

FIRING/NONFIRING DATA

LOG #59-13

For use of this form see USAIC Regulation 350-19; the proponent agency is DPTMS

TO: Chief, Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905	Date: 20 MAY 2013 Range: WARE Title: TANK GUNNERY Problem No:
THRU: MARINE CORPS DETACHMENT FORT BENNING, GA	FROM: MARINE TRAINING COMPANY FORT BENNING, GA

SECTION I, TYPE OF TRAINING

a. Live Fire       b. Non-live Fire      CP/Controller Coordinates: 0961 9732

SECTION II, DEMOLITIONS/GRENADES/MINES/PYROTECHNICS

Coordinates	Type	Model/DODAC	Size of Charges
N/A	N/A	N/A	N/A

SECTION III, WEAPONS/AMMUNITION REQUESTED

Coordinates of Weapons Position	Type Weapon/Model Number	Type Ammunition	Left Limit	Right Limit
SEE WEAPONS & AMMO LIST	SEE WEAPONS & AMMO LIST	SEE WEAPONS & AMMO LIST	SEE WEAPONS & AMMO LIST	SEE WEAPONS & AMMO LIST

SECTION IV, LIVE FIRE EXERCISES Attach the following:

SECTION V, NON-LIVE FIRE TRAINING

<input checked="" type="checkbox"/> Scenario of training to be conducted:	Training area(s) to be occupied:
<input checked="" type="checkbox"/> Sketch of area:	<input type="checkbox"/> Scenario of training to be conducted:
<input checked="" type="checkbox"/> Risk Assessment:	<input type="checkbox"/> Sketch of area(s) to be occupied:
<input type="checkbox"/> Attach FB Form 350-19-2-E-R if Mortar or artillery is being fired:	<input type="checkbox"/> Risk Assessment:

Name/rank of requesting officer: HOFFA, AARON W., MSGT	Name/rank of Major Unit S3/Commander: HUGHES, DANIEL E., MAJOR
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*[Handwritten Signature]*      *[Handwritten Signature]*

SECTION VI, FOR RANGE DIVISION USE      DATE: 12 NOV 13

TO:	FROM: Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905
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a. Roadblocks to be closed:	<i>See Roadblock list.</i>
b. Road(s) to be closed/road barrier locations:	
c. Remarks:	
d. This approval expires: <i>Indef</i>	

Chief, Range Division  
Directorate of Plans, Training, Mobilization and Security  
*[Handwritten Signature]*



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE  
1 KARKER STREET  
FORT BENNING, GEORGIA 31905-5000

REPLY TO  
ATTENTION OF  
ATZB-SO

07 December 2011

MEMORANDUM FOR Commander, U.S. Marine Corp Detachment, Attn: SGT Rogers, Fort Benning, GA 31905

SUBJECT: USMC Armor Crewman Course MIA1 Gunnery at Ware Range Safety Review

1. References.

- a. Army Regulation 385-10, The Army Safety Program, 24 August 2007,
- b. Army Regulation 385-63, Range Safety, 19 May 2003
- c. Department of the Army Pamphlet 385-10, Army Safety Program, RAR 19 January 2010
- d. Department of the Army Pamphlet 385-30, Mishap Risk Management, RAR 01 February 2010
- e. Department of the Army Pamphlet 385-63, Range Safety, RAR 12 May 2009
- f. Field Manual 5-19, Composite Risk Management, August 2006

2. Concur

3. Point of contact is Mr. Michael W. Risher II, MCoE/Fort Benning Safety Office, Comm. (706) 545-8278, Govt. Cell. (706) 604-7249, [michael.w.risher.civ@mail.mil](mailto:michael.w.risher.civ@mail.mil)

  
JILL E. CARLSON  
Director, MCoE/USAG Safety

Ware Range USMC Tank Gunnery (Log #5-9-13) Weapons/Ammo/Target List Enclosure				
Firing Positions	Weapons	Ammunition	Left Limit Mils, Grid Az	Right Limit Mils, Grid Az
Baseline, Left to Right: 0968 9735 to 0968 9724 Screening	M1 Tank M256	120mm M831/M865	1550	1750
Baseline, Left to Right: 0968 9735 to 0968 9724 Gunnery	M1 Tank M256 M2 M240	120mm M831/M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	1520 1290 1195	1930 1925 2085

Firing Positions	Weapons	Ammunition	Targets
Baseline, Left to Right: 0968 9735 to 0968 9724 Screening	M1 Tank M256	120mm M831/M865	Screening Panels Located at Approximately 366m From Baseline. See Sketch For Location. See Note Below.
Baseline, Left to Right: 0968 9735 to 0968 9724 Gunnery	M1 Tank M256 M2 M240	120mm M831/M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	201, 203, 207-209, 212-214, 216-221, 223-225. MAT: 1, 2. 201-225. MAT: 1, 2. (See Note Below) C: 1-7.

NOTES: Screening will be conducted from the Baseline at panels located approximately 366m downrange. The Primary Direction of Fire (PDF) for screening is 1650 mils (grid azimuth) with limits of fire 100 mils left and right of the PDF. Each tank will only screen at the panel to its front within these limits. Target 202 can only be engaged from the left 1/4 of the baseline with M2 .50 cal)



## UNITED STATES MARINE CORPS

ARMOR TRAINING COMPANY  
MARINE CORPS DETACHMENT  
MANEUVER CENTER OF EXCELLENCE  
10288 7<sup>TH</sup> CAVALARY REGIMENT ROAD  
FORT BENNING, GEORGIA 31905-2195

3000 SMH

6 November 2013

**MEMORANDUM FOR CHIEF, RANGE OPERATIONS, DPTMS, FORT BENNING, GEORGIA 31905**

**SUBJECT: MARINE ARMOR CREWMAN COURSE M1A1 GUNNERY ON WARE RANGE.**

**1. PURPOSE:** The purpose of this range is to conduct M1A1 Abrams Gunnery/Live fire familiarization training on Ware Range in order to train Marine Armor Crewman Course (MACC) students on the capabilities of the M1A1 Abrams.

**2. APPLICABILITY:** This memorandum applies to D Co, 3-81 Armor (USMC) using Ware Range. All Officers in Charge (OIC), Non-Commission Officers in Charge (NCOIC) and Range Safety Officers (RSO) will be familiar with the contents of this memorandum and all other applicable references.

**3. Training objectives:** Weapons and ammunition used.

- |                  |                                 |
|------------------|---------------------------------|
| a. M2/M240 (G/L) | 7.62/.50 cal Ball/Tracer linked |
| b. M256          | 120mm (M865, M1002, and M831)   |
| c. Night vision  | Thermal weapon sights           |
| d. Eye Safe LRF  | M1A1/FEP                        |

#### 4. REFERENCES:

- Army Regulation 385-63 and DA PAM 385-63, Range Safety
- Army Regulation 350-1, Army Training
- MCOE Regulation 350-19, Range and Terrain Regulation
- TM 9-1300-206, Ammunition and Explosives Standards
- FM 3-20.21, HBCT Gunnery Manual
- FM 3-20.15, Tank Platoon
- TM 9-2350-264-10-1 & 2, Operating the M1A1.
- FM 3-20.98 Reconnaissance Scout Platoon.
- TM 9-1005-213-10, .50 caliber machine gun.
- TM 9-1005-313-10, M240, 7.62mm machine gun.

**5. SCHEDULING:** Each unit/activity scheduling Ware Range will prepare and submit the following documents to Range Operations, DPTMS:

- DA Form 7566, Risk Management Worksheet and Daily Risk Assessment.
- FB Form 350-19-1-E-R, scenario, sketches, FB Form 144, and any specific enclosures as required.
- Training guidelines: All training will be conducted IAW this memorandum and applicable references listed in paragraph 3 and FB 350-19-1-E-R. Units are

responsible for developing and submitting a new range packet if requested training deviates from approved range packet.

d. Units will use the Range Facility Management and Scheduling System (RFMSS) when scheduling Ware Range.

**6. ADMINISTRATIVE:** The training unit shall clear the range IAW local policies and procedures established with Range Control. Units will be required to clean all buildings occupied during the training event. This will require that the unit supply the following; brooms, mops, buckets, and appropriate cleaning supplies. Using units are responsible for clearing all brass and ammunition from the baseline and all firing lanes. Brass and ammunition to be policed during daylight hours only. A red range flag will be provided to the using unit by Range personnel. The range flag will be displayed prior to live-fire training and must be returned to Range personnel prior to departing the range. Using units are responsible for providing a fire detail. These personnel will be used in case of a fire downrange. All range fires will be suppressed and reported to Range Control IAW MCoE Regulation 350-19.

