

FIRING/NONFIRING DATA

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

TO: Chief, Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905	Date: 6 July 2013 Log #06-03-13 Range: Griswold Range Title: Team/Squad Live Fire Exercise (LSAT) Problem No:
THRU: N/A	FROM: Chief Soldier Team Maneuver Battle Lab

SECTION I, TYPE OF TRAINING

a. Live Fire
 b. Non-live Fire
 CP/Controller Coordinates: FA 9773 7406

SECTION II, DEMOLITIONS/GRENADES/MINES/PYROTECHNICS

Coordinates	Type	Model/DODAC	Size of Charges
Engagements 1-4 See Weapons & Ammo List	Signal, ILL Para/Star	M195:L305, M126/A1: L311 M127/A1:L312	N/A
Engagements 1-4 See Weapons & Ammo List	Simulator, Flash, Artillery	M21: L602	N/A
Engagements 1-4 See Weapons & Ammo List	Smoke Grenade	G930 M18: G940, G945, G950, G955	N/A

SECTION III, WEAPONS/AMMUNITION REQUESTED

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

SECTION IV, LIVE FIRE EXERCISES Attach the following:

SECTION V, NON-LIVE FIRE TRAINING

<input checked="" type="checkbox"/> Scenario of training to be conducted: <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:
---	---

Name/rank of requesting officer: Darrell Barden, GS-12, Maneuver Battle Lab 	Name/rank of Major Unit S3/Commander: Harry J. Lubin GS-13, Maneuver Battle Lab
--	--

SECTION VI, FOR RANGE DIVISION USE **DATE:** 16 July 2013

TO: Chief Soldier Team Maneuver Battle Lab Fort Benning, GA 31905	FROM: Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905
---	--

a. Roadblocks to be closed:	A: 8, 23A, 30, 33A, 34.
b. Road(s) to be closed/road barrier locations:	
c. Remarks:	
d. This approval expires: Indef	

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

Griswold, MBL Team/Squad LFX (Log #6-3-13) Weapons, Ammo Enclosure (July 5, 13)

Firing Positions	Weapons	Ammunition	Left Limit, Mills Grid Azimuth	Right limit, Mills Grid Azimuth
Engagement 1 OP: 9751 7405 to 9753 7405	M4/M16, M249 LAST, M320	5.56mm Ball/Tracer, 5.56mm Ball/Tracer Link 5.56mm Case Telescoped Ammo, 40mm TP	005	030
Engagement 2 SBF: 9752 7435 to 9754 7435	M4/M16, M249 LAST, M320	5.56mm Ball/Tracer, 5.56mm Ball/Tracer Link 5.56mm Case Telescoped Ammo, 40mm TP	350	015
Engagement 3 Assault Start: 9746 7440 to 9748 7438	M4/M16, M249 LAST, M320	5.56mm Ball/Tracer, 5.56mm Ball/Tracer Link 5.56mm Case Telescoped Ammo, 40mm TP	020	050
Engagement 4 Assault Stop: 9753 7446 to 9754 7445	M4/M16, M249 LAST, M320	5.56mm Ball/Tracer, 5.56mm Ball/Tracer Link 5.56mm Case Telescoped Ammo, 40mm TP	010	050



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE
7533 HOLTZ STREET
FORT BENNING GEORGIA 31905

ATSH-TPB-S3

27 June 2013

MEMORANDUM OF INSTRUCTION

SUBJECT: Griswold Range Squad Live Fire Event for Dismounted Non Network Enabled Squad (DNNE) LUE on Griswold Range.

1. REFERENCE: Griswold Range Squad Live Fire, MCoE Fort Benning, GA Range and Terrain Regulation 350-19, AR385-10, and CRMW.
2. PURPOSE: This memorandum provides the concept of training for MBL conducting a squad movement to contact live fire exercise, at Griswold Range. The purpose of this training is to conduct evaluation of enhancements to C2 provided by different weapon systems as stated in the FB form 350-19-1-E-R.
3. RANGE AND TERRAIN REQUIREMENTS: Griswold Range
4. WEAPONS AND AMMUNITION TYPES: As stated in section 3 of the FB form 350-19-1-E-R.
5. RANGE PROCEDURES:
 - a. MBL is responsible for all setup, logistics, and range operations to include OIC, RSO.
 - b. The Squad Live fire will be conducted in the following order:
 - Leader Walk Through
 - Dry Fire Walk Through
 - Blank Fire Iteration
 - Cadre Pre Live Fire Checks to ensure BFAs are removed and blank ammo collected
 - Live Fire Record Iteration
 - c. All firers will report to the firing line to be rodded on the range. The RSO will ensure all shooters know the left and right limits.
 - d. Each shooter will report the ammunition point to be issued ammo and return to the firing line. Once the shooter has given the RSO an up, he will then be given the command to lock and load his weapon.
 - e. The target operator will be with the OIC, and will walk behind the lead fire team during each iteration. One medic will walk behind the trail team with the RSO and the other medic will stay with the FLA.
 - f. No weapons will be taken off the firing line until they have been rodded and deemed cleared by the range safety.
6. CONCEPT OF THE OPERATION: The squad is conducting a movement to contact as part of a larger platoon operation. The squad will be the far right formation of a platoon moving with squads on line. First, the squad encounters an enemy observation point and the lead fire team quickly assaults through their position. After the lead fire team consolidates and reorganizes, the lead team continues along their original direction of attack. Next, the lead team comes into contact with the main enemy force. The squad leader must assess the situation and execute Battle Drill 1A. The squad leader will establish a base of fire with the lead fire team and assault the enemy position by conducting a flanking maneuver to

the west with his trail fire team. As the assault element assaults through the enemy position they will engage enemy forces withdrawing from the objective. The assault element will reach their limit of advance and the squad leader will call the trail team forward to clear the objective. The exercise concludes once the squad leader has finished consolidation and reorganization.

