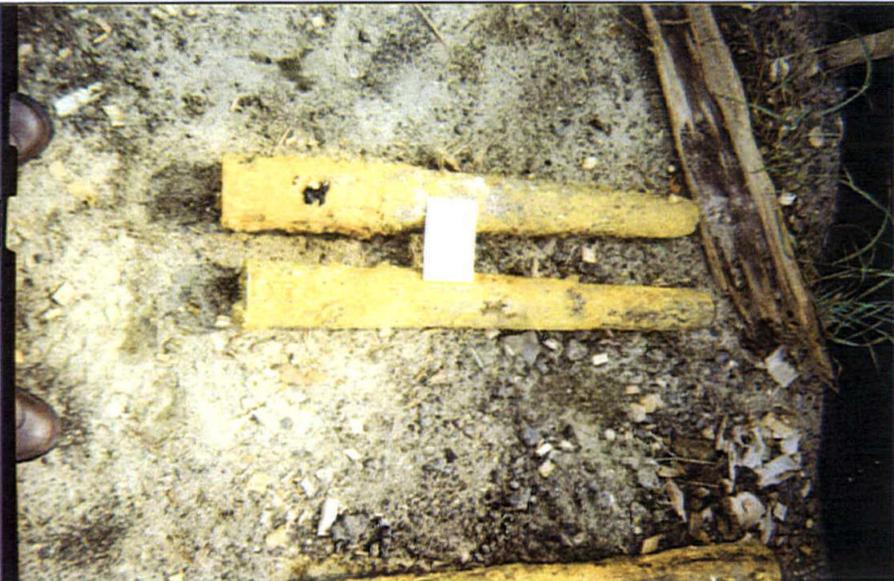
Decon pad had to be pumped out; we filled it up last night.

0930 started decon on excavator. Appears HP seal in compressor blown because it cannot give us the advertised 2500 psi.

All of the ditches we dug, approx 800' ~~20~~ to 35 ft wide and 2-6' deep; have been filled in. When they are to redug, if they miss our ditch (that is to say "survey did not put it in the same place twice") all bets as to ordnance cleanliness are off.

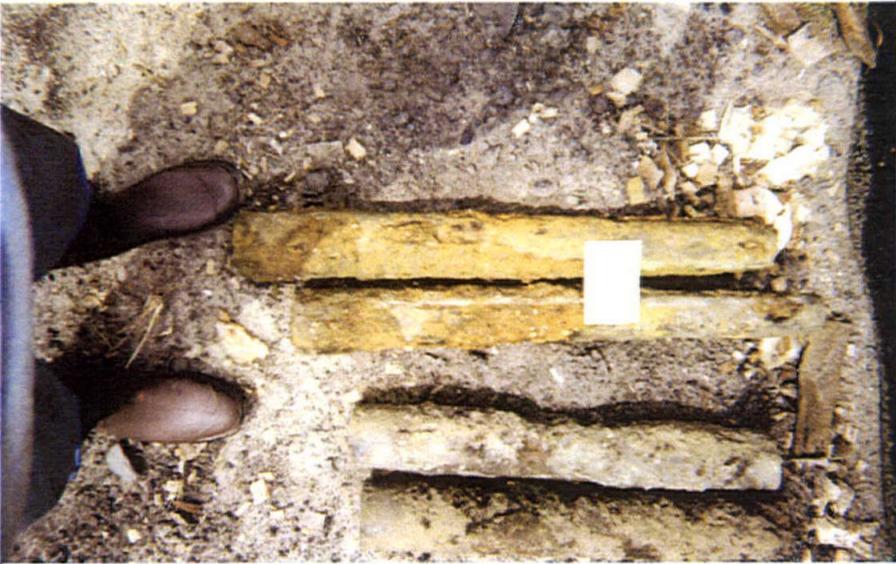
* 0730 Called Hertz to have them pick-up excavator. Will come 22 Jul.