**7. GENERAL:** Ware Range supports live fire exercises for crew level calibration and training.

**8. REQUIREMENTS:** A specific operation 350-19-1-E-R and scenario package will be prepared by the units for Ware Range and approved by the Chief, Range Operations. All supporting documents ( i.e. regulations, field manuals, TMs, etc.) with an approved 350-19-1-E-R and scenario package will be on-site. All visiting personnel will also be directly controlled by the OIC or NCOIC. All personnel will be given range orientation and safety briefing, to include location of dud areas, medical procedures, loading and clearing weapons, misfire procedures, emergency cease fire signals, etc. prior to firing. Only weapons and ammunition listed on the approved FB Form 350-19-1-E-R and scenario package will be allowed on the range. Ammunition and weapons check will be made prior to and after all training event completion, to ensure no individuals or vehicles has any unauthorized ammunition and weapons. The using unit will ensure the range is cleared of all refuse generated (i.e. pallets, ammo boxes and food packaging) prior to leaving the range. All units are responsible for damages to any structure, fixture, or equipment that is part of the range and will repair damages at their own expense. Any damage or malfunction must be reported in writing to the Chief, Range Operations. Approved hearing protection will be worn. Meals will only be served and consumed at the approved area. Hearing protection will be available on the range for everyone, and for 120mm double hearing protection will be worn.

**9. MEDICAL:** In the event of an accident, injury or illness, the OIC or RSO will immediately call a cease fire then call 911 using the standard 9 line MEDEVAC to determine what type of evacuation is the most appropriate for the injury (loss of life, limb, or eyesight). Medical personnel and equipment on site will be IAW unit SOP and risk management worksheet risk level for the training being conducted. Frontline Ambulance (FLA) will be located IAW Commander and OIC guidance and not adjacent to the mess area. The Medical Air Evacuation (MEDEVAC) point will be IAW MCoE Regulation 350-19 and MCoE 40-2. All incidents will be reported to Brigade Headquarters and Range Control. The emergency cease fire signal and E-911 MEDEVAC procedures will be briefed during the range safety brief. All vehicles will be cleared off the execution line by the RSO or Master Gunner. The OIC or RSO will report all incidents that occurs on the range, regardless of injury or not to Brigade Headquarters and MCoE Safety and will be IAW AR 385-10 and Range Control. An FLA with qualified medics will be present throughout the duration of the training exercise

**10. VEHICLE CONTROL:** No Personally Owned Vehicles (POVs) are authorized downrange. All POVs are to be parked in areas designated by range personnel on Ware Range. The speed limit on the range is 5mph. Track vehicles must enter and exit through the track vehicle entrance only. No parking is allowed in front of the range control tower, anywhere down-range, or in front of any building on the range. Administrative vehicles may be used to deliver rations to the mess area but will be moved immediately after the meal is finished and the area has been properly cleaned. Ground guides will be used around the ammunition point, to and from the firing line and when moving into firing positions for all vehicles. Ground guides will consist of one Marine in the front and one in the rear.

**11. AMMUNITION POINT:** There is an ammunition point provided for draw and turn in. No open flames will be allowed within 50 feet of each ammunition point. Two 10 pound bicarbonate fire extinguishers will be available at all times at the ammunition point. Ammunition Non-Commissioned Officer (NCO) will be Ammo Handler certified and will control the issue of live ammunition. Ammunition will be monitored at all times. All ammunition will be issued by, turned into, and logged by the Ammunition NCO. All ammunition (blank, live, HE, TP-T, etc...) will be marked and physically separated within the ammo point (or separate ammo points) and signed by the ammo NCO.

**12. Weapons/Ammunition Malfunction Reports:** When a malfunction is experienced, the OIC or RSO will suspend all firing and immediately notify Range Control. The weapons and all components and ammunition involved will remain in place. The cease fire will remain in effect until cleared through Range Control. An investigation is required and will be conducted by the ammunition and weapons inspection personnel and DOL.

**13. Incident:** When an incident occurs on the range, regardless of injury or not, the OIC or RSO will immediately call a cease fire and report it to Range Control and the using unit's higher headquarters. The OIC or RSO will take action as directed by Range Control. The cease fire will remain in effect until the problem is resolved and cleared through Range Control. If the incident results in an injury, the OIC or RSO will use procedures outlined in the medical paragraph. The following information will be furnished by the OIC or RSO to Range Control:

- a. Designation of unit.
- b. Range and location.
- c. Type of weapon involved.
- d. Type of ammunition involved.
- e. Brief summary of what happened.
- f. Personnel injuries and extent.
- g. Full Name, SSN, Rank, and unit of injured personnel.
- h. Extent of property damage.
- i. Intentions regarding and AR 15-6 investigation.

**14. LASER's:** Class III A lasers are not eye safe on dual low mode within 25 meters. PEM-1A is not a tactical laser and must be used within 25 meters. Laser Warning signs will be in place Prior to opening the range. Range safety briefing will include hazards using Lasers and NVD's.

**15. OPENING OF THE RANGE:** Tasks for opening the range and occupying the site.

- a. The unit will have in its possession the approved 350-19-1-E-R, operational overlays, this memorandum, approved RFMSS request summary, daily risk assessment, and

unit risk assessment worksheet before occupying Ware Range. The OIC will call range control and request permission to occupy the range complex. Appropriate overlays will be posted upon arrival. The OIC and RSO will then receive a briefing from the range site supervisor.

- b. The unit will maintain FM communications with Range Control at all times. If communications are lost the unit will go into a self imposed check fire until communications are restored.
- c. The unit Master Gunner or representative will verify that the scenario data at the range complex is correct. They will also provide a final battle roster and firing order.
- d. Firing vehicles will take all commands from the tower or controlling element and will not load weapons until ordered to do so.
- e. Unit will proof the range before firing.
- f. The Unit leadership must assign personnel to perform special duties such as road guards and fire fighting details IAW this guide, FB Form 350-19-1-E-R guard listing, and applicable Fort Benning regulations.

#### **16. CONDUCT OF EXERCISE:** Tasks for conducting exercise follow.

- a. The OIC controls the exercise, maintains efficient throughput, and maintains required communications.
- b. The NCOIC supervises all details and controls the movement of vehicles and personnel.
- c. The RSO ensures that crews handle misfires IAW safety regulations, observes for any safety violations, and clears each firing vehicle at the end of each exercise.
- d. The Master Gunner ensures that the range adheres to the appropriate gunnery table, ensures that crews boresight and zero correctly, conducts onsite remedial training as needed, supervises Vehicle Crew Evaluators (VCEs), helps safety personnel clear weapons when required, helps maintenance personnel identify and correct malfunctions.

#### **17. EXECUTION OF THE EXERCISE:**

**\*\*All firing will be done from the baseline. For our purpose the "baseline" will be the large concrete pad.\*\***

**Day 1 (Boresighting and Screening):** Upon order from the tower the firing tanks will occupy the boresighting/baseline location. Upon completion of boresighting each individual crew will one at a time conduct screening from the baseline. All commands will be issued from the tower. Only on order will the tank crews' battle carry a main gun round or small arm rounds. Clearance from the tower will be given to engage each tanks designated screening panel (which will be placed at 366 meters +/- 10 meters from the concrete baseline and in the vicinity of grid 10038 97276, see sketch for details). Once complete, the Tank Commander of each firing tank will clear his vehicle and display the proper range flags. When the line is clear, all of the firing tanks will be cleared by the RSO.

**\*\*Request Range Control have one Boresight panel at 1200 meters and six Main Gun Screening panels at 366 meters. All will be ranged from the baseline. \*\***

#### **Day 1 (Small Arms Live Fire) Day Firing:**

When all the tanks are complete with boresighting and screening, the tanks will each upload small arms ammunition for the M240 and .50 cal live fire. For firing of the M240 from the loaders position, the turret will be traversed over the right one (1) skirt. When the command is given from the tower, each Tank Commander will then rotate his crewman through firing the loaders M240. Upon completion of the loaders M240 firing for each crewman the Tank Commander will then rotate his crewman in the same manner through the gunners M240 and .50 cal firing. For the firing of the .50 cal, the Tank Commander will occupy the loaders position to better control the .50 cal firing. In between each crewman firing a weapon system, the Tank Commander will clear all weapon systems and then display the appropriate range flag prior to crewman changing positions. When all crewman have fired the machine guns, the RSO will clear all small arms on the tank and those weapons will be removed from the vehicles (See target list).

