

**FIRING/NONFIRING DATA**

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

Log # 10-1-14

**TO:** Chief,  
Range Division,  
Directorate of Plans, Training, Mobilization and Security  
Fort Benning, GA 31905

**Date:** 15 OCTOBER 2014  
**Range:** DMPRC  
**Title:** ABOLC TANK AND SCOUT GUNNERY  
**Problem No:**

**THRU:** S3, 199TH INFANTRY BRIGADE

**FROM:** S3, 2-16TH CAVALRY SQUADRON

**SECTION I, TYPE OF TRAINING**

a. Live Fire       b. Non-live Fire      CP/Controller Coordinates: GA 0986 8872

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

Coordinates	Type	Model/DODAC	Size of Charges

**SECTION III, WEAPONS/AMMUNITION REQUESTED**

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

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

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

- Scenario of training to be conducted:
- Sketch of area:
- Risk Assessment:
- Attach FB Form 350-19-2-E-R if Mortar or artillery is being fired:

- Training area(s) to be occupied:
- Scenario of training to be conducted:
- Sketch of area(s) to be occupied:
- Risk Assessment:

Name/rank of requesting officer:  
Pete Boutin / GS7 / Squadron S3 Operations

Name/rank of Major Unit S3 Commander:  
James A. Zanella / MAJ / Brigade S3

*Pete Boutin*

*James A. Zanella*

**SECTION VI, FOR RANGE DIVISION USE**

**DATE:** 13 Jan 15

**TO:** S3, 199th INFANTRY BRIGADE

**FROM:** Range Division,  
Directorate of Plans, Training,  
Mobilization and Security  
Fort Benning, GA 31905

- a. Roadblocks to be closed:
- b. Road(s) to be closed/road barrier locations:
- c. Remarks:
- d. This approval expires: **Indef**

See Roadblock and Roadguard List

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

*Prof S. Teed*

**DMPRC, 199th (2/16 CAV) ABOLC Tank/Scout Gunnery (Log #10-1-14) Weapons/Ammo List Enclosure 9 Dec, 14 Page 2 of 2**

<b>Firing Positions</b>	<b>Weapons</b>	<b>Ammunition</b>	<b>Left Limit Mils, Grid Az</b>	<b>Right Limit Mils, Grid Az</b>
BP5A: GA 1084 8858	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	(120mm) 0525 (.50 cal & 25mm) 0525 (7.62mm) 0680	(120mm) 0810 (.50 cal & 25mm) 0810 (7.62mm) 0805
MB1-1 Start to Stop: GA 1020 8957 to 1032 8962	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	Start: 1035, Stop: 1020 Start: 1035, Stop: 1020	Start: 1310, Stop: 1320 Start: 1310, Stop: 1320
MB3-1 Start to Stop: GA GA 1035 8925 to 1060 8933	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	Start: 0965, Stop: 0880 Start: 0965, Stop: 0880	Start: 1260, Stop: 1260 Start: 1260, Stop: 1250
MB4-1 Start to Stop: GA 1048 8905 to 1067 8910	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	Start: 0880, Stop: 0815 Start: 0880, Stop: 0815	Start: 1240, Stop: 1200 Start: 1240, Stop: 1200
MB5-1 Stop to Stop: GA 1082 8860 to 1108 8881	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	Start: 0640, Stop: 0570 Start: 0640, Stop: 0570	Start: 0830, Stop: 0805 Start: 0830, Stop: 0805

<b>Firing Positions</b>	<b>Weapons</b>	<b>Ammunition</b>	<b>Targets</b>
BP5A: GA 1084 8858	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	<u>120mm</u> : (SA: 1, 10, 13, 63). <u>M2 &amp; 25mm</u> : (SA: 1, 10, 13, 63). 7.62mm (T: 5,6).
MB1-1 Start to Stop: GA 1020 8957 to 1032 8962	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	<u>120mm</u> : (SA: 7, 12. M: 101). <u>M2 &amp; 25mm</u> : (SA: 7, 12. M: 101).
MB3-1 Start to Stop: GA 1035 8925 to 1060 8933	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	<u>120mm</u> : (SA: 7, 12. M: 201). <u>M2 &amp; 25mm</u> : (SA: 7, 12. M: 201).
MB4-1 Start to Stop: GA 1048 8905 to 1067 8910	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	<u>120mm</u> : (SA: 63. M: 201). <u>M2 &amp; 25mm</u> : (SA: 63. M: 201).
MB5-1 Stop to Stop: GA 1082 8860 to 1108 8881	M1 Tank M256 M2, M242	120mm (M831, M865, M1002) .50 cal Ball/Tracer, 25mm M793, M910	<u>120mm</u> : (SA: 1, 9, 10). <u>M2 &amp; 25mm</u> : (SA: 1, 9, 10).

**DMPRC, 199th (2/16 CAV) ABOLC Tank/Scout Gunnery (Log #10-1-14) Weapons/Ammo List Enclosure 9 Dec, 14 Page 1 of 2**

<b>Firing Positions</b>	<b>Weapons</b>	<b>Ammunition</b>	<b>Left Limit Mils, Grid Az</b>	<b>Right Limit Mils, Grid Az</b>
LFASBP5A: GA 1084 8858	M1 Tank M256 M2 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer 7.62mm Ball/Tracer	(120mm) 0730 (.50 cal) 0715 (7.62mm) 0675	(120mm) 0835 (.50 cal) 0775 (7.62mm) 0850
BP1A: GA 1019 8960	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	(120mm) 1265 (.50 cal & 25mm) 1265 (7.62mm) 0890	(120mm) 1405 (.50 cal & 25mm) 1405 (7.62mm) 1560
BP3A: GA 1034 8928	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	(120mm) 0895 (.50 cal & 25mm) 0895 (7.62mm) 1030	(120mm) 1150 (.50 cal & 25mm) 1150 (7.62mm) 1300
BP4A: GA 1047 8908	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	(120mm) 1045 (.50 cal & 25mm) 1045 (7.62mm) 0705	(120mm) 1255 (.50 cal & 25mm) 1255 (7.62mm) 1300

<b>Firing Positions</b>	<b>Weapons</b>	<b>Ammunition</b>	<b>Targets</b>
LFASBP5A: GA 1084 8858	M1 Tank M256 M2 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer 7.62mm Ball/Tracer	<b>120mm, M2, 7.62mm:</b> <b>(See Enclosure For Locations)</b>
BP1A: GA 1019 8960	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	<u>120mm:</u> (SA: 5, 6, 7, 12). <u>M2 &amp; 25mm:</u> (SA: 5, 6, 7, 12). 7.62mm (T: 1, 9).
BP3A: GA 1034 8928	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	<u>120mm:</u> (SA: 4, 5, 8). <u>M2 &amp; 25mm:</u> (SA: 4, 5, 8). 7.62mm (T: 8, 36).
BP4A: GA 1047 8908	M1 Tank M256 M2, M242 M240B/C	120mm (M831, M865, M1002) .50 cal Ball/Tracer; 25mm M793, M910 7.62mm Ball/Tracer	<u>120mm:</u> (SA: 3,9,10,17). <u>M2 &amp; 25mm:</u> (SA: 3, 9, 10, 17). 7.62mm (T: 4, 8).



DEPARTMENT OF THE ARMY  
HEADQUARTERS, 2ND SQUADRON 16TH CAVALRY  
199<sup>TH</sup> INFANTRY BRIGADE (LEADER DEVELOPMENT)  
BLDG 5144, 13TH ARMORED REGIMENT ROAD  
FORT BENNING, GA 31905

ATZK-SBB

25 August 2014

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

**SUBJECT:** Concept of Operation for DMPCR; Armor Basic Officer Leader Course  
(ABOLC) Tank and Bradley Direct Fire Exercise

**1. PURPOSE:** The purpose of this range is to conduct Gunnery Tables II and V, at DMPCR in order to train BOLC students on the capabilities of the M1A2 SEP Abrams and the M2A3/M3A3 Bradley Fighting Vehicles and the gunnery process.

**2. APPLICABILITY:** This memorandum applies to all 2-16 CAV units/activities using DMPCR. 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. M240C        | 7.62/Ball/Tracer link                        |
| b. M2           | .50 cal Ball/Tracker Link                    |
| c. M256         | 120mm M831 (C784), M865 (C785), M1002 (CA31) |
| d. M242         | 25mm M793 (A976), M910 (A940)                |
| e. Night Vision | PAS13B/Thermal Weapon Sights                 |
| f. Laser LRF    | M1A1/A2/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

ATZK-SBB

SUBJECT: Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

**5. SCHEDULING:** Each unit/activity scheduling DMPRC 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 4 and FB 350-19-1-E-R. 2-16<sup>th</sup> CAV is responsible for developing and submitting a new range packet if requested training deviates from this approved range packet. All deviations/waivers must be submitted through Range Operations for review and approval.

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

**6. ADMINISTRATIVE:** The training unit shall clear the range IAW local policies and procedures established with Range Division Alpha Base. Units will be required to clean all buildings occupied during the training event. This will require that the unit supplies the following; brooms, mops, buckets, and appropriate cleaning supplies. Using units are responsible for clearing all brass and ammunition from the battle positions 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. The OIC will ensure that the range is put into a self imposed check fire with Range Operations IAW MCoE Regulation 350-19 prior to moving downrange. All range fires will be suppressed prior to placing the range back into a hot status. All vehicles used on the range will be instrumented. The bussel racks in the vehicles must be empty in order to install the IPU equipment. Units will have personnel on the vehicles while they are getting the equipment installed. For planning purposes, it will take 1 hour per Abrams and 30 minutes per Bradley. 4-5 installers will be available. The Tactical Alpha Alpha (TAA) will be located at the ammo pad. There is no other approved area on DMPRC for the TAA's location.

**7. GENERAL:** DMPRC supports live fire exercises for crew and collective level calibration and training.

**8. REQUIREMENTS:** A specific operation 350-19-1-E-R/scenario package will be prepared by the units for DMPRC and approved by the Chief, Range Operations. All supporting documents (i.e. regulations, field manuals, TM's, etc.) with an approved 350-

ATZK-SBB

**SUBJECT:** Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

1-E-R/scenario package will be onsite. All visiting personnel will also be directly controlled by the OIC/NCOIC. If required, all legal and Garrison Commander's approval will be acquired before any visitors arrive on site. 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 DMPRC. This briefing will include the FB 350-19-1-E-R/scenario package, daily risk management worksheet, LASER hazards 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:** In the event of an accident, injury or illness, the OIC/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). MEDEVAC will be IAW MCoE Regulation 350-19 and MCoE 40-2. Landing zone for MEDEVAC aircraft will be established prior to use and will be marked appropriately. Range Division Alpha Base will be notified in this event. The cease fire will remain in effect until cleared through Range Division Alpha Base. A Frontline Ambulance (FLA) with qualified medics will be present throughout the duration of the training exercise and will be located IAW Commander/OIC guidance and not adjacent to the mess area. The emergency cease fire signal and E-911 MEDEVAC procedures will be briefed during the range safety brief.

**10. INCIDENT:** When an incident occurs on the range, regardless of injury or not, the OIC/RSO will immediately call a cease fire and report it to Range Division Alpha Base and the using unit's higher headquarters, and MCoE Safety IAW AR 385-10. OIC/RSO will take action as directed by Range Division Alpha Base. The cease fire will remain in effect until the problem is resolved and cleared through Range Division Alpha Base. If the incident results in an injury, the OIC/RSO will use the procedures outlined in the medical paragraph. The following information will be furnished by the OIC/RSO to Range Division Alpha Base:

- a. Designation of unit.
- b. Range and location
- c. Type of weapon involved.

ATZK-SBB

SUBJECT: Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

- d. Type of ammunition involved.
- e. Brief summary of what happened.
- f. Personnel injuries and extent.
- g. Full Name, SS#, Rank and unit of injured personnel.
- h. Extent of property damage.
- i. Intentions regarding an AR 15-6 investigation.

**11. VEHICLE CONTROL:** No tracked or wheeled vehicles will leave the firing lanes for any reason. Maneuvering is prohibited anywhere but on the firing lanes. All turning around will be executed on a concrete pad or at the turn around points. This is to prevent damage to fiber optic cables, target pits, and other range support equipment. No Personally Owned Vehicles (POVs) are authorized downrange. All POVs are to be parked in areas designated by range personnel on DMPRC. The speed limit on the range is 5 mph. Track vehicles must enter and exit through the track vehicle entrance only. No parking is allowed in front of the range operations buildings, anywhere downrange, 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.

**12. FREQUENCIES:** There are four frequencies available for use on DMPRC. These include two admin nets and two fire nets. Vehicles will be on the designated admin net at all times, and the fire net when instructed by the controlling element.

a. Admin Nets:           Primary: 44.0000 Alternate: 52.3750

b. Fire Net:               Primary: 37.7750 Alternate: 70.0250

**13. AMMUNITION POINT:** There is an ammunition pad provided for draw/turn in. No open flames will be allowed within 50 feet of the ammunition pad. Two 10 pound bicarbonate fire extinguishers will be available at all times located on the ammunition pad. Ammunition Non-Commissioned Officer (NCO) will be Ammo Handler certified and will sign for and control all ammunition. Ammunition will be separated by type and monitored at all times. All ammunition will be issued by, turned into, and logged by the Ammunition NCO.

**14. 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 package to include this memorandum, operational overlays, approved RFMSS request summary, unit risk assessment worksheet signed by the appropriate risk level authority, and a daily risk assessment required before live fire execution on DMPRC. The OIC will call Range Division Alpha Base via LMR and request an opening code prior to training. Appropriate overlays will be posted upon arrival. The OIC and RSO will then receive a briefing from the range site supervisor.

ATZK-SBB

SUBJECT: Concept of Operation for DMPCRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

b. The unit will maintain continuous contact with Range Division Alpha Base at all times. If communications are lost the unit will go into a self induced check fire until communications are restored.

c. The unit Master Gunner or representative will verify the scenario data at the range complex is in accordance with this memorandum. They will also provide a final battle roster and firing order.

d. Firing vehicles will take all commands from the controlling element and will not load weapons until at the BP or Maneuver Box and after ordered to do so.

e. Unit will proof the range before firing.

f. 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.

**15. CONDUCT OF THE EXERCISE:** Tasks for conducting the 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. The Safety NCO will clear each firing vehicle at the end of each exercise, prior to leaving the BP or Maneuver Box.

d. The Master Gunner ensures that the range adheres to the approved scenario being fired, 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, helps commanders determine and verify alibi conditions and anything else covered as Master Gunner duties in FM 3-20.21.

