Image Cover Sheet

CLASSIFICATION	SYSTEM NUMBER
UNCLASSIFIED	139977

TITLE

VISUAL ASSESSMENT AND VAPOUR SAMPLING WITH M70 BOMBS CHARGED LEVINSTEIN H AT LOW TEMPERATURE

System Number:

Patron Number:

Requester:

Notes:

DSIS Use only:

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[redacted]

DRAFT

EXPERIMENTAL STATION

SUFFIELD ALBERTA

[redacted] COPY NO. 40

FIELD EXPERIMENT NO. 191

2 February 1944

1. TRIAL

Visual assessment and vapour sampling with M70 bombs charged Levinstein H at low temperature.

2. OBJECT

This trial is designed to obtain data on three aspects of the performance of this bomb.

(a) The form of the contamination and the area affected.
(b) The vapour concentrations produced downwind.
(c) The traversing danger.

3. REFERENCE

S121

4. WEATHER

Air Temperature minus 10°C to minus 20°C.
Wind Speed below 20 mi/hr.
Wind Direction any but steady.
Suitable for bombing from 15,000 ft.
No snow cover.

5. MATERIAL

(a) Four M70 bombs charged Levinstein H dyed red with Rhodamine B Extra.
(b) Fuse No. M110 or M 108
(c) Burster 665 gms Tetryl.

PROCEDURE

6. Pretreatment of Bombs

The bombs will be stored in the open, on the day of the trial the charging temperature must be between minus 10°C and minus 20°C.

7. Release of Bombs.

The four bombs will be released in salvo from a Boston aircraft flying at 12,000 ft. above terrain and at 200 mi/hr. They will be aimed (TV 1200 ft/sec) at a triangle put down by M.E.O.

8. Inspection of Contamination

The area contaminated will be inspected by O.M. & E.; P. & M.S. and P.R.S. The functioning, approximate area contaminated & condition of dispersed charging will be recorded.

9. Traversing Hazard

Ten observers will walk in the area contaminated as directed by Phys. S. They will wear: Service boots and anklets. Spare boots will be taken into the field.

10. The observers will be divided into two equal groups A & B.

(a) The boots and anklets of Group A will be removed immediately on completion of the traversing and will be placed in a metal container with well fitting lid.

(b) Group B will march four miles across the prairie and their boots and anklets will be removed and placed in another container.

11. Footgear from Group A will be put in the chamber in P. & M.S. and those from Group B into that in Phys. S. This should be done as soon as possible after completion of the traversing. The chamber temperature in each case will be 65°F to 75°F.

12. Vapour Concentrations will be measured in the chamber at intervals for a period of 3 hours or until the values recorded reach a maximum whichever is the less.

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13. Phys. S will report whether contamination is picked up or retained on the boots and anklets.

14. Vapour Concentrations in the Field.
12 injectors and bubblers will be disposed in an arc downwind of the contaminated area at positions to be decided by P. & M.S. & Chem. S. in consultation. Zero for sampling will be as soon as possible after the bombs are dropped. Sampling will be conducted from Z to Z + 1 hour and from Z + 1 to Z + 2 hours.

15. PHOTOGRAPHS
Still photographs will be taken as required.

16. ADMINISTRATION

M.E.O.
Control of Trial. Aiming mark. Plot of craters & sampling points.

CHEM. S.
Sampling in field and in chambers.

P. & M. S.
Inspection of contamination. Positioning of sampling points. Meteorological observations.

PHOTO. S.
Photographs as required.

O/C RCAF DETACHMENT
Release of bombs. Height and speed of aircraft.

O. M. & E.
Provision of charged weapons. Inspection of contamination.

PHYS. S.
Organization of traversing trial, & vapour sampling from footgear, including provision of any special equipment needed.

#139977)

H. J. Hadow
P. R. S.
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HJH/PJ

(K. Birchall) W/Cmdr.
C.E.O.
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