

**FIRING/NONFIRING DATA**

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

<b>TO:</b> Chief, Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905	<b>Date:</b> 11 April 2013 <b>Range:</b> Brooks Range <b>Title:</b> Abrams Gunnery BOLC <b>Problem No:</b>
<b>THRU:</b> S-3, 316th CAV Fort Benning, GA	<b>FROM:</b> S-3, 2-16th CAV Fort Benning, GA

LOG # **4-5-13**

**SECTION I, TYPE OF TRAINING**

a. Live Fire     
  b. Non-live Fire     
 CP/Controller Coordinates: 1057 9937

**SECTION II, DEMOLITIONS/GRENADES/MINES/PYROTECHNICS**

Coordinates	Type	Model/DODAC	Size of Charges
N/A			

**SECTION III, WEAPONS/AMMUNITION REQUESTED**

Coordinates of Weapons Position	Type Weapon/Model Number	Type Ammunition	Left Limit	Right Limit
See Weapons & Ammo Enclosure	See Weapons & Ammo Enclosure	See Weapons & Ammo Enclosure	See Weapons & Ammo Enclosure	See Weapons & Ammo Enclosure

**SECTION IV, LIVE FIRE EXERCISES Attach the following:**

**SECTION V, NON-LIVE FIRE TRAINING**

<input checked="" type="checkbox"/> Scenario of training to be conducted: <input checked="" type="checkbox"/> Sketch of area: <input checked="" type="checkbox"/> Risk Assessment: <input type="checkbox"/> Attach FB Form 350-19-2-E-R if Mortar or artillery is being fired:	Training area(s) to be occupied:  <input type="checkbox"/> Scenario of training to be conducted: <input type="checkbox"/> Sketch of area(s) to be occupied: <input type="checkbox"/> Risk Assessment:
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Name/rank of requesting officer: Matthew J. Quiggle / CPT / SQN S-3 	Name/rank of Major Unit S3/Commander: Oscar F. Diano / LTC 2-16th CAV, Commanding 
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**SECTION VI, FOR RANGE DIVISION USE**

DATE: **24 April 2013**

<b>TO:</b> S-3, 316TH CAV Fort Benning, GA	<b>FROM:</b> Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905
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a. Roadblocks to be closed:

b. Road(s) to be closed/road barrier locations: **K5, 12, 14, 15, 16A, 16B, 17, 41, 44, 45, 47, 09, 018**

c. Remarks:

d. This approval expires: **23 Apr 15**

Chief, Range Division  
Directorate of Plans, Training, Mobilization and Security



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE  
35 RIDGWAY LOOP  
FORT BENNING, GEORGIA 31905-4500

REPLY TO  
ATTENTION OF

ATZB-SO

27 June 2011

MEMORANDUM FOR Commander, 2-16<sup>th</sup> CAV, Fort Benning, GA 31905

SUBJECT: Concept of Operations for Brooke's Range M1A2 and HUMMV Gunnery Exercise, 05 – 27 Jul 11.

1. References: Concept of Operations for Brooke's Range Concept, AR 385-10, AR 385-63, DA Pam 385-63 and DA Pam 385-30.
2. Concur.
3. Point of contact is Mr. Michael W. Risher II, MCoE/Fort Benning Safety Office, Comm. (706) 545-8275, Govt. Cell. (706) 604-7249, [michael.w.risher@conus.army.mil](mailto:michael.w.risher@conus.army.mil)

  
JILL E. CARLSON  
Director, MCOE Safety  
Fort Benning Safety Office





## DEPARTMENT OF THE ARMY

2-16 CAVALRY, 316<sup>TH</sup> CAVALRY BRIGADE  
BUILDING 5116 HARMONY CHURCH  
FORT BENNING, GEORGIA 31905

ATZK-SBB

20 June 2011

### MEMORANDUM FOR RECORD

**SUBJECT:** Concept of Operation for Brooks Range.

**1. PURPOSE:** The purpose of this range is to conduct M1A2 Abrams Tank Tables II and V, and HMMWV 1114's Table III at Brooks Range in order to train BOLC students on the capabilities of the M1A2 SEP Abrams and 1114 HMMWV and the gunnery process.

**2. APPLICABILITY:** This memorandum applies to all 2-16 CAV, 316<sup>TH</sup> BDE units/ activities using Brooks 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/M240B/C   | .50 cal 7.62/Ball/Tracer link |
| b. M256         | 120mm C784 / C785 Laser LRF   |
| c. Night vision | PAS13B/Thermal weapon sights  |
| d. Laser LRF    | M1A2/LRAS                     |

### 4. REFERENCES:

- a. Army Regulation 385-63 and DA PAM 385-63, Range Safety
- b. Army Regulation 350-1, Army Training
- c. MCOE Regulation 350-19, Range and Terrain Regulation
- d. FM 3-23.30, Grenades and Pyrotechnic Signals
- e. TM 9-1300-206, Ammunition and Explosives Standards
- f. FM 3-20.21, HBCT Gunnery Manual
- g. FM 3-20.15, Tank Platoon
- h. FM 4-01.45 Multi-Service Tactics, Techniques and Procedures for Tactical Convoy Operations

- i. FM 3-20.98 Reconnaissance Scout Platoon
- j. FM 23-65, Browning Machine Gun Caliber .50 HB M2
- k. Crew-served Machine Guns 5.56mm and 7.62mm

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

- a. DA Form 7566, Risk Management Worksheet. Which must be reviewed and approved by MCOE Safety.
- b. FB Form 350-19-1-E-R, scenario, sketches, FB Form 144, and any specific enclosures as required
- c. 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 packets. All deviations/ waivers must be submitted through MCOE Safety office for review and approval.
- d. Units will use the Range Facility Management and Scheduling System (RFMSS) when scheduling Brooks 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 are to be policed during daylight hours only. A red range flag will be provided to the using unit by Range Division personnel. The range flag will be displayed prior to live-fire training and must be returned to range support 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.