**\*\* Both Tank and Bradley crews will execute both dry and live gunnery runs\*\***

**16. EXECUTION OF THE EXERCISE: Day 1 (Boresighting and Screening)** Firing tanks will occupy BP5A, the approved L-FAST firing position, on order at the completion of boresighting. The crew will conduct main gun screening one at a time, following orders given by the Master Gunner to load ammunition, and firing at the identified screening panels, which will be located 1500 meters (+/- 20 meters) for 120mm (main gun). The crew will then conduct small arms zero, firing at the machine gun screening

ATZK-SBB

SUBJECT: Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

panels at 500 meters for the M240 and 800 meters for the .50 caliber. Firing crew will clear all weapon systems once complete and the Safety NCO will ensure all the weapon systems have been cleared. Both the vehicle commander and Safety NCO will report all weapon systems cleared to the controlling element, authenticating with their initials. The crew will then elevate all weapon systems and keep them orientated up and down range.

\*\*Request Range Operations have two boresight panels at 1200 meters, four main gun screening panels at 1500 meters, two machine gun screening panels at 500 meters for the M240, and two machine gun panels at 800 meters for .50 cal. Emplaced. See enclosure for locations. \*\*

\*\*Day 2 will be dry fire day for machine gun (.50 cal and M240) gunnery. They will use the same scenario as below, and may transition to live fire depending on throughput. \*\*

Day 2, 3, 4 will be the machine gun vehicle fire. This can be fired from either the Abrams or Bradley platforms. Crews will take all commands from the controlling element. Crews will occupy BP1A, BP3A, BP4A, and BP5A and engage targets listed on the enclosed target list. Firing crews will confirm zero using the approved targets listed on the enclosed target list. Only one BP will fire at a time. They will then stand by for commands to run their machine gun scenarios. See target list enclosure for specific targets. When the engagement is complete, the crew will be instructed to clear and elevate all weapon systems. The vehicle Safety NCO will visually inspect the weapon systems and confirm clear then report to the controlling element. The crew will then switch and start again. This will continue until all crews have fired.

Day 5, 6, 7 will be the Abrams direct fire dry fire and live fire days. Crews will be in a Tactical AA to the rear of their firing lanes and will be ordered to occupy their respective BP's (BP1A, BP3A, BP4A and BP5A). When prompted to lock and load weapon systems, the first crew will engage their run of three scenarios. The first two engagements will be fired from the Alpha BP's and the third scenario will be fired from MB1-1, MB3-1, MB4-1 and MB5-1. When the engagement is complete, the crew will be instructed to clear and elevate all weapon systems. The vehicle Safety NCO will visually inspect the weapon systems and confirm clear then report to the controlling element. Once lane 1 is complete, lane 3 will fire. Once lane 3 is complete, lane 4 will fire. Once lane 4 is complete, lane 5 will fire. Only one BP or MB will fire at a time. When MB's are used, the firing vehicle will return back to the start before any other engagements can start. The crews will continue to switch and rotate in this order until complete. Tanks will be buttoned-up when firing the main gun. See target list enclosure for specific targets.

Day 7, 8, 9 will be the Bradley direct fire dry and live fire days. Crews will be in a Tactical AA to the rear of their firing lanes and will be ordered to occupy their respective BP's (BP1A, BP3A, BP4A and BP5A). When prompted to lock and load weapon systems, the first crew will engage their run of three scenarios. The first two

ATZK-SBB

**SUBJECT:** Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

engagements will be fired from the Alpha BP's and the third scenario will be fired from MB1-1, MB3-1, MB4-1 and MB5-1. When the engagement is complete, the crew will be instructed to clear and elevate all weapon systems. The vehicle Safety NCO will visually inspect the weapon systems and confirm clear then report to the controlling element. Once lane 1 is complete, lane 3 will fire. Once lane 3 is complete, lane 4 will fire. Once lane 4 is complete, lane 5 will fire. Only one BP or MB will fire at a time. When MB's are used, the firing vehicle will return back to the start before any other engagements can start. The crews will continue to switch and rotate in this order until complete. See target list enclosure for specific targets.

Day 10, 11, 12, 13 will be the Phase II Gate event. This will be conducted in both Tanks and Bradley's. Crews will be in a Tactical AA to the rear of their firing lanes and will be ordered to occupy their respective BP's (BP1A, BP3A, BP4A and BP5A). When prompted to lock and load weapon systems, the first crew will engage their run of three scenarios. The first two engagements will be fired from the Alpha BP's and the third scenario will be fired from MB1-1, MB3-1, MB4-1 and MB5-1. When the engagement is complete, the crew will be instructed to clear and elevate all weapon systems. The vehicle Safety NCO will visually inspect the weapon systems and confirm clear then report to the controlling element. Once lane 1 is complete, lane 3 will fire. Once lane 3 is complete, lane 4 will fire. Once lane 4 is complete, lane 5 will fire. Only one BP or MB will fire at a time. When MB's are used, the firing vehicle will return back to the start before any other engagements can start. The crews will continue to switch and rotate in this order until complete. BFV and tanks will be buttoned-up when tanks are firing the main gun. See target list enclosure for specific targets.

#### **17. CLOSURE OF THE RANGE:**

- a. The OIC notifies Range Division Alpha Base that firing has terminated, reports number of personnel trained and rounds expended by DODIC, debriefs unit personnel, and ensures that the clearing of the range and training areas is completed to local regulations and SOP standards.
- 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.

#### **18. SAFETY:**

- a. Uniform will be IAW unit SOP.

ATZK-SBB

**SUBJECT: Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise**

b. 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.

c. Combat lifesaver will be onsite at all times with a dedicated vehicle clearly marked and will provide overhead cover.

d. Weapons will be cleared by visual inspection on and off the firing line by the RSO after the last engagement.

e. Weapons will be on mechanical and electrical safe when not engaging targets.

f. Signals to battlecarry, load, fire, and clear weapon systems will be controlled by the OIC, NCOIC, Master Gunner, or a designated unit representative via FM communications.

g. Anyone on the range observing an unsafe act can call a ceasefire by using FM comms, hand and arm signals, or a vocal command of ceasefire. All signals will be included in the initial safety briefing.

h. Crews will receive the required amount of ammo.

i. All unused ammunition will be turned into the AHA upon completion of firing.

j. Head space and timing for the M2 will be set by the vehicle commander and verified by the Safety NCO prior to firing the weapon.

k. The unit will follow 9 line MEDEVAC procedures for serious injuries.

l. There will be no de-linking or re-linking of any ammunition. Any ammunition that has been de-or re-linked is considered nonstandard and is prohibited from the range.

m. Laser Warning Signs will be in place prior to opening the range. Range safety briefing will include hazards using Lasers and NVD's.

n. Hearing and eye protection will be worn during training, and double hearing protection will be worn on the 120mm platform. (ear plugs and CVC helmet)

o. All vehicles will have two radios on each vehicle. One radio will be on the fire net and the other will be on an admin net, for a lost comms plan. The third lost comms plan is to use hand and arm signals during the day and to signal the controlling element or RSO with a flash light during hours of limited visibility.

ATZK-SBB

**SUBJECT:** Concept of Operation for DMPRC; Armor Basic Officer Leader Course (ABOLC) Tank and Bradley Direct Fire Exercise

p. If any rounds are fired outside the range fans or impact area, the unit will come to an immediate cease fire. The controlling element will instruct the firing vehicle to hold and freeze, ensuring the crew does not move any weapons systems. The Master Gunner and Range Division Alpha Base will be notified immediately.

q. If wildlife enters the range, the unit will come to a cease fire and notify Range Division Alpha Base. Coordination will be made with local environmental authority for instructions before firing can continue.

r. When a weapon or ammunition malfunction is experienced, the OIC/RSO will suspend all firing and immediately notify Range Division Alpha Base. The weapons and all components and ammunition involved will remain in place. The cease fire will remain in effect until cleared through Range Division Alpha Base. An investigation is required and will be conducted by the ammunition and weapons inspection personnel and DOL.

s. A spill kit is required to be on the range at all times in order to contain any fluids dripping from the vehicles.

t. BFV's and Tanks will display correct weapon flag status in accordance with Fort Benning's policy.

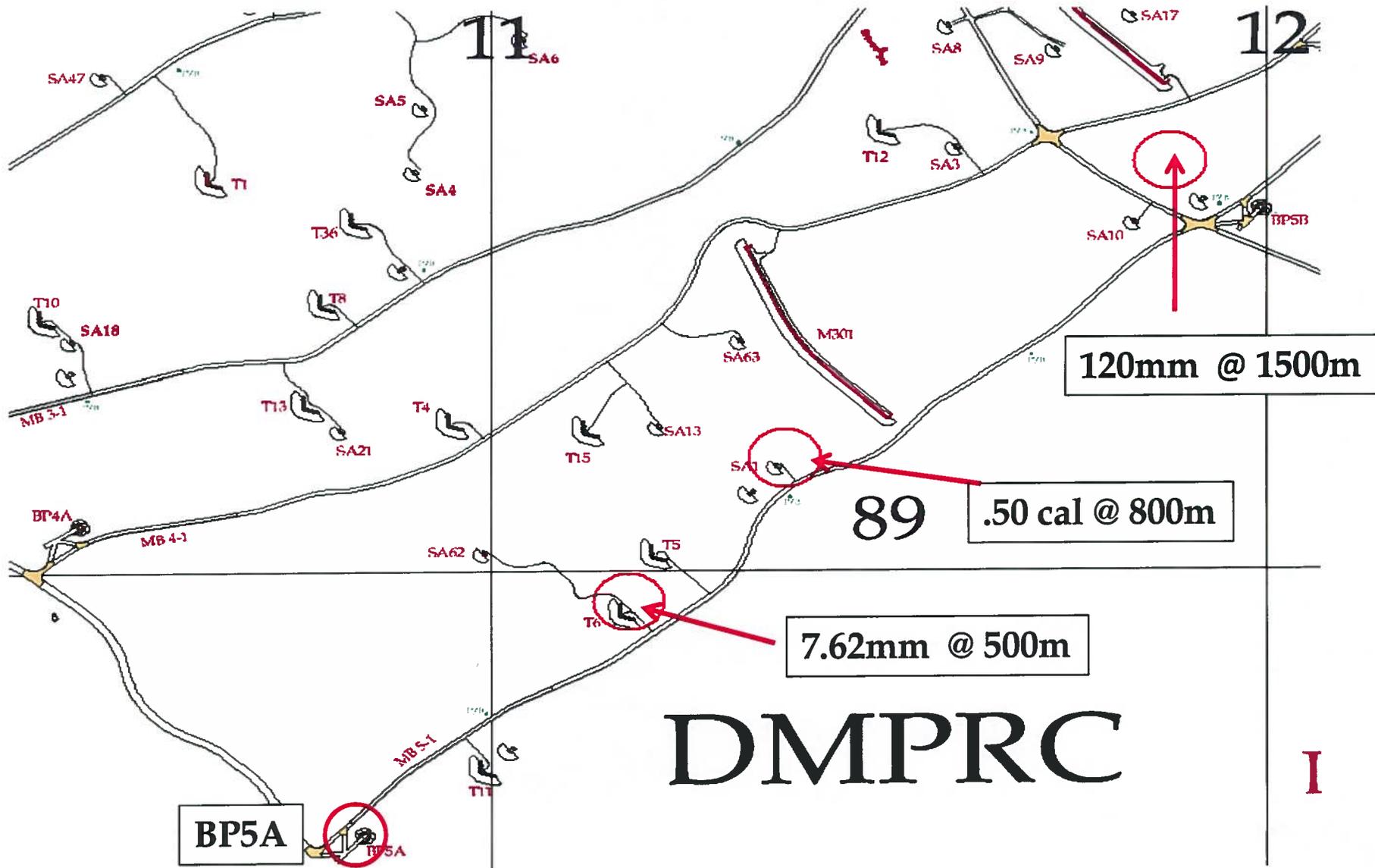
**19. POINT OF CONTACT:** The point of contact for this memorandum is SFC Adam Paich, 2-16 Cavalry Master Gunner, 199<sup>th</sup> Infantry Brigade, at 706-626-8321 or [adam.paich.mil@mail.mil](mailto:adam.paich.mil@mail.mil).