7. EXECUTION:

- a. The squad files thru the ASP (FA 97725 74061) to receive ammunition.
- b. The squad then moves to the ORP (FA 97508 73941) in the ORP the squad loads their weapons and locks their bolts forward. An exception to this is open bolt weapons, which will leave their bolts forward. From the ORP the squad will travel at a direction of 315 degrees until they reach the line of departure, in vicinity of FA 97469 73980. The squad moves from the line of departure in a squad-column, with teams in wedge formation, with a direction of attack of 035 degrees.
- c. Engagement 1: at FA 97505 74047 to FA 97525 74047, the lead fire team makes contact with an enemy observation post (targets: FA 97534 74090, FA 97526 74090, and FA 97529 74095). The lead fire team engages and assaults through the enemy OP. The fire team's sector of fire throughout this engagement is 005 degrees left to 030 degrees right. After the fire team assaults past the OP, the team establishes a limit of advance, conducts consolidation and reorganization, and reports its status to the squad leader, and then the team continues to travel due north, using bounding over watch.
- d. Engagement 2: at FA 97519 74349 to 97536 to 74349, the lead fire team is engaged by the enemy's main element represented by a pneumatic gun and four targets (FA 97532 74430, FA 97533 74434, FA 97528 74431, and FA 97539 74443). The lead fire team becomes the support-by-fire (SBF) element and engages the exposed targets with all weapons systems. The SBF's sector of fire throughout this engagement is 350 degrees left to 015 degrees right.
- e. The SL moves forward to the SBF team leader to assess the situation. He informs the team leader that he will be flanking to the west (left), and he tells the team leader the signal plan to cease fire from the SBF position.
- f. While this is occurring, the trail team seeks cover and concealment and maintains a position where it is not decisively engaged by enemy fire, but can still make contact with the squad leader. After briefing the SBF team leader, the squad leader returns to the trail fire team and quickly gives the team leader the necessary information so they can begin their flank attack.
- g. Engagement 3: the squad leader then leads the trail team, moving in a wedge, west until they reach the assault position (FA 97462 74396 to FA 97476 74381). The team engages targets at FA 97517 74446 and FA 97518 74451 with a right limit of 050 degrees and a left limit of 020 degrees. The fire team begins its assault of the objective with a direction of attack from the assault position of 035 degrees. The squad leader's cease fire signal is confirmed by the SBF team leader using FM communications. Cadre report and confirm the signal over the cadre's radios. The assault element remains in the assault position until it receives confirmation that the SBF has ceased fire, with their weapons on safe, and oriented away from the objective.
- h. Engagement 4: as the assault element reaches the main objective (FA 97514 74472 to FA 97530 74457) the first set of targets will be dropped and a second set of targets rise at FA 97536 74490 (x2 targets) and FA 97546 74485 (x1 target). These targets simulate enemy retrograding off the objective. The team engages targets with a right limit of 050 degrees and a left limit of 010 degrees. The assault team continues its attack past the final targets and establishes its limit of advance (LOA). The squad begins consolidation and reorganization procedures. Once complete, cadre members initiate clearing procedures.
- i. The squad moves off the range, and the next iteration begins once the cadre has accountability of the squad, and all cadre members at the ammunition point.

8. SAFETY

- a. Communications: Unit will maintain continuous contact with Range Control at all times. If communications are lost the unit will go into a self induced check fire until communications are restored.
- b. 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 USAIC 40-2. Landing zone for MEDEVAC aircraft will be established prior to use and will be marked appropriately. Range Control will be notified in this event. The cease fire will remain in effect until cleared through Range Control.
- c. Weapons/Ammunition Malfunction Reports: When a malfunction is experienced, the OIC/RSO will suspend all firing and immediately notify Range Control. The weapons and all components and ammunition involved will remain in place. The cease fire will remain in effect until cleared through Range Control. An investigation is required and will be conducted by the ammunition and weapons inspection personnel and DOL.
- d. Signal:
 - The primary means of signaling shift/cease fire is FM communication. The alternate signal is a whistle. The contingency signal is colored smoke or star cluster. The emergency signal is voice and runner.
 - The OIC and RSO are with each team and will confirm receipt of the signal by non-tactical radios.
- e. Ammunition: 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.
- f. Range Limits:
 - OIC ensures that all weapon systems fire within range limits as specified in the FB Form 350-19-1-E-R.
 - All participants conduct a terrain walk with the OIC and RSO prior to execution of the range to verify that target array supports range fans and surface danger zones IAW FB range control.
 - The scenario must be the same for dry, blank and live fire iterations
- g. Additional Safety Considerations:
 - All participants are qualified on their primary weapon prior to execution.
 - Primary instructors conduct target operator rehearsal prior to execution of blank fire.
 - OIC and RSO ensures that all leadership positions remain the same during dry/blank/live fire exercises.
 - There will be a minimum of one cadre member per fire team, for all iterations.
 - OIC and RSO ensure that squad has resources to execute redundant signaling plan for shift or cease fire. Shift and cease fire commands are verified by cadre with cadre radio.
 - OIC and RSO ensures all weapons shift/cease fire when the assaulting element is within 40 degrees of SBF gun target line.
 - The RSO ensures that the medic is rehearsed on the routes from the FLA staging location to the range and from the range to Martin Army Hospital.
 - All Soldiers participating in user evaluations, training, and demonstrations must be qualified for their assigned duties. Training must include a review of all warnings, cautions, and limitations identified in the Safety Release (Amendment 6)
 - Single hearing protection, plugs or muffs, must be worn by all personnel within 30 meters of the firing positions.
 - The weapon and ammunition must be visually inspected prior to firing. Both must be clean and free of foreign debris.
 - Shooters must be warned that it is possible for the weapon to fire a round after the trigger is released and that the weapon must remain pointed down range after trigger release.
 - The participating unit must read and be trained on the Safety release message (Amendment 6).

