

Image Cover Sheet

CLASSIFICATION

UNCLASSIFIED

SYSTEM NUMBER

140345



TITLE

HEAVY CONTAMINATION OF AN AREA WITH MUSTARD

System Number:

Patron Number:

Requester:

Notes:

DSIS Use only:

Deliver to:



Classification / Designation

Changé de / Remplacée par 4/11

By Authority of

Sur l'Autorisation de C. LaforceDate 25 Feb 98

Signature

D. Kuseler

COPY NO.

40

Appointment

Unit

Fonction

Unité

27th May, 1943

EXPERIMENTAL STATION
SUFFIELD, ALBERTAFIELD EXPERIMENT NO. 114HEAVY CONTAMINATION OF AN AREA WITH MUSTARDOBJECT

To assess the vapour and contact danger of areas contaminated with mustard gas. These trials have been requested by U.K. (W 19995)

METEOR CONDITIONS

W/S - 5 - 15 m.p.h.
W/D - Any
Temp. (a) 60°-75°F
(b) 80°-90°F

SITE

A3 or A2.

MATERIALS

210 Chemical Mines each fitted with $\frac{1}{2}$ stick of dynamite.

PROCEDURE

1. Preliminary trials will be carried out to assess the contamination from individual mines.
2. Layout will be as per Appendix 1.
3. Each mine will be emplaced with $\frac{1}{2}$ stick of dynamite underneath and wired for electrical firing.
4. Injectors will be turned on four minutes after the mines have been functioned.
5. Continuous sampling as follows:

(i) Line A
At 27"

Z to Z-1 hr, Z to Z-15 mins, Z-15 mins. to Z-30 mins, Z-30 mins to Z-45 mins, Z-45 mins. to Z-60 mins, Z-1 hr to Z-2 hrs, Z-2hrs to Z-3 hrs, Z-3 hrs to Z-4 hrs, Z-5 hrs to Z-6 hrs, Z-24 hrs to Z-25 hrs, also further samples as long as there is an appreciable vapour danger hazard.

At 5'

Z to Z-30 mins, Z-30 mins to Z-1 hr, Z-2 hrs to Z-3 hrs.

(ii) Line B.
At 27"

Z to Z-1 hr, Z-1 hr to Z-2 hrs, Z-2 hrs. to Z-3 hrs, Z-24 hrs to Z-25 hrs.

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- (iii) Line C
At 27"
Z to Z-1 hr, Z-1 hr. to Z-2 hrs, Z-3 hrs to Z-4 hrs,
- (iv) Three points will be selected within the contaminated area by P. & M.S. representative in consultation with Phys. representative, continuous samples will be taken at Z to Z-30 min, Z-30 min to Z-1 hr, Z-1 hr to Z-2 hrs, Z-4 hrs to Z-5 hr, Z-24 hr to Z-25 hrs. Further samples as long as it appears that there is an appreciable vapour danger hazard.
- (v) Vapour samples will be taken in the slit trench in the centre of the contaminated area at times as under (iv) above.
6. Persistence tests will be taken by Chem. S. to ascertain the duration of contact danger, also length of time liquid contamination is present will be noted.
7. Physiological assessment under the supervision of Phys. representative as follows:

(a) Traversing Danger

Within $\frac{1}{2}$ hour of functioning of mines, six men will traverse 100 yards of the contaminated area (ref. Ptn. Memo No. 17). They will be dressed in drill order with respirators in the gas position wearing impregnated B.D. and impregnated panties, and gum boots with close fitting cambric overshoes. Immediately after traversing the area they will change their clothes and boots.

(b) Vapour Danger

Vapour danger will be assessed:

- (a) On the downwind edge
(b) 100 yds downwind of the d/w edge.

At each of these lines, groups of observers each of six men, will be positioned at the following times.

- Z plus 10 mins.
Z plus 60 mins.
Z plus 120 mins.
Z plus 180 mins.
Z plus 240 mins.
Z plus 300 mins.

Duration of exposure of each group, which will be arranged so that CT will be 700, to be decided on the field by consultation between representatives of P. & M.S. and Phys. S. During the exposure, the observers will dig slit trenches, as directed by Phys. S. representative.

After exposure, they will continue to wear their clothing for a period of four hours (wearing period subject to alteration by Phys. S.)

Dress:

Unimpregnated E.D.
Summer shirts
Summer undershirts
Impregnated panties
Respirators at the gas position

(c) Occupation and Contact Danger

When persistence tests (para 6) show a "just positive" reaction, six men will occupy the area without respirators, lying or sitting for a period of four hours.

Dress As under (b) "Vapour Danger" except impregnated panties will not be worn.