DENNIS R. ATKINS III  
LTC, AR  
Commanding

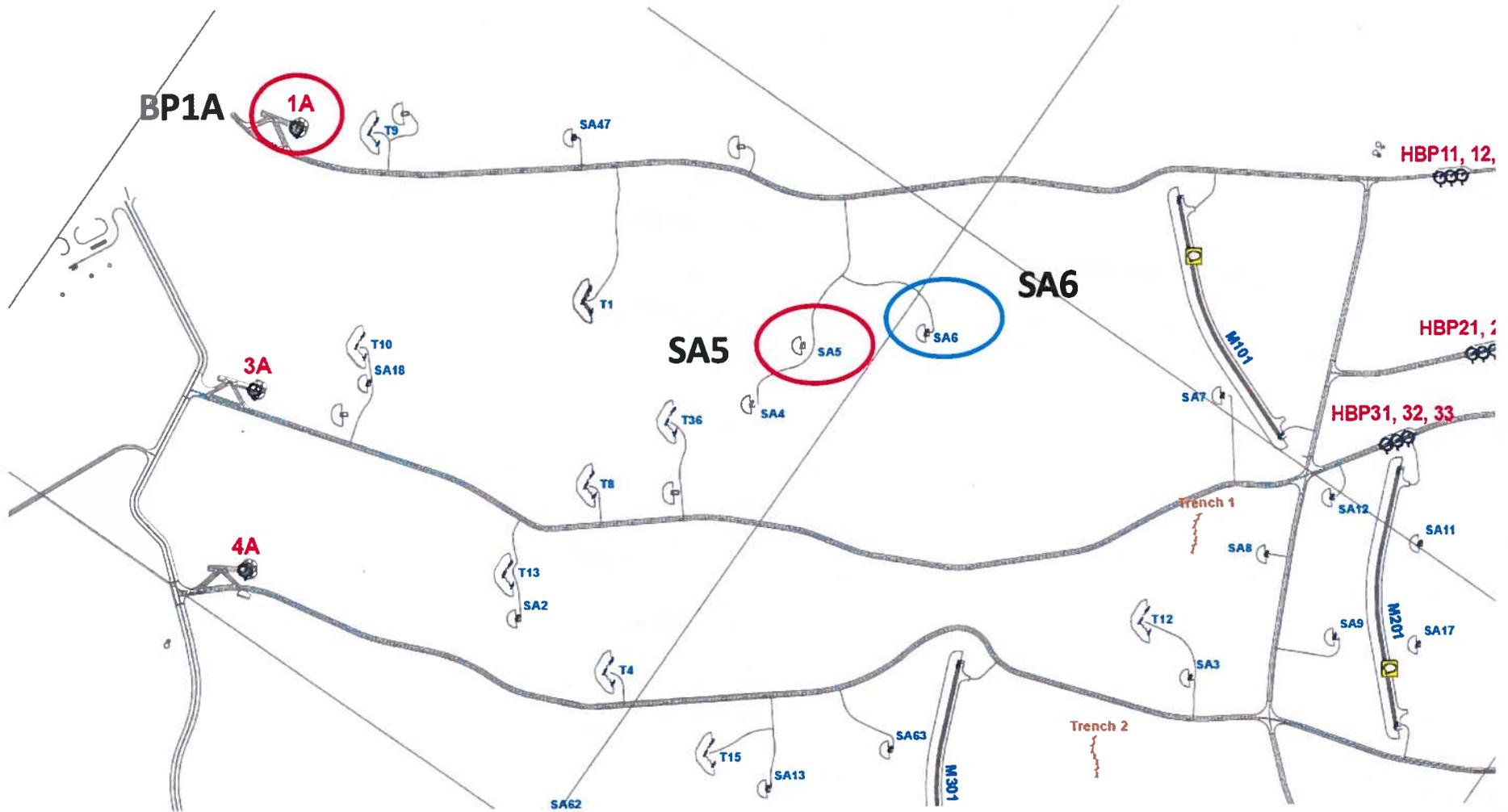
# LFAST

ST- 5 panels located 1500m, 800m ,50mm (+-20m) from BP5 A



# Step 1

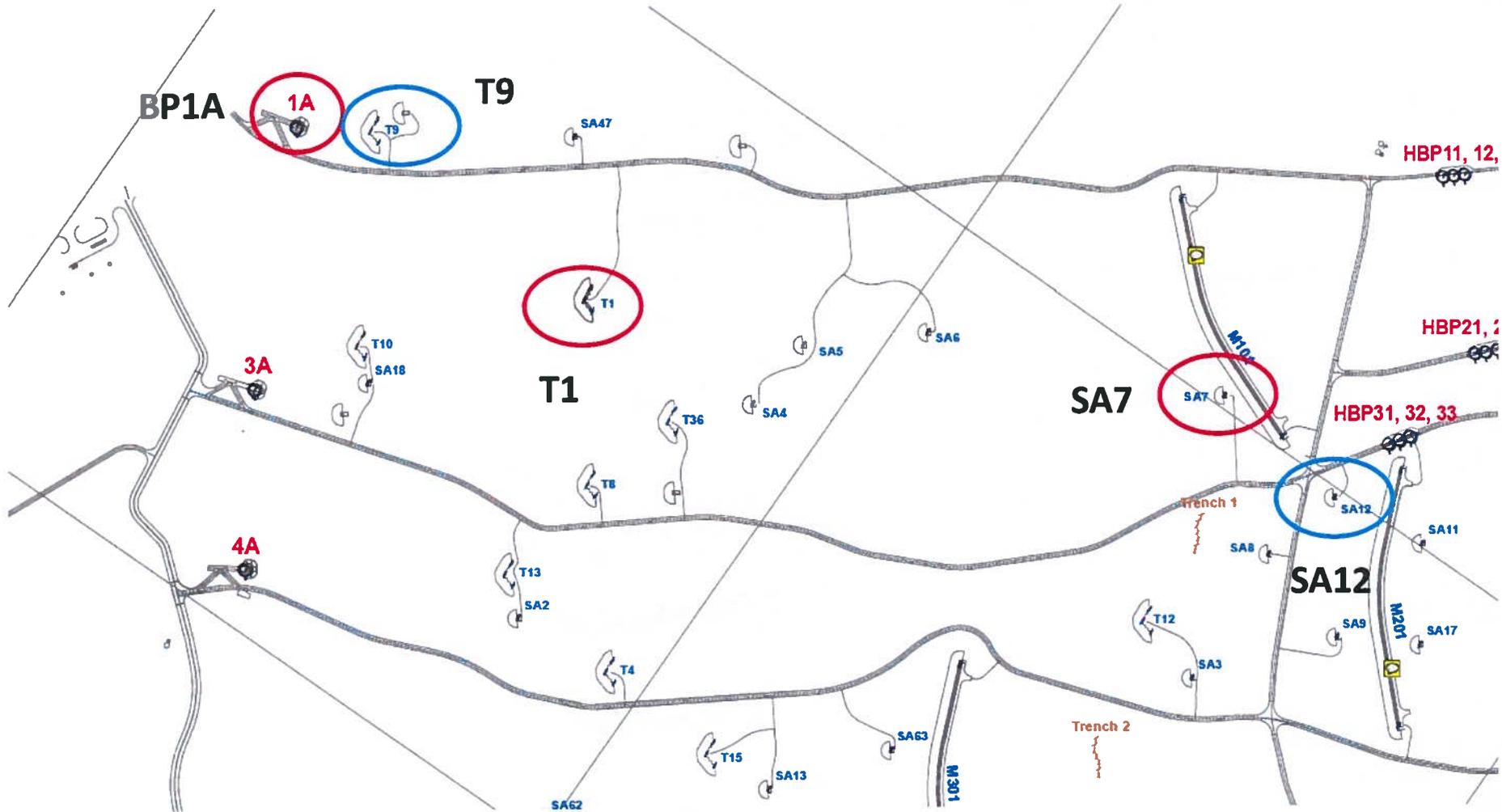
BP 1A: 120mm, .50 cal, 25mm  
Primary Target: SA 5  
Alternate Target: SA 6