9. POC for this memorandum is Mr. Eric Webb at 706-545-8164.

A handwritten signature in black ink, appearing to read "Eric Webb". The signature is written in a cursive, flowing style.

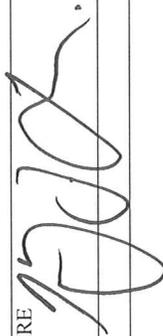
Eric Webb
Assistant Project Officer
Maneuver Battle Lab

Learning Objectives:

- A. Terminal Learning Objective: Conduct a Squad React to Contact Live Fire Exercise (07-3-D9501).
- B. Enabling Learning Objectives:
 - 17-5-5276 Prepare for Combat
 - 17-3-3062 Conduct Support by Fire
 - 07-2-5027 Conduct Consolidation and Reorganization
 - 071-010-0006 Engage Targets with an M249 Machine Gun
 - 071-100-0003 Engage Targets with an M4 or M4A1 Carbine
 - 071-326-0502 Move Under Direct Fire
 - 071-326-0513 Select Temporary Fighting Positions
 - 071-326-0608 Use Visual Signaling Techniques
 - 113-571-1022 Perform Voice Communications
- C. Task/Conditions/Standards:
 - Task: Execute Squad React to Contact Live Fire Exercise (07-3-D9501).
 - Conditions: The squad is moving and conducting operations when visual contact is made with the enemy, or the enemy initiates contact with a direct fire weapon. The squad is organized in accordance with FM 3-21.8, in a field environment during daylight hours.
 - Standards: The squad immediately returns "well-aimed" fire and seeks cover. The squad leader reports the contact to higher headquarters. The squad destroys the enemy with an immediate assault through the enemy position in accordance with standards found in UTL 07-417-8 (Unit Task List for Infantry Rifle Platoon and Squad), and BDL 07-08 (Infantry Battle and Crew Drills).
- D. Intent:
 - Understand the execution of Squad Battle Drills and their importance within the platoon's mission.
 - Understand how to execute movement as a squad within LFX conditions.
 - Understand the application of Fire Distribution and Control at the squad level.
 - Utilize the Troop Leading Procedures at the squad level and understand its importance to the overall platoon mission.

COMPOSITE RISK MANAGEMENT WORKSHEET

For use of this form, see FM5-19; the proponent agency is TRADOC

1. MSN/TASK DNNE Squad Live Fire	2a. DTG BEGIN 20130826	2b. DTG END 20130827	3. DATE PREPARED (YYYYMMDD) 20130523				
4. PREPARED BY: Eric R. Webb		c. POSITION Assistant Project Officer / Maneuver Battle Lab					
a. LAST NAME Webb		b. RANK CIV					
5. SUBTASK Experiment	6. HAZARDS 1. Heat Injuries	7. INITIAL RISK LEVEL High	8. CONTROLS Work activity and fluid intake IAW req outlined in fig 3-2 USAIC Reg 40-14(Prevention of Heat Injury) and USAIC Policy Memo on Heat injury Prevention. Unit Leaders will comply with unit SOP TA-010-0304, Heat Injury Prevention (Army Center for Health Promotion and Preventive Medicine handout). Soldiers with previous heat injuries will be marked and monitored IAW unit's SOP (white tape on right arm). Unit leaders advise Soldiers to continue hydration after each day's training. The safety brief will specifically identify heat stress indicators as well as over-hydration indicators. Unit leaders monitor and enforce work/rest cycles and ensure Soldiers comply with fluid intake guidelines specified in USAIC 40-14. All Soldiers will carry a camelback of water; additional water and ice will be available on site. Experiment Control will utilize the Wet Bulb Globe Temperature Kit at Griswold Range and provide hourly readings to the experiment team.	9. RESIDUAL RISK LEVEL Moderate	10. HOW TO IMPLEMENT Follow TRADOC and FB medical guidelines; maintain guidelines on hand for reference. MCOE 40-14, MCOE PM 385-6.	11. HOW TO SUPERVISE (WHO) Direct Supervision at all levels / buddy team observation / data collector and observer controller observation	12. WAS CONTROL EFFECTIVE?
Additional space for entries in Items 5 through 11 is provided on page 2.							
13. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (Check One)							
<input type="checkbox"/> LOW <input checked="" type="checkbox"/> MODERATE <input type="checkbox"/> HIGH <input type="checkbox"/> EXTREMELY HIGH							
14. RISK DECISION AUTHORITY a. LAST NAME Lubin		b. RANK GS-13	c. DUTY POSITION Chief, Experimentation Branch	d. SIGNATURE 			
DA FORM 7566, APR 2005				Page 1 of 3			

