

Brig. Gen. McDonald
042

J.C.C. 7th Meeting.

~~TOP~~ SECRET

2nd September, 1944.

COPY NO. 18

MINUTES OF THE 7th MEETING of the
JOINT "CROSSBOW" COMMITTEE.

Air Commodore C.B.R. Pelly.....D.of Ops.(S.O.)Chairman
Air Commodore J.A. Easton.....D.of I.(R)
Colonel R.D. Hughes.....H.Q. U.S.St.A.F.E.
Lieutenant Colonel
Stewart McClintic.....A.I.3. (U.S.A.)
Wing Commander W.F.Lamb.....A.D.of Ops.(S.O.)

Also Present

Squadron Leader C.T.Winterton....A.I.3.(c) 1

Future Policy for attack of production targets

Colonel Hughes suggested that it was now desirable to consider the future policy for the attack of flying bomb and rocket production targets and to make recommendations accordingly to higher authority. To prevent unnecessary expenditure of effort and loss of life in the attack of such targets in Germany, some of which were heavily defended by flak, it would be necessary to decide at what stage of land operations the rocket and flying bomb threat to this country could be regarded as terminated.

2. Air Commodore Easton said that the latest information indicated that the enemy intended to concentrate on the air launching of flying bombs and it was likely that he (the enemy) would exploit the nuisance value of this form of attack for as long as possible. The following airfields were known to be equipped with the necessary facilities : -

VENLO
GILZE-RIJEN
EINDHOVEN.

Later when these airfields became untenable it was unlikely that "pick-a-back" He.111's could carry sufficient fuel to operate from airfields in Western Germany. It would not be possible to restrict the small scale of attack from air launchings by attacks on production, and furthermore the enemy probably had ample stocks of flying bombs to meet this.

3. As regards the rocket, the threat from this weapon would disappear when the area in Northern FRANCE and BELGIUM 200 miles from LONDON was "neutralised" by the proximity of our land forces and the operations of our Tactical Air Forces.

4. Air Commodore Pelly said that it would be necessary to refer the future policy to the Chiefs of Staff, and suggested that he should ask D.C.A.S. to raise it at the C.O.S. Meeting on the 5th September when "CROSSBOW" was discussed.

5. THE COMMITTEE

(i) Took note that further flying bomb attacks were likely to be restricted to air launchings, and that attacks on

/ production ...

~~TOP~~ SECRET

#4887

- 2 -

production would not affect this form of attack.

- (ii) Agreed that the rocket threat could be regarded as terminated when the area 200 miles from LONDON had been "neutralised", though not necessarily occupied by our land forces.
- (iii) Invited D. of Ops. (S.O.) to request D.C.A.S. to seek the approval of the Chiefs of Staff to the cessation of attacks on flying bomb and rocket production targets when the position at (ii) above had been achieved.

Dissolution of Joint "CROSSBOW" Committee

6. The COMMITTEE agreed that once the rocket threat had disappeared and there are no further "CROSSBOW" targets to attack, the COMMITTEE would have fulfilled its functions and should be dissolved.

Target Material

7. Squadron Leader Winterton enquired whether, as instructed by the Joint "CROSSBOW" Working Committee, he should continue with the preparation of target material for certain targets in FRANCE, BELGIUM and Germany.

8. The COMMITTEE agreed that, until the future policy for the attack of targets had been decided by the Chiefs of Staff, A.I.3.(c)1 should continue with the preparation of target material but should watch the progress of the battle and use their discretion.

Memorandum and Target Schedule

9. The COMMITTEE agreed the Memorandum to the Deputy Supreme Commander and recommended order of priority for the attack of targets as shown in Target Schedule No.37 attached to these Minutes.

2nd September, 1944.

~~TOP SECRET~~

FROM: Air Ministry (D. of Ops. (S.O.)), Whitehall.

TO: The Deputy Supreme Allied Commander, S.H.A.E.F.,
(For the attention of Air Vice-Marshal Robb - 3 copies)

REF: CMS.307/D. of Ops. (S.O.)

DATE: 2nd September, 1944.

SUBJECT: Attack of "CROSSBOW" Targets - Recommendations
of Joint "CROSSBOW" Committee.

With reference to my CMS/D. of Ops. (S.O.) dated 26th August, 1944, the Joint "CROSSBOW" Committee wish to submit for your consideration the attached Schedule No. 37 of targets recommended for attack.

2. The Committee have no up to date information of the bomb line and realise that it will not be necessary to attack many of the targets in FRANCE and BELGIUM shown in the Schedule. This, however, is a matter which must be left to the decision of the authority controlling the day to day "CROSSBOW" operations.

3. The priorities, as in the previous Schedule, have been selected with the object of delaying the start of rocket attacks.

4. Some explanations of the new Schedule are given below: -

- (i) Hydrogen Peroxide plants.
Two targets are still included. It may be noted that hydrogen peroxide, apart from its use in the rocket and in flying bomb launching, is also the fuel for radio controlled bombs and the Me.163 jet fighter.
- (ii) Large sites.
It is suggested that activity at MIMOFEL (I) and WATTEN should be watched. It is unlikely that attacks will be necessary or feasible.
- (iii) Rearward Rocket Storage Depots.
In view of the progress of land operations, these targets have been omitted from the list.
- (iv) Liquid Oxygen plants.
These are again included as first priority.
- (v) Forward Rocket Storage Depots.
These are included on a high priority. Again, the land situation may render attacks unnecessary.
- (vi) Flying Bomb storage Depots.
Pending further information of the enemy's revised supply system, no flying bomb depots have been included.
- (vii) Flying Bomb Production
Recent intelligence warrants the inclusion of HEINKEL (JENBACH) in the list of Secondary Industrial Targets.

- 2 -

(viii) Airfields

Airborne launchings are probably the most likely form of flying bomb activity in the future, and recent intelligence supports this view. The airfields concerned are shown in order of priority; Nos. 1 - 3 inclusive are known to be equipped for flying bomb work.

BBRU

Air Commodore,
Director of Operations (Special Operations)

/Copies to:

- 3 -

Copies to: Air Commander-in-Chief, A.E.A.F.,
(For the attention of Major Maynard, War Room) (5 copies)

H.Q., U.S. Strategic Air Force in Europe,
(3 copies for the attention of Colonel Hughes and
Colonel Maxwell)

H.Q., Bomber Command, (3 copies for the attention of C.I.O.),
Royal Air Force, c/o G.P.O.,
High Wycombe, Bucks.