# Step 2

BP 1A: 120mm, .50 cal, 25mm  
Primary Target: SA 7  
Alternate Target: SA 12

BP 1A: 7.62mm  
Primary Target: T 1  
Alternate Target: T 9



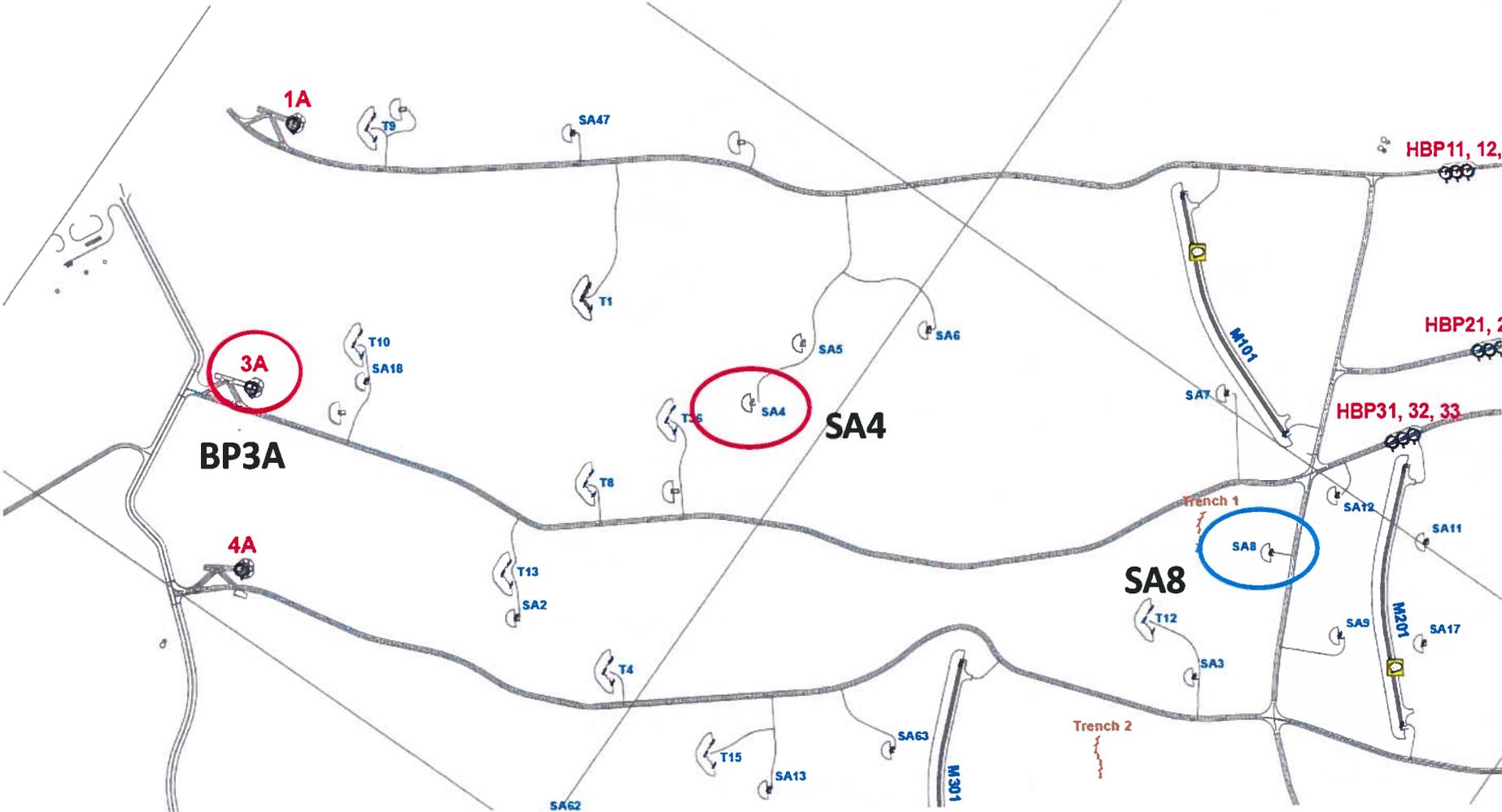


# Step 4

BP 3A: 120mm, .50 cal, 25mm

Primary Target: SA 4

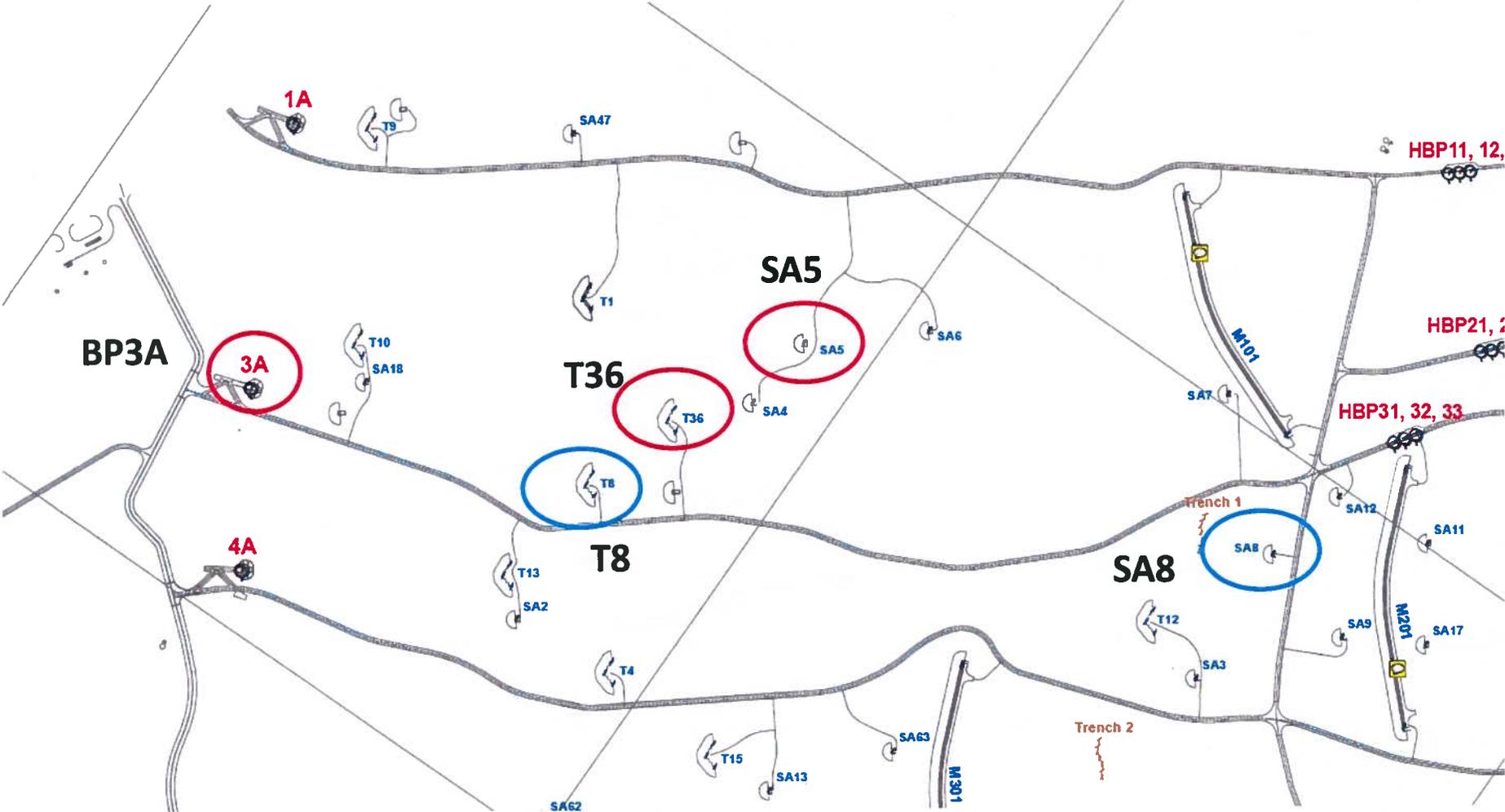
Alternate Target: SA 8



# Step 5

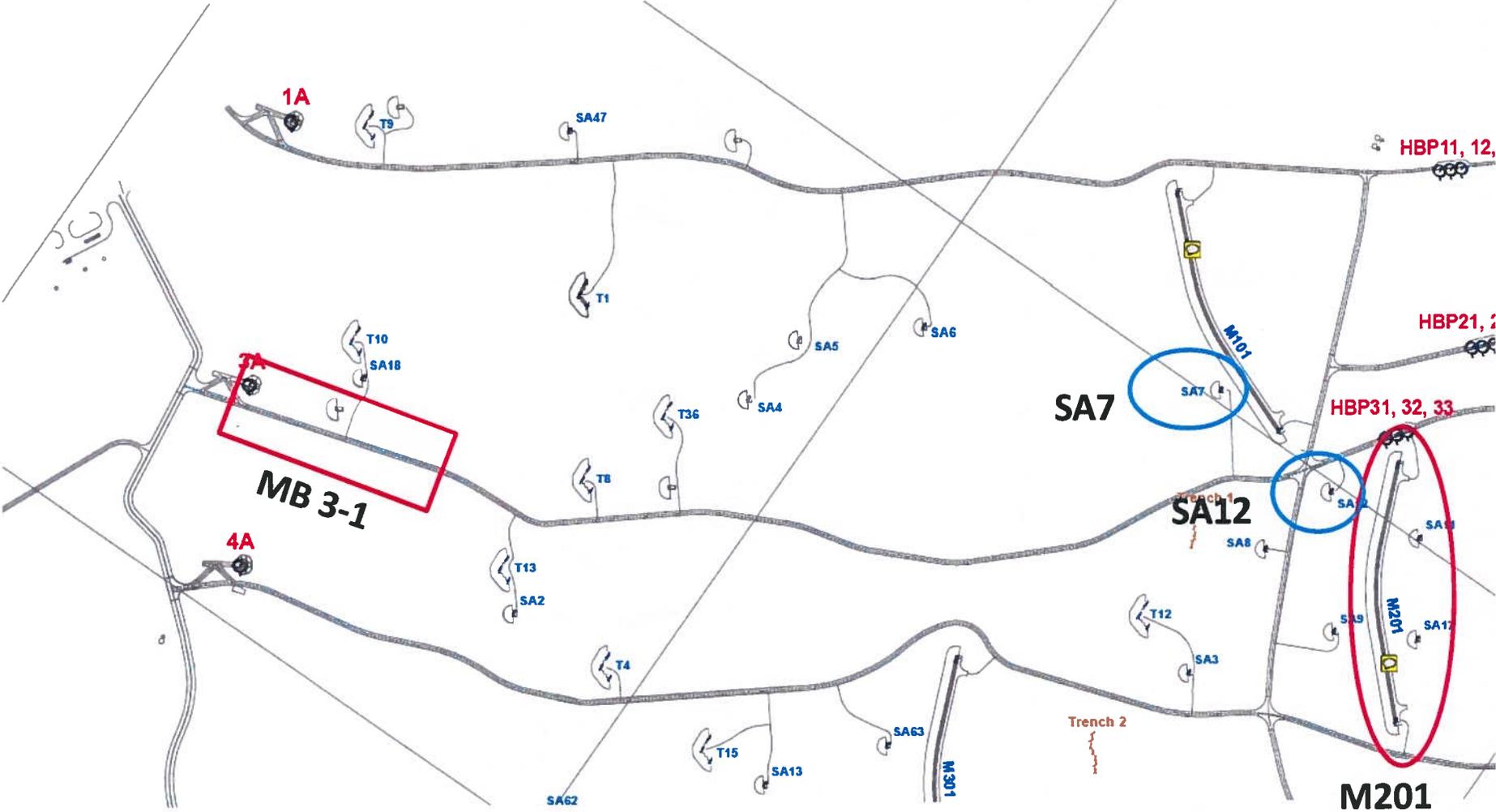
BP 3A: 120mm, .50 cal, 25mm  
Primary Target: SA 5  
Alternate Target SA 8

BP 3A: 7.62mm  
Primary Target: T 36  
Alternate Target: T 8



# Step 6

MB 3-1: 120mm, .50 cal, 25mm  
Primary Target: M201  
Alternate Targets: SA 7, SA 12