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

**8. REQUIREMENTS:** A specific operation 350-19-1-E-R / scenario package will be prepared by the units for Brooks 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 / scenario package will be onsite. All visiting personnel will also be directly controlled by the OIC / NCOIC. All personnel will be given range orientation / 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 / ammunition listed on the approved FB Form 350-19-1-E-R / scenario package will be allowed on the range. Prior to and after training, an ammunition / weapons check will be made to ensure no individual or vehicle has any unauthorized ammunition / 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. This area will be cleaned after use. A detailed briefing will be given by the OIC / RSO to all personnel prior to training at Brooks Range. This briefing will include the FB Form 350-19-1-E-R / scenario package, daily risk management worksheet, and a detailed safety briefing. Hearing Protection will be available on the range for everyone, And for 120mm double hearing protection will be worn.

**9. MEDICAL:** 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 / OIC guidance and not adjacent to the mess area. The Medical Air Evacuation (MEDEVAC) point will be IAW MCOE Regulation 350-19. All incidents will be reported to Brigade Headquarters, MCOE Safety IAW AR 385-10 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. 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 Brooks 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.

**11. AMMUNITION POINT:** There is an ammunition point provided for draw / 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 in to, and logged by the Ammunition NCO.

**12. 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, and unit risk assessment worksheet signed by the appropriate risk level authority, and a daily risk assessment required before live fire execution on Brooks 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.

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.

**13. 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, and helps commander determine and verify alibi conditions. Tank Tables II and V, HUMMWV Tables III.

**\*\*Both Tank and HUMMWV will run dry and Live gunnery runs.\*\***

**14. EXECUTION OF THE EXERCISE: Day 1 (Boresighting and Screening)** Firing tanks will occupy the approved scenario firing position on order at the completion of boresighting. The crew will conduct main gun screening one at a time on line at base line, following orders given by the Master Gunner to lock and load, and firing at one of the approved three screening panels, which will be located 1500 meters (+/- 20 meters) from the base line for 120mm(main gun). The crew will then conduct small arms zero, fire at one of the (two) machine gun screening panels at 500 meters for the M240C and fire at one of the (two) machine gun screening panels at 800 meters for the .50 caliber, all from the base line. Firing crew will clear all weapons systems once complete and back their vehicle off the base line to be cleared by the Safety NCO in the vehicle, who will report this to the tower. The crew will elevate all weapons systems once they have been cleared by the Safety NCO.

\*\*Request Range Control have two Boresight panels at 1200 meters, three Main Gun Screening panels at 1500 meters, two machine gun screening panels at 500 meters for M240C and two more machine gun panels at 800 meters for .50 cal. All inplaced to engage from the Baseline. \*\*

\*\*FP 1,FP 2, FP 3 will be clearly marked with VS-17 panel Day and IR and or Color Chemlight night\* (Start and Stop)\*\*

\*\*Day 2 will be dry fire day for .50 cal and 240B Gunnery same senerio as below. And May transition to live fire during the day and night.\*\*

Day 2,3,4 will be the HUMMWV M1114 .50cal and M240B Gunnery days.(Day time Live Fire) Crews will lock and load at FP2 start, on command from the tower. Firing crews will confirm zero at the 800 meter machine gun panel for .50cal. or 500 meter machine gun panel for M240B one

at a time from the baseline. Firing crew will clear all weapons systems once complete and back their vehicle off the base line to be cleared by the Safety NCO in the vehicle, who will report this to the tower. The crew will elevate all weapons systems once they have been cleared by the Safety NCO. After all crews have completed zeroing they will line up on the course road to the right of the range, the first firing crew will move to FP2 start facing north east. As prompted from the tower to lock and load weapon system on the base line, the first engagement the crew will move in FP2 start come to a short halt within the FP2 stop and engage (see target list). The crew will be prompted to put weapon on safe and move into BP2. The second engagement will be from BP2 crew will engage (see target list). The third engagement will be from BP2 crew will engage (see target list). The crew will be told by the tower to clear and elevate weapon systems. The vehicle Safety NCO will inspect the weapon system and report to tower. The crew will then be told by tower to FP2 start and switch crews around and start again. This will continue until all personnel have fired. **(Night time Live Fire)** using AN/PAS13B's, commanded by the tower crews will lock and load weapon systems on the baseline. Firing crews will confirm zero at the 800 meter machine gun panel for .50cal. or 500 meter machine gun panel for M240B one at a time from the baseline. Firing crew will clear all weapons systems once complete and back their vehicle off the base line to be cleared by the Safety NCO in the vehicle, who will report this to the tower. The crew will elevate all weapons systems once they have been cleared by the Safety NCO. After all crews have they will line up on the course road to the right of the range, the first firing crew will move to FP2 start facing north east. As prompted from the tower to lock and load weapon system, the first engagement the crew will move in FP2 start come to a short halt within the FP2 stop and engage (see target list). The crew will be prompted to put weapon on safe and move into BP2. The second engagement will be from BP2 crew will engage (see target list). The crew will be told by the tower to clear and elevate weapon systems. The vehicle Safety NCO will inspect the weapon system and report to tower. The crew will then be told by tower to move to FP2 start and switch crews around and start again. This procedure will be repeated for each crew until all personnel have fired.