H.Q., Eighth Air Force
A.P.O. 634
(2 copies for the attention of Colonel G.W. Jones)

H.Q., Ninth Air Force
A.P.O. 696.
(2 copies for the attention of Major Burnham)

H.Q., IXth U.S. Bomber Command
A.P.O. 638
(2 copies for the attention of Lieutenant Colonel Foster Stewart)

H.Q., 2nd Tactical Air Force,
Traffic Office, Rear Headquarters,
R.A.F. Station, Uxbridge.
(2 copies for the attention of C.I.O.)

H.Q. No. 2 Group,
Mongewell Park,
Wallingford, Berks.
(2 copies for the attention of C.I.O.)

H.Q., A.D.G.E.,
Bentley Priory,
Stamore, Middlesex.
(2 copies for the attention of C.I.O.)

H.Q., No. 106 Group, Bendon.
(2 copies for the attention of S.A.S.O.)

J.P.R.C.
(4 copies - 3 copies for onward transmission to A.C.I.U.)

American Embassy, Office of the Air Attache
(For the attention of Major Bartlett)

S.O.E. (Major General Gubbins)
C.O.P.C. (Group Captain Corbally)

Distribution: P.S. to S. of S.
P.S. to C.A.S.
V.C.A.S.
D.C.A.S.
A.C.A.S.(Ops.)
D.B.Ops.
D.of Ops.(Tac.)
D.of Ops. (A.D.)
D.of Ops.(S.O.) (2 copies)
Mr. Duncan Sandys, M.P., Ministry of Supply.
A.C.A.S.(I)
D.of I (C)
R.A.F. Delegation, Washington.

~~SECRET~~ SECRET"CROSSBOW" TARGETS RECOMMENDED FOR ATTACK
SCHEDULE NO. 37ATTACKS AGAINST TARGETS IN FRANCE AND BELGIUM ARE SUBJECT
TO THE PROGRESS OF LAND OPERATIONSFIRST PRIORITY - Rocket Fuels

<u>Liquid Oxygen</u>	<u>Target No.</u>
1. TILLEUR	ZB.873C
2. TERTRE-LEZ-BAUDOUR	ZB.878B
3. HOUDENG	ZB.916E
4. WILLEBROECK	ZB.112B
5. HENIN-LIBTARD (Subject to results of recent attacks)	Z.839B
6. LA MADELEINE-LES-LILLE	Z.838A
7. COUILLET (Illustration No. S.765/2 Aiming Point 007H. 0165V)	ZB.115B

Hydrogen Peroxide

1. RHEINFELDEN	GF.2358E
2. DUSSELDORF (HENKEL)	GK.4452

SECOND PRIORITYForward Rocket Storage Depots

	<u>Target No.</u>	<u>Ills. No.</u>	<u>Aiming Point</u>
1. LUMBRES	Z.3342	XI/D/40/1	{ 046H 035V 042H 062V
2. LA POURCHINTE	Z.3320	XI/D/22/1	044H 042V
3. RAIMBERT	Z.3329	XI/D/28/1	043H 058V
4. BERGUENEUSE	Z.3313	XI/D/19/1	046H 053V
5. ROLLENCOURT	Z.3330	XI/D/29/1	037H 073V
6. AUCHY-LES-HESDIN	Z.3314	XI/D/20/1	070H 058V
7. AGENVILLE	Z.3315	XI/D/18/1	015H 035V
8. ST. RICQUIER	Z.3323	XI/D/25/1	058H 020V
9. PONT REMY	Z.3316	XI/D/21/1	{ 064H 062V 091H 045V

Above are subject to the results of recent attacks.

THIRD PRIORITYAirfields - For attack in the event of air-launching of Flying Bombs being resumed.

	<u>Target No.</u>
1. VENLO	ZH. 71
2. GILZE-RIJEN	ZH. 54
3. EINDHOVEN	ZH. 61
4. LE CULOT	ZB. 48
5. CHIEVRES	ZB. 50
6. SOBSTERBERG	ZH. 53
7. BRUSSELS/MILSBROCK	ZB.102
8. DEELEN	ZH.983

FOURTH PRIORITYIndustrial Production

1. ZIFF
2. GUSTAVSBERG/MAINZ
3. KLAUSTHAL

Target No.

GN. 5061
GR. 3663
GS. 129

FIFTH PRIORITYSecondary Industrial Targets

1. SIEMENS/ARNSTADT
2. DEUTSCHE INDUSTRIEWERKE BERLIN/SPANDAU
3. FIESLER. KASSEL
4. OPEL RUSSELHEIM (Subject to result of recent attack)
5. DAIMLER BENZ. SINDELFINGEN
6. VUMAG. GOEPLITZ
7. SIEMENS/BERLIN SIEMENSSTADT
8. SIEMENS VIENNA
9. ARGUS. BERLIN/REINICKENDORF
10. WALTER. PRAGUE
11. ALUMINIUM WALZWERKE. SINGEN
12. EISEN u. STAHLWERKE (Formerly George Fischer) SINGEN
13. LINKE-HOFFMAN. BRRESLAU
14. WALTHER. KIEL
15. K.S. & B. FRANKENTHAL
16. DAIMLER-BENZ. GAGGENAU
17. ASKANIA. BERLIN/FREIDENAU
18. JUNGHANS. SCHRAMBERG
19. HEINKEL. JENBACH

GL. 2618
GY. 4682B
GY. 4766(a) GY. 4309(a)(b)
GN. 3786
GN. 3802(a)
GR. 3719
GB. 3276(a)(b)
GH. 617B
GY. 4684(a)
GY. 4666
GZ. 2789A
GZ. 2789B
GN. 3824(a)
5410E/P/8. 5410E/P/9
GR. 3716(a)
GR. 3662
GL. 2613
GL. 2601
GO. 12453

LARGE SITES - To be attacked only if activity is resumed.

1. MIMOYECQUES
2. WATTEN

Z. 3047
Z. 3001

LAUNCHING SITES - To be attacked, bomb line permitting, if activity is resumed.