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?
2.	Falls, Collisions with obstacles to include concertina wire	Moderate	Soldiers advised to be alert for hazards, obstacle, and barrier materials. Rehearsals conducted prior to full speed operations.	Low	Pre-mission execution safety briefs that identify possible obstacle locations.	Unit Leadership, Experiment Team	
3.	Animal bites and stings	Moderate	Avoid encounters with wildlife esp. snakes/spiders/bees. Insect repellent will be available to all participants. Personnel allergic to insect stings will be identified by the chain of command during first week of training and these individuals will carry sting kits, and have yellow tape on right arm.	Low	Follow FB medical guidelines and USAIC Reg 40-2	U Unit Leadership, Experiment Team, RSO	
4.	Storms and Lightning	High	Range Control weather advisories are passed to EXFOR upon receipt by the Experiment Team. Upon receipt of severe weather or lightning the RSO or Unit Leadership will place participants on hold. Soldiers/Participants will ground equipment and move to buildings (if possible). In the event of severe weather; Radios will be turned off and antennas lowered and personnel will dismount from vehicles and evacuate areas with antennas, If caught in open will disperse and avoid areas with dense wood and seek low-lying areas. AM weather brief with LAAF USAF Weather Forecasters.	Moderate	Part of Daily Safety Brief and IAW Range Operation Policy	Unit Leadership, Experiment Team, RSO	
5.	Field ASP	Moderate	Field ASP will be established within requirements set forth on pg 141 & 142 of DA Pamphlet 710-2-1. OIC/RSO inspects daily and provides guard for Ammo.	Low	DA PAM 710-2-1 & AR 385-6	OIC/RSO and Experiment Leadership	
6.	Pyrotechnics / Ammo Injuries	Moderate	Personnel using pyrotechnics will wear leather gloves at all times. Prior to training the daily safety brief will designate the Combat Life Savers and the Safety vehicle.	Low	Safety brief for all personnel, direct supervision.	Unit Leadership, Experiment Team, RSO	
Fire and Maneuver	1. Fratricide due to Fire and Maneuver	High	Safeties will validate all SQLF scenarios. All Soldiers must certify during blank fire under the same conditions as the SQLF before being allowed to conduct the SQLF.	Moderate	Leader Validation of Scenario/Pre SQLF training/Dry and Blank Iterations prior to Live Fire/Leader Supervision/PCC/PCI of PPE/Medic Present with dedicated CASEVAC Vehicle	Unit Leadership, Experiment Team, RSO, and all Lane Safeties	

<p>2. Negligent Discharge</p>	<p>High</p>	<p>Weapons awareness will be emphasized during the Range Safety Brief. Weapons will be placed on safe when not engaging targets. Weapons will be locked, cleared, and inspected following each iteration.</p>	<p>Moderate</p>	<p>Safety Brief/Leader Involvement/Team and Squad Leaders will clear all weapons after each iteration/Lane Safeties will physically verify locked and cleared weapons.</p>	<p>Unit Leadership/OIC/RSO/Lane Safeties</p>
<p>3. Ricochet</p>	<p>Moderate</p>	<p>Soldiers will be briefed on ricochet hazards. Several vehicle hulls are present on Griswold Range. Soldiers will be instructed not to engage vehicles.</p>	<p>Low</p>	<p>Leader Walk Thru/Safety Brief. Ricochet hazards clearly identified by Range OIC/RSO prior to beginning of training.</p>	<p>Unit Leadership/OIC/RSO/Lane Safeties</p>
<p>4. Mixing of Live and Blank Ammunition</p>	<p>Moderate</p>	<p>All ammo will be checked, to ensure no mixing of blank and live ammo. Ammo Personnel will sign for all ammunition. Live and Blank Ammo will be kept in separate vehicles at the ASP.</p>	<p>Low</p>	<p>Unit Leadership / OIC / ASP Personnel. Range RSO spot checks ASP throughout training.</p>	<p>Unit Leadership/OIC/RSO/ASP Personnel</p>

Griswold Range MBL Team/Squad LFX (LSAT) Log #06-03-13 Road Block List, 5 July 2013

BLOCK	GRID	LOCATION	TYPE
A-1	911 792	Across firebreak 200m down Fiske Range at right end of KD berm. Permanently closed.	Cable
A-2	910 783	Off Sightseeing Rd on unnamed trail opposite of entrance to LRC.	Gate
A-4	925 766	Off Sunshine Rd 1,200 m W. of entrance to Grandstaff range.	Gate
A-5	936 762	Across entrance road to Grandstaff Range. 10m N. of Sunshine Rd.	Gate
A-6	939 763	Off Sunshine Rd 100m W. of Oswichee Creek. Permanently closed.	Cable/Berm
A-8	968 740	Across unnamed trail 30m N. of Sunshine Rd and 800m N.W. of entrance to Griswold Range.	Gate
A-10	018 730	Across entrance road to Flint Range. 50m N. of Sunshine Rd.	Gate
A-11	019 731	Across Lumpkin Trail 30m N. of its intersection with Sunshine Rd.	Gate
A-11A	032 729	Rd guard pos # 2 for Garnsey Rng Obj 'E' (intersection Jamestown/Sunshine Rd's	Rd Grd # 2
A-12	033 742	Across Garnsey Rd 50m W. of its intersection with Jamestown Rd.	Gate
A-12A	029 744	Across Garnsey Rd 400m W. of A-12 Roadblock.	Gate
A-12B	028 741	Across trail 150m SW of A-12A Roadblock. 50m W. of Range Bldg.	Gate
A-12C	036 746	Road guard position # 3 for Garnsey Rng Objective 'E' (Jamestown at Lightning Rd)	Road Guard # 3
A-13	936 762	Across Sunshine Rd 10m E. of the entrance to Grandstaff Range. (Road guard location)	Gate
A-14	974 733	Across Sunshine Rd 10m W. of the entrance to Griswold Range. (Road guard location)	Gate
A-15	021 799	Across entrance road to Buchanan Range.	Gate
A-15A	021 798	Gate Across Good Luck Rd	Gate
A-15B	022 796	Road guard position # 1 for Garnsey Rng Objective 'E' (Jamestown road SW corner of Engineer building)	Road Guard # 1
A-18	993 828	Across Buckeye Rd 225m S. of its intersection with 1st Div Rd. and 50m E. of entrance to Duke Range	Gate
A-19	973 825	Across entrance road to Patton Range 400m S. of its intersection with 1st Div Rd.	Gate
A-20	974 827	Across entrance road to Dianda Range. 300m S. its intersection with 1st Div Rd.	Gate
A-22	015 817	Across unnamed trail 50m N. of Brinson Range and 10m off Jamestown Rd.	Gate
A-23	024 744	On unnamed trail N. of road entering Garnsey Range. 100m W. of ammo point on range.	Gate
A-23A	005 748	On Lumpkin trail 50m NW of Objective 'E' on Garnsey Range.	Gate
A-23B	005 747	Adjacent to A-23A gate on trail near intersection of Lumpkin trail	Install Gate
A-24	015 811	10m inside entrance gate of Brinson Rng south of entrance road.	Gate
A-25	016 789	Across fire break 10m W. of its intersection with Good Luck Rd.	Gate
A-26	013 798	On L/S of Buchanan Range 50 meters W. of chow area across entrance to fire break.	Cable
A-27	018 805	Across unnamed trl 175m N of intersection of Hourglass and Jamestown roads	Gate