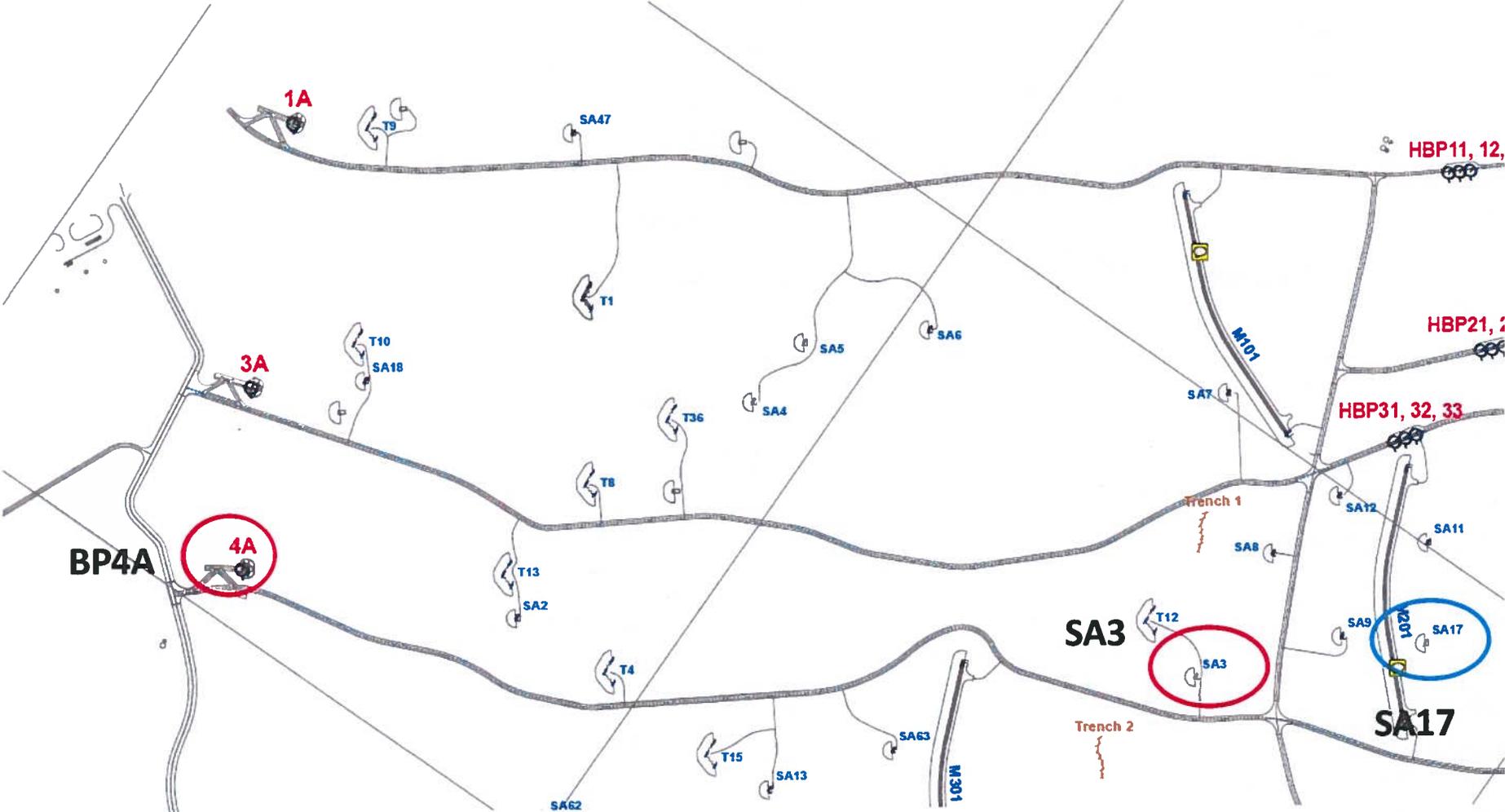


# Step 7

BP 4A: 120mm, .50 cal, 25mm

Primary Target: SA 3

Alternate Target: SA 17



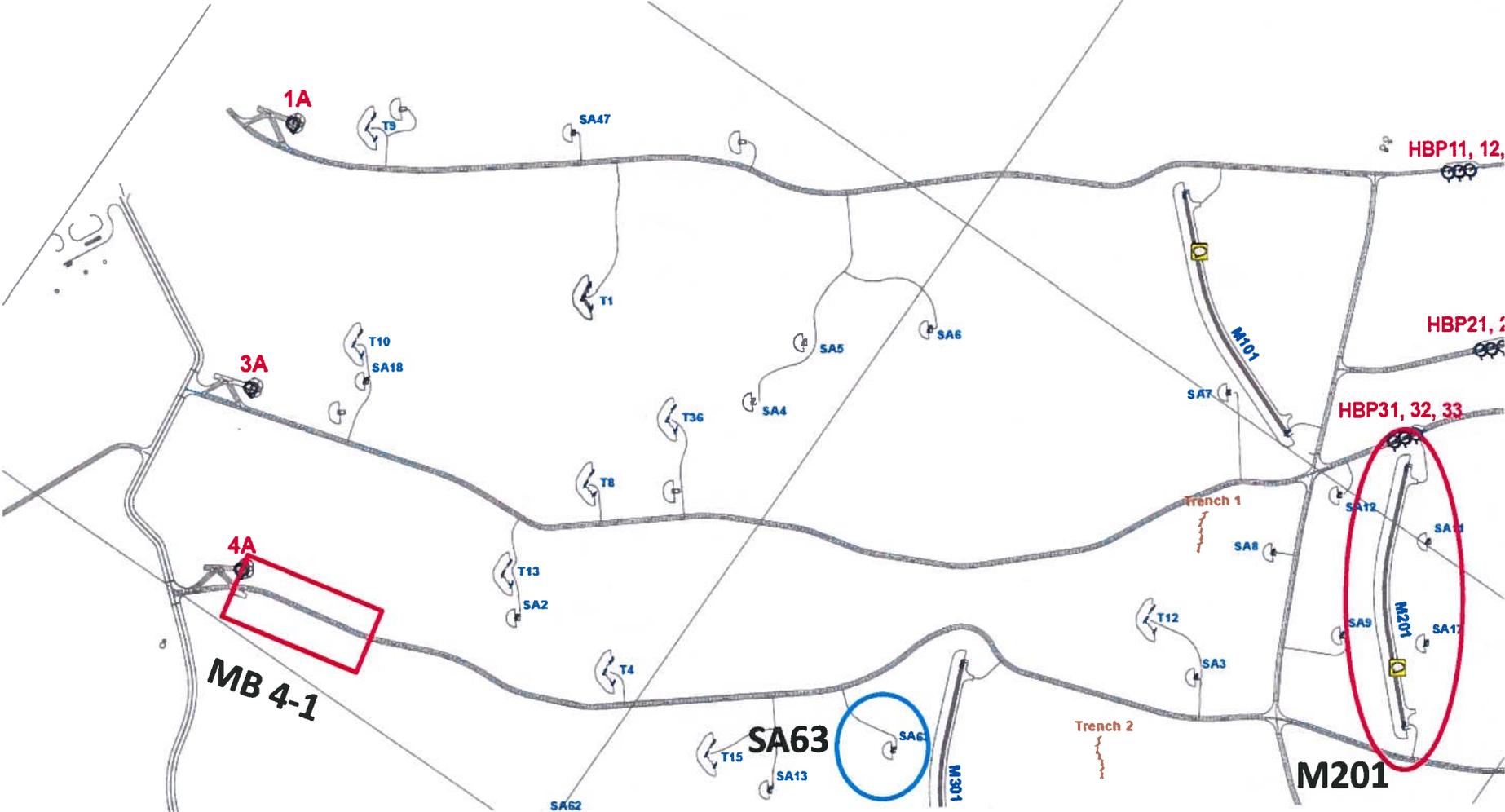


# Step 9

MB 4-1: 120mm, .50 cal, 25mm

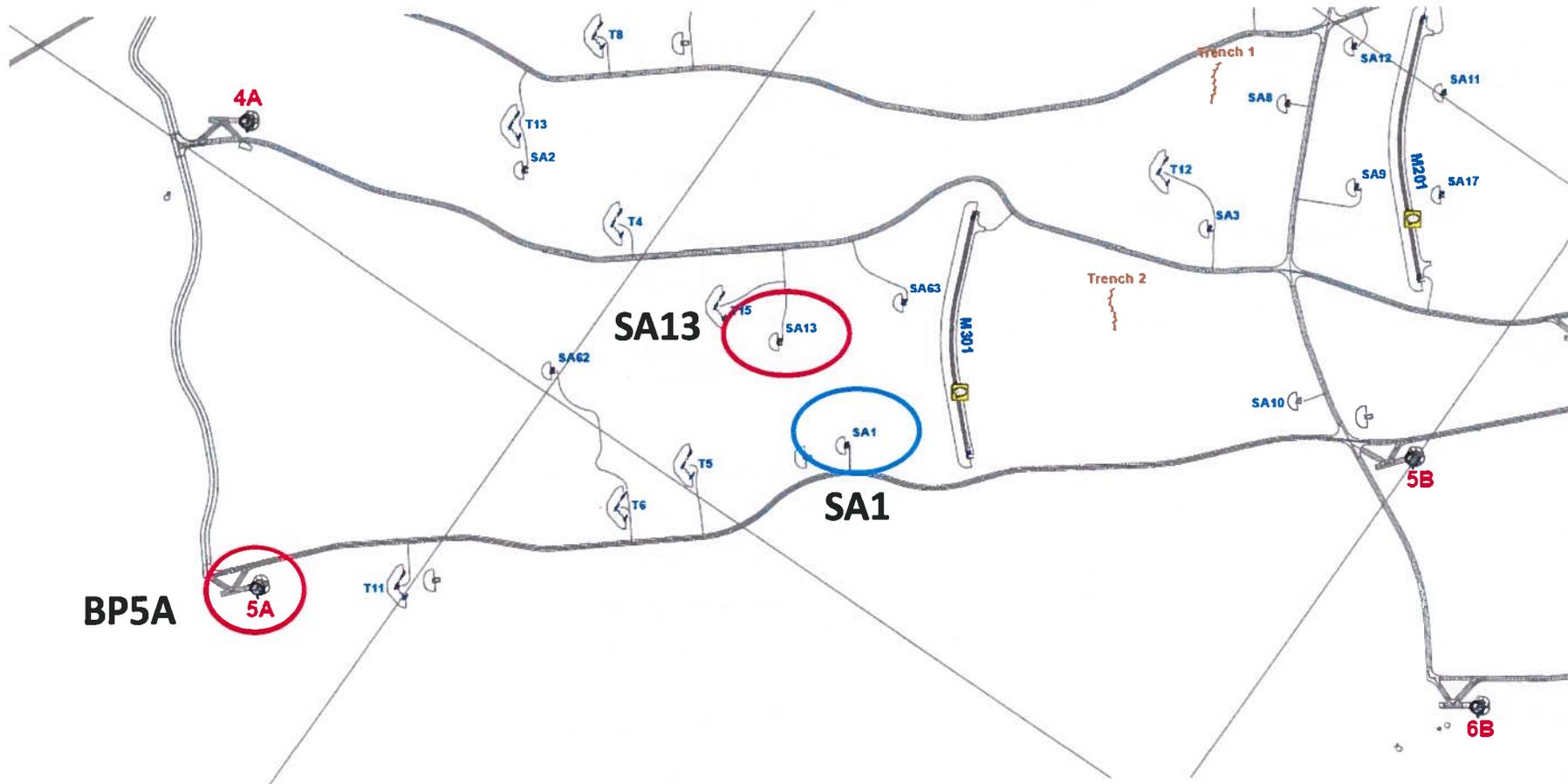
Primary Target: M 201

Alternate Target: SA 63



# Step 10

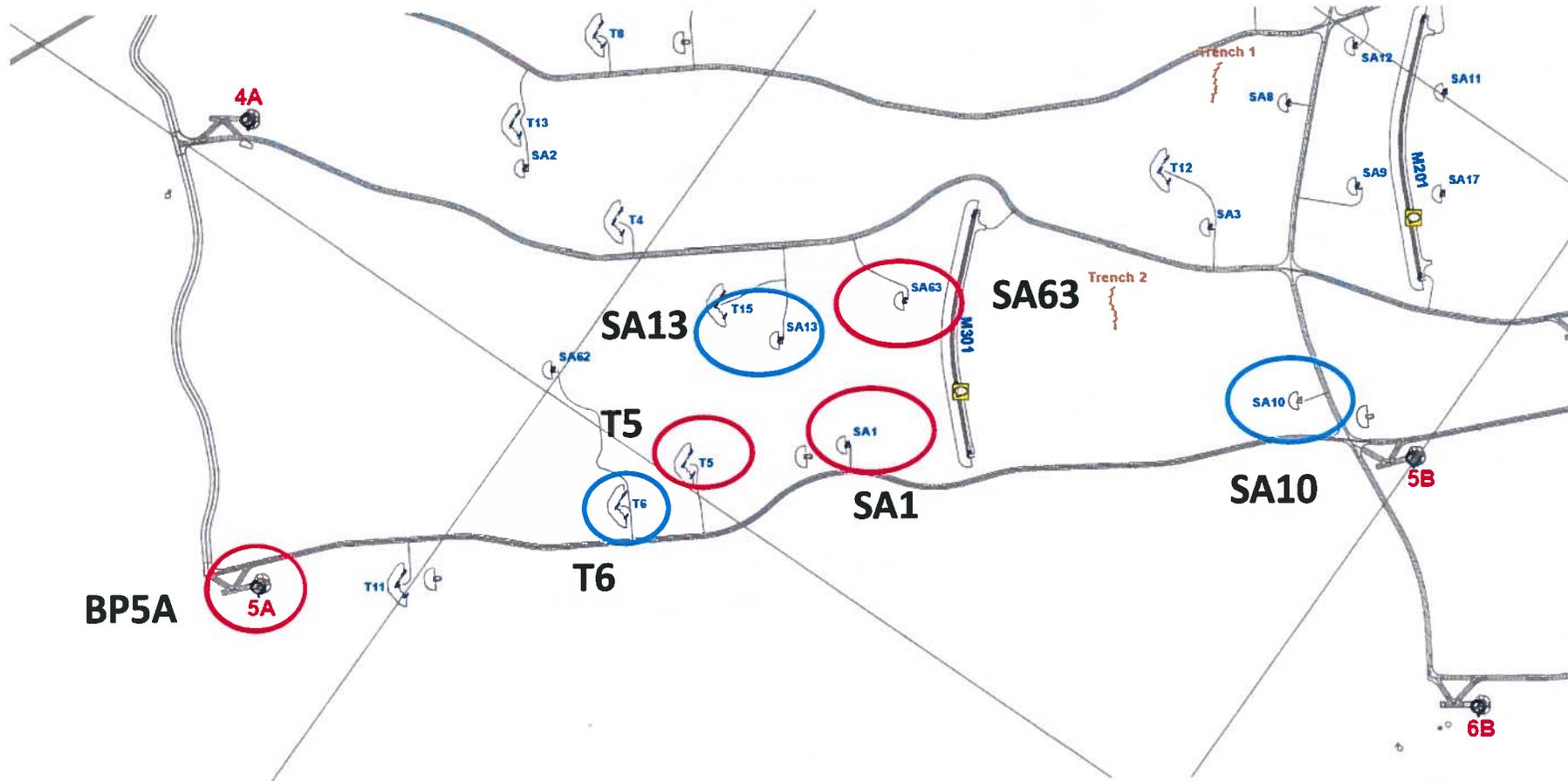
BP 5A: 120mm, .50 cal, 25mm  
Primary Target: SA 13  
Alternate Target: SA 1



# Step 11

BP 5A: 120mm, .50 cal, 25mm  
Primary Target: SA 1, SA 63  
Alternate Targets: SA 10, SA 13

BP 5A: 7.62mm  
Primary Target: T 5  
Alternate Target: T 6

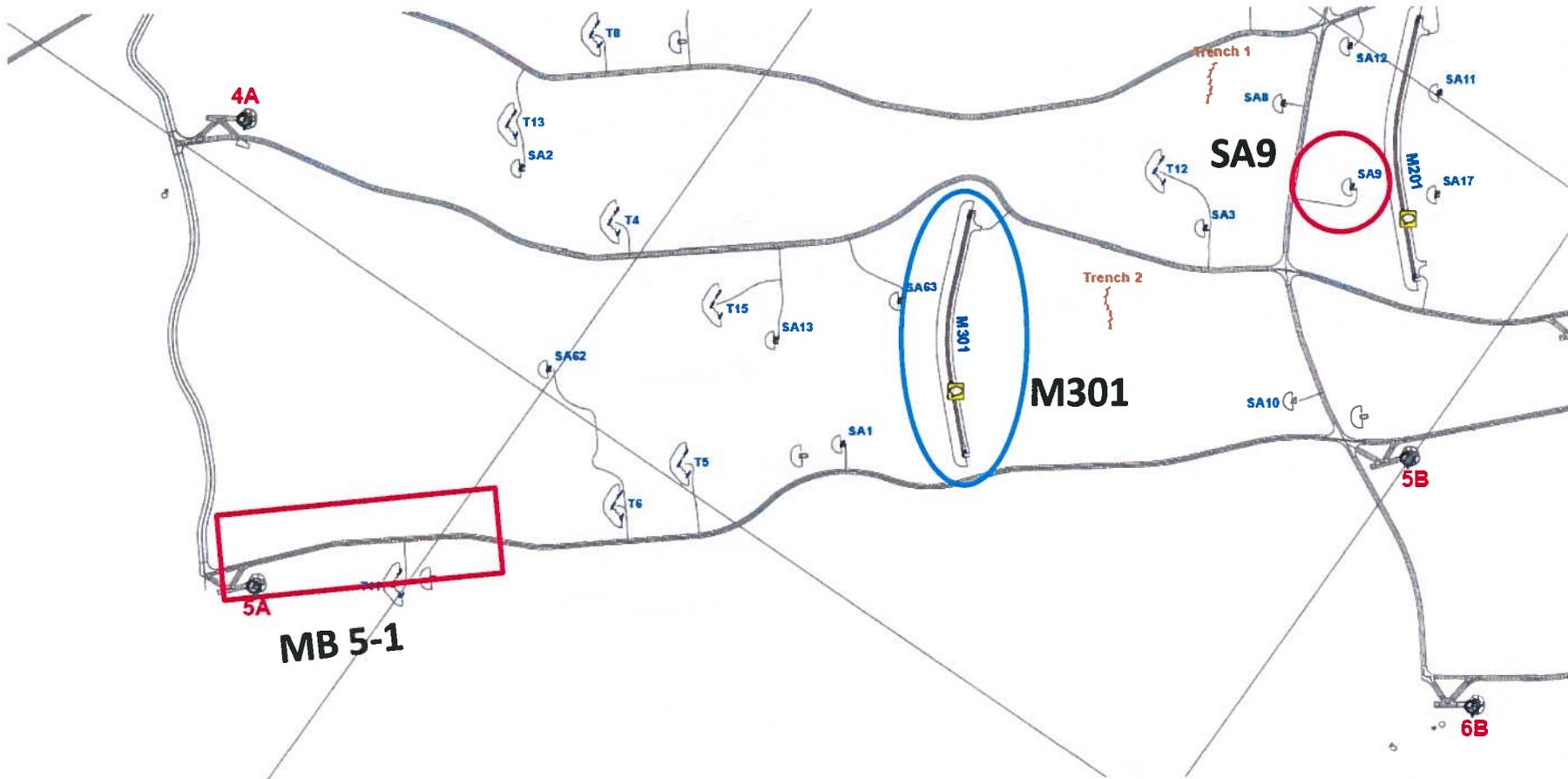


# Step 12

MB 5-1: 120mm, .50 cal, 25mm

Primary Target: SA 9

Alternate Target(s): M 301



**DMPRC, 199th (2/16 CAV) ABOLC Tank/Scout Gunnery (Log #10-1-14) Roadblock List Enclosure (Dec 10, 14)**

BLOCK	GRID	LOCATION	TYPE	BLOCK	GRID	LOCATION	TYPE
K-2	163 883	Across Box Springs Rd 125m N. of its intersection with Buena Vista Rd.	Gate	K-36A	163 882	Across Tank Trail 50m W. of its intersection with Box Springs Rd.	Gate
K-9	103 921	Across Buena Vista Rd 40m E of the intersection with Moore Rd (Road Guard Location)	Gate	K-38	201 941	Across unnamed trail 35m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-9A	106 919	Across tank trail 200m W of the Upatoi Creek ford site.	Gate	K-39	202 949	Across unnamed trail 15m W. of its intersection with the east boundary road. Permanently closed.	Gate
K-16A	172 989	Across Rinehart Rd 20m S. of its intersection with the northern boundary range road.	Gate	K-41	192 944	Across Kennesaw Trail 30m W. of its intersection with Box Springs Rd.	Gate
K-16B	171 990	Across un-named trail 20m S. of its intersection with the northern boundary range road.	Gate	K-42	193 944	Across Box Springs Rd 1200m N. of its intersection with Cactus Rd.	Gate
K-28	191 885	Across Whitson Rd 15m W. of its intersection with Cactus Rd.	Gate	K-47	176 963	Across Turrentine Rd 1000m W. of mover 4 on Hastings Range	Gate
K-29	189 888	Across un-named trail on left side of Cactus Range 300m W of Cactus Road	Gate	L-10	110 918	On Hourglass road 175 meters south of its intersection with Buena Vista Road.	Gate
K-30	190 890	Across un-named trail on right side of Cactus Range 250m W of Cactus Road.	Gate	D-1	098 878	On Hourglass road, 700 meters north of 1st Division Road.	Gate
K-32	192 915	Across Shamanski Rd 35m W. of its intersection with Cactus Rd.	Gate	D-2	122 887	On Underwood road approximately 900 meters north of Underwood and Plymouth road intersection.	Gate
K-36	163 883	Across Buena Vista Rd 50m W. of its intersection with Box Springs Rd.	Gate				

**DMPRC, 199th (2/16 CAV) ABOLC Tank/Scout Gunnery (Log #10-1-14) Road Guard List (Dec 10, 14)**

Guard #1	On Buena Vista Road at 1034 9213 (K-9 Roadblock) blocking traffic going East on Buena Vista Road.	Guard #3	On Underwood Road at 1283 8785 20m north of its intersection with Plymouth Rd intersection blocking traffic going North on Underwood Road.
Guard #2	On Buena Vista Road at 1628 8822 (K36 Roadblock) blocking traffic going North-West on Buena Vista Road.	Guard #4	On Hourglass Road at 0978 8783 (D-1 Roadblock) blocking traffic going North on Hourglass Road.

**DMPRC, 199th (2/16 CAV) ABOLC Tank/Scout Gunnery (Log #10-1-14) Barrier List (Dec 10, 14)**

Barrier #1	Gate across un-named trail at 1553 8738 blocking traffic going West.	Barrier #2	Gate across un-named trail at 1608 8766 blocking traffic going West.
------------	--	------------	--

Note: All road guards will maintain communications with OIC. Guard #4 will allow DMPRC personnel access to the DMPRC Control Center.

## DELIBERATE RISK ASSESSMENT WORKSHEET

<b>1. MISSION/TASK DESCRIPTION</b> ABOLC Phase II Tank & Bradley Live Fire / Phase II Gate Event	<b>2. DATE (DD/MM/YYYY)</b> 14/11/2014
---	---

<b>3. PREPARED BY</b>		
a. Name (Last, First, Middle Initial) Johnson, Justin	b. Rank/Grade CPT/O-3	c. Duty Title/Position Troop Commander
d. Unit B TROOP, 2-16 CAV	e. Work Email justin.e.johnson.mil@mail.com	f. Telephone (DSN/Commercial (Include Area Code)) 706-626-6311
g. UIC/CIN (as required) W6NFN3	h. Training Support/Lesson Plan or OPORD (as required) Phase II Live Fire Exercise	i. Signature of Preparer

Five steps of Risk Management: (1) Identify the hazards (2) Assess the hazards (3) Develop controls & make decisions  
(4) Implement controls (5) Supervise and evaluate *(Step numbers not equal to numbered items on form)*

4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
Conduct Mounted Manuever	Roll-over	M	Crew members will conduct roll-over procedures prior to any movement as a PCC/PCI. HEAT trainer executed prior to Tank LFX	How: TM 9-2350-264-10-1, Supervise Who: OIC, RSO, TCE	L
	Vehicle fire	H	All crew members wear complete NOMEX (handle out) balaclava, spall vest, and gloves. Fire control systems / fire extinguishers PMCS	How: TM 9-2320-280-10, Supervise, PCC Who: OIC, RSO, TCE	M
		H	Evacuation Drills completed by each crew prior to each run as a PCC/PCI.	How: FM 3-20.21 TM 9-2350-264-10-1 Who: OIC, RSO, TCE	M
Armor/Scout Crew Operations	Guards not emplaced. Injury from breach recoil	H	Use all safety guards and crew warnings prior to firing weapon system. TCI will be clear of recoil of the breach prior to LFX.	How: FM 3-20.21 TM 9-2350-264-10-1 Who: OIC, RSO, TCE	M
	Injury due to inexperienced driver	H	Maintain speed under 5mph on range roads. Brief all Soldiers on vehicle movement procedures on the range	How: AR 600-55 Who: PrOIC, RSO, TCE	M

Additional entries for items 5 through 9 are provided on page 2.

**10. OVERALL RESIDUAL RISK LEVEL (All controls implemented):**

EXTREMELY HIGH     
  HIGH     
  MEDIUM     
  LOW

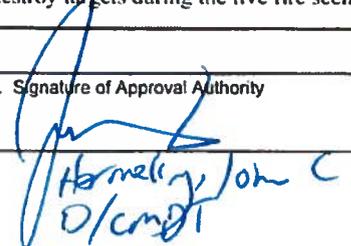
**11. OVERALL SUPERVISION PLAN AND RECOMMENDED COURSE OF ACTION**

The OIC will be responsible for the overall safe conduct of training, proper use of facilities, and ensure the range is executed in accordance with the approved Range Firing Packet developed by the Range Survey Office. The Range Safety Officer will perform no other duties other than those of the Safety Officer. His primary purpose will be to ensure that all weapon systems are properly position, authorized ammunition used, and the firing sets are within the prescribed limits. Vehicle Safeties (Cadre) will ensure all personal protective equipment is properly worn, all guards are properly locked in place, and weapon systems properly oriented down range. The Vehicle Safeties (Cadre) will be the primary instructors on each platform to ensure the students safely execute the single-vehicle engagements in order to engage and destroy targets during the live fire scenario.

