Image Cover Sheet

CLASSIFICATION	SYSTEM NUMBER
UNCLASSIFIED	178524

TITLE

AREA SHOOT IN HOT WEATHER WITH 25 PR. SHELL MK. VII CHARGED HTV\(CR\) WITH 0.3% MM ADDED

System Number:

Patron Number:

Requester:

Notes:

DSIS Use only:

Deliver to:

Suffield RE Book
Index

UNCLASSIFIED/UNLIMITED

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[redacted] COPY NO. 11
22 June 1945

EXPERIMENTAL STATION

SUFFIELD ALBERTA

FIELD EXPERIMENT NO. 315

Area Shoot in Hot Weather with 25 pr. Shell Mk. VII charged HTV(CR) with 0.3% MM added
(Rewrite of F.E. 242)

D-1C

1. REFERENCE

Project D-1 C.

2. OBJECT

To determine the percentage of the target area neutralized in hot weather by the recommended expenditure of 10 rounds per 100 yard square.

3. MATERIAL

324 rounds 25 pr. BE/Chem. shell Mk. VII factory charged dyed HTV(CR) with 0.3% MM added. (Shell supplied from U.K.). Fuzed 221 with standard headfilling. (Fuzes to be provided from one lot.)

3 additional rounds fitted with thermometers.

25 rds as above for checking fuze predictions. (14 rds. will be required to be prepared at Suffield)

Shell 25 pr. HE for ranging (as required).

4. SITE

Artillery Range. A burnt off area in C - 3.

5. WEATHER

Wind Speed: mean to 1000 ft. 5 - 15 mi/hr.
Wind Direction: N W to S W.
Temperature: above 80°F.
Absence of precipitation.

6. PROCEDURE

(i) All shell will be taken to the field prior to the trial and stored under well ventilated tarpaulins.

(ii) When moved to the gun positions they will be shaded from the sun until fired.

(iii) The three shell fitted with thermometers will be allotted to three representative gun positions. The temperature of the chargings at the time of firing will be recorded. (O.M. & E.)

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6. PROCEDURE (cont'd.)

(iv) The viscosity of the charging in three shell taken at random from the stock of shell from which the programme rounds were drawn will be recorded (O.M. & E.). A sample from each will be forwarded to P. & M.S.

Layout

(v) A target box 300 yards by 400 yards will be chosen and a layout of small jump cards on a 10 yard grid will be put down over this area and over a frame 300 yards deep. (See Appendix.)

(vi) A 15 ft. photographic marker will be erected at the centre of the target box and further markers will be erected parallel to the line of fire to indicate the limits of the target box and the complete layout.

(vii) Point G will also be identified by a suitable marker.

(viii) Gun positions will be chosen so that the target box is engaged from a range of 6000 to 7000 yards.

(ix) An O.P. will be selected as far forward as would be possible under battle conditions.

Line of Fire

(x) The line of fire for the guns will be approximately parallel to the shorter side of the target box. A troop will be allotted to each of the three lines of fire as indicated in the Appendix.

(xi) If considered necessary a rehearsal will be carried out prior to the programme shoot as was done in Field Experiment No. 255.

PROGRAMME SHOOT

Meteor Telegrams

(xii) A meteor telegram will be provided prior to the shoot. This telegram will be used by the Adjutant to draw up the fire plan orders and should be issued as close to zero as possible. The actual conditions during the shoot will be recorded by two telegrams one taken at the beginning and one at the end of the shoot.

Fire Plan

(xiii) On receipt of the first meteor telegram, the Adjutant will register point G. He will then issue fire plan orders and the G.P.O.'s will draw up and issue complete gun programmes.

(xiv) At zero the pivot gun of each troop will fire six rounds BE/Chem. shell to check the predicted fuze setting. The M.E.O. in consultation with the O.P. officers will on the basis of these shell confirm or correct the fuze setting.

(xv) Each gun will then fire 9 programme rounds at sweep 100 yards the rate of fire beingbattery salvo at intervals of 7 seconds. The layout will then be inspected by M.E.O. and P.R.S. and if the engagement is satisfactory the remaining 18 rounds per gun will be fired at sweep 100 at the same rate.

6. PROCEDURE (cont'd)

Functioning of Shell

(xvi) Two observers will station themselves on a flank opposite the target centre. One will record the number of shell bursting to the left of the target centre and the other those bursting to the right.

(xvii) The O.M. & E. height recorder will be set up on a flank not less than 1,500 yards from the target centre. It will be adjusted so that each of its three operators cover a field of view 150 ft. high as measured at the target centre. It will be centred on the target centre and then elevated so that the horizon is the base line for the lowest observer. A fourth observer will record the number of shell bursting below the horizon.

(xviii) Two observers will record the number of shell bursting short or long of the field of view of the O.M. & E. recorder and a further observer with window will record the number of shell bursting above the field of view of the instrument.

Meteor Data

(xix) Full meteor data will be recorded during the period of the shoot.

Observer Tests

(xx) A defensive platoon position will be prepared at the centre of the target box prior to the shoot. Two hours after the shoot a minimum of 12 men dressed as in para xxii and wearing respirators at the gas position will attack and pass through this position. They will alternately walk and crawl across the area, the periods of crawling being controlled by small arms fire. During each crawl they will fire 3 rounds of blank ammunition. At the end of the patrol the men will be inspected by Phys. S. They will re-apply A/G ointment to their hands before removing their respirators. They will continue to wear the clothing for a further 4 hours during which time they will take part in normal station fatigues.