Day 5,6 will be the Tank Gunnery days. **(Prelim Gunnery with Inbore Device .50cal ball).(Day time Live Fire)** Crews will be in Tactical AA to the Right of the base line and will be called by the tower to occupy FP1 start . The firing crew will move to FP1 start facing north east. As prompted from the tower to lock and load weapon systems, the first engagement the crew will move in FP1 start along the baseline come to a short halt within the FP1 stop and engage (see target list). Second engagement the crew will move in FP2 start along the baseline come to a short halt within the FP2 stop and engage (see target list). On order from the tower crew will go to electrical safe and move to BP2. The third engagement will be .50cal inbore device at a tank target. The forth engagement will be a multiple engagement from BP2(see target list)using the .50cal inbore device. The Crew will prompted by the tower to go to electrical safe and move to FP3 start. On order the crew will move with in FP3 start and stop and engage (see target list)with .50cal inbore device. At this time the crew will be told by the tower to clear and elevate weapon systems. The vehicle Safety NCO will inspect the weapon system and report to tower. The crew will then be told by tower to move back to the ammo pad and then to the TAA and change crew members. This will continue until all personnel have fired. **(Prelim Gunnery with Inbore Device .50cal ball).(Night time Live Fire)** Crews will be in Tactical AA to the Right of the base line and will be called by the tower to occupy FP2 start . The firing crew will move to FP2 start facing north east. As prompted from the tower to lock and load weapon system, the first engagement the crew will move in FP2 start along the baseline come to a short halt within the FP2 stop and engage (see target list). The crew will be told to go to electrical safe and move to BP2 for second engagement. Second engagement from BP2 will engage(see target list) with .50cal inbore device. The crew will then be told to go to electrical safe and move to FP3 start. On

order the crew will move with in FP3 start and stop and engage (see target list) with .50cal inbore device. The crew will be told by the tower to clear and elevate all weapon systems. The vehicle Safety NCO will inspect the every weapon system and report to tower. The crew will then be told by tower to move back to the ammo pad and then to the TAA and change crew members. This procedure will be repeated for each crew until all personel have fired.

Day 7,8 will be the Tank Gunnery days. **(Basic Gunnery, 120mm).(Day time Live Fire)** Crews will be in Tactical AA to the Right of the baseline and will be called by the tower to occupy FP1 start. The firing crew will move to FP1 start facing north east. As prompted from the tower to lock and load weapon systems, the first engagement the crew will move in FB1 start along the baseline come to a short halt within the FP1 stop and engage (see target list). Second engagement the crew will move in FP2 start along the baseline come to a short halt within the FP2 stop and engage with 120mm main gun (see target list). On order from the tower crew will go to electrical safe and move to BP2. The third engagement will be 120mm main gun (see target list). The forth engagement will be a tank target using the 120mm main gun (see target list). The Crew will prompted by the tower to go to electrical safe and move to FP3 start. On order the crew will move with in FP3 start to stop and engage (see target list). At this time the crew will be told by the tower to clear and elevate weapon systems. The vehicle Safety NCO will inspect the weapon system and report to tower. The crew will then be told by tower to move back to the ammo pad and then to the TAA and change crew members. This will continue until all personel have fired. **(Basic Gunnery, 120mm).(Night time Live Fire)** Crews will be in Tactical AA to the Right of the base line and will be called by the tower to occupy FP1 start . The firing crew will move to FP1 start facing north east. As prompted from the tower to lock and load weapon systems, the first engagement the crew will move in FP1 start to FP2 stop along the baseline with in the FP1 start and FP2 stop and engage with 120mm main gun (see target list). The crew will be told to go to electrical safe and move to BP2 for second engagement. Second engagement from BP2 will engage with 120mm main gun (see target list). The third engagement will be 120mm main gun (see target list). The crew will then be told to go to electrical safe and move to FP3 start. On order the crew will move with in FP3 start to stop and engage (see target list)with 120mm main gun. The crew will be told by the tower to clear and elevate all weapon systems. The vehicle Safety NCO will inspect the every weapon system and report to tower. The crew will then be told by tower to move back to the ammo pad and then to the TAA and change crew members. This procedure will be repeated for each crew until all personel have fired.

