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MARE ISLAND
SSIC NO. 5090.3.A

**OVERSIGHT REPORT FOR
MEC SOIL SCREENING OPERATION
AT
FORMER MINS CORAL SEA HOUSING AREA**

Oversight Report for MEC Soil Screening Operation at Former MINS Coral Sea Housing Area

During soil screening operations conducted 23 August 2004 at Mare Island's Coral Sea Housing Area, workers encountered two ordnance items. Work was halted and Explosive Ordnance Disposal (EOD) personnel were called to respond from nearby Travis AFB. They arrived the following day and determined the two ordnance items to be a 5 inch projectile and 8 inch "Parrot" round. While the 5 inch projectile was determined to pose no explosive hazard, as it was empty and contained no explosives, the potential for the 8 inch Parrot round to contain explosive filler could not be determined. Both of the items were deemed to be safe to move and were transported for storage to Building A-180 within the Mare Island magazine complex.

On Wednesday, 25 August 2004, John Bowles (ECC Senior Manager for Contract 62742-98-D-1809) was contacted by Patricia McFadden (BRAC Field Team Leader, NAVFAC Southwest) regarding the discovery of ordnance at a soil screening operation in the Coral Sea housing area at the Former Mare Island Naval Shipyard (MINS) located in Vallejo, CA. ECC was requested to provide construction support which required UXO Technicians to identify, assess, segregate and ensure the safe management of munitions and explosives of concern (MEC) encountered during the soil screening operations. ECC immediately assigned two UXO Technicians (Level III) to this task. These individuals traveled to MINS on 26 August 2004 and began their support to the operation on the morning of 27 August 2004. Their support continued through 19 September 2004 and a total of twenty-six MEC items were recovered.

Specific work conducted by ECC included daily MEC safety briefings to project personnel before the start of soil screening operations. The two ECC UXO Technicians closely observed all aspects of the soil screening process, paying particular attention to the Powertrack Powerscreen Model 800 equipment which filtered debris from soil in a two-phase process.

Soil and debris were first loaded onto a 3.5 inch width initial screening area. Items with a diameter or width of greater than 3.5 inches were cast off the screen. All other material was passed through to a 2.5 inch by 2.5 inch final screen. All items with a diameter or width larger than 2.5 inches were cast off this screen as well, and the remaining soil transported by conveyor to a screened material stockpile.

At the start of ECC's MEC construction support activities, the possibility of encountering MEC smaller than the 5 inch and 8 inch items previously encountered was considered. Accordingly, procedures for monitoring the source and screened materials, and feeder stock pile were developed to ensure smaller MEC items would not be missed in passing to the screened materials stockpile. Inspections of all three of these areas were carefully accomplished throughout each day's screening activities by ECC UXO technicians.

The Powertrack Powerscreen Model 800 equipment is shown in the two photos below.