**APPENDIX B
PHOTOGRAPHS**

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: 3-Inch/50 Loading Dummy (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: 3-Inch Target Practice (TP) with Cartridge Case (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: .50 caliber and 40mm Cartridge Cases (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: 3-Inch/50 Loading Dummies (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: .50 Caliber Cartridge Cases and two .50 Caliber Dummy Rounds (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: Empty Projectile Flash Tubes (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: Empty 20-Lb Frag Bomb (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: 3-Inch Quarterdeck Display Rounds (Munitions Debris)	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: Recovered Munitions Debris	

Naval Weapons Station, Earle Colts Neck, New Jersey	
DATE: July 2005	
DIRECTION: NA	
PHOTO BY: Rick Funk, SUXOS	
DESCRIPTION: 40mm Cartridge Cases and 3-Inch Target Practice (TP) Round (Munitions Debris)	

**APPENDIX C
MUNITIONS RESPONSE TERMINOLOGY
AND
DEFINITIONS**



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
INSTALLATIONS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON, DC 20310-0110

APR 21 2005

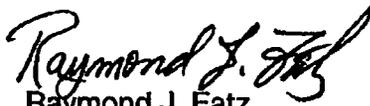
MEMORANDUM FOR THE ASSISTANT CHIEF OF STAFF FOR INSTALLATION
MANAGEMENT

SUBJECT: Munitions Response Terminology

1. This memorandum replaces my October 28, 2003 memorandum, subject: Definitions Related to Munitions Response Terms, and requests your office ensure that the enclosed terms and their definitions (Enclosure 1) are used, when appropriate, in correspondence (e.g., policies, guidance) and briefings concerning the Army's implementations of its Military Munitions Response Program (MMRP), Sustainable Range Management Program (SRMP) and, as appropriate, in other munitions-related matters.
2. In the past three years, the Department of Defense (DoD) has developed policies and guidance to implement its MMRP and SRMP. It has also worked to close a policy gap related to the management of material that may pose explosives hazards to DoD personnel and/or the public. During this period, DoD has been actively engaged, through the Munitions Response Committee (MRC), with the U.S. Environmental Protection Agency, Federal Land Managers, states, and with American Indians and Alaska Natives, to address issues related to the cleanup of munitions response sites.
3. To provide clarity and consistency in these efforts and in internal and external discussions, DoD has been working to establish and use common terms and definitions. The consistent use of accurate, descriptive terms, the definitions of which are commonly understood, is important to our dialogue with environmental regulators and safety officials, stakeholders, and the public.
4. Many of the terms that DoD has adopted for use in addressing munitions-related issues are now codified in Federal statute. On December 14, 2004, the Department of Defense Explosives Safety Board approved revisions to DoD 6055.9-STD, Ammunition and Explosives Safety Standards, using the enclosed terms.
5. The U.S. Army Technical Center for Explosives Safety, in coordination with other agencies, developed the enclosed matrix (Enclosure 2) to help the communities (e.g., operational, explosives safety, logistical, and cleanup) involved in addressing munitions-related operations to better understand how some of the new terms apply to actions they conduct.

6. Use of this terminology does not imply any specific funding authority, nor does it alter the DERP Management Guidance's program eligibility criteria.

7. My staff point of contact is J. C. King at (703) 697-5564 or jc.king@us.army.mil.



Raymond J. Fatz

Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA(I&E)

Enclosures

cf:

G-3

G-4

DAIM-BD

SFIM-OP

SAGC

OTJAG-ELD

NGB

CEMP-R

USACE

AEC

Enclosure 1: Military Munitions-Related Terms and Definitions

<u>Consolidated Definitions</u>
<p>Anomaly Avoidance. Techniques employed on property known or suspected to contain UXO, other munitions that may have experienced abnormal environments (e.g., DMM), munitions constituents in high enough concentrations to pose an explosive hazard, or CA, regardless of configuration, to avoid contact with potential surface or subsurface explosive or CA hazards, to allow entry to the area for the performance of required operations.</p>
<p>Chain of Custody. The activities and procedures taken throughout the inspection, re-inspection and documentation process to maintain positive control of MPPEH to ensure the veracity of the process used to determine the status of material as to its explosive hazard. This includes all such activities from the time of collection through final disposition.</p>
<p>Chemical Agent (CA). A chemical compound (to include experimental compounds) that, through its chemical properties produces lethal or other damaging effects on human beings, is intended for use in military operations to kill, seriously injure, or incapacitate persons through its physiological effects. Excluded are research, development, testing and evaluation (RDTE) solutions; riot control agents; chemical defoliants and herbicides; smoke and other obscuration materials; flame and incendiary materials; and industrial chemicals.</p>
<p>Chemical Agent (CA) Hazard. A condition where danger exists because CA is present in a concentration high enough to present potential unacceptable effects (e.g., death, injury, damage) to people, operational capability, or the environment.</p>
<p>Chemical Agent (CA) Safety. A condition where operational capability and readiness, people, property, and the environment are protected from the unacceptable effects or risks of a mishap involving chemical warfare material (CWM) and CA in other than munitions configurations.</p>
<p>Chemical Warfare Material (CWM). Items generally configured as a munition containing a chemical compound that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. CWM includes V- and G-series nerve agents or H-series (mustard) and L-series (lewisite) blister agents in other-than-munition configurations; and certain industrial chemicals (e.g., hydrogen cyanide (AC), cyanogen chloride (CK), or carbonyl dichloride (called phosgene or CG)) configured as a military munition. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS) are also considered CWM. CWM does not include: riot control devices; chemical defoliants and herbicides; industrial chemicals (e.g., AC, CK, or CG) not configured as a munition; smoke and other obscuration producing items; flame and incendiary producing items; or soil, water, debris or other media contaminated with low concentrations of chemical agents where no CA hazards exist.</p>
<p>Chemical Warfare Material (CWM) Response. Munitions responses and other responses to address the chemical safety; explosives safety, when applicable; human health; or environmental risks presented by CA-filled munitions and CA in other than munitions configurations. (See munitions response.)</p>
<p>Construction Support. Assistance provided by DoD EOD or UXO-qualified personnel and/or by personnel trained and qualified for operations involving CA, regardless of configuration, during intrusive construction activities on property known or suspected to contain UXO, other munitions that may have experienced abnormal environments (e.g., DMM), munitions constituents in high enough concentrations to pose an explosive hazard, or CA, regardless of configuration, to ensure the safety of personnel or resources from any potential explosive or CA hazards.</p>
<p>Cultural Debris. Debris found on operational ranges or munitions response sites, which may be removed to facilitate a range clearance or munitions response, that is not related to munitions or range operations. Such debris includes, but is not limited to: rebar, household items (refrigerators, washing machines, etc.), automobile parts and automobiles that were not associated with range targets, fence posts, and fence wire.</p>
<p>Defense Sites. Locations that are or were owned by, leased to, or otherwise possessed or used by the Department of Defense. The term does not include any operational range, operating storage or manufacturing facility, or facility that is used for or was permitted for the treatment or disposal of military munitions. (10 U.S.C. 2710(e)(1))</p>
<p>Discarded Military Munitions (DMM). Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of, consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2))</p>
<p>Disposal. End of life tasks or actions for residual materials resulting from demilitarization or disposition operations.</p>
<p>Disposition. The process of reusing, recycling, converting, redistributing, transferring, donating, selling, demilitarizing, treating, destroying, or fulfilling other life-cycle guidance, for DoD property.</p>