**Day 1 (Basic Gunnery, 120mm) Day Firing:**

As prompted from the tower to go condition one (1) with weapons systems. The first engagements from the crew will be from the left and right and one at a time (See target list). When the crew have completed the event, then the crew will be told by the tower to clear and elevate all weapon systems. The Tank Commander will inspect the weapon systems and report weapon status to the tower. The crew will then be told by the tower to change crew members. This will continue until all personnel have fired.

**Day 1 (Basic Gunnery, 120mm) Night Firing:**

Night firing is a repeat of day firing. Red and Green chemical sticks will be used in place of range flags, due to lack of light.

**Day 2 (Basic Gunnery, 120mm) Day/Night Firing:**

Day two (2) live fire will be a repeat of day one (1) (Basic Gunnery, 120mm) Day and Night firing only. Red and chemical sticks will be used in place of range flags, due to lack of light.

**Day 3 (Basic Gunnery, 120mm) Day/Night Firing:**

Day three (3) live fire will be a repeat of day two (2) (Basic Gunnery, 120mm) Day and Night firing only. Red and green chemical sticks will be used in place of range flags, due to lack of light.

**\*\*Request Target and Boresight Panel be heated or have Thermal Tape applied for the thermal sights.\*\***

**\*\*When the 120mm is firing all non-armor vehicles will stay behind the Sabot Petal Hazzard Area (See enclosed sketch). If any armored vehicle is on the firing line it must be buttoned up until firing is complete (no exposed personnel will be forward of the Sabot Petal Hazzard Area).\*\***

**18. CLOSURE OF THE RANGE:**

- a. The OIC notifies range control that firing has terminated, debriefs unit personnel, and ensures that clearing of the range and training areas is completed to local regulation and SOP standard.
- b. The NCOIC supervises ammunition and target details and ensures that range facilities have been policed.
- c. The Master Gunner updates DA Form 2408-4 for each vehicle.

- d. The Ammunition NCO ensures that only authorized personnel remove munitions from the range and prepares the residue documentation required by the ammunition supply point.

**19. SAFETY:**

1. Uniform will be IAW unit SOP.
  2. Ammo NCO will guard ammunition stored at the ammunition holding area (AHA) off the firing line and control its issue/turn-in keeping it guarded at all times.
  3. Combat life saver will be on-site at all times with a dedicated vehicle clearly marked and will provide overhead cover.
  4. Weapons will be cleared by visual inspection on and off the firing line by the RSO after the last engagement.
  5. Weapons will be on mechanical/electrical safe when not engaging targets.
  6. Signal to load, fire and clear weapon will be controlled by the tower via FM.
  7. During firing anyone on the range observing an unsafe act can call a ceasefire by using the hand and arm signal and/or a vocal command of ceasefire.
  8. Crews will receive the required amount of ammo.
  9. All unused ammo will be turned-in to the AHA upon completion of firing, and checked by the vehicle safety NCO.
  10. Head-space and timing for the M2 will be checked and set prior to firing.
  11. Delinking, relinking, and firing of said ammo is not authorized.
20. The point of contact for this action is MSgt Hoffa, Aaron W. or Sgt McGuire, Mark D. Master Gunners, D. Co, 3-81 AR, 194<sup>TH</sup> AR BDE, COMM (706) 626-7156 or (910) 340-3309.



DANIEL E. HUGHES  
MAJ, USMC  
Company Commander

ENC 1

**WEAPONS SAFETY AND CONTROL STATUS**

<b>1 Ammunition Status</b>	
<b>Item</b>	
<b>RED</b>	Rounds loaded / Magazine Loaded
<b>Yellow</b>	Magazine loaded, chamber clear
<b>Green</b>	Magazine out, chamber clear
<b>2 Weapons Control Status</b>	
<b>Item</b>	
<b>HOLD</b>	Engage only if engaged (threat) or ordered to do so. Must have positive ID
<b>TIGHT</b>	Can engage if target is positively identified as enemy
<b>FREE</b>	Can engage unless target is positively identified as friendly

**\*\*\*Do not carry weapons on anything but safe - you will transition only when prepared to fire**

ENC 1

<b>Weapons Safety Posture</b>			
<b>Weapon Type</b>	<b>GREEN</b>	<b>AMBER</b>	<b>RED</b>
<b>M9</b>	Weapon cleared and on safe; magazine out of weapon	Magazine in weapon; no round in chamber; weapon on safe	Magazine in weapon; round chambered; weapon on safe
<b>M16</b>	Weapon cleared and on safe; magazine out of weapon	Magazine in weapon; no round in chamber; weapon on safe	Magazine in weapon; round chambered; weapon on safe
<b>M203</b>	Weapon cleared and on safe; rounds carried	No round in the chamber; weapon on safe; ammo ready	Round chambered; weapon on safe
<b>M249</b>	Weapon cleared and on safe; ammo carried	Half cocked – bolt forward; weapon on safe, rounds in tray; no rounds in chamber	Weapon charged – open bolt position; ammo in feed tray; weapon on safe
<b>M240/ M240B</b>	Weapon cleared and on safe; ammo carried	Bolt forward; weapon on safe, rounds in tray, no rounds in chamber	Weapon charged – open bolt position; ammo in feed tray; weapon on safe
<b>M60</b>	Weapon cleared and on safe; ammo carried	Bolt forward; weapon on safe, rounds in tray; no rounds in chamber	Weapon charged – open bolt position; ammo in feed tray; weapon on safe
<b>M2</b>	Weapon cleared and on safe; ammo carried	Bolt forward; weapon on safe, rounds in tray; no rounds in chamber	Weapon charged; round in chamber; weapon on safe
<b>MK19</b>	Weapon cleared and on safe; ammo carried	Weapon on safe; no round in chamber; ammo in feed tray	Round on face of bolt; weapon on safe; charged open bolt position
<b>TOW</b>	No missile in tube; launcher in stowed position	Missile in tube; launcher in stowed position, system on electric safe	Missile in tube; launcher raised; system on electric safe
<b>25mm</b>	Weapon cleared and on electrical and mechanical safe; ammo stowed	Round in feeder; no ghost rounds cycled; electrical and mechanical safe	Ghost round cycled; electrical and mechanical safe
<b>120mm</b>	Breech closed; no round in tube; system on electrical and mechanical safe	Breech opened; system on electrical and mechanical safe; rounds stowed	Gun tube loaded; weapon on electrical and mechanical safe