Photo 1 - Powertrack Powerscreen

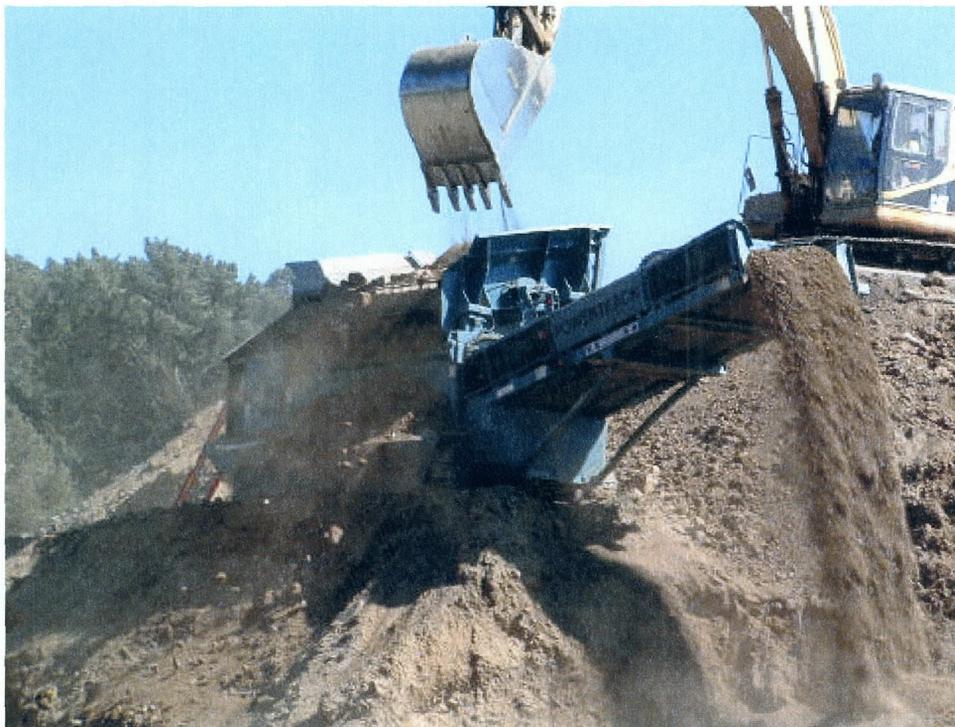


Photo 2 - Powerscreen in operation

All MEC discovered throughout the period of MEC construction support had a diameter of 3 inches or greater and was removed from the soil as they encountered the first or second screening platforms, or immediately after being expelled from the screen. As soon as items were first encountered, all loading and screening activities were halted. ECC UXO personnel would directly inspect and remove the item before recommencing

further screening activities. Table (1) provides a chronological list and photographs of recovered MEC items.

Specific procedures used by ECC personnel to determine potential explosive hazards associated with recovered MEC items located at MINS are detailed in Attachment 1 of this report. While some of the photographs may appear more than once, the photos contained within Attachment 1 are provided to be illustrative of the certification procedures themselves.

TABLE 1. MEC CONSTRUCTION SUPPORT RESULTS FOR MINS SOIL SCREENING OPERATIONS AT CORAL SEA HOUSING AREA

DATE	MEC SIZE AND DESCRIPTION			TOTAL
	8 inch	5 inch	3 inch	
27-Aug	0	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	0	1
Photos		3, 4		
30-Aug	0	Two "Dummy" Projectiles MK & Mod Unknown (EMPTY)	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	3
Photos		5	7	
Photo		6		
31-Aug	One 8" Parrot Round (EMPTY)	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	0	2
Photos	8, 9	10		
1-Sep	0	One "AA Dummy" Projectile MK & XXX Mod Unknown (EMPTY)	0	1
Photos		11		
2-Sep	0	0	0	0
3-Sep	0	0	0	0
4-Sep	0	0	0	0
7-Sep	0	0	0	0
8-Sep	0	Two "Dummy" Projectiles MK & Mod Unknown (EMPTY)	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	4
Photos		12	14	
		One "Dummy" Projectile MK & Mod Unknown Solid Brass (EMPTY)		
Photos		13		
9-Sep	0	0	One "Dummy" Projectile MK & Mod Unknown	1

TABLE 1. MEC CONSTRUCTION SUPPORT RESULTS FOR MINS SOIL SCREENING OPERATIONS AT CORAL SEA HOUSING AREA

DATE	MEC SIZE AND DESCRIPTION			TOTAL
	8 inch	5 inch	3 inch	
Photos			(EMPTY) 15	
10-Sep	One 8" Parrot Round (EMPTY)	One "Dummy" Projectile MK & Mod Unknown (EMPTY).	0	3
Photos	16	17, 18		
		One "Dummy" Projectile MK & Mod Unknown w/ Cartridge Case (EMPTY)		
Photos		19, 20		
11-Sep	One 8" Parrot Round (EMPTY)	Two "Dummy" Projectiles MK & Mod Unknown (EMPTY).	0	6
Photos	21, 22	23, 24		
		Three "Dummy" Projectiles MK54A1 (EMPTY)		
Photos		25, 26, 27		
13-Sep	0	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	0	2
Photos		28		
		One "Dummy" Projectile MK54A1 (EMPTY)		
Photos		29		
18-Sep	0	One AP "Dummy" Projectile MK & Mod Unknown (EMPTY)	0	2
Photos		30		
		One "AA Dummy" Projectile MK & XXX Mod Unknown (EMPTY)		
Photos		31		
19-Sep	0	One "Dummy" Projectile MK & Mod Unknown (EMPTY)	0	1
Photos		32		
			Grand Total	26