**12. APPROVAL OR DISAPPROVAL OF MISSION OR TASK**     APPROVE     DISAPPROVE

a. Name (Last, First, Middle Initial) D. SCOTT MCKEAN	b. Rank/Grade BG/O7	c. Duty Title/Position CHIEF OF ARMOR	d. Signature of Approval Authority
--	------------------------	--	------------------------------------

e. Additional Guidance

  
 D/CMO

## DELIBERATE RISK ASSESSMENT WORKSHEET

4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
	Injury/damage caused by moving vehicles in close quarters & during hours of limited visibility	H	Brief Procedures at Safety Brief: Avoid driving near troop areas, ground guides required, white lights require, areas marked with chemlite	How: FM 3-90.1 FM 21-60, Supervise Who: OIC, RSO, TCE	M
	Hearing loss	H	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.	How: TM 9-2350-264-10-1, Supervise Who: OIC, RSO, TCE	M
	Carbon monoxide poisoning	H	Open vehicle hatches when operating vehicle heaters. Vehicles will not be slept in while running. No unattended, running vehicles.	How: TM 9-2350-264-10-1, Supervise Who: OIC, RSO, TCE	M
	Injury while mounting / dismounting vehicles.	M	Soldiers will maintain 3 points of contact when mounting, dismounting, or moving on top of a vehicle. They will not jump off.	How: TM 9-2350-264-10-1, Supervise Who: OIC, RSO, TCE	L
Inclement Weather	Cold weather injury / Hypothermia	M	Layer clothing and stay dry. Keep clothing clean, avoid overheating, wear loose clothing in layers, keep clothing dry, avoid standing around.	How: TRADOC 350-29, Safety Brief Who: OIC, RSO, TCE	L
	Frostbite	M	Monitoring air temperature and wind speed and using the windchill index to determine the relative risk of frostbite. Keep socks clean & dry	How: TRADOC 350-29, Safety Brief Who: OIC, RSO, TCE	L
	Chilblain	M	Do not remove clothing immediately after heavy exertion; wait until you are in a warmer location. Face and ears covered, dry	How: TRADOC 385-2, Safety Brief Who: OIC, RSO, TCE	L
	Immersion foot (trench foot)	M	Keep clothing dry, remove wet or constrictive clothing, gentle wash and dry affected extremities.	How: TRADOC 385-2, Safety Brief Who: OIC, RSO, TCE	L
	Changes to Weather during operations	M	Monitor weather for severe weather indicators and/or advisories	How: TRADOC 385-2, Safety Brief Who: OIC, RSO, TCE	L
	Lightning strikes	M	Brief Soldiers to move from exposed areas to low ground and shelters during extreme weather.	How: Safety Brief, Range Brief, Supervise Who: OIC, RSO, TCE	L
OPTEMPO	Fatigue causes Soldiers to act unsafely	H	Ensure all crews receive a minimum of six hours of sleep per 24 hour period.	How: Soldier management / crew rotation Who: CoC, OIC, RSO	M
Conduct Refueling Operations	Movement	M	Use ground guides within 25 feet of fuelers and ground fueler. Ensure HEMTT driver has bonding and grounding equipment set.	How: TM-9-2320-279-10 Who: OIC, RSO, TCE	L
	Fuel splash up	M	Wear gloves, eye protection, and other required PPE. Ensure fire extinguisher is present.	How: TM-9-2320-279-10 Who: OIC, RSO, TCE	L
	Fuel spillage	M	Use drip pans to catch overflow fuel. Report any spillages to EMD (706) 545-9879	How: TM-9-2320-279-10 Who: OIC, RSO, HAZMAT NCO	L

## DELIBERATE RISK ASSESSMENT WORKSHEET

4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
Engage Targets with a MIA1 / MIA2 / M3A3	Injury from negligent discharge	H	Vehicle safeties and students will ensure that all weapon systems are cleared prior to departing the BP/FP and upon completion.	How: FM 3-20.21, Supervise Who:	M
		H	All weapons are assumed loaded at all times, before handling any weapon, the weapon system must be cleared prior to.	How: FM 3-20.21, Supervise Who: OIC, RSO, TCE	M
	Rounds impacting outside of approved SDZs	H	Brief Soldiers on location of range fans. Ensure Gunners and TCs identify range fans before iterations.	How: Range Packet, Range Brief, Observe Who: OIC, RSO, TCE	M
	Injury due to ordnance explosion	M	Students Complete TCGST, LCGST, Gate to Live Fire (to include setting headspace and timing correctly on .50 Cal MGs)	How: FM 3-20.21, Diagnostic GST/GT-1 Who: OIC, RSO, TCE	L
		M	TCE loads main gun and supervises loading the machine gun. Tank Gunners clear main gun of the berm by checking the GAS	How: FM 3-20.21, Supervise Who: OIC, RSO, TCE	L
	Injury from breach recoil	M	Use all safety guards and crew warnings (Fire Commands) prior to firing weapon system.	How: Safety Briefing, Supervise Who: OIC, RSO, TCE, VCE	L
	Proper medic Medevac procedures	M	Ensure medical support & drivers understand evacuation plans & AXP locations. Maintain medic on 911 freq. on the LMR	How: TRADOC Reg 350-19, Range SOP Who: OIC, RSO, Medics	L
Conduct Maintenance Operations	Vehicle recovery	M	Recovery operations will take place at the crew level supervised by the Tank Crew Evaluator	How: TM 9-2350-388-10-1/2/3, Supervise Who: OIC, RSO, TCE	L
		M	Tow cables/tow bars will be available and aid in the recovery to behind the firing line. FMX will complete recovery/repair.	How: Safety Brief, Range brief, Supervise Who: OIC, RSO, TCE	L
		M	Crews will use heat shields when towing Tank/Tank	How: 9-2350-388-10-1/2/3 Who: OIC, RSO, TCE	L
Situational Conditions	Environmental Considerations	M	Brief Soldiers not to disturb wildlife, report all bites or interactions to the Medic's	How: Range Operations SOP Who: OIC, RSO, TCE	L
			Medics with proper medication on hand, required equipment for allergic reactions (i.e. epinephrine autoinjector, ect.)	How: Range Operations SOP Who: OIC, RSO, Medics	
Hot Weather Considerations	Heat Casualty		Prevention- Identify soldiers who are: currently taking medication, previous heat injury, taking vitamins or other supplements.	How: Safety Brief, Range brief Who: OIC, RSO, TCE	
			Prevention- Follow the Fluid Replacement & Work / Rest Guidelines Prevention- Follow the Fluid Replacement & Work / Rest	How: Safety Brief, Range brief, Supervise Who: OIC, RSO, TCE	

## DELIBERATE RISK ASSESSMENT WORKSHEET

<b>Risk Assessment Matrix</b>		<b>Probability (expected frequency)</b>				
		Frequent: Continuous, regular, or inevitable occurrences	Likely: Several or numerous occurrences	Occasional: Sporadic or intermittent occurrences	Seldom: Infrequent occurrences	Unlikely: Possible occurrences but improbable
<b>Severity (expected consequence)</b>		A	B	C	D	E
<b>Catastrophic:</b> Death, unacceptable loss or damage, mission failure, or unit readiness eliminated	I	EH	EH	H	H	M
<b>Critical:</b> Severe injury, illness, loss, or damage; significantly degraded unit readiness or mission capability	II	EH	H	H	M	L
<b>Moderate:</b> Minor injury, illness, loss, or damage; somewhat degraded unit readiness or mission capability	III	H	M	M	L	L
<b>Negligible:</b> Minimal injury, loss, or damage; little or no impact to unit readiness or mission capability	IV	M	L	L	L	L

**Legend:**

EH – extremely high risk    H – high risk    M – medium risk    L – low risk

**13. RISK ASSESSMENT REVIEW (Required when assessment applies to ongoing operations or activities)**

a. Date	b. Last Name	c. Rank/Grade	d. Duty Title/Position	e. Signature of Reviewer

**14. FEEDBACK AND LESSONS LEARNED**

- After Completion of firing, the TC will clear his .50 CAL, then watch the gunner clear the coax. The Tank Safety(Cadre) on the vehicle will oversee this process to ensure it's done properly and safely.
- The Cadre will clear the main gun.
- This will ensure we have at least two eyes on the weapons being cleared.
- Upon all weapons being clear, the Tank Safety(Cadre) will report to the tower and authenticate with his initials that all weapons are clear.
- When both students on the tank are complete firing, the RSO will mount the vehicle and visually inspect each weapon ,with a flashlight, to ensure they are clear. This will give at least three eyes on each weapon (two being Cadre).

**15. ADDITIONAL COMMENTS OR REMARKS**

**Instructions for Completing DD Form 2977, "Deliberate Risk Assessment Worksheet"**

<p><b>1. Mission/Task Description:</b> Briefly describe the overall Mission or Task for which the deliberate risk assessment is being conducted.</p>	<p><b>10. Overall Risk After Controls are Implemented:</b> Assign an overall residual risk level. This is the highest residual risk level (from block 9).</p>
<p><b>2. Date (DD/MM/YYYY):</b> Self Explanatory.</p>	<p><b>11. Supervision Plan and Recommended Course of Action:</b> Completed by preparer. Identify specific tasks and levels of responsibility for supervisory personnel and provide the decision authority with a recommend course of action for approval or disapproval based upon the overall risk assessment.</p>
<p><b>3. Prepared By:</b> Information provided by the individual conducting the deliberate risk assessment for the operation or training . <b>Legend:</b> UIC = Unit Identification Code; CIN = Course ID Number; OPORD = operation order; DSN = defense switched network; COMM = commercial</p>	<p><b>12. Approval/Disapproval of Mission/Task:</b> Risk approval authority approves or disapproves the mission or task based on the overall risk assessment, including controls, residual risk level, and supervision plan. Space provided for authority to provide additional guidance; use continuation page if needed.</p>
<p><b>4. Sub-task/Sub-Step of Mission/Task:</b> Briefly describe all subtasks or substeps that warrant risk management.</p>	<p><b>13. Risk Assessment Review:</b> Should be conducted on a regular basis. Reviewers should have sufficient oversight of the mission or activity and controls to provide valid input on changes or adjustments needed. If the residual risk rises above the level already approved, operations should cease until the appropriate approval authority is contacted and approves continued operations.</p>
<p><b>5. Hazard:</b> Specify hazards related to the subtask in block 4.</p>	<p><b>14. Feedback and Lessons Learned:</b> Provide specific input on the effectiveness of risk controls and their contribution to mission success or failure. Include recommendations for new or revised controls, practicable solutions, or alternate actions. Submit and brief valid lessons learned as necessary to persons affected.</p>
<p><b>6. Initial Risk Level:</b> Determine probability and severity. Using the risk assessment matrix (page 3), determine level of risk for each hazard specified. probability, severity and associated Risk Level; enter level into column.</p>	<p><b>15. Additional Comments or Remarks:</b> Preparer provides additional comments, remarks, or information to support the risk assessment. If block 15 is used as a continuation of block 14, strike through the block number and title.</p>
<p><b>7. Control:</b> Enter risk mitigation resources/controls identified to abate or reduce risk relevant to the hazard identified in block 5.</p>	<p><b>Additional Guidance:</b> Block 4-9 continuance page may be reproduced as necessary for processing of all subtasks/ substeps of the mission/task. If a complete page is not utilized, write "NOTHING FOLLOWS" on the first unused row, immediately after the final item assessed.</p>
<p><b>8. How to Implement / Who Will Implement:</b> Briefly describe the means of employment for each control (i.e., OPORD, briefing, rehearsal) and the name of the individual unit or office that has primary responsibility for control implementation.</p>	
<p><b>9. Residual Risk Level:</b> After controls are implemented, determine resulting probability, severity, and residual risk level.</p>	

**TRANSMITTAL, ACTION AND CONTROL**

For use of this form see MCoE Memo 25-52; the proponent is SGS

1. SGS LOG:	2. IN SGS:	3. OUT SGS:	4. DATE PREPARED:
			11 DEC 2014

5. SUBJECT:  
2-16 CAV DMPRC review of the Risk Management Worksheet Log # 10-1-14

6. ACTION OFFICER/OFFICE SYMBOL/PHONE NUMBER: SFC Paich, Squadron Master Gunner 2-16 CAV 626-8325	7. DIRECTOR'S/COMMANDER'S SIGNATURE:
--	--------------------------------------

<input checked="" type="checkbox"/> SIGNATURE	<input checked="" type="checkbox"/> APPROVAL	<input type="checkbox"/> INFORMATION
<input type="checkbox"/> SGS	<input type="checkbox"/> DCofS	<input type="checkbox"/> GC CSM
<input type="checkbox"/> USAIS CSM	<input type="checkbox"/> USAARMS CSM	<input type="checkbox"/> MCoE CSM
<input type="checkbox"/> CDID	<input type="checkbox"/> GC	<input type="checkbox"/> CIG
<input type="checkbox"/> CofS	<input type="checkbox"/> SA	<input type="checkbox"/> DCG-NG
<input type="checkbox"/> Comdt, IN School	<input type="checkbox"/> Comdt, AR School	<input type="checkbox"/> CG

1. PURPOSE: To obtain post safety review and approval of the Risk Management Worksheet

2. RECOMMENDATION: Post safety Review and Approval of Risk management Worksheet

3. DISCUSSION:  
Post safety Review and Approval of Risk management Worksheet

4. THIS DOCUMENT IS AUTHORED BY:

8. COORDINATION/APPROVAL

S:

OFFICE	ACTION	NAME AND DATE	OFFICE	ACTION	NAME AND DATE
Range Ops	Concur	B. S. 9a 16 DEC 14			
P Safety	Concur w/c	R. Edna 19 DEC 14			

STAFF REMARKS: (Command Group Use Only)	APPROVAL AUTHORITY
	APPROVED:
	DISAPPROVED:
	NOTED:



**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**

19 December 2014

**MEMORANDUM FOR Commander, 2/16<sup>th</sup> CAV (A-BOLC), Attn: SFC Adam Paich, Fort Benning, GA 31905**

**SUBJECT: 2-16th CAV (ABOLC) Tank and Scout Gunnery at DMPC CONOP and DRAW Review**

**1. References.**

a. 2-16th CAV (ABOLC) Tank and Scout Gunnery at DMPC CONOP (25 August 2014) and DRAW (14 November 2014).

b. Army Regulation 385-10, The Army Safety Program, 27 November 2013

c. Army Regulation 385-63, Range Safety, 30 January 2012

d. Department of the Army Pamphlet 40-501, Hearing Conservation Program, 10 December 1998

e. Department of the Army Pamphlet 385-10, Army Safety Program, RAR 19 January 2010

f. Department of the Army Pamphlet 385-30, Mishap Risk Management, 02 December 2014

g. Department of the Army Pamphlet 385-63, Range Safety, 16 April 2014

h. Army Techniques Publication 5-19, Risk Management, 14 April 2014

i. MCoE Regulation 350-19, Range and Terrain Regulation, 23 July 2010

j. MCoE Policy Memorandum 385-6-1, Risk Management, 30 October 2014

**2. Document received on 18 December 2014.**

**3. Concur w/comment.**

a. Scenario, paragraph 8, page 3. The safety briefing must include discussion on the hazards identified on the DD Form 2977 and control measures used to mitigate the risk.