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<p>Documentation of the Explosives Safety Status of Material. Documentation attesting that material: (1) does not present an explosive hazard and is consequently safe for unrestricted transfer within or release from DoD control, or (2) is MPPEH, with the known or suspected explosive hazards stated, that is only transferable or releasable to a qualified receiver. This documentation must be signed by a technically qualified individual with direct knowledge of: (1) the results of both the material's 100 percent inspection and 100 percent re-inspection or of the approved process used and the appropriate level of re-inspection, and (2) the veracity of the chain-of-custody for the material. This signature is followed by the signature of another technically qualified individual who inspects the material on a sampling basis (sampling procedures are determined by DoD entity that is inspecting the material).</p>
<p>Environmental Regulators and Safety Officials. Include, but may not be limited to environmental regulators, environmental coordinators or hazardous material coordinators, law enforcement officers, and safety personnel of the U.S. Environmental Protection Agency (USEPA), American Indians and Alaska Natives, other Federal Land Managers, and/or the States. When appropriate, public health officials of various agencies may also be involved.</p>
<p>Explosive Hazard. A condition where danger exists because explosives are present that may react (e.g., detonate, deflagrate) in a mishap with potential unacceptable effects (e.g., death, injury, damage) to people, property, operational capability, or the environment.</p>
<p>Explosive Ordnance Disposal (EOD). The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded ordnance and of other munitions that have become an imposing danger, for example, by damage or deterioration.</p>
<p>Explosive Ordnance Disposal (EOD) Personnel. Military personnel who have graduated from the Naval School, Explosive Ordnance Disposal; are assigned to a military unit with a Service-defined EOD mission; and meet Service and assigned unit requirements to perform EOD duties. EOD personnel have received specialized training to address explosive and certain CA hazards during both peacetime and wartime. EOD personnel are trained and equipped to perform Render Safe Procedures (RSP) on nuclear, biological, chemical, and conventional munitions, and on improvised explosive devices.</p>
<p>Explosive Ordnance Disposal (EOD) Unit. A military organization constituted by proper authority; manned with EOD personnel; outfitted with equipment required to perform EOD functions; and assigned an EOD mission.</p>
<p>Explosives or Munitions Emergency Response. All immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions, and/or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities. (Military Munitions Rule, 40 CFR 260.10)</p>
<p>Explosives Safety. A condition where operational capability and readiness, people, property, and the environment are protected from the unacceptable effects or risks of potential mishaps involving military munitions.</p>
<p>Interim Holding Facility (IHF). A temporary storage facility designed to hold recovered chemical warfare material (RCWM).</p>
<p>Land Use Controls (LUC). LUC are physical, legal, or administrative mechanisms that restrict the use of, or limit access to, real property, to manage risks to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to real property, such as fences or signs.</p>
<p>Long-Term Management (LTMgt). The period of site management (including maintenance, monitoring, record keeping, 5-year reviews, etc.) initiated after response (removal or remedial) objectives have been met (i.e., after Response Complete).</p>
<p>Material Potentially Presenting an Explosive Hazard (MPPEH). Material potentially containing explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or material potentially containing a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization or disposal operations). Excluded from MPPEH are munitions within DoD's established munitions management system and other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions.</p>

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Military Munitions. Military munitions means all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants; explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives, and chemical warfare agents; chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges; and devices and components thereof.

The term does not include wholly inert items; improvised explosive devices; and nuclear weapons, nuclear devices, and nuclear components, other than nonnuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) have been completed. (10 U.S.C. 101(e)(4)(A) through (C))

Military Munitions Burial Site. A site, regardless of location, where military munitions or CA, regardless of configuration, were intentionally buried, with the intent to abandon or discard. This term includes burial sites used to dispose of military munitions or CA, regardless of configuration, in a manner consistent with applicable environmental laws and regulations or the national practice at the time of burial. It does not include sites where munitions were intentionally covered with earth during authorized destruction by detonation, or where in-situ capping is implemented as an engineered remedy under an authorized response action.

Minimum Separation Distance (MSD). MSD is the distance at which personnel in the open must be from an intentional or unintentional detonation.

Munition with the Greatest Fragmentation Distance (MGFD). The munition with the greatest fragment distance that is reasonably expected (based on research or characterization) to be encountered in any particular area.

Munitions and Explosives of Concern (MEC). This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks means: (A) Unexploded ordnance (UXO), as defined in 10 U.S.C. 101(e)(5); (B) Discarded military munitions (DMM), as defined in 10 U.S.C. 2710(e)(2); or (C) Munitions constituents (e.g., TNT, RDX), as defined in 10 U.S.C. 2710(e)(3), present in high enough concentrations to pose an explosive hazard.

Munitions Constituents (MC). Any materials originating from unexploded ordnance (UXO), discarded military munitions (DMM), or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. (10 U.S.C. 2710(e)(3)).

Munitions Debris. Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.

Munitions Response. Response actions, including investigation, removal actions and remedial actions to address the explosives safety, human health, or environmental risks presented by unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC), or to support a determination that no removal or remedial action is required.

Munitions Response Area (MRA). Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas. A munitions response area is comprised of one or more munitions response sites.

Munitions Response Site (MRS). A discrete location within an MRA that is known to require a munitions response.

Mutual Agreement. A meeting of the minds on a specific subject, and a manifestation of intent of the parties to do or refrain from doing some specific act or acts. Inherent in any mutual agreement or collaborative process are the acknowledgement of each member's role in the process and their differing views of their authorities. The mutual agreement process will provide a means of resolving differences without denying the parties an opportunity to exercise their respective authorities should mutual agreement fail to be achieved.