MEC Item Photographs (see Table 1 for descriptive information)



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31



Photo 32

Attachment 1

ECC MEC Certification Procedures
Used at Former Mare Island Naval
Shipyard (MINS)
to Determine Explosive Hazards of
Recovered MEC Items

During the period of 27 August through 14 September and the 18th and 19th of September 2004 ECC recovered 26 ordnance items. All twenty-six were inspected and certified empty and are shown by type and date found in Table 1 located at the end of this Attachment. A further 13 items previously discovered by another subcontractor were inspected and certified as empty by ECC personnel using the procedures described in this report. These items are shown in Table 2. All items listed in both Tables were conspicuously marked with white paint and turned over to the MINS Caretaker Site Office for disposition.

Other ordnance items are also located within the holding facility requiring investigation as to their potential explosive hazards. However, the internal cavities of these munitions were not accessible and will require additional investigation or explosive techniques to verify their specific hazards. These items were not certified based on the time and equipment that would be required to complete these tasks.

CERTIFICATION PROCEDURE FOR THE 3" MK. MOD. UNKNOWN PROJECTILE

All three inch projectiles found were solid dummy rounds, both the nose and base were solid metal with no arrangements for fuzing. Some of the rounds still had a partial brass casing attached containing a portion of a wooden dummy cartridge casing



3 inch Dummy Projectile



Base, 3 Inch Dummy Projectile

**CERTIFICATION PROCEDURE FOR THE 5" MK. MOD. UNKNOWN
PROJECTILE BRASS**

This projectile was solid dummy round plated in brass; both the nose and base were solid metal with no arrangements for fuzeing.



5" MK. MOD. UNKNOWN PROJECTILE BRASS (Bottom)

CERTIFICATION PROCEDURE FOR THE 5" MK XXX MOD UNKNOWN PROJECTILE

Upon discovery, a visual inspection of the rotating band was conducted to ensure that these projectiles had not been fired. Also, a visual inspection of the base was conducted to confirm that there was a hole in the center of the base of the projectile exposing the empty projectile cavity. Once these conditions were confirmed, the projectile was considered safe, carried off to a safe area, and cleaned for recording purposes. The first action taken was to insert a non-sparking probe into the hole in the base of the projectile and record the depth of the cavity. The non-sparking probe was then placed on the external body of the projectile revealing a depth of all but the fuze body. On one projectile, the ojive of the fuze was corroded exposing the internal cavity. This cavity was expanded and revealed that the entire fuze body was void of any working components. A non-sparking probe was reinserted into the base of the projectile and manipulated until it eventually entered the fuze body. The tip of the non-sparking probe could now be observed through the external cavity in the fuze body. A further visual search of the interior of each projectile was conducted using a fiber optic light. Upon conclusion of these investigations, on the remaining projectiles and fuzes it was determined that they also were empty and void of any potential energetic materials.

Prior to our departure, all of the 5" MK XXX MOD UNKNOWN projectiles were inspected utilizing a thin non-sparking metal bar thereby confirming our initial findings of these projectiles and again deeming them to be empty and void of any energetic materials.



5" MK XXX MOD UNKNOWN PROJECTILE



5" MK XXX MOD UNKNOWN PROJECTILE BASE

CERTIFICATION PROCEDURE FOR 5" MK MOD UNKNOWN PROJECTILE

Upon discovery, a visual inspection was conducted to confirm that there was a hole in the center of the base of the projectile exposing the empty projectile cavity. Due to the lack of a rotating band, no inspection of this item was conducted. Once this condition was confirmed, the projectile was considered safe, carried off to a safe area, and cleaned for recording purposes. The first action taken was to insert a non-sparking probe into the hole in the base of the projectile and record the depth of the cavity. The non-sparking probe was then placed on the external body of the projectile revealing a depth of all but the fuze body. Unlike that of the MK XXX, there was no access into the fuze body from the projectile cavity. Therefore, an extensive inspection of the fuze was conducted. These fuzes revealed no presence of any plunger type devices normally associated with point detonating type fuzes. They did not contain multiple body construction normally associated with powder train time fuzes. The body and booster cups were constructed of solid steel vice a booster cup constructed of aluminum or lighter material therefore allowing for a rapid decomposition and transfer of energy to the main filler. There was no evidence of a safety pin hole, bore riding pin or any other safety related items. The upper fuze body did not rotate separately of the lower fuze body as normally associated with that of a mechanical time fuze. There were no markings stamped into the fuze body with the exception of a self appointed