**\*\*Request Targets be heated for the thermal sights, and boresight panels.\*\***

#### **15. 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.

**16. 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-sight at all times with a dedicated vehicle clearly marked and will provide over head 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 safe/electrical safe when not engaging targets.
6. Signal to load, fire and clear weapon will be controled 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 be receive the required amount of ammo.
9. All unused ammo will be turned-in to the AHA upon completion of firing.
10. Head-space and timing for the M2 will be checked and set prior to firing, and checked by the vehicle safety NCO.
11. When an incident occurs on the range regardless of injury or not the OIC/RSO will immediately report it to Range Control and the using unit's higher headquarters.
12. The unit will follow the 9 Line MEDEVAC procedures for serious injuries.
13. Delinking, relinking, and firing of said ammo is not authorized.
14. Warning laser signs posted, and RSO additional duty is the Laser Safety Officer. The RSO will ensure that there are no personel down range or in front of any laser that is in operation at any time.
15. Hearing and eye protection will be worn during training, and double hearing protection for 120mm. (ear plugs and CVC)
16. Vehical weapon status flags will be displayed in accordance with enclosure one.
17. Vehical weapons control status will be displayed in accordance with enclosure one.
18. All vehicles will have two radios on each vehicle. One radio will be on fire net and the other on admin net, for a lost commo plan. The third lost commo plan at night is to flash a light from the tower at the crew, and the day RSO will wave a red flag near the vehicle.

17. The point of contact for this action is SFC Bain, Master Gunner, 2-16 Cav, 316<sup>th</sup> BDE, COMM (253)355-5904 or (706)626-6393.



TODD SHORE  
MAJ, AR  
SQUADRON S3

# Brooks Range 316 CAV (216 CAV) Abrams Gunnery BOLC

Moore Rd

Lorraine Rd

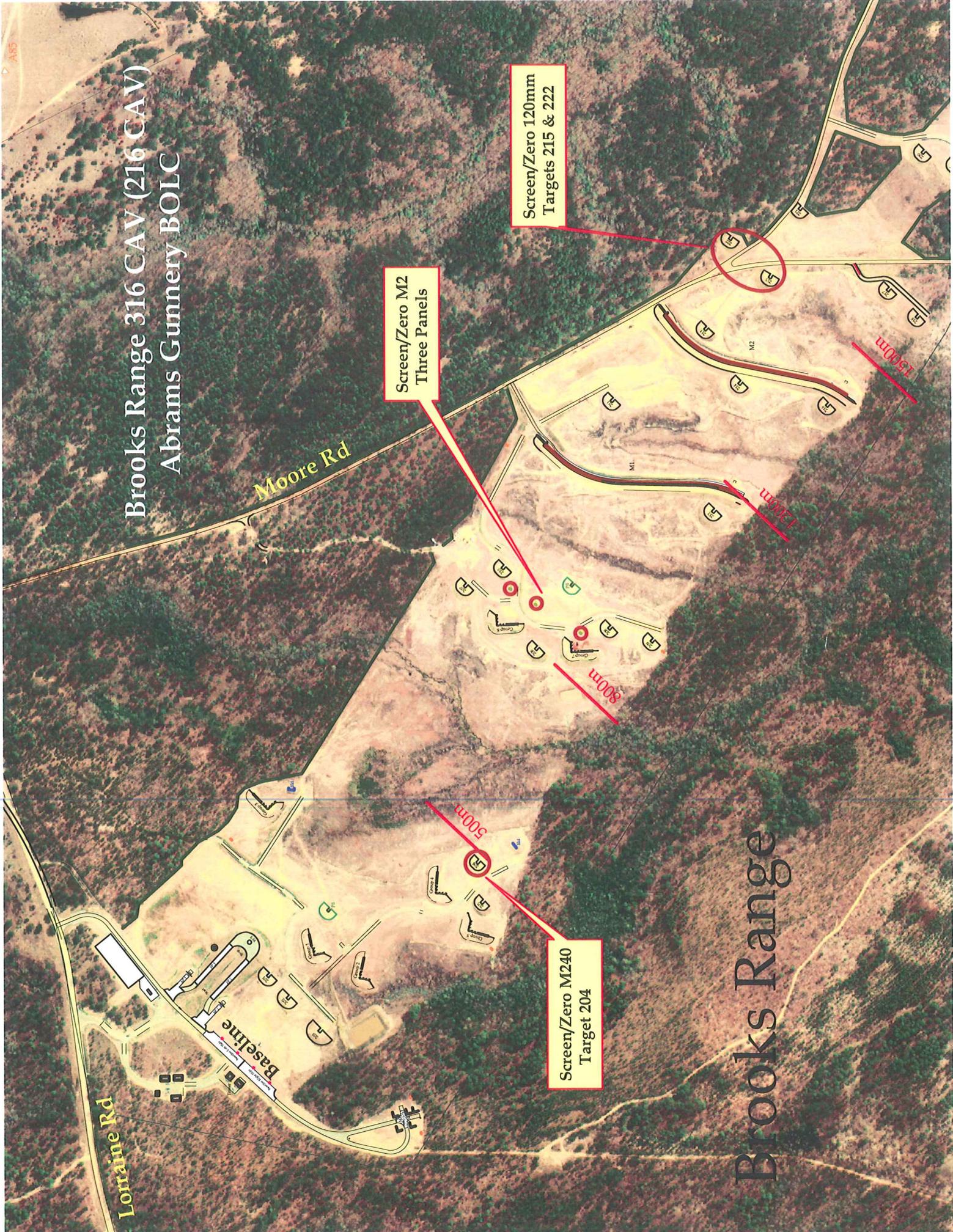
Baseline

Screen/Zero M2  
Three Panels

Screen/Zero 120mm  
Targets 215 & 222

Screen/Zero M240  
Target 204

# Brooks Range



800m

500m

1500m

1500m

Brooks Range 316 CAV (216 CAV)  
Abrams Gunnery BOLC





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 1/ BROOKS RANGE

UNIT: <u>BOLC</u>		EVENT: <u>240B DAY</u>		FIRING DATES: _____	
POC: <u>SFC BAIN</u>		PHONE: <u>706-626-6393</u>		DATE SUBMITTED: _____	