BLOCK	GRID	LOCATION	TYPE
A-28	012 774	20 meters off Yankee road on south side of Galloway range.	Gate
A-28A	011 776	30 meters south of Range Tower	Gate
A-30	026 758	Across fire break leading to Garnsey Range. 140m SW of Brann Flat Range.	Gate
A-30A	027 758	Across trail leading to Garnsey Range 50m E. of A-30 Roadblock	Gate
A-31	020 745	Across fire break leading to Brann	Cable
A-32	989 724	Across entrance road to Kunzig Range.	Gate
A-33	974 734	Across entrance to Griswold Range.	Gate
A-33A	979 739	150 meters west of Target Systems bldg on trail leading to move to contact site	Gate
A-33B	982 739	20m N of Target Sys bldg on trail running on west side of bldg.	Install Gate
A-34	947 760	Across entrance to Minter Hill 700m E. of Oswichee Creek.	Gate
A-38	952 816	Across fire break 300m down range of firing line on Red Cloud Range on L. side of range.	Cable
A-39	956 822	Across unnamed trail 100m S. of bldgs on Buckner Range on L. side of range	Cable
A-40	967 823	Across fire break 50m down range on the left side of Pierce Range.	Gate
A-41	972 820	Across fire break located on the right side of the firing line on Patton Range.	Cable
A-42	978 820	Across fire break located on the left side of the firing line on Patton Range.	Cable
A-43	983 823	Across fire break located on the right side	Cable
A-44	986 823	Across fire break 100m E. of the 25m flat	Gate
A-45	990 827	Across fire break located on the right side of the firing line on Duke Range.	Gate
A-45A	991 829	Across Booker Breach site entrance road 200m past Duke Rng entrance gate	Gate
A-46	984 832	Across unnamed trail 100m W. of the intersection of 1st Div Rd and Ivy Rd.	Gate
A-47	990 833	Across unnamed trail 500m W. of the intersection with 1st Div & Buckeye Rd's	Gate
A-48	995 827	Across fire break located on the right side of the firing line on Porter Range.	Cable
A-49	998 827	Across fire break located on the left side of the firing line on Porter Range.	Cable
A-50	000 830	Across unnamed trail 200m W. of entrance to Maertens Range.	Gate
A-51	031 791	Barrier on Furman Rd	Barrier 1
A-52	034 776	Barrier on Yankee Rd	Barrier 2
A-53	035 776	Gate to Cole Range	Barrier 3
A-54	046 749	Barrier off Lightning Rd on unnamed trail	Barrier 5
A-55	057 759	Barrier off Lightning Rd on unnamed trail	Barrier 4



DEPARTMENT OF THE ARMY
UNITED STATES ARMY EVALUATION CENTER
2202 ABERDEEN BOULEVARD – SECOND FLOOR
ABERDEEN PROVING GROUND, MD 21005-5001

TEAE-MGT

10 May 2013

MEMORANDUM FOR US Army Armaments Research, Engineering and Development Center,
(AMSRD-AAR-AIJ/Korene Phillips), Building 65, Picatinny Arsenal, NJ 07806-5001

SUBJECT: Amendment 6 to Safety Release for the Lightweight Small Arms Technology
(LSAT) Demonstrator Provided for User Evaluations, Training, and Demonstrations