One Percent Lethality Distance. A distance calculated from a given CA Maximum Credible Event (MCE) and meteorological conditions (temperature, wind speed, Pasquill stability factor) and established as the distance at which dosage from that MCE agent release would be 150 mg-min/m³ for H and HD agents, 75 mg-min/m³ for HT agent, 150 mg-min/m³ for Lewisite, 10 mg-min/m³ for GB agent, 4.3 mg-min/m³ for VX vapor, and 0.1 mg-min/m³ for inhalation and deposition of liquid VX.

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<p>On-call Construction Support. Construction support provided, on an as needed basis, where the probability of encountering UXO, other munitions that may have experienced abnormal environments (e.g., DMM), munitions constituents in high enough concentrations to pose an explosive hazard, or CA, regardless of configuration, has been determined to be low. This support can respond from off-site when called, or be on-site and available to provide required construction support.</p>
<p>On-site Construction Support. Dedicated construction support, where the probability of encountering UXO, other munitions that may have experienced abnormal environments (e.g., DMM), munitions constituents in high enough concentrations to pose an explosive hazard, or CA, regardless of configuration, has been determined to be moderate to high.</p>
<p>On-the-Surface. A situation in which UXO, DMM or CA, regardless of configuration, are: (A) entirely or partially exposed above the ground surface (i.e., the top of the soil layer); or (B) entirely or partially exposed above the surface of a water body (e.g., because of tidal activity).</p>
<p>Open Burn (OB). An open-air combustion process by which excess, unserviceable, or obsolete munitions are destroyed to eliminate their inherent explosive hazards.</p>
<p>Open Detonation (OD). An open-air process used for the treatment of excess, unserviceable or obsolete munitions whereby an explosive donor charge initiates the munitions being treated.</p>
<p>Operational Range. A range that is under the jurisdiction, custody, or control of the Secretary of Defense and that is used for range activities; or although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities. (10 U.S.C. 101(e)(3)(A) and (B)). Also includes "military range," "active range," and "inactive range" as those terms are defined in 40 CFR §266.201.</p>
<p>Primary Explosives. Primary explosives are highly sensitive compounds that are typically used in detonators and primers. A reaction is easily triggered by heat, spark, impact or friction. Examples of primary explosives are lead azide and mercury fulminate.</p>
<p>Public Access Exclusion Distance (PAED). The PAED is defined as longest distance of the hazardous fragment distance, inhabited building distance (IBD) for overpressure, or the One Percent Lethality Distance. For siting purposes, the PAED is analogous to the IBD for explosives; therefore, personnel not directly associated with the chemical operations are not to be allowed within the PAED.</p>
<p>Qualified Receiver. Entities that have personnel who are, or individuals who are, trained and experienced in the identification and safe handling of used and unused military munitions, and any known or potential explosive hazards that may be associated with the MPPEH they receive; and are licensed and permitted or otherwise qualified to receive, manage, and process MPPEH.</p>
<p>Range. A designated land or water area that is set aside, managed, and used for range activities of the Department of Defense. The term includes firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access, and exclusionary areas. The term also includes airspace areas designated for military use in accordance with regulations and procedures prescribed by the Administrator of the Federal Aviation Administration. (10 U.S.C. 101(e)(1)(A) and (B))</p>
<p>Range activities. Research, development, testing, and evaluation of military munitions, other ordnance, and weapons systems; and the training of members of the armed forces in the use and handling of military munitions, other ordnance, and weapons systems. (10 U.S.C. 101(e)(2)(A) and (B))</p>
<p>Range Clearance. The destruction, or removal and proper disposition of used military munitions (e.g., unexploded ordnance (UXO) and munitions debris) and other range-related debris (e.g., target debris, military munitions packaging and crating material) to maintain or enhance operational range safety or prevent the accumulation of such material from impairing or preventing operational range use. "Range clearance" does not include removal, treatment, or remediation of chemical residues or munitions constituents from environmental media, nor actions to address discarded military munitions (e.g., burial pits) on operational ranges.</p>
<p>Range-Related Debris. Debris, other than munitions debris, collected from operational ranges or from former ranges (e.g., target debris, military munitions packaging and crating material).</p>
<p>Recovered Chemical Warfare Material (RCWM). CWM used for its intended purpose or previously disposed of as waste, which has been discovered during a CWM response or by chance (e.g., accidental discovery by a member of the public), that DoD has either secured in place or placed under DoD control, normally in a DDESB-approved storage location or interim holding facility, pending final disposition.</p>