STEP #	OFF/DEF	BP/FB	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (sec)	DELAY (sec)	MOVER DIRECTION	SPEED (mph)	REMARKS
0		FP2	7.62 cal	GRP 2	ZEROING	N/A	GRP 4	N/A	N/A			VEHICLE ZERO AT FP1 START
1	OFF	FP2	7.62 cal	GRP 1	TROOPS	1	GRP 4	MAX	0			
2	DEF	BP2	7.62 cal	206	TECH TRUCK	3	207	MAX	10			
	DEF	BP2	7.62 cal	GRP 1	RPG TM	1	GRP 6	MAX	0			POPSICKLE STICK TARGET FORM
3	DEF	BP2	7.62 cal	207	TECH TRUCK	3	206	MAX	0			
NOTE: TC and GNR will switch positions at BASE LINE before proceeding												
1	OFF	FP2	7.62 cal	GRP 1	TROOPS	1	GRP 4	MAX	0			
2	DEF	BP2	7.62 cal	206	TECH TRUCK	3	207	MAX	10			
	DEF	BP2	7.62 cal	GRP 1	RPG TM	1	GRP 6	MAX	0			POPSICKLE STICK TARGET FORM
3	DEF	BP2	7.62 cal	207	TECH TRUCK	3	206	MAX	0			
NOTE: TC and GNR will switch positions at BASE LINE before proceeding												
1	OFF	FP2	7.62 cal	GRP 1	TROOPS	1	GRP 4	MAX	0			
2	DEF	BP2	7.62 cal	206	TECH TRUCK	3	207	MAX	10			
	DEF	BP2	7.62 cal	GRP 1	RPG TM	1	GRP 6	MAX	0			POPSICKLE STICK TARGET FORM
3	DEF	BP2	7.62 cal	207	TECH TRUCK	3	206	MAX	0			

PAGE _____	OF _____	PAGES _____	SCENARIO FILENAME: _____
APPROVED BY: _____	DATE: _____		_____

As of 01 June 11



# ST 1/ BROOKS RANGE

UNIT:	BOLC	EVENT:	.50 CAL DAY	FIRING DATES:	
POC:	SFC BAIN	PHONE:	706-626-6393	DATE SUBMITTED:	

STEP #	OFF/DEF	BP/FB	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (sec)	DELAY (sec)	MOVER DIRECTION	SPEED (mph)	REMARKS
0		FP2	.50 cal	800M PANEL	ZEROING	N/A	800M PANEL	N/A	N/A			VEHICLE ZERO AT FP1 START
1	OFF	FP2	.50 cal	206	TECH TRUCK	3	207	MAX	10			
2	DEF	BP2	.50 cal	207	TECH TRUCK	3	206	MAX	0			
	DEF	BP2	.50 cal	210	RPG TM	1	208	MAX	0			POPSICLE STICK TARGET FORM
3	DEF	BP2	.50 cal	206	TECH TRUCK	3	207	MAX	0			

NOTE: TC and GNR will switch positions at BASE LINE before proceeding

1	OFF	FP2	.50 cal	206	TECH TRUCK	3	207	MAX	0			
2	DEF	BP2	.50 cal	207	TECH TRUCK	3	206	MAX	10			POPSICLE STICK TARGET FORM
	DEF	BP2	.50 cal	210	RPG TM		208	MAX	0			
3	DEF	BP2	.50 cal	206	TECH TRUCK	3	207	MAX	0			

NOTE: TC and GNR will switch positions at BASE LINE before proceeding

1	OFF	FP2	.50 cal	206	TECH TRUCK	3	207	MAX	0			
2	DEF	BP2	.50 cal	207	TECH TRUCK	3	206	MAX	10			POPSICLE STICK TARGET FORM
	DEF	BP2	.50 cal	210	RPG TM	1	208	MAX	0			
3	DEF	BP2	.50 cal	206	TECH TRUCK	3	207	MAX	0			