8. Meteor observations will be required at times of all chemical samples and through the intervening night periods.

ADMINISTRATION

Section in charge of trial - M.E.O.

Section responsible for final report - P. & M.S.

C.E.O. Decision as to time of trial. Departmental organization and warnings. Provision of transport. Collection of reports.

M.E.O. In charge of trial. Emplacing, wiring, and functioning of drums.

P. & M.S. Meteor data . Report on trial and final report.

O. M. & E. Provision of mines, observations and functioning . Report.

CHEM.S. Provision and operation of sampling equipment.

PHYS. S. Positioning observers. Report.

A. J. Skey
(A. J. Skey) Lieut.
for (K. Birchall) Sq. Ldr.
C.E.O.
Experimental Station

AJS/TJ

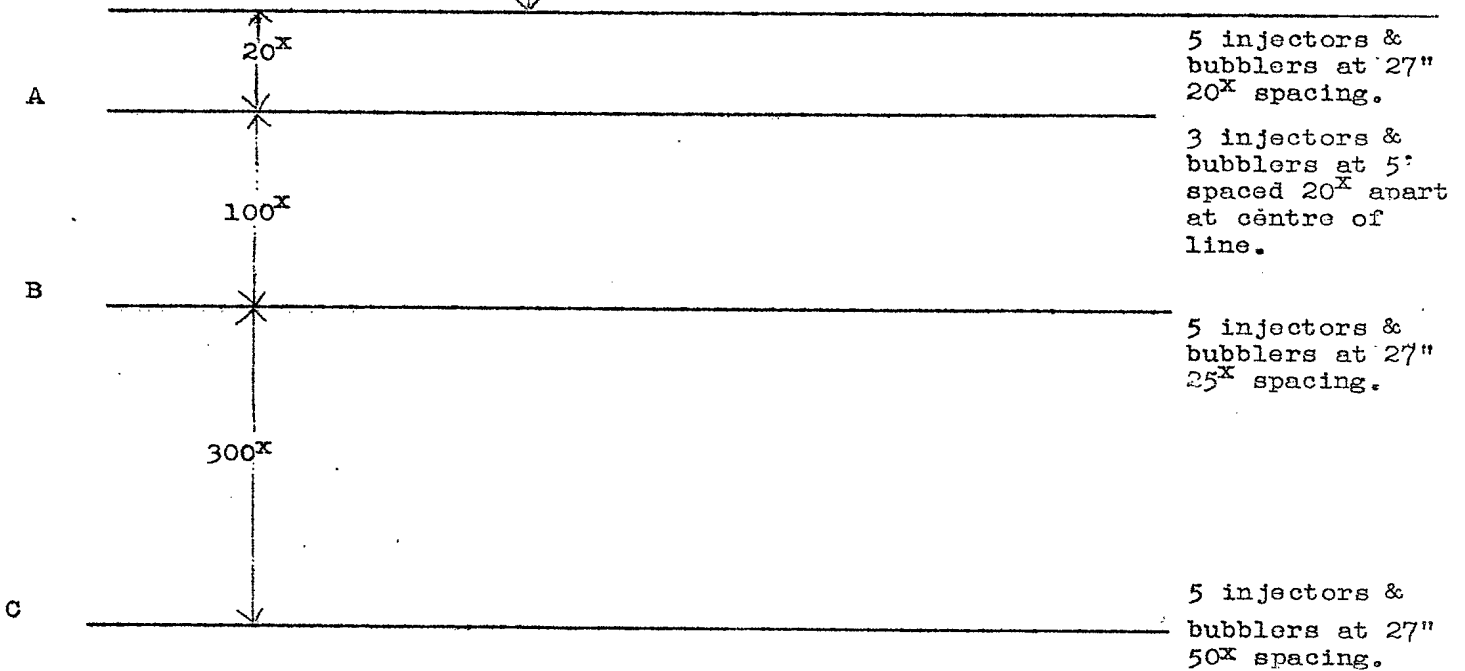
APPENDIX 1.

Wind

X X X X X X X X X X X X X X X
 X 15 rows mines with 7^x between
 X rows, 7 mines in each row
 X spaced 15^x apart.
 X ← 50^x → []
 X
 X

Slit trench with continuous samples.

3 further sampling points inside area



Materials:-

Line A - 30 injectors 54 bubblers
 Line B - 10 injectors 20 bubblers
 Line C - 10 injectors 20 bubblers
 Inside Area- 8 injectors 20 bubblers
 Total - 58 injectors 104 bubblers

Approx, Spares- 25 injectors 25 bubblers

Grand Total 83 injectors 129 bubblers

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