1. CREPIEUL
2. FIEFS
3. FLEURY
4. VINCLY
5. FERME SANFAUQUERAY
6. HAUT MAISNIL
7. VILLERS L'HOPITAL
8. FERFAY
9. FRESSIN
10. FRESNOY
11. OEUF EN TERNOIS
12. BELLOY SUR SOMME
13. COULONVILLERS
14. MONT LOUIS FERME
15. NOVELLE EN CHAUSSEE II
16. WADICOURT
17. BOIS ST. REMY
18. FROMENTAL
19. RELY
20. WEMAERS CAPPELL
21. FERME DU GRAND BOIS
22. FERME DU FORESTEL
23. BOIS DE DAMPIERRE
24. CAUCHIE D'ECQUES
25. COUBRONNE

Z. 3197
Z. 3166
Z. 3167
Z. 3292
Map reference 61/992268

Z. 3252
Z. 3254
Z. 3317
Z. 3189
Z. 3219
Z. 3325
Z. 3227
Z. 3225
Z. 3215
Z. 3235
Z. 3209
Z. 3271
Z. 3319
Z. 3236
Z. 3318
Z. 3300
Z. 3228
Z. 3347
Z. 3217
Z. 3206

LAUNCHING SITES(Contd.)Target No.

26.	CHAPELLE NOTRE DAME	Z. 3299
xx 27.	WESTROVE	Z. 3331
28.	FLERS	Z. 3188
29.	ACQUET	Z. 3289
30.	PRC <u>UVILLE</u>	Z. 3212
31.	L'HEY	Z. 3216

/ Nos. 1 - 20 believed to have fired.
xx Completed but not known to have fired.

D. of Ops. (S.O.)
2nd September, 1944

FLYING-BOMB UNLOADING STATIONS

As recommended for attack
by Joint Crossbow Committee

CONTENTS

ABBEVILLE/AMIENS Area

1. Target Schedule
2. Illustrations

HAZEBROUCK Area

1. Target Schedule
2. Illustrations

Map of the Areas.

A.I.3c(1)
30 August 1944.

FLYING-BOMB UNLOADING STATIONS
in the ABBEVILLE/AMIENS Area.

~~TOP SECRET~~

NO.	PLACE	T A R G E T		LINE	L O C A T I O N		TARGET NO.	ILLUSTRATION NO.
		TYPE	NUMBER OF TRACKS		GSCS SERIES & SHEET NO.	GRID REFERENCE		
1	FONT REMY (for LIERCOURT)	Station Area	Double track with yard, 4-6 sidings	Double track CALAIS - BOULOGNE - ABBEVILLE - AMIENS - PARIS	4250 10D/3	826773		5001E/89 125H 007V
2	LONGPRE LES CORPS SAINTS	Station Area	5 through tracks with Class C Marshalling Yard.	Double track CALAIS - BOULOGNE - ABBEVILLE - AMIENS - PARIS	4250 10D/5	897726		5001E/92 103H 065V
3	AIRAINES	Station Area	Single track with loop	Single track LONGPRE - GAMACHES - EU (Double track GAMACHES - EU)	4250 10D/5	851681		4901E/1 015H 037V
4	FLIXECOURT	Station Area	Single track with loop and dead end sidings	Single track ARRAS - DOULLENS - CANAPLES - LONGPRE	4250 10D/5	954728	5002E/C/29	5002E/110/a
5	CANAPLES	Station Area	Single track with loop	Single track ARRAS - DOULLENS - CANAPLES - LONGPRE	4250 10D/3	054768		5002E/94 048H 071V
6	DOULLENS	Station Area	Single track with class 'C' Marshal-Ling Yard	Single track ARRAS - DOULLENS - CANAPLES - LONGPRE	4040 84	151873		5002E/106 109H 063V
7	BOUQUEMAISON	Station Area	Single track with loop and dead end siding.	Single track ST. POL - FREVENT - DOULLENS	4040 84	158935	5002E/C/30	5002E/111/a

AR...
5001E (BOULOGNE)
Illustration 1...
5001E 89
TACTICAL TARGETS
0 500 1000 1500 2000 YARDS
1 MILE
approx.
(1 : 16,000)
Photographed 17 July 1943
Issued December 1943



A.1.3c (1)

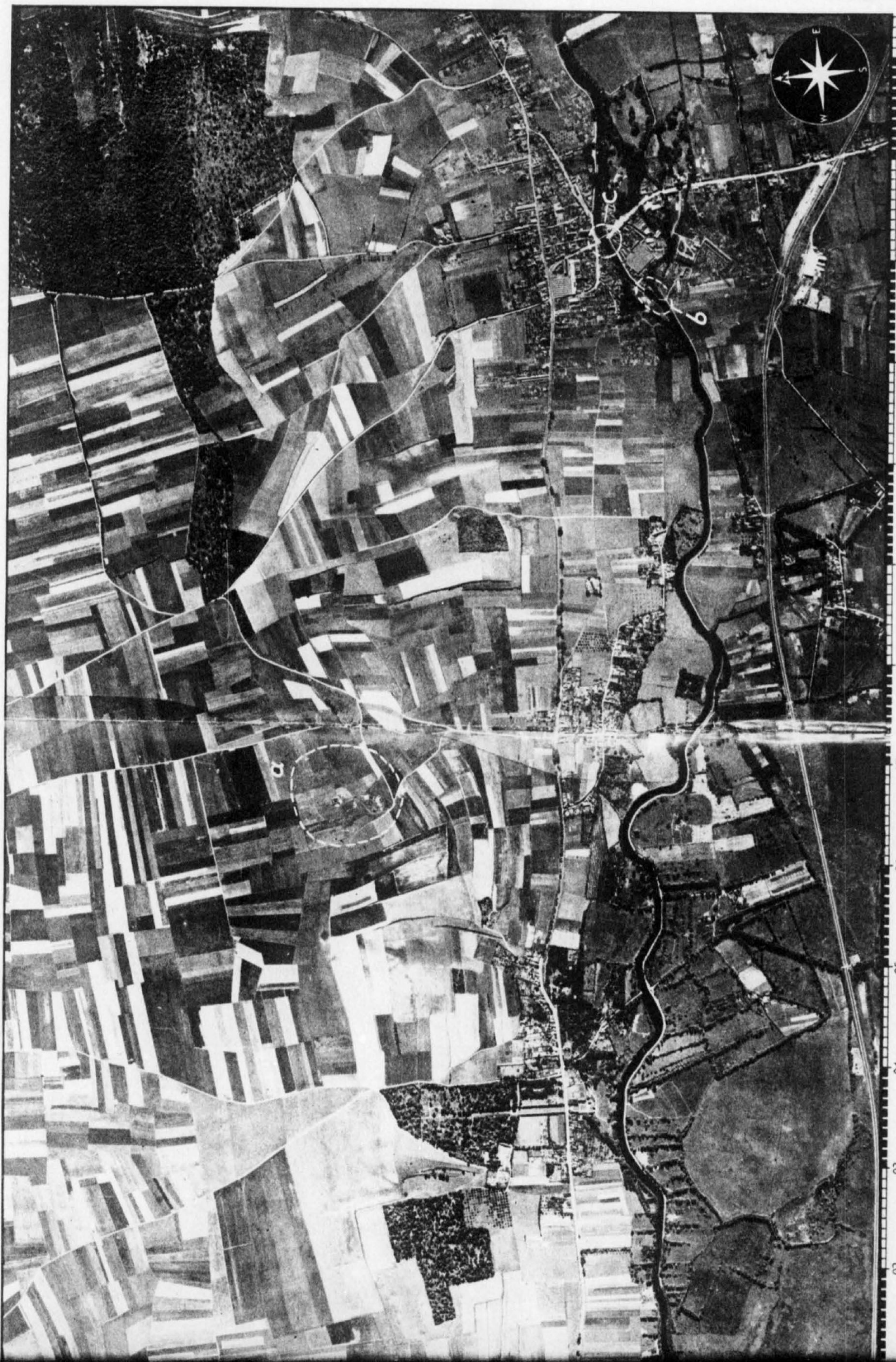
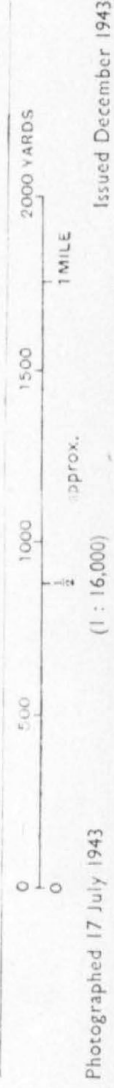
5001E (BOULOGNE)