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







# ST 1/BROOKS RANGE

UNIT: <u>BOLC</u>		EVENT: <u>Basic Gunnery - Day - Lane 1</u>		FIRING DATES: _____								
POC: <u>SFC BAIN</u>		PHONE: <u>706-626-6393</u>		DATE SUBMITTED: _____								
STEP #	OFF/DEF	BP/FB	AMMO	PRI TGT	TARGET TYPE	# HITS TO KILL	ALT TGT	EXP (sec)	DELAY (sec)	MOVER DIRECTION	SPEED (mph)	REMARKS
0		Baseline	120mm TPCSDS-T, HEAT-TP-T		Screening Panel	N/A	N/A	N/A	N/A			need 3 screening panels at 1500m
1	SH	FP1	.50 cal	207	TECH TRUCK	3	206	MAX	0			Tank occupies FP2 at completion of engagement
2	OFF	FP2	120mm TPCSDS-T	M1	T72 FL	1	M2	MAX	0	R to L	8	Tank occupies BP2 at completion of engagement
3	DEF	BP2	120mm HEAT-TP-T	212	PC	1	211	MAX	0			Tank remains at BP2 after completion of this engagement
			120mm HEAT-TP-T	216	PC	1	215	MAX	15			
4	DEF	BP2	120mm TPCSDS-T	219	T72	1	222	MAX	0			GAS Engagement Tank occupies FP3 at completion of engagement
5	OFF	FP3	7.62mm	GRP 6	TROOPS	1	GRP 7	MAX	0			
NOTE: TC and GNR will switch positions at BASE LINE before proceeding												
6	SH	FP1	.50 cal	207	TECH TRUCK	3	206	MAX	0			Tank occupies FP2 at completion of engagement
7	OFF	FP2	120mm TPCSDS-T	M1	T72 FL	1	M2	MAX	0	R to L	8	Tank occupies BP2 at completion of engagement
	DEF	BP2	120mm HEAT-TP-T	212	PC	1	211	MAX	0			Tank remains at BP2 after completion of this engagement
			120mm HEAT-TP-T	216	PC	1	215	MAX	15			
9	DEF	BP2	120mm TPCSDS-T	219	T72	1	222	MAX	0			GAS Engagement Tank occupies FP3 at completion of engagement
10	OFF	FP3	7.62mm	GRP 6	TROOPS	1	GRP 7	MAX	0			

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



## Kilo Area Roadblocks 24 April 2013

#	GRID	LOCATION	TYPE
K-2	GA 163 883	Across Box Springs Rd 125m N. of its intersection with Buena Vista Rd.	Gate
K-3	GA 153 894	Across entrance road leading to Concord OP 250m N. of its intersection with Buena Vista Rd.	Gate
K-4	GA 144 901	Across entrance road leading to Hartell Bunkers 50m N. its of intersection with Buena Vista Rd.	Gate
K-5	GA 117 920	Across Shamanski Rd 25m N. of its intersection with Buena Vista Rd.	Gate
K-8	GA 099 947	Across Bulls Eye Rd 50m E of its intersection with Lorraine Road.	Gate
K-9	GA 103 921	Across Buena Vista Rd 40m E of the intersection with Moore Rd (Road Guard Location)	Gate
K-9A	GA 106 919	Across tank trail 200m W of the Upatoi Creek ford site.	Gate
K-10	GA 118 920	Across Buena Vista Rd at K-5 road block.	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-12	GA 104 988	Across Old Lorraine Road 600m S of the tower on Brooks Range.	Gate
K-13	GA 112 943	Across Moore Rd 680m N. of its intersection with Bullseye Rd.	Gate
K-14	GA 113 998	Across Moore Rd 10m S. of its intersection with Lorraine 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-16	GB 190 003	Across Rinehart Rd 130m W. of its intersection with Box Springs Rd.	Gate
K-16A	GA 172 989	Across Rinehart Rd 20m S. of its intersection with the northern boundary range road.	Gate
K-16B	GA 171 990	Across un-named trail 20m S. of its intersection with the northern boundary range road.	Gate
K-17	GB 116 013	Across unnamed trail 15m E. of Moore Rd and 300m N. of Ruth Range tower.	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-20	GB 141 021	Across unnamed trail 550m S of the northern boundary range road.	Cable
K-21	GB 139 027	Across the northern boundary range road Aprox 250m East of Cox Creek bridge.	Gate
K-26	GA 201 949	Across Boundry Road 1800m S of its intersection with Turrentine Road	Gate

#	GRID	LOCATION	TYPE
K-27	GA 207 968	Across Turrentine 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-29	GA 189 888	Across un-named trail on left side of Cactus Range 300m W of Cactus Road	Gate
K-30	GA 190 890	Across un-named trail on right side of Cactus Range 250m W of Cactus Road.	Gate
K-32	GA 192 915	Across Shamanski Road 35m W of its intersection with Cactus Rd.	Gate
K-36	GA 163 883	Across Buena Vista Rd 50m W. of its intersection with Box Springs Rd. (Road guard location).	Gate
K-36A	GA 163 882	Across Tank Trail 50m W. of its intersection with Box Springs Rd.	Gate
K-38	GA 201 941	Across unnamed trail 35m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-39	GA 202 949	Across unnamed trail 15m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-40	GA 174 908	Across Box Springs Rd 30m S. of Pine Knot Creek.	Gate
K-41	GA 192 944	Across Kennesaw Trail 30m W. of its intersection with Box Springs Rd.	Gate
K-42	GA 193 944	Across Box Springs Rd 10m N. of its intersection with Cactus 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-44	GA 113 955	Across Moore Rd on the N. side of Carmouche Range maneuver box.	Gate
K-45	GA 115 961	Across Moore Rd 300m S. of its intersection with the old Ware Range course road.	Gate
K-46	GA 119 979	Across Moore Rd 725m S. of its intersection with Americo Trail	Gate
K-47	GA 176 963	Across Turrentine Rd 1000m W. of mover 4 on Hastings Range	Gate
K-50	GA 195 988	Across Box Springs Rd 60m N. of its intersection with the northern boundary range road.	Cable
O-9	GA 101 962	600m N of Caramouche Rng on right side of Lorraine Rd.	Gate
O-18	GA 093 979	800m N of Ware Rng Entrance on Right side of Lorraine Rd	Gate