serial number. All of the fuzes associated with this type of projectile were identical to each other. A further visual search of the interior of each projectile was conducted using a fiber optic light. Upon conclusion of these investigations, on the remaining projectiles and fuzes it was determined that they also were empty and void of any potential energetic materials.

Prior to our departure, all of the 5" MK MOD UNKNOWN projectiles were recertified utilizing a thin non-sparking metal bar and a further visual search of the interior of the projectile was conducted thereby confirming our initial findings of these projectiles and again deeming them to be empty and void of any energetic materials.



5" MK MOD UNKNOWN PROJECTILE



5" MK MOD UNKNOWN PROJECTILE BASE

CERTIFICATION PROCEDURE FOR 5" AP DUMMY PROJECTILE

Upon discovery, a visual inspection was conducted to confirm that there was no presence of a fuze assembly. Also, an inspection of the rotating band was conducted to verify that this projectile had not been fired. Once these conditions were confirmed, the projectile was considered safe, carried off to a safe area, and cleaned for recording purposes. During the cleaning process, moisture began to exude from the center of the base of the projectile. A screwdriver component of a letherman tool was used to remove debris and a decomposed wooden plug from the base of the projectile revealing an empty cavity. A non-sparking probe was inserted into the fuze hole in the base of the projectile and the depth of the cavity recorded. The non-sparking probe was then placed on the external body of the projectile revealing a depth of all but approximately $\frac{3}{4}$ of an inch which would compensate for the thickness of the nose of the projectile. A further visual search of the interior of the projectile was conducted using a fiber optic light confirming the cavity was empty. Upon conclusion of these investigations, it was determined that the projectile was empty and void of any potential energetic materials.

Prior to our departure, the AP DUMMY projectiles was recertified utilizing a thin non-sparking metal bar and a further visual search of the interior of the projectile was conducted thereby

confirming our initial findings of this projectile and again deeming it to be empty and void of any energetic materials.



5" AP DUMMY PROJECTILE

CERTIFICATION PROCEDURE FOR 8" PARROT PROJECTILE

Upon discovery, a visual inspection of the rotating band was conducted to ensure that these projectiles had not been fired. Also, a visual inspection of the fuze well was conducted to determine the presence or absence of a functional fuze assembly. Once the conditions were confirmed, the projectile was considered safe, carried off to a safe area, and cleaned for recording purposes. During the cleaning phase, the nose plug on the projectile was seen exuding a liquid substance. An aroma test was conducted, and it was determined that black powder was not contained within the center of the plug.

Based on previous documentation, it was confirmed that these rounds came standard with a wooden shipping plug inserted into the fuze well. A leatherman tool, was used to cautiously remove debris and a decomposed wooden plug and the substances being removed were carefully scrutinized for the potential presence of any type of energetic material. The only substance identified throughout this process was that of bay mud and moistened decomposing wood. The wooden plug and mud was eventually removed revealing an empty cavity. A non-sparking probe was used to record the depth of the cavity and placed on the external body of the projectile revealing a depth of all but approximately $\frac{3}{4}$ of an inch which would compensate for the thickness of the projectile base. A further visual search of the interior of the projectile was conducted using a fiber optic light confirming the cavity was empty. The non-sparking probe was

reinserted and shifted from side to side to ensure that the cavity was entirely void of any potential energetic materials. A metal to metal signature could be heard during this entire procedure. Upon conclusion of this investigation, it was determined that the projectile was empty and void of any potential energetic materials.

Prior to our departure, all of the 8” projectiles were recertified utilizing a non-sparking thin metal bar and a further visual search of the interior of the projectile was conducted thereby confirming our initial findings of these rounds and again deeming them to be empty and void of any energetic materials.