**ST 2 / WARE RANGE**

Unit: D 3-81 MACC  
 POC : MSGT HOFFA

Event: BASIC GUNNERY DAY  
 PHONE : 626-7156

FIRING DATES : \_\_\_\_\_  
 DATE SUBMITTED : \_\_\_\_\_

STEP #	OFF / DEF	DEF	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (SEC)	DELAY (SEC)	MOVER DIRECTION	SPEED (MPH)	REMARKS
0			120 MM TPCSDS-T HEAT-TP-T		SCREENING	N/A	N/A	N/A	N/A			NEED 6 SCREENING PANELS AT 420 M
1	DEF	BL	TPCSDS-T	222	PC	1	225	MAX	0			
	DEF		TPCSDS-T	214	PC	1	207	MAX	0			
	DEF		TPCSDS-T	M1	PC	1	M2	MAX	0	L/R	8	
2	DEF	BL	TPCSDS-T	203	PC	1	207	MAX	0			
	DEF		TPCSDS-T	217	PC	1	218	MAX	0			
	DEF		TPCSDS-T	M2	PC	1	M1	MAX	0	R/L	8	
3	DEF	BL	TPCSDS-T	203	PC	1	209	MAX	0			
	DEF		TPCSDS-T	222	PC	1	224	MAX	0			
	DEF		TPCSDS-T	M1	PC	1	M2	MAX	0	L/R	8	
4	DEF	BL	TPCSDS-T	209	PC	1	212	MAX	0			
	DEF		TPCSDS-T	216	PC	1	219	MAX	0			
	DEF		TPCSDS-T	M2	PC	1	M1	MAX	0	R/L	8	
5	DEF	BL	TPCSDS-T	222	PC	1	225	MAX	0			
	DEF		TPCSDS-T	214	PC	1	207	MAX	0			
	DEF		TPCSDS-T	M1	T 72 FL	1	M2	MAX	0	L/R	8	
NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND												
1	DEF	BL	TPCSDS-T	222	PC	1	225	MAX	0			
	DEF		TPCSDS-T	214	PC	1	207	MAX	0			
	DEF		TPCSDS-T	M1	PC	1	M2	MAX	0	L/R	8	
2	DEF	BL	TPCSDS-T	203	PC	1	207	MAX	0			
	DEF		TPCSDS-T	207	PC	1	218	MAX	0			
	DEF		TPCSDS-T	M2	PC	1	M1	MAX	0	R/L	8	
3	DEF	BL	TPCSDS-T	203	PC	1	209	MAX	0			
	DEF		TPCSDS-T	222	PC	1	224	MAX	0			
	DEF		TPCSDS-T	M1	PC	1	M2	MAX	0	L/R	8	
4	DEF	BL	TPCSDS-T	209	PC	1	212	MAX	0			
	DEF		TPCSDS-T	216	PC	1	219	MAX	0			
	DEF		TPCSDS-T	M2	PC	1	M1	MAX	0	R/L	8	
5	DEF	BL	TPCSDS-T	222	PC	1	225	MAX	0			
	DEF		TPCSDS-T	214	PC	1	207	MAX	0			
	DEF		TPCSDS-T	M1	T 72 FL	1	M2	MAX	0	L/R	8	

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

PAGE \_\_\_\_ OF \_\_\_\_ PAGES

APPROVED BY : \_\_\_\_\_

SCENARIO FILENAME : \_\_\_\_\_

DATE : \_\_\_\_\_

## ST 2 / WARE RANGE

Unit: D 3-81 MACC  
 POC : MSGT HOFFA

Event: SMALL ARMS  
 PHONE : 626-7156

FIRING DATES : \_\_\_\_\_  
 DATE SUBMITTED : \_\_\_\_\_

STEP #	OFF / DEF	DEF	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (SEC)	DELAY (SEC)	MOVER DIRECTION	SPEED (MPH)	REMARKS
1	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			TGTS NEED TO BE ON HIT , FALL AND BOB
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			
2	DEF	BL	. 50 CAL	207	PC	3	202	MAX	0			
	DEF		. 50 CAL	204	PC	3	203	MAX	0			
3	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

1	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			TGTS NEED TO BE ON HIT , FALL AND BOB
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			
2	DEF	BL	. 50 CAL	207	PC	3	202	MAX	0			
	DEF		. 50 CAL	204	PC	3	203	MAX	0			
3	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

1	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			TGTS NEED TO BE ON HIT , FALL AND BOB
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			
2	DEF	BL	. 50 CAL	207	PC	3	202	MAX	0			
	DEF		. 50 CAL	204	PC	3	203	MAX	0			
3	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

1	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			TGTS NEED TO BE ON HIT , FALL AND BOB
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			
2	DEF	BL	. 50 CAL	207	PC	3	202	MAX	0			
	DEF		. 50 CAL	204	PC	3	203	MAX	0			
3	DEF	BL	7.62 MM	C1	TROOPS	3	C5	MAX	0			
	DEF		7.62 MM	C3	TROOPS	3	C4	MAX	0			

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

PAGE \_\_\_\_ OF \_\_\_\_ PAGES

APPROVED BY : \_\_\_\_\_

SCENARIO FILENAME : \_\_\_\_\_

DATE : \_\_\_\_\_

### ST 2 / WARE RANGE

Unit: D 3-81 MACC  
 POC : MSGT HOFFA

Event: BASIC GUNNERY NIGHT  
 PHONE : 626-7156

FIRING DATES : \_\_\_\_\_  
 DATE SUBMITTED : \_\_\_\_\_

STEP #	OFF / DEF	DEF	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (SEC)	DELAY (SEC)	MOVER DIRECTION	SPEED (MPH)	REMARKS
1	DEF	BL	HEAT-TP-T	222	PC	1	225	MAX	0			
	DEF		HEAT-TP-T	214	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	M1	PC	1	M2	MAX	0	L/R	8	
2	DEF	BL	HEAT-TP-T	203	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	207	PC	1	218	MAX	0			
	DEF		HEAT-TP-T	M2	PC	1	M1	MAX	0	R/L	8	
3	DEF	BL	HEAT-TP-T	203	PC	1	209	MAX	0			
	DEF		HEAT-TP-T	222	PC	1	224	MAX	0			
	DEF		HEAT-TP-T	M1	PC	1	M2	MAX	0	L/R	8	
4	DEF	BL	HEAT-TP-T	209	PC	1	212	MAX	0			
	DEF		HEAT-TP-T	216	PC	1	219	MAX	0			
	DEF		HEAT-TP-T	M2	PC	1	M1	MAX	0	R/L	8	
5	DEF	BL	HEAT-TP-T	222	PC	1	225	MAX	0			
	DEF		HEAT-TP-T	214	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	M1	T 72 FL	1	M2	MAX	0	L/R	8	

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

1	DEF	BL	HEAT-TP-T	222	PC	1	225	MAX	0			
	DEF		HEAT-TP-T	214	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	M1	PC	1	M2	MAX	0	L/R	8	
2	DEF	BL	HEAT-TP-T	203	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	207	PC	1	218	MAX	0			
	DEF		HEAT-TP-T	M2	PC	1	M1	MAX	0	R/L	8	
3	DEF	BL	HEAT-TP-T	203	PC	1	209	MAX	0			
	DEF		HEAT-TP-T	222	PC	1	224	MAX	0			
	DEF		HEAT-TP-T	M1	PC	1	M2	MAX	0	L/R	8	
4	DEF	BL	HEAT-TP-T	209	PC	1	212	MAX	0			
	DEF		HEAT-TP-T	216	PC	1	219	MAX	0			
	DEF		HEAT-TP-T	M2	PC	1	M1	MAX	0	R/L	8	
5	DEF	BL	HEAT-TP-T	222	PC	1	225	MAX	0			
	DEF		HEAT-TP-T	214	PC	1	207	MAX	0			
	DEF		HEAT-TP-T	M1	T 72 FL	1	M2	MAX	0	L/R	8	