### COMPOSITE RISK MANAGEMENT WORKSHEET

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

1. MSN/TASK ABOLC -Tank, Light Calvary and Machine Gun Live Fire	2a. DTG BEGIN 150800APR13	2b. DTG END 010800JUL14	3. DATE PREPARED (YYYYMMDD) 20130403
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4. PREPARED BY	5. SQUADRON S3
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a. LAST NAME		b. RANK		c. POSITION			
QUIGGLE		CPT		SQUADRON S3			
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?
Gunnery	1. Injury due to ordnance explosion	H	1a. Ensure ammunition is serviceable, stored and packed properly with fire extinguishers nearby for storage and transportation.  1b. Brief personnel not to handle UXOs	M	1a. DA PAM 385-63	1a. MG, Ammo NCO and OIC	
			1c. TCI loading main gun and supervising loading the machine gun. VCEs supervise loading on HMMWVs. Use proper PPE when loading		1b. Daily safety brief	1b. RSO	
			1d. Students Complete TCGST and LCGST to include setting headspace and timing correctly on .50 Cal MGs.		1c. TM 9-2350-264-10-1	1c. TCI / VCE.	
			1e. Tank Gunners ensure the main gun is clear of berm prior to firing by checking the GAS.		1d. FM 3-20.21	1d. TCI	
			1f. Medics on hand to provide emergency treatment. MEDEVAC available by calling E911-Ops on Motorolas or 706-545-2921. Ground CASEVAC vehicle available with route		1e. FM 3-20.21 TM 9-2350-264-10-1	1e. TCI	

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

13. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (Check one)

LOW    
  MODERATE    
  HIGH    
  EXTREMELY HIGH

14. RISK DECISION AUTHORITY

a. LAST NAME DIANO, OSCAR F.	b. RANK LTC
c. DUTY POSITION COMMANDER, 2-16 CAV SQDN	
d. SIGNATURE 	

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?
2. Vehicle fire		H	2a. All crew members wear complete NOMEX to include balaclava and spall vest in tanks. Fire control systems / fire extinguishers PMCSed IAW TM. Safety briefing addresses flarebacks. 2b. Evacuation Drills completed by each crew daily.	M	2a. TM 9-2350-264-10-1 TM 9-2320-280-10 2b. FM 3-20.21 TM 9-2350-264-10-1 TM 9-2320-280-10	2a. TCI/VCE 2b. TCI/VCE	
3. Injury due to inexperienced driver		H	3a. Ensure all driver's have proper driver's licensing and training. Ensure all Soldiers wear seatbelts in HMMWV's 3b. Maintain speed under 10mph during iterations. Brief all Soldiers on range procedures	M	3a. AR 600-55 TM 9-2350-264-10-1 TM 9-2320-280-10 3b. Daily safety briefing by RSO.	3a. Support Commander 3b. OIC, and TCI/VCE	
			3c. Rollover drills rehearsed prior to each run.		3c. FM 3-20.21 TM 9-2350-264-10-1 TM 9-2320-280-10	3c. TCI/VCE	
4. .50 Cal Malfunctions		H	4a. Conduct PMCS and set headspace and timing IAW TM change 2 and TECOM Message. 4b. All .50 cal operators complete TCGST and LCGST prior to operating crew served weapons.	M	4a. TM 9-1005-213-10-2 4b. FM 3-20.21	4a. TCI/VCE 4b. Master Gunner and PSG's	
6. Heat injury / dehydration		H	5a. Brief Soldiers on heat injuries, water consumption, proper uniform, and enforce the use of the buddy system. Soldiers will watch the Heat Kills video to raise awareness. 5b. Keep iced sheets in coolers on hand to cool Soldiers showing symptoms of heat injury.	M	5a. Range Safety Brief 316 CAV FRAGO 23 to OPOD 11-002 5b. TRADOC 350-29	5a. RSO, OIC and assigned Battle buddy 5b. Medics	
7. Injury from breach recoil		H	6. Use all safety guards and crew warnings prior to firing weapon system.	M	6. TM 9-2350-264-10-1	6. TCI/VCE	