Illustration No. 5001E 89

Illustration No. 5001E 89

TACTICAL TARGETS

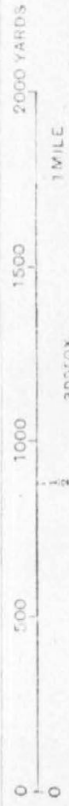
Photographed 17 July 1943
Issued December 1943
approx.
(1 : 16,000)



02 03 04 05 06 07 08 09 10 11 12 13 14



TACTICAL TARGETS



approx.

(1 : 16,000)

Photographed 26 July 1943

Issued December 1943

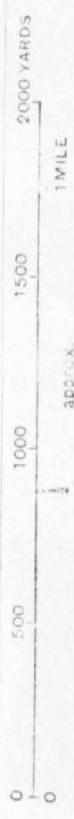


Area
5001E (BOULOGNE)

Illustration No.
5001E 92

Illustration No.
5001E 92

TACTICAL TARGETS



Photographed 26 July 1943
(1 : 16,000)

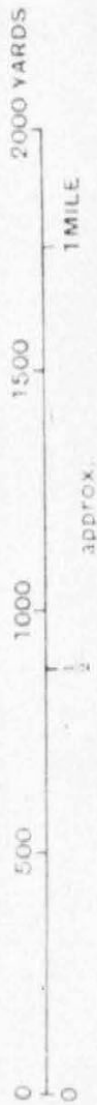
Issued December 1943



Area
4901E (ROUEN)

Illustration No.
4901E/1

TACTICAL TARGETS



Photographed 1 December 1943

Issued January 1944



05

04

03

02

01

0

0

01

02

03

04

05

06

07

08

09

0 H

0

0

0

0

0

0

0

0

0

A.1.3c (1)

Area
5002E (ARRAS)

Illustration No.
5002E/110

TACTICAL TARGETS



Photographed 25 June 1944

Issued August 1944

approx.

(1 : 16,000)



Illustration No.
5002E/110

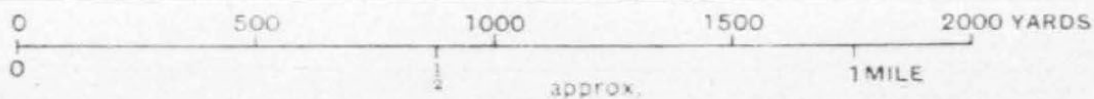


A.13c(1)

Area
5002E (ARRAS)

TACTICAL TARGETS

Illustration No.
5002E/94



Photographed 16 March 1943

(1 : 16,000)

Issued December 1943



A.1.3c (1)

Area
5002E (ARRAS)

Illustration No.
5002E 106

TACTICAL TARGET

0 500 1000 1500 2000 YARDS
0 1 MILE
approx.

Photographed 27 May 1944

Issued June 1944



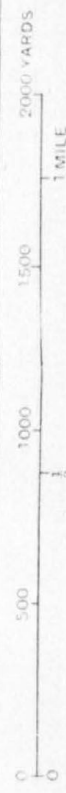
A.1.3c(1)

Area
5002E (ARRAS)

Illustration No.
5002E 106

Illustration No.
5002E 106

TACTICAL TARGETS



Photographed 27 May 1944

Issued June 1944

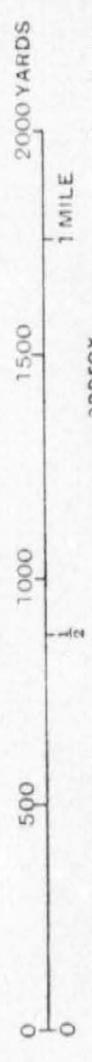
(1 : 16,000)
approx.



Illustration No.
5002E/III

Area
5002E (ARRAS)

TACTICAL TARGETS



Issued August 1944

approx.

Photographed 20 June 1944

(1 : 16,000)



13
T2
11
10
09
08
07

Illustration No.
5002E/111



PLUMB-PC 11 UNLOADING STATIONS
in the HAZEBROUCK Area

~~SECRET~~

NO.	PLACE	T A R G E T		L I N E	L O C A T I O N			T A R G E T NO.	I L L U S T R A T I O N NO.
		T Y P E	N U M B E R O F T R A C K S		G S G S S E R I E S & S H E E T N O.	G R I D R E F E R E N C E			
1	RENESECURE	Station Area	Double track with cross-over and loop	Double track LILLE - HAZEBROUCK - ST OMER - CALAIS	4040 51	217505	XI/A/90	XI/A/90/1 XI/A/90/2	
2	BLENDEQUES	Station Area	Double track with cross-over and loop	Double track LILLE - HAZEBROUCK - ST OMER - CALAIS	4040 50	169504		5002E/42 C12H 04LV	
3	BERGUETIE	Station Area	4 through tracks 16 through sidings. 8-9 dead end sidings (Class 'B' Marshalling yard).	Double track DUNKIRK - HAZEBROUCK - BETHUNE - LENS - ARNAS - AMIENS	4040 62	273371	5002E/C/10	5002E/37/e	
4	AIRE-SUR-LYS	Station Area	Double track with run-round facilities	Double track ST. OMER - BERGUETIE	4040 51	237402		5002E/38 069H 050V	