ATZB-SO

SUBJECT: 2-16th CAV (ABOLC) Tank and Scout Gunnery at DMPRC CONOP and DRAW Review

b. Scenario, paragraph 9, pg 3. The reference to "Frontline Ambulance" (Truck, Ambulance, Frontline, 1/4 ton, 4x4 M718A1 is the ambulance variant of the M-151A2 jeep) is mis-referenced. The actual nomenclature is "U.S. Army M997 Field Litter Ambulance"

c. Scenario, paragraph 15d, pg 5. Adherence to TC 3-20.21-1 is mandatory.

d. Scenario, paragraph 18j, pg 8. Where does the Master Gunner fit into the equation?

e. Scenario, paragraph 18o, pg 8. Clarify the use of the flashlight, being white or red lenses.

f. Scenario, paragraph 18p, pg 9. In the case of rounds shoot outside the range fan the OIC must be notified.

g. DRAW, Block 2, pg 1. Format for dates is "DD/MM/YYYY - DD/MM/YYYY".

h. DRAW, Block 6 & 8, pg 1. "Guards not emplaced - Injury from breach recoil", recommend that the "Initial Risk Level" and "Residual Risk Level" be elevated to "EH" and "H" to more accurately reflect the severity of the action.

i. DRAW, Block 10, pg 1. Elevate the "Overall Residual Risk Level" to "HIGH". This will more closely reflect the probability verses severity matrix. Weapon systems in use, experience level of Soldiers, cadre to Soldier ratio, historical experience, rollovers, etc.

j. DRAW, Block 6 & 8, pg 2. Fuel Spillage", recommend that you increase the "Initial Risk Level" and "Residual Risk Level" be elevated to "H" and "M" to more accurately reflect the propensity and severity of the action IAW DPW Environmental spill records.

k. DRAW, Block 6 & 8, pg 3. "Injury from breach recoil", recommend that the "Initial Risk Level" and "Residual Risk Level" be elevated to "EH" and "H" to more accurately reflect the severity of the action. Repeat entry of hazard.

l. DRAW, Block 8, pgs 1-3. "How to Supervise", include the "Individual" Soldier in the equation. That Soldier is then last line of defense in the prevention of the majority of accidents.

ATZB-SO

SUBJECT: 2-16th CAV (ABOLC) Tank and Scout Gunnery at DMPC CONOP and DRAW Review

5. 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)

Encl

  
JILL E. CARLSON  
Director, MCoE/USAG Safety



# RECORD OF ENVIRONMENTAL CONSIDERATION REC



**Date Submitted:** 01/21/2015

**EMD Number:** 1502118

**Project#:** Unknown

**Project Title:** ABOLC DMPRC TANK AND SCOUT GUNNERY

**Description of proposed action:**

ABOLC Tank and Scout Gunnery Live fire. Admin support and maintenance as required. This FB 144 will be used to conduct Tank and Scout Gunnery for ABOLC POI on a recurring monthly basis. Bivouac will be in designated areas. Ammunition to be stored at the permanent established Ammo point. Ammunition to be used: TPCSDS-T 120mm, HEAT-TP-T 120mm, TPMP-T 120mm, 25MM TP-T, 7.62mm ball 4-1 mix, .50 Cal ball 4-1 mix, 9mm ball. Vehicles to be used: M1A1/M1A2 Tanks, M3A2/M3A3 Bradleys, M1025 HMMWVs. Range Division has directed ABOLC 2-16th Cav to use the DMPRC instead of Hastings Range for future Tanks and Scout Gunneries.

**Project Location:**

DMPRC, Digital Multi-Purpose Range Complex

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

None

**Number of Personnel:**

100

**Type Of Ammunition:**

Yes - Type of Ammunition: See Project Description

**Number/Types of Trees:**

None

**Size of Project Area:**

AcresAcres

**Duration of Action:**

Start:2/9/2015 Stop:9/30/2015

**Proponent:** Adam Paich 706-626-8333

**Organization/Unit:**

ARMOR School

**Number/Types of Vehicles:**

Yes.

How many vehicles and what type of vehicles will be involved?

10-15 M1A1/A2, M2A3/M3A3, M1025, LMTV

No Vehicles will be taken off road.

**Types of Aviation**

**Other Concerns**

**Decision: Concur with conditions**

This Action is adequately covered in the Existing EIS 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."

**\*\*\*USE OF HE ROUNDS REQUIRE COORDINATION WITH RANGE OPERATIONS\*\*\*  
(POC BRAD TESCH 706-544-6385)**

## REC APPROVED THROUGH 30 SEPTEMBER 2015

**Natural Resources - TES**

None

Mark Thornton (706-544-7079), 1/30/2015

No Comment.

**Natural Resources - Wetlands**

None

Gary Hollon (706-544-7070), 1/23/2015

No Comment.

**EMD Number:** 1502118                      **Project#**      Unknown

**Project Title:**                      ABOLC DMPRC TANK AND SCOUT GUNNERY

\*\*\*\*\*

**Watershed Management**                      **None**                      **Hugh Westbury (706-545-4208), 1/26/2015**

No Comment.

**Forestry Management**                      **None**                      **Brian Waldrep (706-544-7076), 1/23/2015**

No Comment.

**Solid Waste/Recycling**                      **None**                      **Dorinda Morpeth (706-545-5337), 1/22/2015**

No Comment.

**Hazardous Materials/Waste**                      **Conditions:**                      **Carlos Ariasochoa (706-545-1857), 1/22/2015**

Considerations for Training Exercises:

All tanks, drums and other hazardous material containers used on site must be properly labeled and kept closed when not in use. Any above ground storage tanks used for fuel and other petroleum products to include fuel dispensing vehicles must have impervious secondary containment of adequate size to contain 100% of the tank or container contents. This also applies to drums used for the storage of petroleum products and used oil.

Any wastes generated must be evaluated for their hazardous characteristics and disposed off in accordance with all Federal (40 CFR), State (EPD 391-3-11) and Fort Benning Hazardous Waste Regulations. Materials must be stored within secondary containment or within a building/Hazmat locker out of the weather to prevent discharge to the environment in case of a spill. Appropriate precautions must be taken to prevent hazardous material spills. Adequate quantities of spill response supplies must be on hand while work is being performed. If a spill occurs use notification procedures as outlined in the Fort Benning Hazardous Waste Management Plan Chapter 14. Contain and clean up any spill according to guidance provided by the Environmental Programs Management Branch (EPMB). Drip pans must be available for all military vehicles to prevent oil and other petroleum products from spilling onto the soil. All spills of petroleum products to the ground must be immediately cleaned up and disposed of in accordance with Fort Benning policy. The EPMB provides an 8 hours course covering Hazardous Materials/Waste Management, Hazardous Waste Minimization, Safety, and Pollution Prevention. It is highly recommended that personnel conducting the event attend the training offered.

**Natural Resources RCW - BRAC**                      **Conditions:**                      **Jonathan Neufeldt (706-544-7705), 1/30/2015**

Proponent stated that vehicles will stay on the range. All HE will impact in K15.

**CWA - Training**                      **Conditions:**                      **Felix Seda (706-545-9879), 1/23/2015**

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.

**EMD Number:** 1502118      **Project#** Unknown

**Project Title:** ABOLC DMPRC TANK AND SCOUT GUNNERY

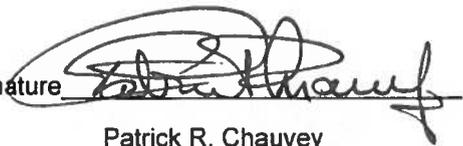
\*\*\*\*\*

Signature 

John E Brown

NEPA Program Manager

Date 2 FEB 2015

Signature 

Patrick R. Chauvey

EPMB Chief

Date 02 FEB 2015



# RECORD OF ENVIRONMENTAL CONSIDERATION (REC)



**Date Submitted:** 9/26/2014

**EMD Number:** 1427202

**Project#:** Unknown

**Project Title:** ABOLC DMPRC TANK AND SCOUT GUNNERY

**Description of proposed action:**

ABOLC Tank and Scout Gunnery Live fire. Admin support and maintenance as required. This FB 144 will be used to conduct Tank and Scout Gunnery for ABOLC POI on a reoccurring monthly basis. Bivouac will be in designated area. Ammunition to be stored at the permanent established Ammo point. Ammunition to be used: TPCSDS-T 120mm, HEAT-TP-T 120mm, 25 MM TP-T, 7.62mm ball 4-1 mix, .50 cal. ball 4-1 mix, 9mm ball. Vehicles to be used: M1A1/M1A2 Tanks, M3A2/M3A3 M1025 HMMWVs. Range Division has directed ABOLC 2-16th Cav to use the DMPRC instead of Hastings Range for future Tank and Scout Gunneries.

**Project Location:**

DMPRC, Digital Multi-Purpose Range Complex

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

None

**Number of Personnel:**

100

**Type of Ammunition:**

SEE PROJECT DISCIPTION Live

**Number/Types of Trees:**

None

**Size of Project Area:**

**Duration of Action:** Start: 10/31/2014 Stop: 9/30/2015

**Proponent:** 269000

706-626-8324

**Organization/Unit:** 199th IBde

**Number/Types of Vehicles:**

Number of vehicles: 10-15  
Types of vehicles: M1A1, M1A2, M1025, M2A3, LMTV  
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, 2015**

**\*NO "HE" ROUNDS MAY BE USED ON THIS RANGE\***

**Natural Resources RCW - BRAC Conditions:**

Jonathan Neufeldt (706 544 7705), 10/2/2014

This is normal gunnery taking place strictly on the range footprint according to proponent.

**Cultural Resources - Archeological None**

Edward Howard (706 545 1898), 10/3/2014

**Noise Conditions:**

Ellis Leeder (706 545 2400), 9/29/2014

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. This 144r must be present at the training site when occupying compartment or ranges.

**EMD Number:** 1427202

**JO#** Unknown

**Project Title:** ABOLC DMPRC TANK AND SCOUT

**Hazardous Materials/Waste**

**Conditions:**

Carlos Ariasochoa (706 545 1857), 9/30/2014

**Considerations for Training Exercises:** 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. Rubbish, empty containers and other waste (including used smoke/C2 canisters) should be removed from the training area. 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.

All tanks, drums and other hazardous material containers used on site must be properly labeled and kept closed when not in use. Any above ground storage tanks used for fuel and other petroleum products must have impervious secondary containment of adequate size to contain 100% of the tank or container contents. This also applies to drums used for the storage of petroleum products and used oil.

Any wastes generated must be evaluated for their hazardous characteristics and disposed off in accordance with all Federal (40 CFR), State (EPD 391-3-11) and Fort Benning Hazardous Waste Regulations. Materials must be stored within secondary containment or within a building/Hazmat locker out of the weather to prevent discharge to the environment in case of a spill. Appropriate precautions must be taken to prevent hazardous material spills. Adequate quantities of spill response supplies must be on hand while work is being performed. If a spill occurs use notification procedures as outlined in the Fort Benning Hazardous Waste Management Plan Chapter 14. Contain and clean up any spill according to guidance provided by the Environmental Programs Management Branch (EPMB). Drip pans must be available for all military vehicles to prevent oil and other petroleum products from spilling onto the soil. All spills of petroleum products to the ground must be immediately cleaned up and disposed of in accordance with Fort Benning policy. The EPMB provides an 8 hours course covering Hazardous Materials/Waste Management, Hazardous Waste Minimization, Safety, and Pollution Prevention. It is highly recommended that personnel conducting the event attend the training offered.

**CWA - Training**

**Conditions:**

Leah Ropski (706 626 0492), 9/30/2014

**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.

**Training - Minor Land Disturbance:** Good housekeeping measures should be implemented to control soil erosion; reduce the amount of pollution in runoff, and to prevent or minimize pollution of storm water in these training areas. These include measures to prevent pollutants, sediment from land disturbance operations, and hazardous materials/waste from coming in contact with storm water and/or reaching tributaries of nearby state waters. To minimize damage to additional land, stay within already existing disturbed areas. Avoid any new land disturbances on vegetated areas, and do not remove and trees or vegetation (as applicable). All land disturbance activities should be limited to areas already disturbed if possible. Recommended distance of approximately 50 (17 meters) from any water source.

Signature



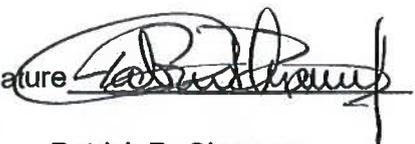
John E Brown

NEPA Program Manager

Date

6 Oct 2014

Signature



Patrick R. Chauvey

EPMB Chief

Date

06 Oct 2014

## Example Unit/Activity SOP for Training and Deployment

### Introduction

This SOP is divided into two main sections: PREVENTION & RESPONSE. The following sections will assist you in planning your environmental activities while bedding down, initiating, sustaining and conducting field exercises, and/or during deployment. Before you deploy, ensure you are familiar with the following:

### What Are Hazardous Materials and Hazardous Wastes

Hazardous Materials are defined as any material that may be a health or physical hazard, or any material that, based on either chemical or physical characteristics, is capable of posing a risk to human health or the environment if improperly disposed of, handled, stored, or transported. Chemical and physical characteristics that may pose a risk to human health or the environment include, but not limited to, one of the following characteristics: Ignitable; Corrosive; Reactive and/or Toxic.

Hazardous Waste: is defined as any discarded material (solid, liquid or gas) that:

1. Has no further value and cannot be reused or recycled;
2. Is harmful to human health or the environment due to its quantity, concentration, biological, chemical or physical characteristics; and/or
3. Exhibits one or more of the characteristics as described for Hazardous Material.