1. References:

- a. MIL-STD-882E, Department of Defense, Standard Practice, System Safety, 11 May 12.
- b. DoDI 5000.02, Operation of the Defense Acquisition System, 8 Dec 08.
- c. Email, US Army Aberdeen Test Center (ATC) (CSTE-DTC-AT-FP-S), George Niewenhous, 2 Oct 06, subject: Safety Release for LSAT/SAW - Background.
- d. Email, US Army Armaments Research, Development and Engineering Center (ARDEC) (JSSAP), Korene Spiegel, 11 Jan 07, subject: RE: LSAT POC.
- e. Email, Aircraft Armament Incorporated (AAI), Paul Shipley, 12 Jan 07, subject: RE: LSAT POC.
- f. Memorandum, US Army Developmental Test Command (DTC), CSTE-DTC-TM-T, 23 Jan 07, subject: Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator in Support of User Evaluations and Demonstrations.
- g. Memorandum, DTC, TEDT-TMT, 28 Jan 08, subject: Amendment 1 to Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator in Support of User Evaluations and Demonstrations.
- h. Memorandum, DTC, TEDT-TMS, 16 Apr 09, subject: Amendment 2 Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator in Support of User Evaluations and Demonstrations.
- i. Memorandum, DTC, TEDT-TMW, 28 April 10, subject: Amendment 3 Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator in Support of User Evaluations and Demonstrations.
- j. Email, US Army Armaments Research, Development and Engineering Center (ARDEC) (JSSAP), Ned DeWitt, 11 Apr 11, subject: RE: Upcoming LSAT Demos.

FOR OFFICIAL USE ONLY

TEAE-MGT

SUBJECT: Amendment 6 to Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator Provided for User Evaluations, Training, and Demonstrations

(SAW) (17.95 pounds). There is over 21 pounds decrease in Soldier load with a standard combat load between LSAT with the Case Telescoped (CT) Ammunition (Figure 2) and the M249 SAW with the standard linked M855A1/M856A1 cartridge. The CT ammunition will only function in the LSAT weapon.

a. The basic cartridge is a straight plastic tube with the projectile telescoped inside surrounded by propellant. The cartridge case is closed at one end by a solid base. The primer is positioned at the case base in the conventional manner. A front insert cap holds the projectile and on firing, moves forward a very short distance to opturate between the chamber and barrel. The standard M855 projectile and standard ball propellant are used.

b. The LSAT functional cycle is as follows: The rammer pushes the cartridge out of the link and into the chamber. The chamber rotates 90 degrees to align with the barrel. The firing pin strikes the primer and the cartridge fires. Propellant gases are tapped from the barrel and engage a piston. The piston is driven to the rear. This action results in rotating the chamber back to align with the feedway. The rammer repeats its cycle. The new cartridge pushes out the fired case. The fired case is ejected by the ejector and the old link is ejected by the next link.



Figure 1. Lightweight Small Arms Technology (LSAT) Demonstrator (5.56mm Machine Gun).



Figure 2. Case Telescoped (CT) Ammunition.

4. Discussion.

a. This AEC Safety Release is derived through Test Manager analysis of the results of testing conducted by Aircraft Armament Incorporated (AAI) of Hunt Valley, MD and a review of referenced documentation. Available information was evaluated following safety guidance provided in MIL-STD-882E (reference 1a).

TEAE-MGT

SUBJECT: Amendment 6 to Safety Release for the Lightweight Small Arms Technology (LSAT) Demonstrator Provided for User Evaluations, Training, and Demonstrations

(3) Type III: Dropped Primer - Insufficient interference fit between the primer and primer support.

i. There have been an additional 18,368 rounds fired successfully without safety incident on the six weapons (SN4, 5, 7, 8, 9 10) from May 12 to May 13 (reference 1t). There were ammunition case blowouts noted with spent cases following firing after long term storage at +160°F. There was case wall cracking noted following firing in spent cases. There were also some dropped primers noted in spent cases following firing. None of these ammunition case issues caused safety incidents. There were also no incidents of weapon failure to sear during this time frame.

5. Conclusions. This AEC Safety Release for the LSAT is provided for User Evaluations, Training, and Demonstrations. A safety review of the referenced documentation was conducted and it has been concluded that the LSAT, as described in this document, can be used by trained Soldiers provided the warnings, cautions, and procedures addressed in this Safety Release and reference 1k are followed.

a. All Soldiers participating in user evaluations, training, and demonstrations must be qualified for their assigned duties. Training must include a review of all warnings, cautions, and limitations identified in this Safety Release and in the referenced documents.

b. Single hearing protection, plugs or muffs, must be worn by all personnel within 30 meters of the firing positions.

c. The weapon and ammunition must be visually inspected prior to firing. Both must be clean and free of foreign debris.

d. The weapon must undergo magnetic particle inspection prior to each demonstration.

e. Firing from the shoulder, bipod, tripod, or from a bench rest is authorized.

f. Shooters must be warned that it is possible for the weapon to fire a round after the trigger is released and that the weapon must remain pointed down range after trigger released.

g. A copy of this memorandum must be provided to the Commander of the unit to which participating Soldiers are assigned. The Commander is responsible for ensuring that the Soldiers are qualified to support the User Evaluations and Demonstrations. The LSAT demonstrating organization and/or test sponsor is responsible for ensuring the Soldiers are properly trained regarding the LSAT being used and are aware of the guidance contained in this Safety Release.



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

11 July 2013

MEMORANDUM FOR Director Maneuver Battle Lab, Attn: Mr. Ernie Webb, Fort Benning, GA 31905

SUBJECT: MBL Squad Live Fire for Dismounted Non-Network Enabled Squad (DNNE) LUE on Griswold Range Safety Review

1. References.

- a. MBL Squad Live Fire for Dismounted Non-Network Enabled Squad (DNNE) LUE, 27 June 2013.
- b. Army Regulation 385-10, The Army Safety Program, 24 August 2007
- c. Army Regulation 385-63, Range Safety, 19 May 2003
- 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, RAR 01 February 2010
- g. Department of the Army Pamphlet 385-63, Range Safety, RAR 12 May 2009
- h. Field Manual 5-19, Composite Risk Management, August 2006
- i. MCoE Regulation 350-19, Range and Terrain Regulation, 23 July 2010
- j. MCoE Policy Memorandum 385-6-12, Composite Risk Management, 15 December 2010

2. Document received on 09 July 2013.

3. Concur w/comment.

ATZB-SO

SUBJECT: MBL Squad Live Fire for Dismounted Non-Network Enabled Squad (DNNE) LUE on Griswold Range Safety Review

a. Concept paper, paragraph 9, pg 3. Ambulance exchange points (AEP) must be identified in the training area on the map and physical location by the OIC, RSO and medical coverage.

b. RMW, Block 8, pg 3. "Negligent Discharge", recommend that multiple alternate plans for lift and shift or cease-fire be formulated and briefed for visual and auditory alerts.