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?
	8. Severe Weather/Lightning	H	8a. Monitor range operations net for severe weather updates and comply with advisories.  8b. Brief Soldiers to move from exposed areas to low ground and shelters during extreme weather.	M	8a. Range Operations SOP  8b. Daily safety briefing by RSO.	8a. RSO/OIC.  8b. RSO/OIC	
	9. Vehicle running over Soldiers in Contonement Areas	M	9a. Mark all rest areas and sleep areas with engineer tape and chemlights. Develop contonement areas away from gunnery thoroughfares. Ground guide in sleeping areas.  9b. Avoid driving near troop areas. Ground guide all vehicles in troop areas. Brief procedures at Safety Brief.	L	9a. FM 3-90.1 FM 21-60  9b. FM 3-90.1 FM 21-60	9a. RSO  9b. RSO	
	10. Injury/damage caused when moving vehicles in restricted areas during hours of limited lighting	M	10. Use front and rear ground guides with light source at night. Brief during safety briefing.	L	10. FM 21-60	10. TCIs / VCEs and RSO	
	11. Cold Weather Injuries	M	11a. Ensure students stay in a proper uniform for the current weather condition and continue drinking water and eating meals.  11b. Ensure Soldiers change out of damp clothing as needed in the evening to prevent core body temperature dropping at night.	L	11a. FM 31-70  11b. FM 31-70	11a. TCIs / VCEs RSO and OIC spot check.  11b. OIC, CoC	
	12. Rounds impacting outside of approved SDZs	M	12. Brief Soldiers on location of range fans. Ensure Gunners and TCs identify range fans before iterations.	L	12. FM 3-20.21	12. TCIs / VCEs	
	13. Hearing loss	M	13. All tank firing crews will wear a CVC and ear plugs. Non-firing crews on the ready line/ammo pad wear ear plugs during firing. All HMMWV crews will wear earplugs.	L	13. TM 9-2350-264-10-1	13. TCIs / VCEs, RSO, and CoC	
	14. Carbon monoxide poisoning	M	14. Open vehicle hatches when operating vehicle heaters. Vehicles will not be slept in while running. Vehicles will not be left running while unattended.	L	14. TM 9-2350-264-10-1	14. TCIs / VCEs	

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?
	15. Injury while mounting / dismounting vehicles.	M	15a. Soldiers will maintain 3 points of contact when mounting, dismounting, or moving on top of a vehicle. 15b. Soldiers are required to take off any loose jewelry or rings when mounting any vehicle.	L	15a. TM 9-2350-264-10-1 TM 9-2320-280-10 15b. TM 9-2350-264-10-1	15a. TCIs / VCEs RSO will spot check. 15b. TCIs / VCEs	
	16. Injury / damage caused by refueling operations	M	16a. Use ground guides within 25 feet of fuelers and ground fueler. 16b. Wear gloves, eye protection, and other required PPE. Ensure fire extinguisher is present.	L	16a. TM-9-2320-279-10 16b. TM-9-2320-279-10	16a. TCIs and RSO verify use of ground guides. 16b. TCI	
	17. Fatigue causes Soldiers to act unsafely	M	17. Ensure all crews receive a minimum of six hours of sleep per 24 hour period.	L	17. Soldier management / crew rotation	17. CoC/RSO/OIC	
	18. Injury from negligent discharge	M	18a. Ensure that all weapon systems are cleared prior to departing the BP/FP and upon completion or iterations. 18b. Brief Soldiers to clear weapon systems and keep them elevated and pointed down range and display the proper flag or light.	L	18a. FM 3-20.21 18b. Safety Briefing	18a. RSO/TCI/VCE 18b. TCI/VCE	
	19. Injury from wildlife	L	19. Brief Soldiers not to disturb wildlife, report all bites or interactions to the Medic's	L	19. Range Operations SOP	19. CoC, RSO, and Safeties	

**Brooks Range, 316 CAV, 2-16 CAV Abrams Gunnery (Log #05-13-11) Target List Enclosure**

Firing Positions	Weapons	Ammunition	Targets
FP 1 Start: 1055 9929 to Stop: 1060 9934	M1 Tank M2	120mm M831, M865 .50 cal Ball/Tracer	202 - 223, M1, M2. (See notes below)
FP 2 Start: 1060 9934 to Stop: 1064 9939	M1 Tank M2 M240	120mm M831, M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	201, 202, 206 - 223, M1, M2. (See notes below) 201, 202, 206 - 223, M1, M2. (See notes below) GRP: 1, 2, 4, 6, 7. (See notes below)
BP 2: 1068 9938	M1 Tank M2 M240	120mm M831, M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	206 - 223, M1, M2. 206 - 223, M1, M2. 206, 207. GRP: 1, 3, 4, 6, 7. (See notes below)
FP 3 Start: 1069 9940 to Stop: 1076 9934	M1 Tank M2 M240	120mm M831, M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	206 - 223, M1, M2. 206 - 223, M1, M2. GRP: 1, 3, 4, 6, 7. (See notes below)
Baseline (Screening): 1064 9939 to 1055 9929	M1 Tank M2 M240	120mm M831, M865 .50 cal Ball/Tracer 7.62mm Ball/Tracer	215, 222. 3 Panels @ 800 Meters. 204.

NOTE: 1) FB 1: Target 202 can only be engaged from the last 30m. Target 203 can only be engaged from the first 25m. Target 205 can only be engaged from the first 10m. 2) FB 2: Target 201 can only be engaged from the last 40m. Target 202 can only be engaged from the first 27m. Grp2 targets can only be engaged from the first 10m. 3) BP 2: Grp1 target 106 cannot be engaged. Grp4 targets 122, 123 and 124 cannot be engaged. 4) FB 3: Grp1 target M301 is the only one that can be engaged. Grp4 target M304 is the only one that can be engaged.