Target No.
XI/A/86
XI/A/90

NOBALL TARGETS
"A" Construction Works
"A" Construction Works

E NIEPPE
RENASCURE (FRANCE)

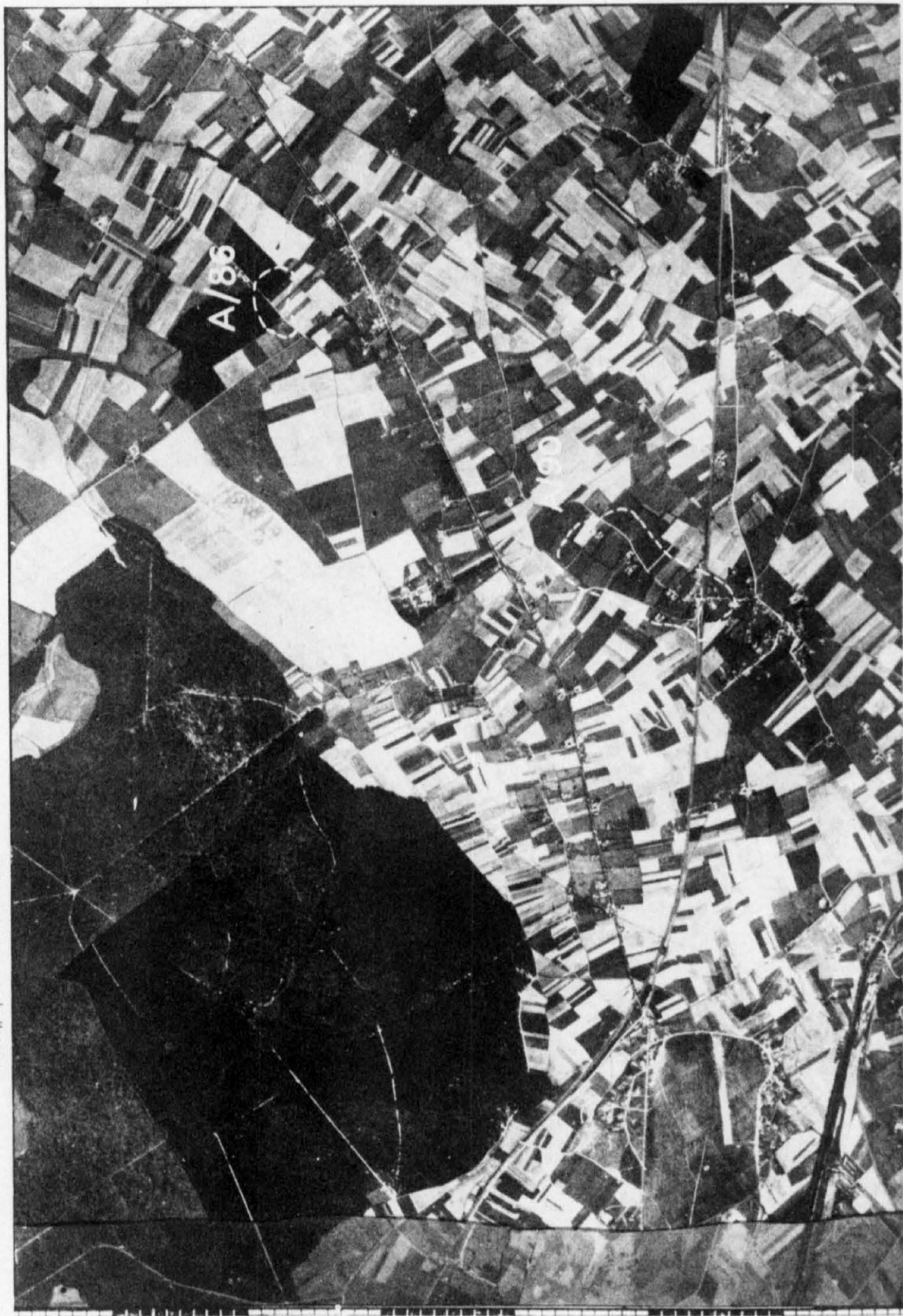
Illustration No.
XI/A/86/1
XI/A/90/1



(1 : 32,000) approx.

Photographed—Various Dates

Issued January 1944



13 12 11 10 09 08

XI/A/911 etc.



Adjoins illustration 07
06
05
04
03
02
01
V

07
06
05
04
03
02
01
0
H

Adjoins illustration XI/A/95/I etc. It should be noted that small variations in scale are possible between this and adjoining illustrations. This illustration is based on best cover available for the whole area, but may not show latest construction within target areas. For this, reference should be made to the appropriate Type B illustrations for the individual targets themselves.

A.I.3c (1)

Tv

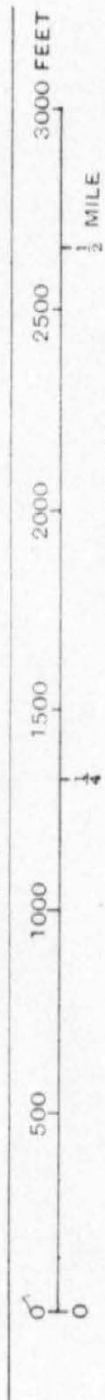
NOT TO BE TAKEN INTO THE AIR.