4. 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


JILL E. CARLSON
Director, MCoE/USAG Safety



RECORD OF ENVIRONMENTAL CONSIDERATION (REC)



Date Submitted: 5/21/2013

EMD Number: 1314107 **Project#:** Unknown **Project Title:** Dismounted Non Network Enabled Squad (DNNE)

Description of proposed action:

Squad Live Fire Exercise and Known Distance Exercise from Fixed Positions as well as Fire and Maneuver Lanes. Weapons being used are M4, M249, LSAT, CSASS, M14EBR, M320,

Project Location:

Griswold Range

Amount, Description, Location of Disturbance/Digging:

None

Number of Personnel:

75

Type of Ammunition:

5.56, 7.62, 40MM TP
Live and Blank

Number/Types of Trees:

None

Size of Project Area:

Duration of Action: Start: 8/1/2013 Stop: 9/30/2013

Proponent: Eric R Webb 706-545-8164

Organization/Unit: Maneuver Battle Lab

Number/Types of Vehicles:

Number of vehicles:10
Types of vehicles:GSA
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, 2013

Natural Resources - RCW

Conditions:

Michael Barron (706 544 7080), 6/5/2013

See attached conditions. Note locations of red-cockaded woodpeckers (RCW) on attached maps. Training restrictions apply. Unit commanders must make sure that all troops know the locations of restricted areas and understand these training restrictions. This is imperative since night training may occur. Boundaries are often hard to see at night, but this is no excuse for violations to occur. Two hour time restriction is for 2 hours once every 24 hour period. Note where digging may not occur. All trenches, fighting positions, etc must be filled in prior to leaving an area. There must be no cutting down or intentional destruction of any pine trees throughout the requested area(s).

Cultural Resources - Archeological

Conditions:

Edward Howard (706 545 1898), 5/30/2013

See attached JPEG maps for reference. The project area contains federally protected sensitive sites. These sites may or may not be marked with Siebert stakes placed 20 - 30 meters apart which contain labels warning against ground disturbance. Training may be conducted in these sites so long as it does not disturb the ground (digging, off-road vehicle traffic, etc.) The project OIC is responsible to insure the sites are not disturbed, regardless of whether or not they are marked. They are identified in RED in the attached maps. Additionally, if endangered plants, historic artifacts or Native American artifacts (arrowheads, etc) are encountered here (as in anywhere on the Installation) their removal constitutes theft as well as possible violation of other federal laws. This could result in criminal prosecution. Contact CRM with any questions or concerns. Resubmittal is required if submitted project is modified in any way.

EMD Number: 1314107

IJO# Unknown

Project Title: Dismounted Non Network Enabled Squad (DNNE)

Noise

Conditions:

Ellis Leeder (706 545 2400), 5/22/2013

Note M320 is not HE.....This is training operations that must be conducted. If there is any noise complaints received, the Environmental Management Division Installation Operational Noise Monitoring Program (IONMP) and or Public Affairs Office (PAO) programs will investigate and then recommending operational noise mitigation actions to the appropriate personnel for the training actions. In accordance with the Army's policy on environmental noise management, all efforts shall be made to minimize noise annoyances to the highest extent practicable with training operations without interfering with the proposed missions. Please follow the fly friendly program avoiding no fly zones. Please follow good smoke management practices not allowing smoke or dust to travel off Installation boundary into public areas or roads. Please increase distance between vehicles when dust conditions are extreme, see Table 5-3. CS gas use should be utilized in designated areas only, contact Range Control for a listing of approved sites. If any assistance or a copy of MCoE Regulation 350-19 or the IONMP noise plan is needed for review, please feel free to contact Ellis Leeder at 706.545.2400 or email ellis.p.leeder.civ@mail.mil or visit the Range Control Website for the updated version of MCoE Regulation 350-19

Hazardous Materials/Waste

Conditions:

Ted Williams (706 545 7579), 5/21/2013

Any wastes generated must be evaluated for their hazardous characteristics and disposed of in accordance with all Federal, State and Fort Benning Hazardous Waste Regulations.

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.

Contain and clean up any spill according to guidance provided by the Environmental Protection Management Branch.