8” PARROT PROJECTILE



8" PARROT PROJECTILE W/NOSE PLUG AND MUD



8" PARROT PROJECTILE W/NOSE PLUG AND MUD REMOVED



8" PARROT PROJECTILE BASE

CERTIFICATION PROCEDURE FOR 10" PROJECTILE

This 10 Inch projectile is one of ten projectiles that were not found during ECC MEC activities at the Coral Sea Housing Area. It is one of 10 rounds that were located in Building A-180 and are addressed in the table labeled "Inspection of Ordnance in Storage Bunker" as part of this Attachment.

This round did not contain a shipping plug nor nose fuzing. A non-sparking probe was inserted into the open nose fuze well and used to record the depth of the cavity. This measurement was checked by placing the probe on the external body of the projectile revealing a depth of all but approximately $\frac{3}{4}$ of an inch which would compensate for the thickness of the projectile base. A further visual search of the interior of the projectile was conducted using a fiber optic light confirming the cavity was empty. The non-sparking probe was reinserted and shifted from side to side to ensure that the cavity was entirely void of any potential energetic materials. A metal to metal signature could be heard during this entire procedure. Upon conclusion of this investigation, it was determined that the projectile was empty and void of any potential energetic materials. Prior to our departure, the projectile was recertified utilizing a non-sparking thin metal bar and a further visual search of the interior of the projectile was conducted thereby



confirming our initial findings of these rounds, deeming them to be empty and devoid of any energetic materials.

No photos are available, however, they are very similar to the 8 inch.



Project 6140.001 Mare Island, Relevant Munitions Response Support 20 Sept. 2004

DATE	8"	5 "	3"	Total
27-Aug	0	1 ea. "Dummy" MK.Mod Unk. (EMPTY)	0	1
30-Aug	0	2 ea. "Dummy" MK.Mod Unk. (EMPTY)	1 ea. "Dummy" MK.Mod Unk.(EMPTY)	3
31-Aug	1 ea. 8" Parrot (EMPTY)	1 ea. "Dummy" MK.Mod Unk. (EMPTY)	0	2
1-Sep	0	1 ea. "AA Dummy" MK.XXX Mod Unk. (EMPTY)	0	1
8-Sep	0	2 ea. "Dummy" MK.Mod Unk. (EMPTY) 1 ea. "Dummy" MK.Mod Unk. Solid Brass (EMPTY)	1 ea. "Dummy" MK.Mod Unk.(EMPTY)	4
9-Sep	0	0	1 ea. "Dummy" MK.Mod Unk.(EMPTY)	1
10-Sep	1 ea. 8" Parrot (EMPTY)	1 ea. "Dummy" MK.Mod Unk. (EMPTY). 1 ea. "Dummy" MK.Mod Unk. w/ Cartridge Case (EMPTY)	0	3
11-Sep	1 ea. 8" Parrot (EMPTY)	2 ea. "Dummy" MK.Mod Unk. (EMPTY). 3 ea. "Dummy" MK54A1 (EMPTY)	0	6
13-Sep	0	1 ea. "Dummy" MK.Mod Unk. (EMPTY) . 1 ea. "Dummy" MK54A1 (EMPTY)	0	2
18-Sep	0	1 ea. AP "Dummy" MK.Mod Unk. (EMPTY) 1 ea. "AA Dummy" MK.XXX Mod Unk. (EMPTY)	0	2
19-Sep	0	1 ea. "AA Dummy" MK.XXX Mod Unk. (EMPTY)	0	1
		Note: All items turned over to Navy POCs, Bob Palmer or Randy Anderson for disposition	Grand Total	26

Project 6140.001 Mare Island, Relevant Munitions Response Support 20 Sept. 2004

Inspection of Ordnance in Storage Bunker

DATE	8"	10"	5"	Total
19-Sep	10 ea. 8" Parrot (EMPTY)	1 ea. "Dummy" MK.Mod Unk. (EMPTY)	2 ea. "Dummy" MK.Mod Unk. (EMPTY)	13
		Remarks		
		Checked 10 rounds in storage not found by ECC and certified empty will complete 1348 when received from Bob Palmer	Grand Total	13