Target No.
XI/A/90

Illustration No.
XI/A/90/2

RENSCURE
(FRANCE)

NOBALL TARGET
"A" Constructional Works
(Supply Site)



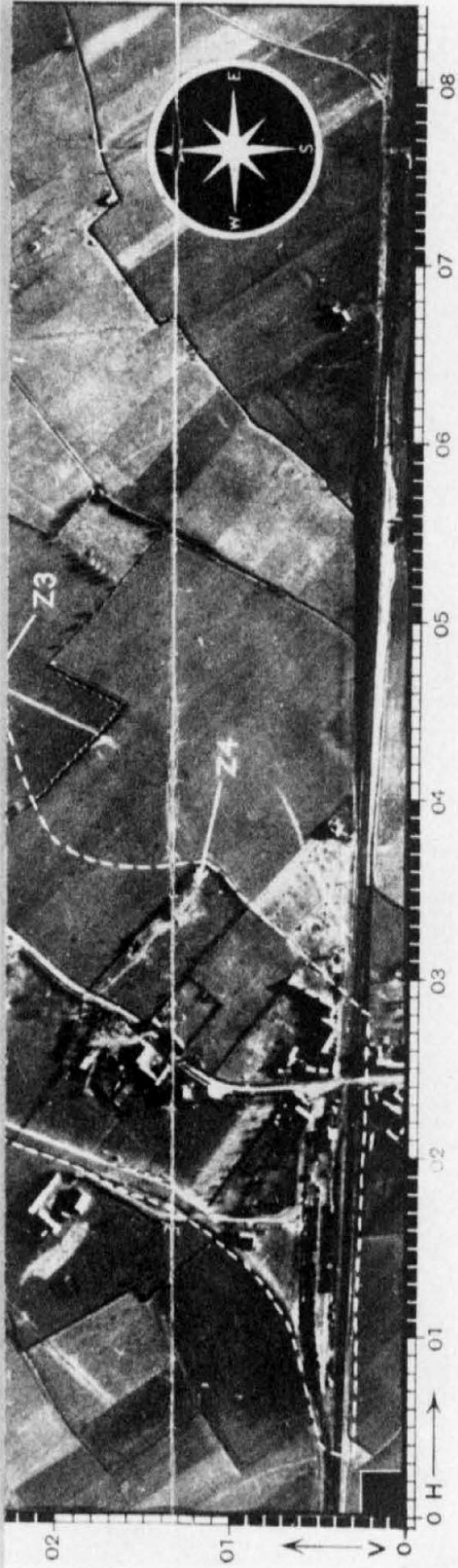
Photographed 21 January 1944

approx.

Issued February 1944

(1 : 6,000)





- Z₁, Z₂, Z₃, Z₄ = RECTANGULAR BUILDINGS (APPROX. 100' x 40').
- Y = BUILDING ASTRIDE ROAD AND SUPPLIED WITH WATER.
- X = RECTANGULAR BUILDING (APPROX. 110' x 55') NEAR Y.
- V₁, V₂ = TWO RECTANGULAR BUILDINGS ADJACENT TO EACH OTHER. V₁ CONSISTS OF A NUMBER OF BAYS.
- U = RAILWAY SPUR.

Area
5002E (ARRAS)

Illustration No.
5002E/42

TACTICAL TARGETS

0 500 1000 1500 2000 YARDS

1 MILE

approx.

1 : 16,000

Photographed 5 April 1943

Issued December 1943



A.1.3c (1)

Illustration No.
5002E/37

Area
5002E (ARRAS)

