92

3PR4M4-IV

TOP SECRET

7347 EASTMAN REGULAR SAFETY

7348 EAST

7353 EASTMAN REGULAR SAFETY

3PR4M4-IV [redacted] TOP SECRET

7350 EASTMAN REGULAR SAFETY

7351 EASTMAN REGUL

40

40

3PR4M4-IV

TOP SECRET

TOP SECRET EASTMAN RESTRICTED SAFETY

10 Apr. '46

Tokyo — All attacks

Zone	Ground Sq ft X1000		% of total area
R_1	480.024	17.21	77
R_2	5-95,046	21.33	40
R_3	70.936	25.43	4.
Mixed	33,797	1.21	33.0
Mfg	59,006	2.11	17.
Sly	14,000	.50	21.5
Transp.	4. 6.85	.17	10.0
		67.96	

F. J. Sanborn
Major

M1B1 63835

I B (7)
Tokyo

CONFIDENTIAL

PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE

Date: 2 June 1945

URBAN AREA CUMULATIVE DAMAGE REPORT

TARGET: Tokyo, Japan

Including totals of U/DA-3 - 21 March 1945
U/DA-3.1 - 1 June 1945

Zone	Ground Area Damaged or Destroyed (1000 sq. ft.)	Roof Area Damaged or Destroyed (1000 Sq. Ft.)
Residential R_1	257,201	123,964
Residential R_2	214,402	76,272
Residential R_3	17,199	3,440
Residential - Total	488,802	203,676
Manufacturing	30,344	15,215
Storage	4,190	1.291
Mixed (Industrial & Residential)	103,134	34,116
Transportation	3,853	1,016
Grand Total	630,323	255,314

Refer to Damage Plot Issued with U/DA 3.1 for Cumulative Damage Reported Here.

APPROVED BY:

for Chas deSteiguer
LEE W. KILGORE
Major, Air Corps
Chief, Evaluation Branch
Photographic Division
AC/AS, Intelligence

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M1Q163835

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PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE

URBAN AREA DAMAGE ASSESSMENT REPORT NO.U/DA-3.1

Date: 31 May 1945

TARGET: North Tokyo

STRIKE: Date of 13-14 April 1945 | Mission No. 67

Photography
15 April 1945, 3PR/5M144
17 " " 3PR/5M148
28 " " 3PR/5M174
4 May " 3PR/5M186

(Annotated Installations are indicated by dotted lines on damage plot and reported totally by proper zones).

RESIDENTIAL R_1

Ref.#	Sheet #	Damaged or Destroyed Ground Area (Thousands Sq. Ft)	% Built-Up-Ness	Damaged or Destroyed Roof Area (Thousands Sq. Ft.)
8	7	1,400	50	70●
16	7	2,360	60	1420
24	7	400	60	240
25	7	7,680	43	3300
50	2	1,680	40	670
67	7	440	60	260
77	7	2,840	40	1140
78	7	880	40	35●
78	3	680	45	31●
80	3	980	40	39●
81	3	680	40	270
85	3	520	40	21●
86	3	4,040	40	1620
Misc	7	100	90	9●
	Total	24,680		10,97●

R_2

1	2	7,070	27	191●
1	3	1,880	35	660
1	6	45,640	37	16890
1	7	52,180	35	1826●
3	7	480	35	17●
5	7	360	33	120
7	7	5,480	35	1920
9	7	2,000	27	540
11	6	10,120	35	3540
11	7	4,200	32	1340
12	7	1,000	25	250
14	7	600	25	150
15	7	43●	25	110
17	7	640	32	200
19	7	840	45	380
20	7	600	38	230
22	7	1,240	42	520
23	7	1,880	45	850
29	7	5,400	35	1890
36	6	240	35	80