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<p>Render Safe Procedures (RSP). The portion of EOD procedures that involves the application of special disposal methods or tools to interrupt the functioning or otherwise defeat the firing train of UXO from triggering an unacceptable detonation.</p>
<p>Secondary Explosives. Secondary explosives are generally less sensitive to initiation than primary explosives and are typically used in booster and main charge applications. A severe shock is usually required to trigger a reaction. Examples are TNT, cyclo-1,3,5-trimethylene-2,4,6-trinitramine (RDX or cyclonite), HMX, and tetryl.</p>
<p>Small Arms Ammunition. Ammunition, without projectiles that contain explosives (other than tracers), that is .50 caliber or smaller, or for shotguns.</p>
<p>Team Separation Distance (TSD). The distance that munitions response teams must be separated from each other during munitions response activities involving intrusive operations.</p>
<p>Technical Escort Unit (TEU). A DoD organization manned with specially trained personnel that provide verification, sampling, detection, mitigation, render safe, decontamination, packaging, escort and remediation of chemical, biological and industrial devices or hazardous material.</p>
<p>Technology-aided Surface Removal. A removal of UXO, DMM or CWM on the surface (i.e., the top of the soil layer) only, in which the detection process is primarily performed visually, but is augmented by technology aids (e.g., hand-held magnetometers or metal detectors) because vegetation, the weathering of UXO, DMM or CWM, or other factors make visual detection difficult.</p>
<p>Time Critical Removal Action (TCRA). Removal actions where, based on the site evaluation, a determination is made that a removal is appropriate, and that less than 6 months exists before on-site removal activity must begin. (40 CFR 300.5)</p>
<p>Unexploded Ordnance (UXO). Military munitions that (A) have been primed, fuzed, armed, or otherwise prepared for action; (B) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (C) remain unexploded whether by malfunction, design, or any other cause. (10 U.S.C. 101(e)(5)(A) through (C))</p>
<p>UXO Technicians. Personnel who are qualified for and filling Department of Labor, Service Contract Act, Directory of Occupations, contractor positions of UXO Technician I, UXO Technician II, and UXO Technician III.</p>
<p>UXO-Qualified Personnel. Personnel who have performed successfully in military EOD positions, or are qualified to perform in the following Department of Labor, Service Contract Act, Directory of Occupations, contractor positions: UXO Technician II, UXO Technician III, UXO Safety Officer, UXO Quality Control Specialist, or Senior UXO Supervisor.</p>
<p>Venting. Exposing any internal cavities of MPPEH, to include training or practice munitions (e.g., concrete bombs), using DDESB- or DoD Component-approved procedures, to confirm that an explosive hazard is not present.</p>

Military Munitions-Related Terms (1)
How do they apply to specific types of material?

Type of Material (These are only examples.)	What is it BEFORE it is inspected for explosives hazards? (2)		What is it AFTER it is inspected for explosive hazards?					
	What is it BEFORE it is inspected? (16)		If it presents an explosive hazards?			If it does not present an explosive hazards?		
	MPPEH	Other	MEC			MC (5)	Munitions Debris	Other
			UXO	DMM (3)	MC (4)			
Used military munition, on a range, fired	X		X				X	
Unused military munition, on a range, apparently discarded	X			X			X	
Used military munition, in a burial pit, on an operational range or on former ranges	X		X (6)				X	
Unused military munition, in a burial pit on an operational range or on former ranges	X			X (6)			X	
Explosives in the soil	X				X (7)	X		
Refrigerator, nails, soft drink cans, old fence wire, etc.		(8)	NA	NA	NA			(8)
Used cartridge cases, from a range, with live unused munitions possibly mixed in	X			X			(9)	
Target from a range (other than small arms range)	X		(10)	(10)	(10)			(11)
Remnants of munitions from an operational range or former range	X		X (12)	X (12)	X (12)		X (13)	
Kicked out military munition from a former open burn or open detonation ground	X			X (14)			X	
Residual MC in a melt kettle of a former (closed) explosive cast loading building	X		(15)	(15)	X (15)	X		X (16)
Residual MC in a floor drain pipe from an explosives-laden wash water drain of a former (closed) explosives cast loading facility.	X		(15)	(15)	X (15)			X (16)
Residual MC in cracks in floor slab (and in soil underneath floor cracks) in a former explosives manufacturing building	X		(15)	(15)	X (15)	X		X (16)
Small arms bullets or lead particulates in the soil from small arms use at a former small arms range used only for firing small arms ammunition		X (17)	Not Applicable (17)			X		

Note: The examples in this table are not all inclusive. The numbers in the table refer to footnotes that are found on the next page. It is important to read the footnotes, as they provide additional information of importance to understanding.