TACTICAL TARGETS

2000 YARDS

1 MILE

1500

1000

500

0

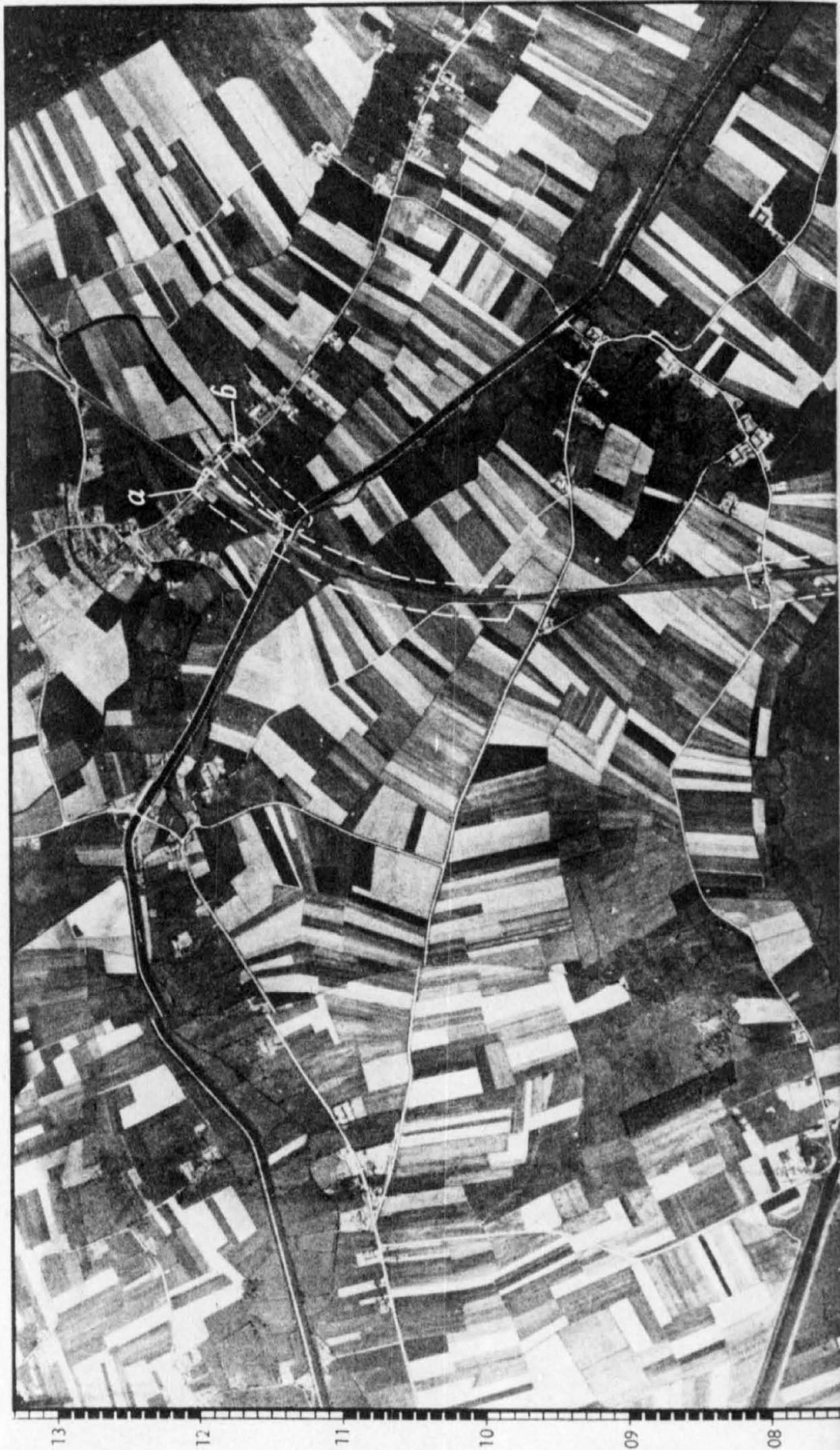
0

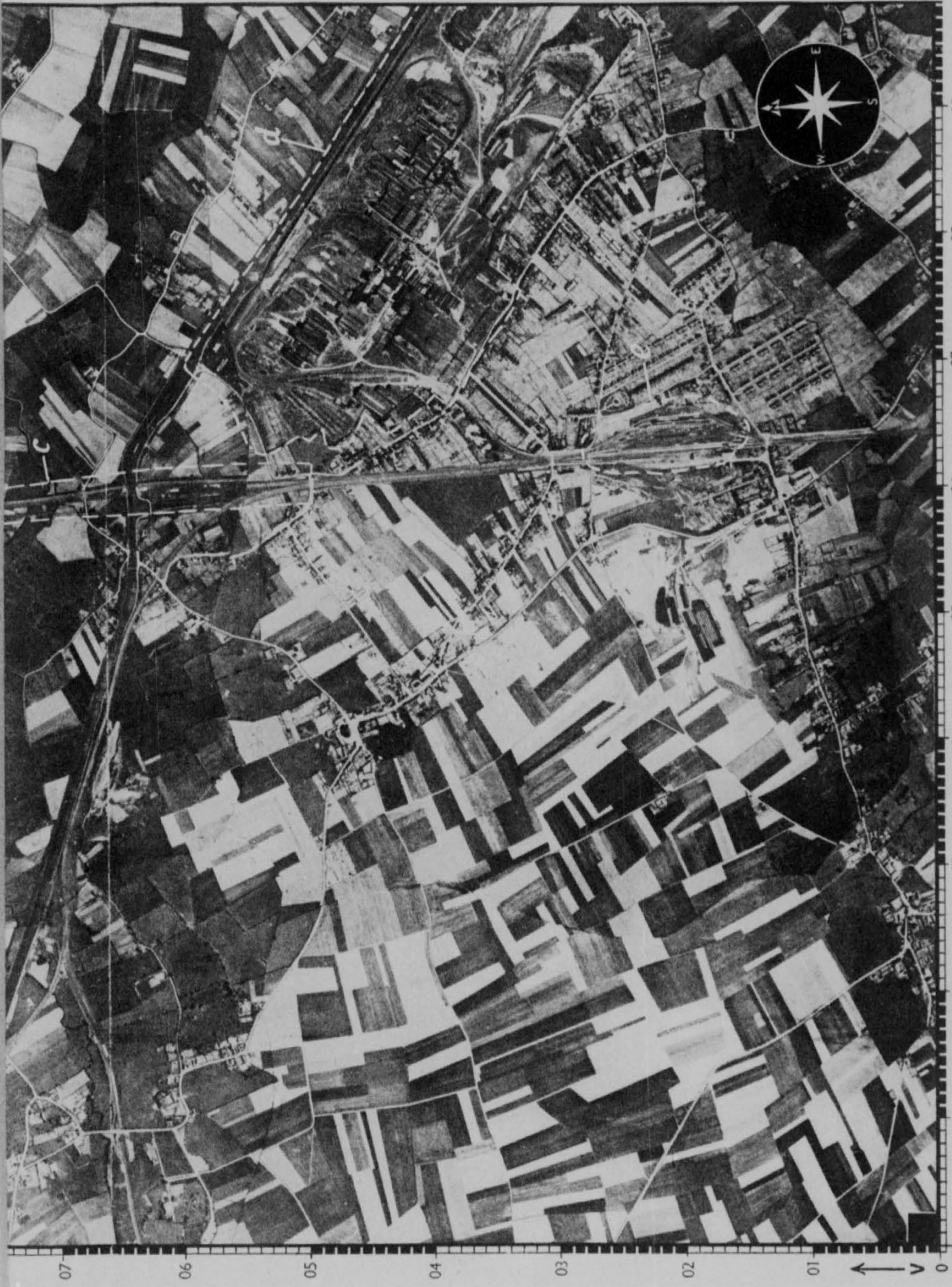
approx.

(1 : 16,000)

Photographed 15 May 1943

Issued December 1943





A.1.3c (1)