NOTE: STUDENTS WILL SWITCH WITH THE STUDENTS ON THE GROUND

PAGE \_\_\_\_ OF \_\_\_\_ PAGES

APPROVED BY : \_\_\_\_\_

SCENARIO FILENAME : \_\_\_\_\_

DATE : \_\_\_\_\_

Sabot Petal Hazzard Area

Ware Range

Baseline

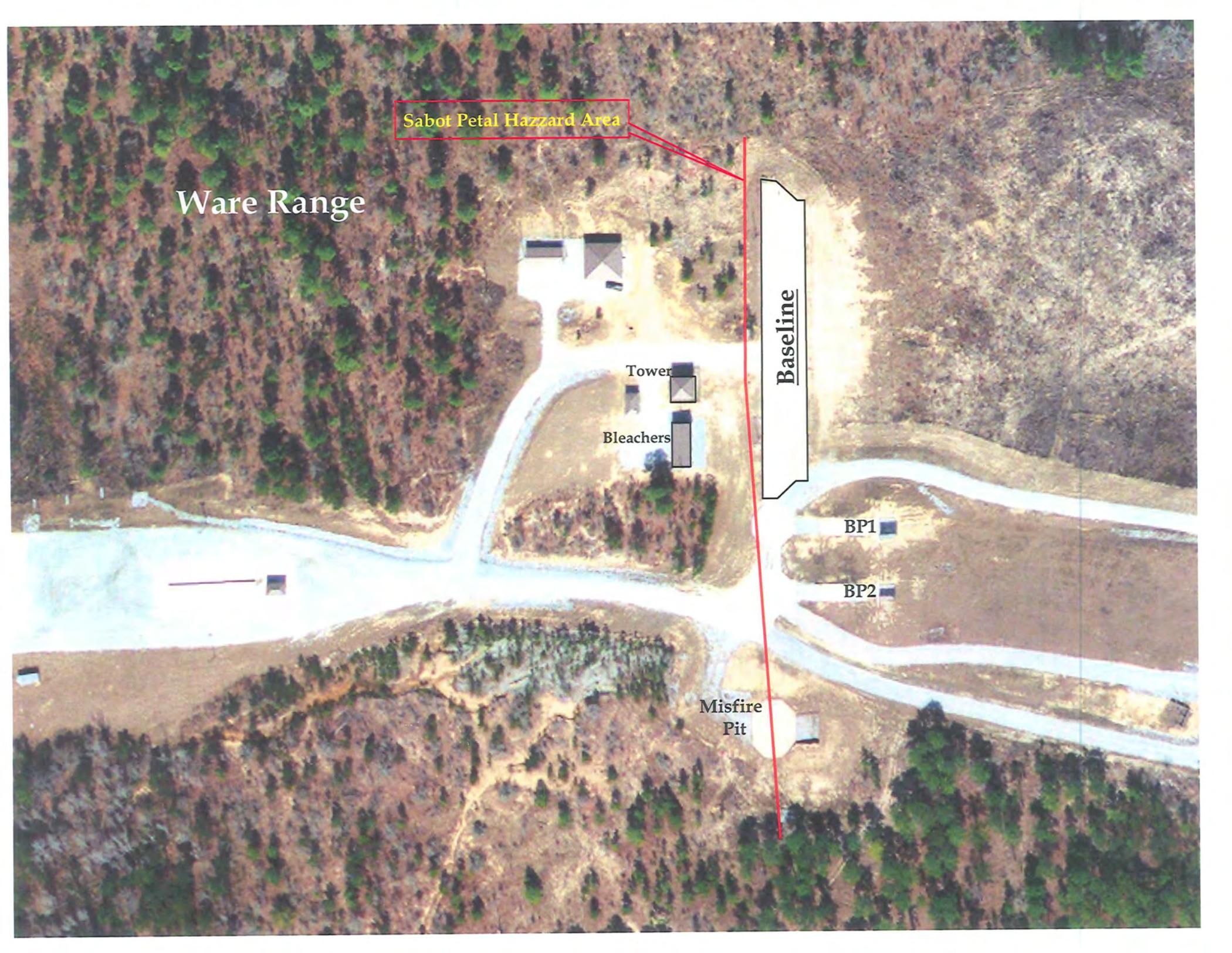
Tower

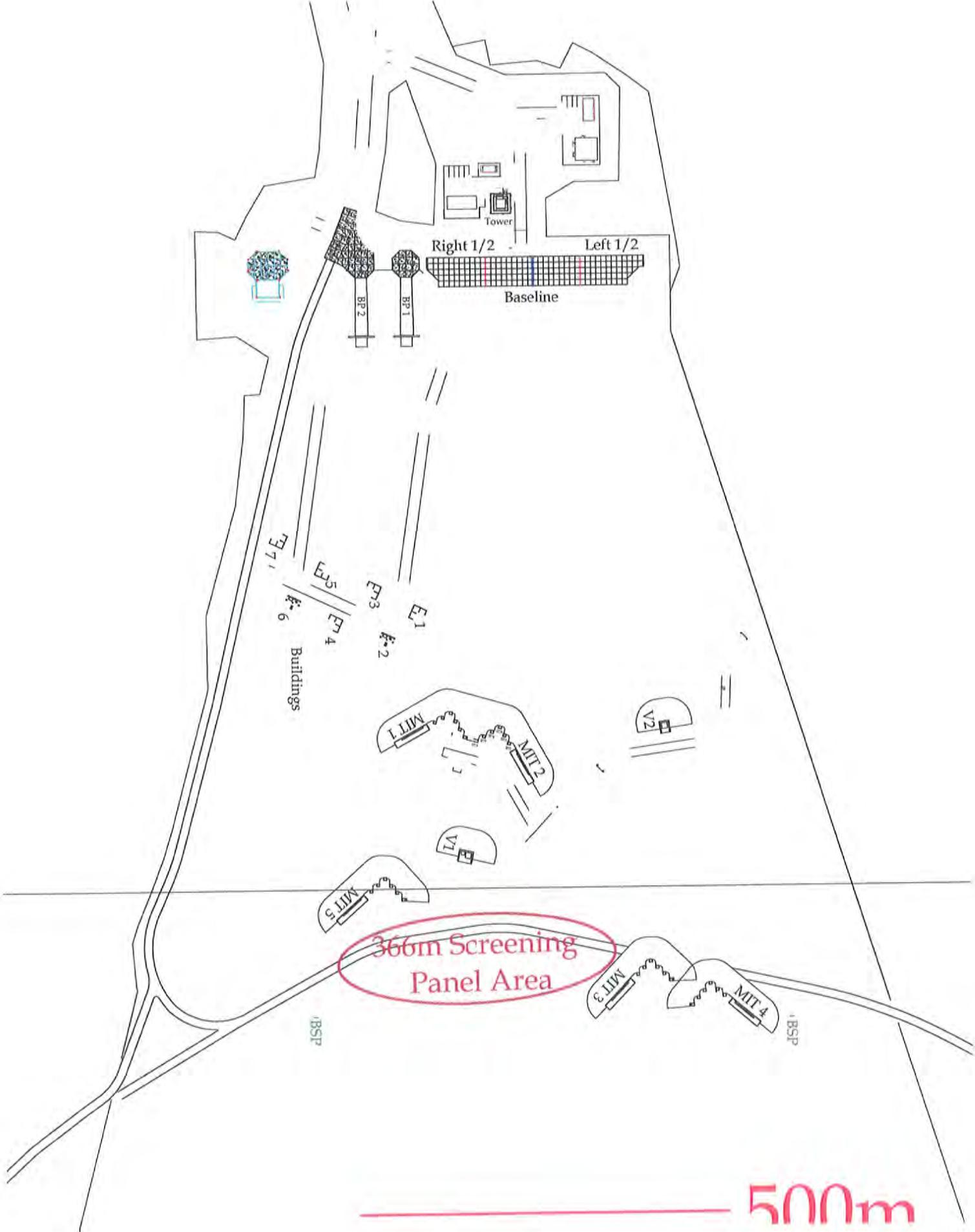
Bleachers

BP1

BP2

Misfire Pit







## Ware Range Marine Corps Tank Gunnery (Log #5-9-13) Roadblocks 01 Oct 2013

#	GRID	LOCATION	TYPE	#	GRID	LOCATION	TYPE
K-2	GA 163 883	Across Box Springs Rd 125m N. of its intersection with Buena Vista Rd.	Gate	K-26	GA 201 949	Across Boundry Road 1800m S of its intersection with Turrentline Road	Gate
K-3	GA 153 894	Across entrance road leading to Concord OP 250m N. of its intersection with Buena Vista Rd.	Gate	K-27	GA 207 968	Across Turrentline Rd 600m E. of its intersection with Boundary Rd.	Gate
				K-28	GA 191 885	Across Whitson Rd 15m W. of its intersection with Cactus Rd.	Gate
K-5	GA 117 920	Across Shamanski Rd 25m N. of its intersection with Buena Vista Rd.	Gate	K-29	GA 189 888	Across un-named trail on left side of Cactus Range 300m W of Cactus Road	Gate
K-7	GA 109 937	Across Moore Rd 15m N. of its intersection with Bullseye Rd.	Cable	K-30	GA 190 890	Across un-named trail on right side of Cactus Range 250m W of Cactus Road.	Gate
K-8	GA 099 947	Across Bulls Eye Rd 50m E of its intersection with Lorraine Road.	Gate	K-32	GA 192 915	Across Shamanski Road 35m W of its intersection with Cactus Rd.	Gate
K-9	GA 103 921	Across Buena Vista Rd 40m E of the intersection with Moore Rd (Road Guard Location)	Gate	K-36	GA 163 883	Across Buena Vista Rd 50m W. of its intersection with Box Springs Rd. (Road guard location).	Gate
K-9A	GA 106 919	Across tank trail 200m W of the Upatoi Creek ford site.	Gate	K-36A	GA 163 882	Across Tank Trail 50m W. of its intersection with Box Springs Rd.	Gate
K-10	GA 118 920	Across Buena Vista Rd at K-5 road block.	Gate	K-38	GA 201 941	Across unnamed trail 35m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-11	GA 105 927	Across Moore Rd 20m N. of its intersection with Audernarde Trail. Entrance to Terry Demo Rng. (Road guard location)	Gate	K-39	GA 202 949	Across unnamed trail 15m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-12	GA 104 988	Across Old Lorraine Road 600m S of the tower on Brooks Range.	Gate	K-40	GA 174 908	Across Box Springs Rd 30m S. of Pine Knot Creek.	Gate
K-13	GA 112 943	Across Moore Rd 680m N. of its intersection with Bullseye Rd.	Gate	K-41	GA 192 944	Across Kennesaw Trail 30m W. of its intersection with Box Springs Rd.	Gate
K-14	GA 113 998	Across Moore Rd 10m S. of its intersection with Lorraine Rd.	Gate	K-42	GA 193 944	Across Box Springs Rd 10m N. of its intersection with Cactus Rd.	Gate
K-15	GA 114 999	Across course road leading out of Ruth Range 50m E. of its intersection with Moore Rd.	Gate	K-43	GA 203 978	Across the northern boundary range road approx 20m N-W. of the old Hastings Range upper baseline.	Gate
K-16	GB 190 003	Across Rinehart Rd 130m W. of its intersection with Box Springs Rd.	Gate	K-44	GA 113 955	Across Moore Rd on the N. side of Carmouche Range maneuver box.	Gate
K-16A	GA 172 989	Across Rinehart Rd 20m S. of its intersection with the northern boundary range road.	Gate	K-45	GA 115 961	Across Moore Rd 300m S. of its intersection with the old Ware Range course road.	Gate
K-16B	GA 171 990	Across un-named trail 20m S. of its intersection with the northern boundary range road.	Gate	K-46	GA 119 979	Across Moore Rd 725m S. of its intersection with Americo Trail	Gate
K-17	GB 116 013	Across unnamed trail 15m E. of Moore Rd and 300m N. of Ruth Range tower.	Gate	K-47	GA 176 963	Across Turrentline Rd 1000m W. of mover 4 on Hastings Range	Gate
K-19	GB 121 023	Across unnamed trail 220m N-E. of Oscar Range Complex Road and 30m S of the northern boundary range road.	Gate	K-50	GA 195 988	Across Box Springs Rd 60m N. of its intersection with the northern boundary range road.	Cable
K-20	GB 141 021	Across unnamed trail 550m S of the northern boundary range road.	Cable	O-9	GA 101 962	Across unnamed trail 10m E of its intersection with Lorraine Rd.	Gate
K-21	GB 139 027	Across the northern boundary range road Aprox 250m East of Cox Creek bridge.	Gate	O-18	GA 093 979	800m N of Ware Rng Entrance on right side of Lorraine Rd	Gate