(xxi) Four hours after the shoot a minimum of 12 men dressed as below will attack and occupy the position. The occupation will last for 6 hours. The necessity for the wearing of respirators during the occupation will be determined by tests with a vapour detector kit. If respirators are not necessary eyeshields will be worn. These men will change their clothing when they leave the area.

(xxii) All men will be dressed in KD shirts fastened at the wrists and neck, KD trousers fastened at the ankles (see D.S.W.V. Liaison Letter No. 21) skeleton webbing, short limbed underwear, boots and socks and will carry light type respirators. They will apply A/G ointment to their hands and arms to a distance of 2 to 3 inches beyond the wrists. Each man will carry a rifle.

7. ADMINISTRATION

M.E.O.

In charge of trial. Provision of shell. Layout. Height of burst (5 observers) in co-operation with P. & M.S. Decision as to completion of shoot (see para xv).

P. & M.S.

Meteor telegrams. Heights of burst (4 observers). Assessment of jump cards. Plot of contaminated areas. Meteor observations.

Phys. S.

Provision and control of observers.

O.M. & E.

Viscosity of charging. Samples of charging to P. & M.S. Particulars of shell (lot number etc.). Temperature of shell.

Visiting Regiment

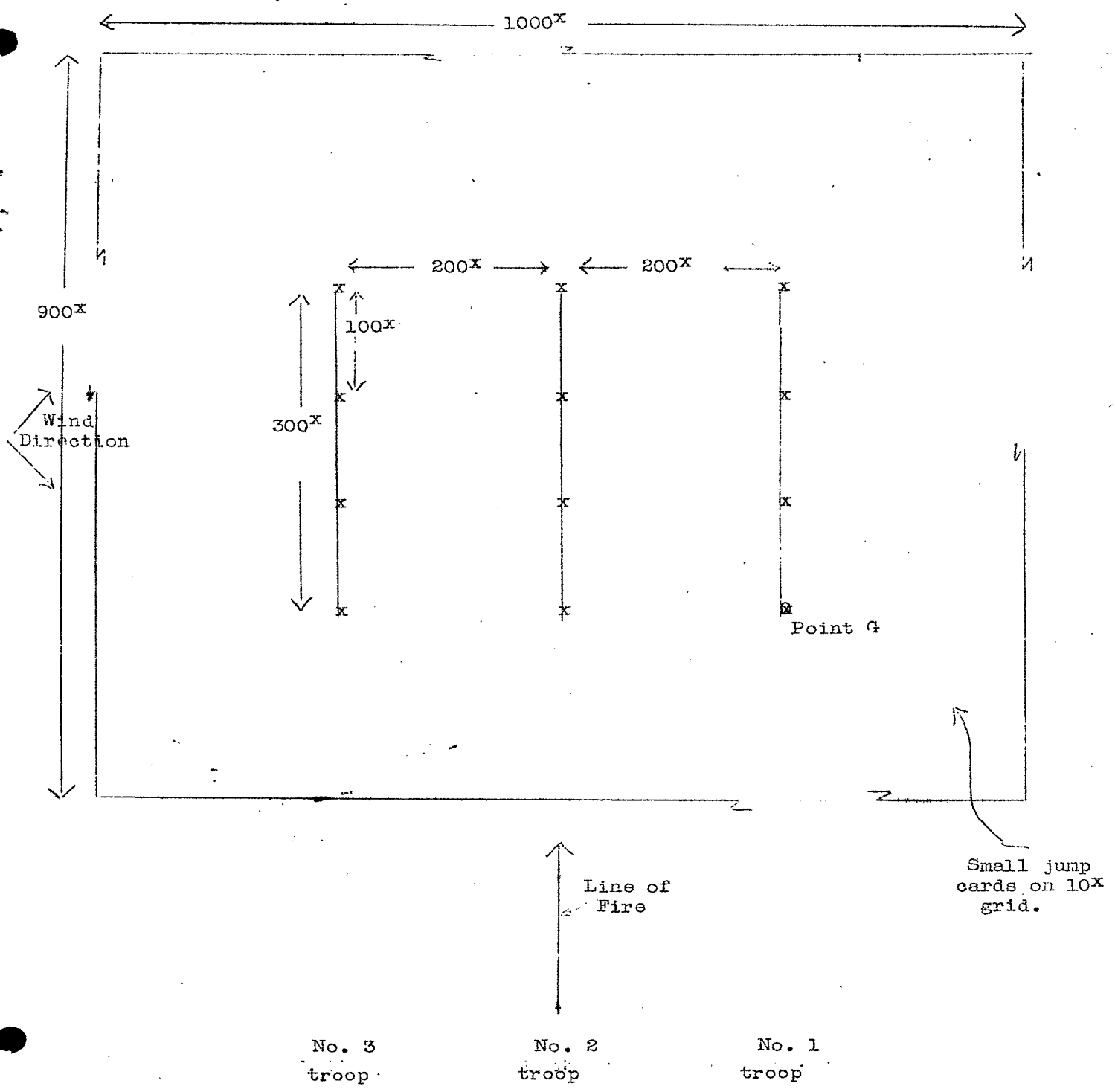
Provision of guns. Attack of target.

HJF:pkn

H J Fish
X (H. J. Fish)
P.R.S.

J S Campbell
X (J. S. Campbell) Lt. Col., R.A.
C. E. O.

APPENDIX


1000x
900x
200x
200x
100x
300x
Wind Direction
Point G
Small jump cards on 10x grid.
Line of Fire
No. 3 troop
No. 2 troop
No. 1 troop

#178524