Endnotes:

- (1) DoD has been working to standardize terms related to military munitions.
- (2) Before material that is considered MPPEH can be either transferred within or released from DoD, its explosives safety status must be determined (see definition--Documentation of the Explosives Safety Status of Material). The type material involved determines the type of inspection (e.g., visual examination, chemical analysis, X-ray) required. Personnel qualified to determine the status of the particular material being examined must perform required inspections. For example, EOD and UXO-qualified personnel may inspect UXO and DMM during a munitions response or during range clearance activities. A QASAS or certified Wage Grade ammunition operator may inspect steamed-out projectiles at a depot's steam-out operation. A laboratory technician may perform a chemical analysis of soil to determine the percent explosives in the soil.
- (3) Munitions generally considered as DMM include: buried munitions; un-recovered kick outs from open detonations; munitions left behind or discarded accidentally during munitions-related activities; munitions intentionally disposed of without authorization during munitions-related activities. Munitions removed from storage for the purpose of disposal that are awaiting disposal are not DMM.
- (4) This is MC that is both (a) an explosive; and (b) present in sufficient concentrations to present explosive hazards.
- (5) This is MC that is either (a) not an explosive (e.g., lead, beryllium, and cadmium); or (b) an explosive not present in sufficient concentrations to present explosive hazards.
- (6) Although military munitions in a burial pit will normally be DMM, some may be UXO. For explosives safety reasons, munitions in a burial pit should be approached as UXO until assessed by technically qualified personnel (e.g., EOD personnel, UXO-qualified personnel) and determined that they are not UXO or that they do not present explosive hazards similar to UXO.
- (7) Explosive soil is typically found in sumps and settling lagoons for explosives-laden wastewater, and in and around drainage ditches and pipes that carry the wastewater to such sumps and lagoons.
- (8) These items are cultural debris.
- (9) After determination of their explosives safety status, used cartridge cases documented as safe would, after any demilitarization required to remove their military characteristics, be available for release from DoD. In addition to these DoD requirements, other regulatory criteria may apply.
- (10) A target is a type of range-related debris. Although a target is not MEC, it may contain UXO, DMM, or MC. Prior to its release from DoD control, its explosives safety status must be documented.

- (11) A target's explosives safety status must be documented and any demilitarization required to remove its military characteristics must be performed prior to its release from DoD control.
- (12) UXO, DMM, or MC may be found on operational ranges and on former ranges (previously referred to as closed, transferring or transferred ranges). An inspection of the material will determine into which category this material falls. For example, if a projectile breaks apart on impact, one could find (a) a sheared-off fuze, which would be UXO or (b) explosive filler, which would be MC, that broke away from the projectile's open body. If during an open detonation of an unserviceable munition that is conducted on an operational range, the donor charge detonates, but the munition being destroyed breaks up, but does not detonate, the remnants of the munition would be DMM or, if explosive residue (e.g., clumps of TNT), MC.
- (13) After determination of its explosives safety status, scrap metal from used munitions on a range that is documented as safe would, after any demilitarization required to remove its military characteristics, be available for release from DoD control. In addition to these DoD requirements, other regulatory criteria may apply.
- (14) Prudent safety practice is to consider kick outs, which have experienced an unknown environment, to be equally dangerous and managed like UXO until technically qualified personnel assess and determine that they are not UXO or do not present explosive hazards similar to UXO.
- (15) Of itself, such material (e.g., metal kettle, drainpipes, floor slabs) do not present an explosive hazard and would not be classified as UXO, DMM or MC. However, residual MC (e.g., TNT, RDX, HMX) could remain in such material in high enough concentrations to present an explosive hazard.
- (16) After determination of its explosives safety status, such material (e.g., metal kettle, drainpipes, floor slabs) when documented as safe would be available for release from DoD control. In addition to this DoD requirement, other regulatory criteria may apply.
- (17) At operational ranges or former ranges used exclusively for live fire of small arms ammunition, some unfired small arms ammunition may be found. Although this ammunition is considered DMM and would be MPPEH, it is not considered to present a significant explosive hazard.