DECLASSIFIED UNDER E.O. 13526

T H I

Illustration No.
5002E 38

TACTICAL TARGETS

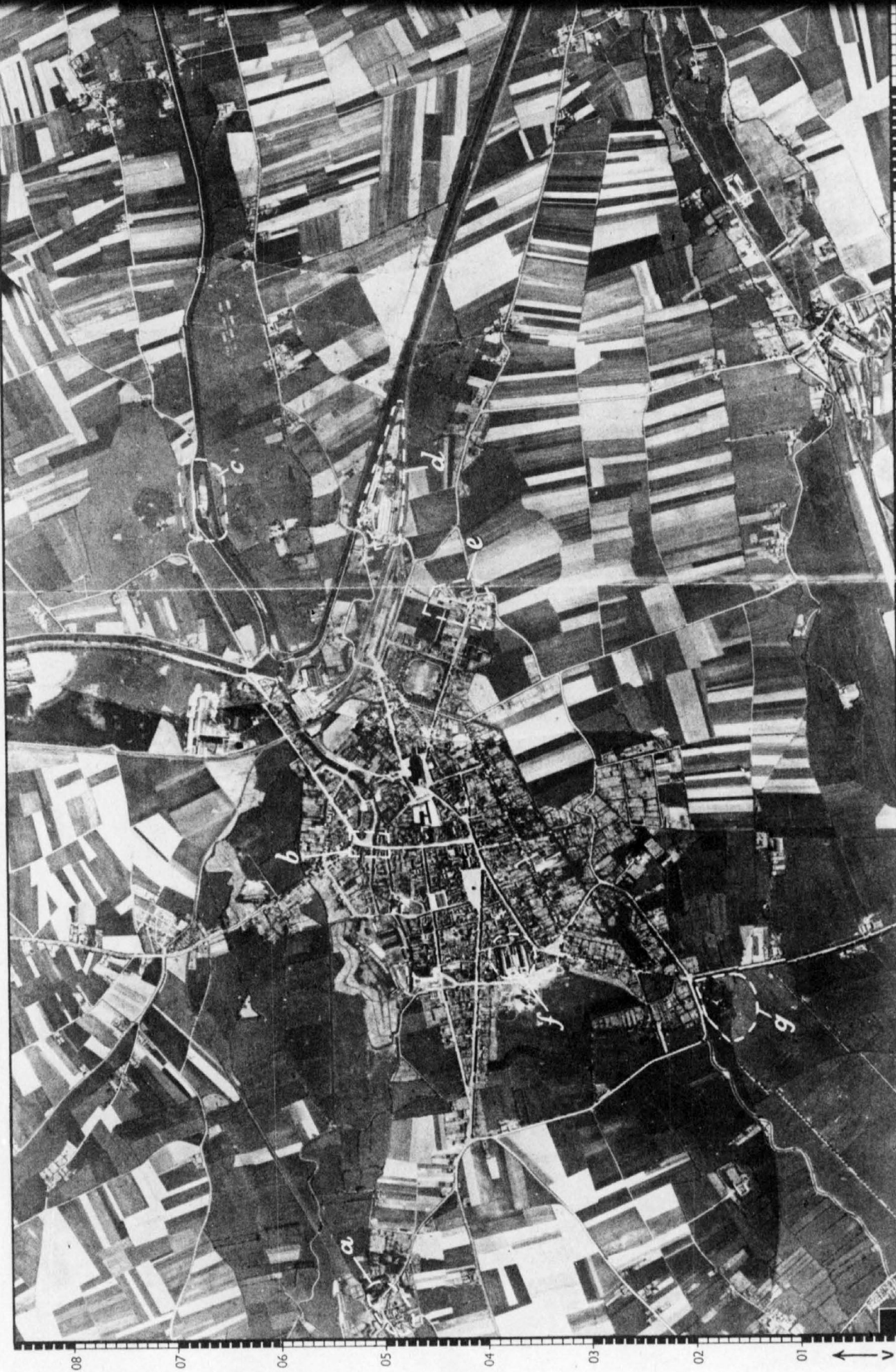


approx.

(1 : 16 000)

Photographed 15 May 1943

Issued December 1943

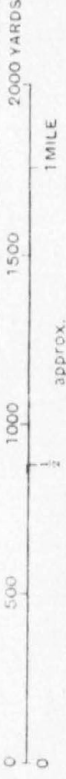


A.1.3c (1)

Illustration No.
5002E 38

Illustration No.
5002E 38

TACTICAL TARGETS



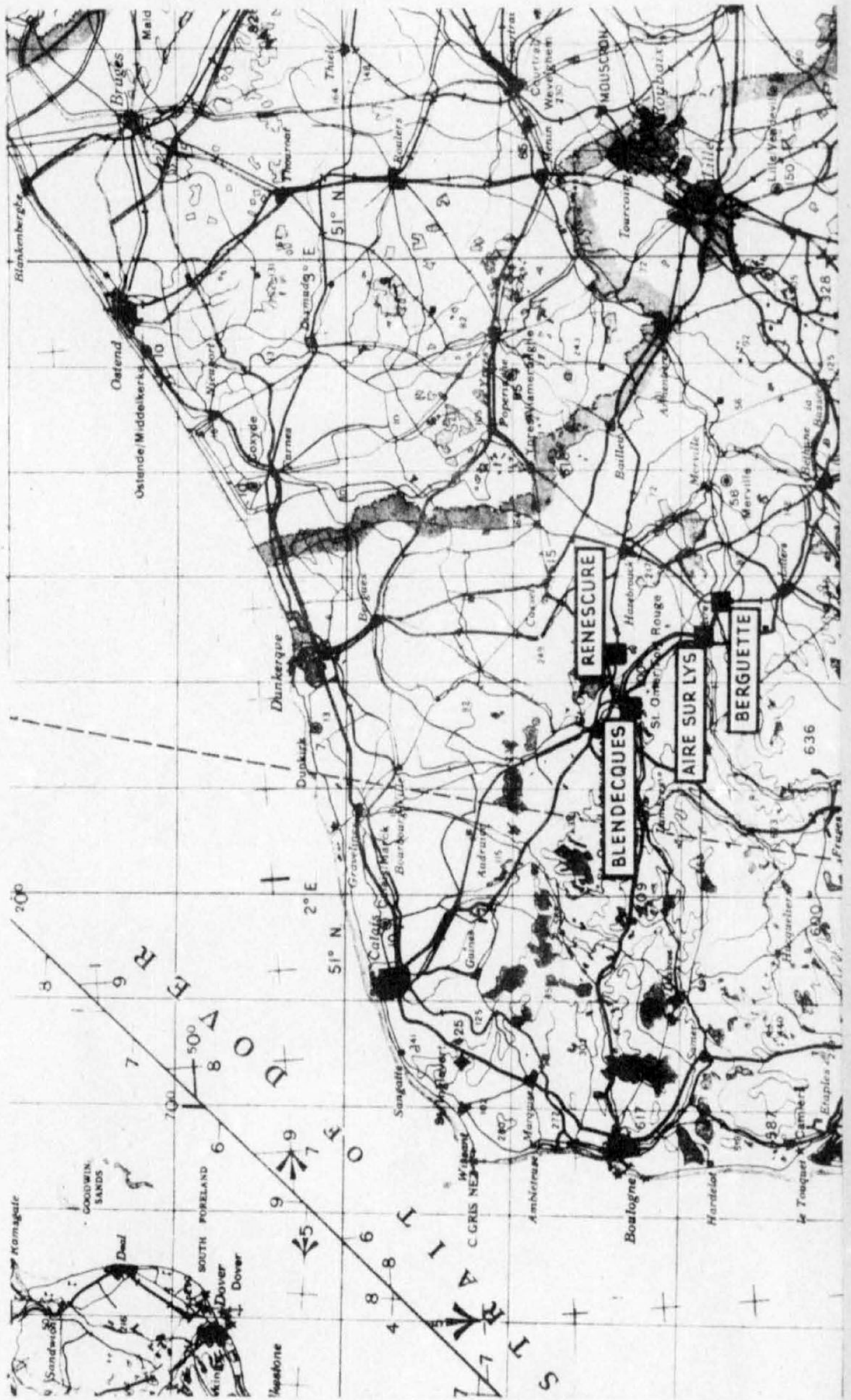
approx.
(1 : 16 000)

Photographed 15 May 1943
Issued December 1943



ARRAS
5002E (ARRAS)

Photographed 15 May 1943



Komagate

GOODWIN SANDS

SOUTH FORELAND

Dover

Neakone

WISBEY

C. GRIS NEZ

Ambleteuse

Maryuse

Boulogne

Mardelat

Le Touquet

Camier

Etaples

200

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

9

200

1

2

3

4

700

8

9

7

8

9

500

6

7

8

9

5

6

7

8

9

200

3

4

5

6

7

8