CWA - Training

Conditions:

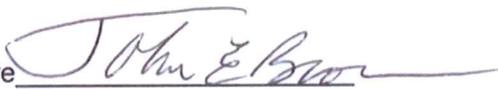
Leah Ropski (706 626 0492), 5/21/2013

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

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

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

Signature



John E Brown

NEPA Program Manager

Date

6 JUN 2013

Signature



Christopher E. Hamilton, PhD

EPMB Chief

Date

6 JUN 13

79

79

Griswold Range, MBL Team/Squad LFX

M320 (40mm TP), M16/M4, M249 (5.56mm B&T)

LSAT (5.56mm Case Telescoped Ammo); LL & RL = Degs, Grid Az

*Engagement 1 OP: 9751 7405 to 9753 7405; LL= 005, RL= 030

*Engagement 2 SBF: 9752 7435 to 9754 7435; LL= 350, RL= 015

*Engagement 3 Assault Start: 9746 7440 to 9748 7438; LL= 020, RL= 050

*Engagement 4 Assault Stop: 9753 7446 to 9754 7445; LL= 010, RL= 050

78

78

Coc

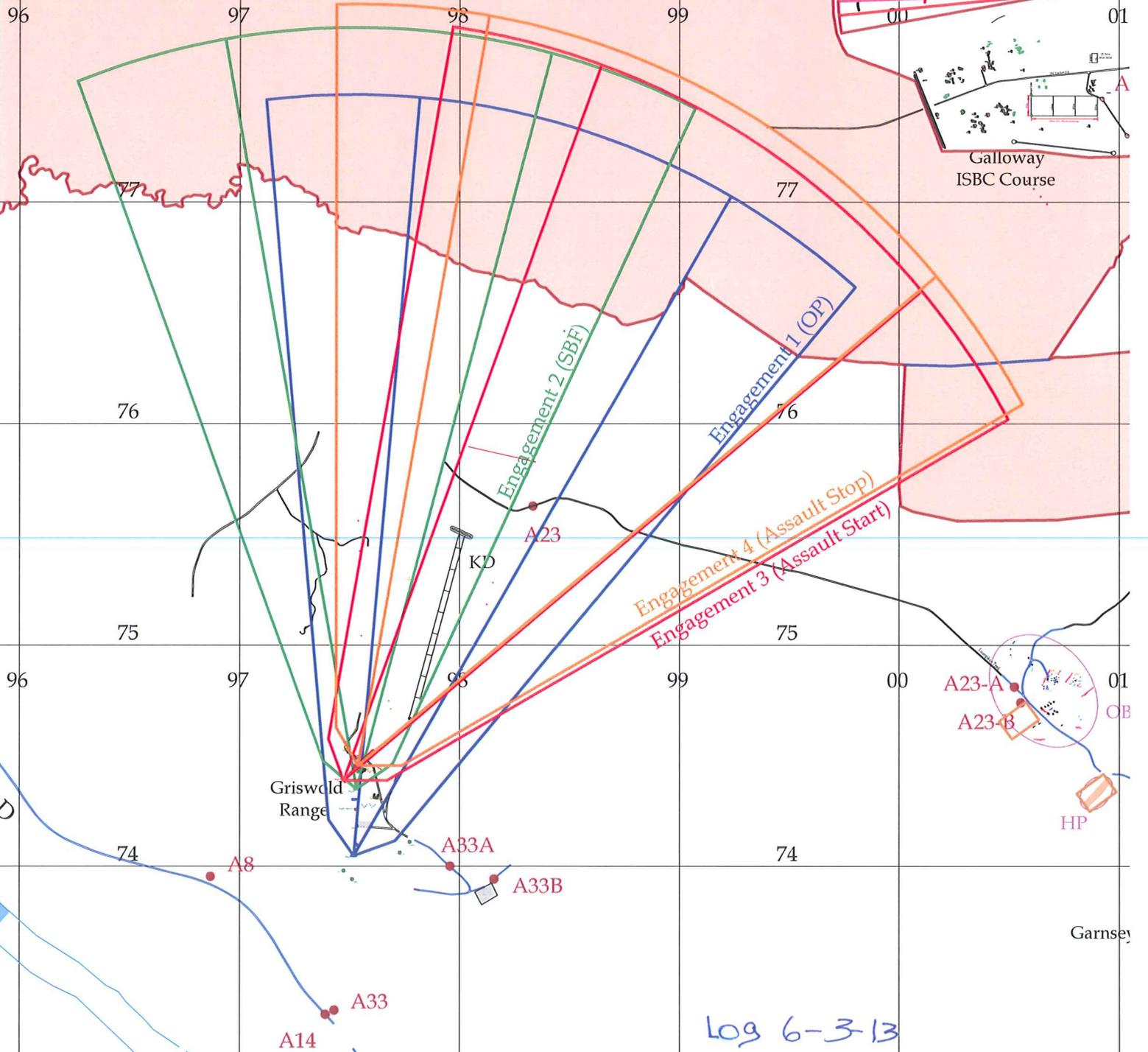
Lz

Coolidge
Left

Burrou
Range

01

Galloway
ISBC Course



Log 6-3-13

79

Griswold Range, MBL Team/Squad LFX

M320 (40mm TP), M16/M4, M249 (5.56mm B&T)

LSAT (5.56mm Case Telescoped Ammo); LL & RL = Degs, Grid Az

*Engagement 1 OP: 9751 7405 to 9753 7405; LL= 005, RL= 030

*Engagement 2 SBF: 9752 7435 to 9754 7435; LL= 350, RL= 015

*Engagement 3 Assault Start: 9746 7440 to 9748 7438; LL= 020, RL= 050

*Engagement 4 Assault Stop: 9753 7446 to 9754 7445; LL= 010, RL= 050

78

79

Coc

Lu

Coolidge

Left

Burrou

Range

78

01

Galloway

ISBC Course

96

97

98

99

76

76

75

75

96

97

98

99

00

01

Griswold
Range

KD

A23

Engagement 1 (OP)

Engagement 2 (SBF)

Engagement 4 (Assault Stop)

Engagement 3 (Assault Start)

A23-A

A23-B

HP

74

97

98

99

74

A8

A33A

A33B

A33

A14

Garnsey