Contaminated or unusable fuel is a typical hazardous material/hazardous waste common to training and deployment operations and should be handled, stored, and disposed of properly.

**Ten of the most common hazardous materials/hazardous wastes** that you will encounter during training and or deployment operations include:

- Fuel
- Engine Oil
- Bleach or DS-2
- Solvent
- Anti-Freeze
- Transmission Fluid
- Used Oil Filters or Batteries
- Empty POL Containers
- Brake Fluid
- Grease.

These materials should be handled, stored and disposed of properly.

**SPILL KITS:** Spill kits should be maintained in and around all locations where hazardous materials/hazardous wastes are stored, handled, or disposed. Various types of kits may be ordered through the U.S. Army Supply System and include: rubber gloves, safety goggles, putty, rubber mallet, wooden plugs, absorbent booms, absorbent pads, plastic bags, and in some cases, a disposal barrel.

**SPILL PREPARATION:** Despite the best prevention, you may run into difficulties and an accident may occur when you least expect it. To minimize contamination, hazards to people, and environmental damage, you must REACT immediately. To help you prepare, this SOP will tell you:

- **HOW to PLAN** and be ready to respond to a problem;
- **HOW to REACT** to a minor, intermediate or major spill; and
- **WHAT** to do after a spill occurs.

## Planning

### MINOR SPILLS

- When on the move, keep some plastic bags in your vehicle, and have your assigned On-Vehicle Equipment (OVE) ready for use.
- Maintain supplies, rags, absorbent pads, or other kinds of materials that will soak up spills on hard surfaces (like Dry Sweep), or know where you can easily obtain them.
- Keep Personal Protective Equipment (PPE) accessible (gloves, goggles, etc.).

### INTERMEDIATE & MAJOR SPILLS

In addition to the procedures above:

- Know where to go for help.
- Know where spill kits are kept and learn how to use them.

## Prevention

Vehicle Maintenance and Fueling Points, Hazardous Waste Collection Points and hazardous material Storage & Supply Areas may not be set up at your deployment destination. So PLAN to build your areas to prevent hazardous material accidents before they occur. Remember the following:

HAZARDOUS MATERIAL/HAZARDOUS WASTE AREA LOCATION - Locate hazardous material/hazardous waste areas away from living areas, bunkers, ammunition storage, fence lines and/or dining facilities. Place them near the areas where hazardous material are used.

MATERIAL SAFETY DATA SHEET (MSDS) - Keep MSDSs for each hazardous material stored or collected at hazardous material/hazardous waste areas.

UNIT/ACTIVITY ENVIRONMENTAL SOP & SPILL RESPONSE PLAN - Place SOP and Spill Response Plan at each hazardous material/hazardous waste area.

COMPATIBILITY OF MATERIALS - Store and/or dispose of each class of hazardous material/hazardous waste separately. MSDSs describe the classification of HMs. Four common classification include the following: Flammable (fuels), Corrosives (acids), Reactive (explosives), and Toxic (insecticides).

BEFORE you deploy, plan to pack drip pans, rags, plastic, Dry Sweep, absorbent, and spill pallets to prevent drips, spills, and leaks from seeping into the ground and contaminating soil and water resources.

SECONDARY CONTAINMENT - All liquid hazardous material/hazardous waste must have secondary containment. In order for it to be effective it must:

1. Hold 10% of the total hazardous material/hazardous waste stored or 100% of the largest container.
2. Have sand and/or pallets placed in certain areas to protect the liner.
3. Have overhead cover.

You should continually keep your hazardous material/hazardous waste areas clean and orderly by applying the principals of Monitoring and Housekeeping. An easy way to remember what to check, is

to remember your **CHECK** list:

### **Containment:**

\_\_\_ Ensure that secondary containment is used and in good condition.

\_\_\_ Empty water within secondary containment on a regular basis and dispose of it as hazardous waste at the Hazardous Waste Collection Point.

### **Hazardous Material/Hazardous Waste locations:**

\_\_\_ Make sure the locations of your hazardous material/**hazardous waste** are well chosen.

\_\_\_ Put up warning signs and keep them clean and orderly.

### **Environmental Documentation:**

\_\_\_ **Maintain MSDSs for each hazardous material and update Unit/Activity SOPs and Spill Response Plans regularly.**

### **Containers:**

\_\_\_ Check condition of containers and keep containers of incompatible materials in proper order.

### **Kits:**

\_\_\_ Place Spill Kits, First Aid Kits, and Emergency Response Kits in the vicinity of the hazardous material/hazardous waste areas.

See Appendix D of the ASP for specific CHECKlists for areas such as: Vehicle Fueling & Maintenance Areas; Hazardous Waste Collection Points; and Hazardous Material Supply & Storage Areas.

## **Response**

Be prepared to respond immediately to any spill situation. Keep your Environmental SOP and Spill Response Plan (SRP) readily available at the main hazardous material/hazardous waste areas. The SRP should ensure that the following measures are implemented:

- PERSONAL PROTECTIVE EQUIPMENT (PPE) - At the entrance of every hazardous material/hazardous waste area, keep a supply of PPE to protect hands, eyes, skin, ears, head, feet, and lungs. If you are unsure about which items you need, consult the MSDS for the HMs that you are using.
- MSDS - Make sure that MSDSs are available in order to REACT to spills safely and effectively.
- SPILL STATIONS - Maintain spill response equipment at a station near (not inside of) hazardous material/hazardous waste areas. They should contain: First Aid Kits, Fire Extinguishers, Spill Response Kits, and Emergency PPE.
- TRAINING - Improve your readiness by practicing the SPILL DRILL on a regular basis, and be sure to know the spill reporting process.

Respond to spills, major or minor, immediately in order to eliminate hazards that could cause personal injury and/or environmental damage. If assistance is required, or spill/release is major, immediately call **911** or the **Fort Benning Military Police (MP) Desk**.

**In any spill situation:**

1. Safety First! -- Protect yourself by using PPE, including goggles, gloves, and suits. THEN...
2. Do the SPILL DRILL -- **REACT**:

**REMOVE THE SOURCE:** Plug the drip or leak and stop the spill.

**ENVELOP THE SPILL:** Place absorbent booms around the spill area, or build an earthen dam, when appropriate, around the spill.

**ABSORB/ACCUMULATE:** Place appropriate absorbent material (Dry Sweep, pads, etc.) on the spill in the middle of the boomed-off area.

**CONTAINERIZE THE HAZARDOUS WASTE:** Use a shovel to place contaminated materials (including soil, booms, pads or other materials) in a plastic bag or a waste drum.

**TRANSMIT A REPORT:** If a spill is too large to handle alone, - REACT as best you can and get help!

See Appendix D of the ASP for specific REACT actions for spills involving:

- **Minor Spills** (20 gallons or less);
- **Intermediate Spills** (from 21-55 gallons); and
- **Major Spills** (more than 55 gallons), or any spill into water, where injuries occurred or where spills occurred off Fort Benning associated property.

In addition:

- Prevent hazardous material from entering storm sewers and waterways;
- Minimize impacts to vegetation and wildlife; and
- Notify proper personnel and maintain record of spill event.

**Acronyms are defined in the ASP Table of Content**

APPENDIX H

# **Spill Kits and Response Material Checklists**

---

**Summary Spill Kit and Response Material Checklist**

**Recommended Spill Kits for Unit/Activity Motor Pools, Aircraft Hanger Areas, and all POL Field Sites**

**Recommended Spill Kits for Fuel Carrying Vehicles**

**Recommended Spill Kits for Other Military Vehicles**

**Vehicles Transporting Hazardous Materials other than POL**

<b>Summary Spill Kit and Response Material Checklist</b>	
<b>Spill Kits and Response Material</b>	<b>Primary Contents</b>
<p>Spill kits should be maintained in and around all locations where hazardous material and hazardous waste are stored, handled, or disposed.</p> <p>The contents of a spill kit will vary depending on the hazardous materials and their characteristics.</p> <p>Hazardous materials other than POL will require spill kits to meet their specific requirements, (i.e., acid spill kit for Battery Shop that handles lead acid batteries).</p>	<p><b>Spill kits should include as a minimum:</b></p> <ul style="list-style-type: none"> <li>✓ Rubber gloves,</li> <li>✓ Safety goggles,</li> <li>✓ Putty, rubber mallet,</li> <li>✓ Wooden plugs,</li> <li>✓ Absorbent booms,</li> <li>✓ Absorbent pads,</li> <li>✓ Plastic bags, and</li> <li>✓ In some cases, a disposal barrel.</li> </ul>
<p>The Unit/Activity must check the material's MSDS for specific information on PPE and spill supplies.</p>	<p>Units/activities <b>transporting hazardous materials</b> should also plan for having a minimum amount of response materials on hand.</p> <ul style="list-style-type: none"> <li>✓ Various types of kits can be ordered through the U.S Army Supply System (through the Units supply or S-4 shop);</li> <li>✓ The Unit/Activity must assess their hazardous material inventory and plan to have enough spill response material to respond to the larger container within their facility and the minimum for any specific hazardous material that require specific spill materials or PPE; and</li> <li>✓ Whenever the Unit gets to this minimum level, the user should initiate a reorder to the supply NCO or S-4 to maintain the minimum amount on-hand.</li> </ul>

**Acronyms are defined in the ASP Table of Contents**

## **Recommended Spill Kits for Unit/Activity Motor Pools, Aircraft Hanger Areas, and all POL Field Sites**

30-Gallon POL Boom Kit: Absorbs Approx. 40 Gallons  
Polyurethane 2 Rolls  
55-Gallon POL Kit: Absorbs Approx. 40 Gallons  
1 55 Gallon Drum  
2 Bags Absorbent  
6 Booms 2x10  
50 Absorbent Pads  
10 Heavy Duty Trash Bags

### **Recommended Spill Kits for Fuel Carrying Vehicles**

It's recommended that all fuel carrying vehicles should have a transportation pack spill kit or equivalent spill equipment on board at all times. The following vehicles are considered to be fuel transporting vehicles: HEMITT M971 2500 gallons, Tanker 5000 gallon, M49C 1200 gallon, Tank and Pump unit 600 gallon.

The following is a list of the minimum level of spill equipment recommended to be on hand in all fuel carrying vehicles, especially if they are traveling within the Installation or in a field exercise.

#### Drip Pan

30-Gallon POL Kit: Absorbs Approx. 20 Gallons

1 30 Gallon Drum  
1 16 pound bag Absorbent  
3 Booms 2x10  
25 Absorbent Pads ~17x19  
5 Heavy Duty Trash Bags  
1 Dust Pan

### **Recommended Spill Kits for Other Military Vehicles**

Recommended on Vehicle Equipment (OVE) for small spills (usually from vehicle leaks):

1 drip pan  
4-5 absorbent pads  
1-2 plastic bags.

#### **Additional Materials or Equipment**

For each one of these recommended spill kits, the following should be available:

PPE such as: Goggles and Gloves. (2-3 pairs)  
1 Shovel  
2 Labels for wastes  
1 Spill report  
1 Inventory

### **Vehicles Transporting Hazardous Materials other than POL**

- ✓ Transportation of hazardous materials is regulated under the Department of Transportation. Personnel transporting hazardous materials must follow all DOT requirements.
- ✓ As a preventive measurement, vehicles transporting small amounts of hazardous materials or waste should have a transportation pack spill kit or equivalent spill equipment on board to REACT in the event of an incident.

- ✓ Hazardous Materials other than POL will require spill kits to meet their specific requirements. The Unit/Activity should check the MSDS for the materials that they transport and have appropriate amount for those particular materials.

## Spill Response Record

**PHASE I-IMMEDIATE ACTIONS FOR EVALUATING AND REPORTING SPILLS:**

**IMMEDIATELY REPORT ALL SPILLS TO YOUR SUPERVISOR AND/OR CALL 911 or the Fort Benning Military Police (MP) Desk**

**\*\*BE PREPARED TO PROVIDE THE FOLLOWING INFORMATION TO THE 911 OPERATOR:**

**During Duty Hours also Call Mr. Felix Seda, EMD Spill Manager at (706) 545-9879**

1. DATE/TIME OF SPILL: \_\_\_\_\_ / \_\_\_\_\_
2. LOCATION: \_\_\_\_\_
3. MATERIAL SPILLED (include NSN and ingredients, if able): \_\_\_\_\_
4. HAZARD: FLAMMABLE \_\_\_\_\_ TOXIC \_\_\_\_\_ CORROSIVE \_\_\_\_\_  
OXIDIZER \_\_\_\_\_ REACTIVE \_\_\_\_\_ UNKNOWN \_\_\_\_\_  
OTHER (Specify) \_\_\_\_\_
5. CAUSE OF SPILL: \_\_\_\_\_
6. DESCRIPTION OF SPILL QUANTITY, SIZE AND TYPE OF AREA AFFECTED:
  - a. Quantity Released and Size of Spill Area: \_\_\_\_\_
  - b. Soil: \_\_\_\_\_
  - c. Pavement: \_\_\_\_\_
  - d. Vegetation: \_\_\_\_\_
  - e. Storm of Sewer Drain: \_\_\_\_\_
  - f. Name of body of Water (River, Creek, Pond, Lake, Drainage Ditch): \_\_\_\_\_
7. HAS RELEASE BEEN STOPPED? \_\_\_\_\_
8. HAS RELEASE BEEN CONTAINED? \_\_\_\_\_
9. DID RELEASE CROSS INSTALLATION BOUNDARIES: (IF YES, DESCRIBE LOCATION): \_\_\_\_\_
10. TYPE AND EXTENT OF INJURIES, IF ANY: \_\_\_\_\_

**\*\*Provide a copy of this form to DPW EMD Spill Program Manager or FAX to (706) 545-4209**

**PHASE II — POST-SPILL RESPONSE AND CLEAN UP ACTIONS:**

11. DESCRIBE CLEAN-UP METHOD AND CONTAINMENT PROCEDURES: \_\_\_\_\_
12. NAME OF CONTRACTOR INVOLVED IN CLEAN-UP: \_\_\_\_\_
13. ESTIMATED AMOUNT OF SPILL RESIDUE AND CONTAMINATED MATERIAL REMOVED: \_\_\_\_\_
14. ESTIMATED COST OF CLEAN-UP: \_\_\_\_\_
15. CORRECTIVE ACTION TAKEN OR TO BE TAKEN TO PREVENT FUTURE SIMILAR INCIDENTS: \_\_\_\_\_
16. NAME AND PHONE NUMBER OF PERSONNEL REPORTING SPILL: \_\_\_\_\_

**\*\*KEEP THIS FORM FOR A MINIMUM OF 5 YEARS**