## WEAPON CONDITIONS

### M240

CONDITION 1: THE BOLT IS LOCKED TO THE REAR. THE SAFETY IS ON. THE SOURCE OF AMMUNITION IS IN POSITION ON THE FEED TRAY. THE COVER IS CLOSED.

CONDITION 2: NOT APPLICABLE

CONDITION 3: THE BOLT IS FORWARD. THE CHAMBER IS EMPTY. THE SAFETY IS OFF. THE SOURCE OF AMMUNITION IS IN POSITION ON FEED TRY. THE COVER IS CLOSED.

CONDITION 4: THE BOLT IS FORWARD. THE CHAMBER IS EMPTY. THE SAFETY IS OFF. THE FEED TRAY IS CLEAR OF AMMUNITION. THE COVER IS CLOSED

### M2

CONDITION 1: THE BOLT IS FORWARD. THE SAFETY IS ON. THE SOURCE OF AMMUNITION IS IN POSITION ON THE FEED TRAY. THE COVER IS CLOSED.

CONDITION 2: NOT APPLICABLE

CONDITION 3: THE BOLT IS FORWARD. THE CHAMBER IS EMPTY. THE SAFETY IS NO. THE SOURCE OF AMMUNITION IS IN POSITION ON FEED TRY. THE COVER IS CLOSED.

CONDITION 4: THE BOLT IS FORWARD. THE CHAMBER IS EMPTY. THE SAFETY IS ON. THE FEED TRAY IS CLEAR OF AMMUNITION. THE COVER IS CLOSED

### 120MM

CONDITION 1: BREECH IS CLOSED. ROUND IN CHAMBER. SYSTEM ON ELECTRICAL AND MECHANICAL SAFE.

CONDITION 2: NOT APPLICABLE

CONDITION 3: BREECH IS OPEN. NO ROUND IN CHAMBER. SYSTEM ON ELECTRICAL AND MECHANICAL SAFE.

CONDITION 4: BREECH IS CLOSED. NO ROUND IN CHAMBER. SYSTEM ON ELECTRICAL AND MECHANICAL SAFE.

### **SAFETY RULES**

These safety rules apply to all weapons at all times, and must never be violated.

RULE #1 Treat every weapon as if it were loaded.

RULE #2 Never point a weapon at anything you do not intend to shoot.

RULE #3 Keep finger straight and off the trigger until you are ready to fire.

RULE #4 Keep weapon on safe until you intend to fire.

RULE #5 Know your target and what is behind it.

### COMPOSITE RISK MANAGEMENT WORKSHEET

For use of this form, see FM 5-19; the proponent agency is TRADOC.

1. MSN/TASK M1A1 TANK GUNNERY	2a. DTG BEGIN 0700011SEPT2013	2b. DTG END 170010SEPT2014	3. DATE PREPARED (YYYYMMDD) 20130520
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4. PREPARED BY		
a. LAST NAME HOFFA, AARON W.	b. RANK MSGT	c. POSITION MARINE ARMOR CREWMAN COURSE PLATOON COMMANDER

5. SUBTASK	6. HAZARDS	7. INITIAL RISK LEVEL	8. CONTROLS	9. RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11. HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFECTIVE?
Movement to and from the range	1. Injury due to equipment / vehicle malfunction.	M	1. Ensure complete PMCS has been completed on all vehicles prior to starting operations.	L	1. TM 9-2350-264-10-1/2 TM 9-2350-280-10 TM 9-2350-365-10	1. TCIs / Tank Leader	
	2. Vehicle accident with POV and military vehicle or just military vehicle.	H	2a. Ensure all road crossings are manned with military road guards and conduct a road guard brief with the unit prior to executing movement.	M	2a. Road Guard Brief AR 385-55 DA PAM 385-1	2a. Tank Leader / TCIs / Plt Sgts	
			2b. Ensure TCIs maintain control of the vehicle from the Commanders Hatch. Additionally, ensure that communication cords are installed properly.		2b. Convoy brief conducted prior to departure. Ensure sleep plan provides ample sleep the night prior.	2b. Tank Leader / TCIs / Plt Sgts	
			2c. Route recon and choose a safe route that will ensure tank trails used to avoid POV traffic and minimize the chances of vehicle roll over.		2c. Conduct route recon. Conduct Convoy brief. Conduct Roll Over / Crew Evac drills prior to departure.	2c. Tank Leader / TCIs / Plt Sgts	
Gunnery	3. Injury due to ordinance explosions.	H	3a. Ensure ammunition is serviceable, stored and packed properly with fire extinguishers nearby for storage and transportation.	M	3a. TM 9-2350-264-10-1/2 DA PAM 385-63	3a. MG inspects ammo and reports to Ammo NCO and OIC prior to ammo departing ammo pad.	
			3b. Brief Marines not to handle UXO.		3b. DA PAM 385-63 Daily safety brief.	3b. RSO conducts safety brief.	

Additional space for entries in Items 5 through 11 is provided on Page 2.

13. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (Check one)
<input type="checkbox"/> LOW <input checked="" type="checkbox"/> MODERATE <input type="checkbox"/> HIGH <input type="checkbox"/> EXTREMELY HIGH

14. RISK DECISION AUTHORITY			
a. LAST NAME HUGHES, DANIEL E	b. RANK MAJ	c. DUTY POSITION COMMANDING OFFICER, ATC, MARINE CORPS DETACHMENT, MCOE	d. SIGNATURE <b>HUGHES, DANIEL EVERETT, 1160483241</b>

ITEMS 5 THROUGH 12 CONTINUED:							
5. SUBTASK	6. HAZARDS	7. INITIAL RISK LEVEL	8. CONTROLS	9. RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11. HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFECTIVE?
			3c. TCI supervising the loading of main gun and machine gun. Use proper PPE when loading.		3c. TM 9-2350-264-10-1/2	3c. TCIs	
			3d. Marines complete GST to include setting headspace and timing correctly on the .50 Cal MG.		3d. FM 3-20.21	3d. TCIs verify/supervise GST and adherence of standards on the range.	
			3e. Tank Gunners ensure the main gun is clear of berm prior to firing by checking the GAS.		3e. FM 3-20.21 TM 9-2350-264-10-1/2	3e. TCI observes gun lay through GPSE/FUP.	
			3f. Medics on hand to provide emergency treatment. MEDEVAC available by calling E911-OPS on Motorolas or 706-6291/6371. Ground CASEVAC vehicle available with route.		3f. MCoE Regulation 350-19.	3f. RSO and OIC will maintain communication with medics. RSO will maintain Motorola Radio.	
	4. Vehicle fire.	H	4a. All crew members wear complete NOMEX to include balacalava and plate carrier vest in tanks. Fire control systems/fire extinguishers PM'd IAW TM. Safety brief flairbacks.	M	4a. TM 9-2350-264-10-1/2	4a. TCIs	
			4b. Evacuation Drills completed by each crew daily.		4b. FM 3-20.21 TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	4b. TCIs	
	5. Injury due to inexperienced driver.	H	5a. Ensure all Marines have proper driver's licensing and training. Ensure all Marines wear seatbelts in wheeled vehicles.	M	5a. AR 600-55 TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	5a. TCIs / Vehicle Commanders	
			5b. Maintain speed under 5 mph during iterations. Brief all Marines on range procedures.		5b. Daily safety briefing by RSO. Range SOP.	5b. OIC / TCIs	
			5c. Rollover drills rehearsed prior to each run.		5c. FM 3-20.21 TM 9-2350-264-10-1/2	5c. TCIs	
	6. .50 Cal Malfunctions	H	6a. Conduct PMCS and set headspace and timing IAW TM.	M	6a. FM 3-20.21 TM 9-1005-213-10-2	6a. TCIs	

ITEMS 5 THROUGH 12 CONTINUED:							
5. SUBTASK	6. HAZARDS	7. INITIAL RISK LEVEL	8. CONTROLS	9. RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11. HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFECTIVE?
			6b. All .50 Cal operators complete GST prior to operating crew served weapons.		6b. FM 3-20.21 TM 9-1005-213-10-2	6b. Master Gunner / TCIs	
	7. Heat injury / dehydration.	H	7a. Brief Marines on heat injuries, water consumption, proper uniform and enforce the use of the buddy system.	M	7a. TRADOC REG 350-29 Range Safety Brief	7a. All Hands	
			7b. Keep iced sheets in coolers on hand to cool Marines showing symptoms of heat injury.		7b. TRADOC 350-29 MCoE Regulation 350-19	7b. Medic / CLS / Plt Sgts	
	8. Injury from breach recoil.	H	8. Use all safety guards and crew warning prior to firing weapons system.	M	8. TM 9-2350-264-10-1/2	8. TCIs	
	9. Severe Weather/Lightning.	M	9a. Monitor range operations net for severe weather updates and comply with advisories. Will ask for the days forecast.	L	9a. Range SOP MCoE Regulation 350-19.	9a. RSO / OIC	
			9b. Brief Marines to move from exposed areas to low ground and shelters during extreme weather.		9b. Daily safety briefing by RSO.	9b. RSO / OIC	
	10. Vehicle running over Marines in cantonment areas.	M	10a. Mark all rest areas and sleep areas with engineer tape and chemlights. Develop cantonment areas away from gunnery area. Ground guide around sleeping area.	L	10a. DA PAM 385-1 FM 21-60	10a. RSO	
			10b. Vehicles will remain clear of sleeping areas. Ground guide vehicles around troop areas. Use a front/rear ground guide by troop areas. Brief procedures at Safety Brief.		10b. DA PAM 385-1 FM 21-60	10b. RSO	
	11. Injury/damage caused when moving vehicles in restricted areas during hours of limited light.	M	11. Use front and rear ground guides with lights at night. Brief during safety briefing.	L	11. FM 21-60	11. RSO / TCIs	
	12. Cold Weather Injuries.	H	12a. Ensure Marines stay in proper uniform for the current weather conditions and continue to drink water and eat meals. Pack correct gear in regards to weather reports prior to range.	M	12a. FM 31-70 TRADOC REG 350-29 Conduct gear inspection prior to departure to range.	12a. OIC / RSO / TCIs / PLT SGTs	

ITEMS 5 THROUGH 12 CONTINUED:

5. SUBTASK	6. HAZARDS	7. INITIAL RISK LEVEL	8. CONTROLS	9. RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11. HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFECTIVE?
			12b. Ensure Marines change out of damp clothing if required to prevent core body temperature drop.		12b. FM 31-70	12b. OIC / RSO / TCIs / PLT SGTs	
	13. Rounds impacting outside the approved SDZ.	M	13. Brief Marines on the location of range fans. Ensure Gunners and TCs identify range fans before iterations.	L	13. FM 3-20-21	13. OIC / RSO / TCIs	
	14. Hearing Loss.	H	14. All tank firing crews will wear a CVC and ear plugs (Double Hearing Protection). Non-firing crewman on the ready line/tower area will wear ear plugs during firing.	M	14. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	14. OIC / RSO / TCIs / Individual Marines	
	15. Carbon monoxide poisoning.	M	15. Open vehicle hatches when operating vehicle heaters. Vehicles will not be slept in while running. Vehicles will not be left running while unattended.	L	15. TM 9-2350-264-10-1/2	15. OIC / RSO / TCIs	
	16. Injury while mounting / dismounting vehicles.	M	16a. Marines will maintain 3-points of contact when mounting, dismounting or moving on top of vehicles.	L	16a. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	16a. OIC / RSO / TCIs / Individual Marines	
			16b. Marines are required to take off any loose jewelry or rings when mounting any vehicles.		16b. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	16b. OIC / RSO / TCIs / Individual Marines	
	17. Injury / damage caused by refueling operations.	M	17a. Use of ground guides front and back, required within 25 feet of refuel area.	L	17a. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	17a. OIC / RSO / TCIs	
			17b. Wear gloves, eye protection and any other PPE required during fueling operations. Ensure fire extinguishers are present.		17b. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	17b. TCIs	
			17c. Use drip pans to catch overfilled fuel from tank. Report any spilages to EMD (706) 545-9879.		17c. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	17c. TCIs / RSO	
	18. Fatigue causes Marines to act unsafely.	M	18. Ensure all crews receive a minimum of six hours of sleep per 24 hour period.	L	18. Crew rotation.	18. OIC / RSO / Individual Marines	

ITEMS 5 THROUGH 12 CONTINUED:

5. SUBTASK	6. HAZARDS	7. INITIAL RISK LEVEL	8. CONTROLS	9. RESIDUAL RISK LEVEL	10. HOW TO IMPLEMENT	11. HOW TO SUPERVISE (WHO)	12. WAS CONTROL EFFEC-TIVE?
	19. Injury from negligent discharge.	M	19a. Ensure that all weapon systems are cleared prior to departing the BP/FP and upon completion of iterations.	L	19a. FM 3-20.21	19a. RSO / TCIs / Individual Marines	
			19b. Brief Marines to clear weapon systems and keep them elevated and pointed down range and display the proper flag or light.		19b. Safety Brief	19b. RSO / TCIs / Individual Marines	
	20. Injury from wildlife.	M	20. Brief Marines not to disturb wildlife, report all bites or interactions to CLS/Medic.	L	20. Safety Brief	20. OIC / RSO / TCIs	
	21. Injury from improper ammunition handling techniques.	M	21. Brief Marines on safe ammo handling procedures prior to movement to the range.	L	21. TM 9-2350-264-10-1/2	21. Master Gunner / TCIs	
Vehicle Wash Down	22. Injury due to vehicle on person accident.	M	22. Ensure ground guides are utilized on both ends of the tank. Ensure Safety Brief is given.	L	22. Wash Rack Safety Brief AR 385-10	22. Tank Leader / TCIs / Plt Sgts / Individual Marines	
	23. Injury from high pressure hose operations. From direct contact or from debris being knocked off the vehicles.	M	23. Ensure Safety Brief is given. Ensure all personnel conducting wash down are wearing PPE.	L	23. Wash Rack SOP TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	23. Tank Leader / TCIs / Plt Sgts / Individual Marines	
	24. Injury due to falling from vehicle during wet conditions.	M	24. Conduct Safety Brief and ensure all personnel are adhering to "3-points of contact" rule.	L	24. TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	24. Tank Leader / TCIs / Plt Sgts / Individual Marines	
	25. Injury due to touching hot surfaces during vehicle operation.	M	25. Ensure Safety Brief is given. Ensure all personnel conducting wash down are wearing PPE.	L	23. Wash Rack SOP TM 9-2350-264-10-1/2 TM 9-2320-280-10 TM 9-2320-365-10	25. Tank Leader / TCIs / Plt Sgts / Individual Marines	



# RECORD OF ENVIRONMENTAL CONSIDERATION (REC)



**Date Submitted:** 8/26/2013

**EMD Number:** 1323808

**Project#:** Unknown

**Project Title:** Tank Gunnery

**Description of proposed action:**

IET Soldiers will be firing 120mm main gun as well as the .50 cal, M240, M4, and M9 weapon systems. Wheeled and tracked vehicles will be maneuvering on the range, but not off road.

**Project Location:**

Ware Range

**Amount, Description, Location of Disturbance/Digging:**

None

**Number of Personnel:**

165

**Type of Ammunition:**

120mm, .50cal, 7.62mm, 5.56mm, 9mm Live

**Number/Types of Trees:**

None

**Size of Project Area:**

**Duration of Action:** Start: 10/1/2013 Stop: 9/30/2014

**Proponent:** troybrown

706-626-5030

**Organization/Unit:** 1-81 AR

**Number/Types of Vehicles:**

Number of vehicles:20

Types of vehicles:M1A1/M1A2, HMMWVS

No-Vehicles will be going off road.

**DECISION:** Concur with conditions

**This Action is adequately covered in the Existing EA titled: 'Ongoing Mission and siting Activities, USAIC, FT. Benning, GA.'**

**(NA): Training involving LIVE FIRE and tracked vehicles has NO CATEX -- "Ongoing Mission and Siting Activities, USAIC, Ft. Benning, GA."**

## REC APPROVED THROUGH 30 SEPTEMBER, 2014

**Cultural Resources - Archeological**

None

Edward Howard (706 545 1898), 9/6/2013

**Noise**

**Conditions:**

Ellis Leeder (706 545 2400), 8/27/2013

This is training operations request for training. If there is any operational noise complaints received, the Environmental Management Division Installation Operational Noise Monitoring Program (IONMP) and or Public Affairs Office (PAO) programs will investigate and then recommending operational noise mitigation actions to the appropriate personnel for the training actions. In accordance with the Army's policy on environmental noise management, all efforts shall be made to minimize noise annoyances to the highest extent practicable with training operations without interfering with the proposed missions. Please follow the fly friendly program avoiding noise abatement areas. Please follow good smoke management practices not allowing smoke or dust to travel off Installation boundary into public areas or roads. Please increase distance between vehicles when dust conditions are extreme, see Table 5-3. CS gas use should be utilized in designated areas only, contact Range Control for a listing of approved CS gas sites. Please visit the Range Operations website to obtain a list of approved weapons per Range or Firing Points. Leave the training areas, firing range, latrines in a clean condition; contact Range Operations if unclean conditions are found or clean up costs or cleaning endeavors by proponent could occur to last user. If any assistance or a copy of MCoE Regulation 350-19 or the IONMP noise plan is needed for review, please feel free to contact Ellis Leeder at 706.545.2400 or email ellis.p.leeder.civ@mail.mil or visit the Range Control Website for the updated version of MCoE Regulation 350-19, range guidance and other materials for your range packet. This 144r must be present at the training site when occupying compartment or ranges.

EMD Number: 1323808

IJO# Unknown

Project Title: Tank Gunnery

CWA - Training

Conditions:

Jessica Taylor (706 604 4572), 8/28/2013

Environmental Review: Caution within training areas and motor pools should be taken to protect all nearby waterways (including perennial, intermittent streams and wetlands); as well as ground surfaces and any other sensitive areas in the vicinity of the training areas. Potential spills/releases from this activity that may occur before and/or during the FTX include: 1. Discharge and/or improperly disposal of oil or hazardous substances into or upon land, water, or into ground water areas from storage, handling and/or transportation of hazardous materials/waste; 2. Vehicle/equipment/generators leaks; 3. Fuel loading/unloading/refueling operations; 4. Field mess facilities/equipment/operations, and/or 5. Ammunitions /explosives (as applicable, before and/or during the FTX).

General SPCC Requirements: Ensure all hazardous materials are properly storage to prevent spill/discharges, to meet safety requirements for storage, and that containers are not exposed to the weather. Have adequate spill response supplies available during exercise for any spills that may likely occur. Use drip pans under vehicles and provide secondary containment for any fueling activities and hazardous material/waste storage. Locate all refueling operations and storage of hazardous materials/waste away from waterways and sensitive areas. See attached section on prevention procedures and CHECKlist (Example Unit/Activity SOP for Training and Deployment) to be used during training exercise to comply with SPCC plan requirements. Ensure all wastewater from field mess equipment/operations particularly those involving oil/grease are collected and dispose properly. Do not discharge any wastewater into storm drains or dispose of oil/grease waste directly into land.

General ISCP Requirements: In the event of a spill/discharge -- notify Range Control by radio or call 544-6291, and they will notify E-911 for Fire Department/HAZMAT Team assistance and/or notification of the EMD office (Spill Beeper 706-317-6584). As appropriate, and if personnel are trained -- REACT to minimize spill damages. Submit a spill report to the EPMB Spill Program Manager (use Spill Response Report attached). All spills reaching navigable water must be reported immediately. The unit is responsible for the final cleanup of any spill during this exercise. Coordination with this office is required for clearance of the site.

Hazardous Materials/Waste

Conditions:

Ted Williams (706 545 7579), 8/26/2013

Appropriate precautions must be taken to prevent hazardous material spills. Have adequate quantities of spill response supplies on hand. If a spill occurs use notification procedures as outlined in the Fort Benning Hazardous Waste Management Plan. Contain and clean up spill according to guidance provided by the Environmental Protection Management Branch. Any waste generated must undergo a waste stream analysis to determine appropriate management requirements. If any hazardous waste is generated it must be managed in accordance with Federal, State, Army and Fort Benning regulations.

Defective, misfired, or otherwise unserviceable munitions must be managed IAW/MCOE Reg.350-19-5-10, Para 9-2 (Proper management of Misfired munitions). All excess, munitions must be returned to the Ammunition Supply Point after the field exercise is completed. A dud shall not be removed from the range; it will be marked, called into range control and will be properly disposed of by EOD personnel IAW/MCOE Reg. 350-19, 23 Jul 2010.

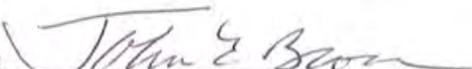
Rubbish, empty containers and other waste (including used smoke/C2 canisters) should be removed from the training area after the training is completed. Contact EPMB for detailed information on the proper disposal of waste products resulting from the exercise. Contact POC below for any questions or additional guidance.

Natural Resources - RCW

None

Michael Barron (706 544 7080), 8/26/2013

Signature



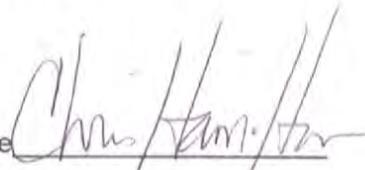
John E Brown

NEPA Program Manager

Date

10 Sep 2013

Signature



Christopher E. Hamilton, PhD

EPMB Chief

Date

11 Sep 13

IMSE-BEN-PLA  
SUBJECT: AIR LETTER  
FROM: AT&A Officer & Range Division

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By Federal Law, all airspace over Fort Benning Georgia, except that airspace over Lawson Airfield, and the main post cantonment area, is (R3002) Restricted Airspace when activated by Fort Benning Range Division. The (FAA) Federal Aviation Administration is the controlling agency for this airspace and Fort Benning is the using agency. When restricted, no aircraft shall enter this airspace without the proper approval from the using agency. IAW MCoE Regulation 350-19, all air missions into this restricted airspace will be scheduled with, Fort Benning Range Division, the Fort Benning (AT&A) Air Traffic and Airspace Officer, and published on the Fort Benning Air Letter.

Fort Benning Range Division: Comm: 706-544-6252/6291  
DSN: 784-6252/6291  
Fort Benning AT&A Officer: Comm: 706-545-1357/3524  
DSN: 835-1357

POC's: Richard Ivey, AT&A Officer, 545-2857  
Brad Tesch, Chief, Range Operations, 544-6385

<ORIGINAL SIGNED>  
Richard Ivey  
AT&A Officer  
DPTMS, AVN DIV

ALCON: NOTAM# entry is for internal use only