Ref #	Sheet #	Damaged or Destroyed Ground Area (Thousands Sq. Ft)	% Built-up-Ness	Damaged or Destroyed Roof Area (Thousands Sq. Ft.)
37	6	3,520	39	1370
38	6	1,840	37	680
39	6	340	35	120
41	6	1,200	33	400
43	6	2,620	30	780
44	6	1,080	35	380
45	6	3,120	39	1220
46	6	7,360	40	2940
47	6	640	32	200
51	2	1,040	30	310
52	2	440	35	150
53	2	200	35	70
54	2	260	25	70
54	3	1,160	35	410
55	2	280	20	60
57	2	180	30	50
58	2	280	30	80
60	2	1,820	20	360
61	2	190	25	50
62	2	200	25	50
63	2	220	20	40
65	7	760	48	360
66	7	720	40	290
75	3	1,680	35	590
75	7	4,640	30	1390
76	3	9,480	35	3320
76	7	10,540	45	4740
79	3	800	35	280
82	3	2,920	35	1020
84	3	1,240	30	370
87	3	680	35	240
88	3	240	35	80
89	3	200	25	50
92	3	1,400	35	590
Misc.	2	350		140
	3	470		190
	6	790		240
	7	840		420
	Total	208,020		74,120

R_3

2	7	2,920	22	640
6	7	720	30	220
10	7	880	10	90
13	7	320	17	50
18	7	360	30	110
21	7	320	25	80
30	6	1,800	25	450
31	6	1,120	20	220
32	6	380	37	130
33	6	400	20	80
34	6	240	38	90
35	6	320	25	80
42	6	400	15	60
59	2	240	10	20
64	2	400	15	60
...	?	...		
	6			
	7			
	Total	12,[illegible]		

Ref #	Sheet #		Damaged or Destroyed Ground Area (Thousands Sq. Ft.)	% Built-up-ness	Damaged or Destroyed Roof Area (Thousands Sq Ft)
Misc	2		600		270
	3		40	75	30
	6		280		60
	7		360		230
		Total	12,100		2,980
			MANUFACTURING		
4	6		1,080	27	290
4	7		640	22	140
28	3		580	5	30
56	2		480	15	70
69	7		220	30	70
71	7		180	70	130
72	7		240	50	120
73	7		200	20	40
74	7		480	15	70
Misc.	2		430		280
	3		160	75	120
	6		60	25	20
		Total	4,750		1,380
Annotated Installations					
		Total	3,655		3,655
Unidentified Annotated Installations(Probably Manufacturing)					
		Total	3,200		3,200
Total Manufacturing			11,605		8,235
			MIXED (50% Residential & 50% Manufacturing)		
26	3		160	20	30
27	3		320	25	80
40	6		320	30	100
68	7		280	60	170
70	7		800	40	320
83	3		400	20	80
90	3		300	30	90
Misc.	2		130	35	40
	3		420	-	200
	6		100	50	50
		Total	3230		1160
			STORAGE		
Misc	2		140	60	80
	6		100	65	70
		Total	240		150
			TRANSPORTATION		
Annotated Installations					
		Total	488.1		488.1
Grand Total			260,365		98,105

APPROVED BY: Lee W. Kilgore
LEE W. KILGORE,
Major, Air Corps
Chief, Evaluation Branch
Photo. Div., AC/AS, Intell.

CONFIDENTIAL

PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE

31 May 1945

TARGET: North Tokyo, Japan

SUMMARY U/DA Report #3.1

Zone	Ground Area (Damaged or Destroyed) (1000 Sq. Ft.)	Roof Area (Damaged or Destroyed) (1000 Sq. Ft.)
Residential		
R_1	24,680	10,970
R_2	208,020	74,120
R_3	12,100	2,980
Total	244,800	88,070
Manufacturing		
Annotated	6855	6855
Unannotated	4750	1380
Total	11605	8235
Mixed	3230	1160
Storage	240	150
Transportation		
Annotated	490	490
Grand Total	260,365	98,105

APPROVED BY:

Lee W. Kilgore

LEE W. KILGORE
Major, Air Corps
Chief, Evaluation Branch
Photographic Division
AC/AS, Intelligence

CONFIDENTIAL

NORTH TOKYO

URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 April '45
Black: Previous Damage
White: Recent Firebreaks
REFERENCE: U/DA 3.1

750.083 CONFIDENTIAL

SHEET #3

NORTH TOKIO

URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 APRIL '45
Black: Previous Damage
White: Recent Firebreaks
REFERENCE: U/DA 3.1

750.074

CONFIDENTIAL

SHEET #5

688
689
690
139° 52'
691
692
693
54'
1428
1427
35° 44'
1426
1425
1424
1423
42'
1422
1421
1420
1419
40'
NORTH TOKYO
URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 April '45
Black: Previous Damage
White: Recent Firebreaks

1427

35° 44'

1426

1425

1424

1423

42'

1422

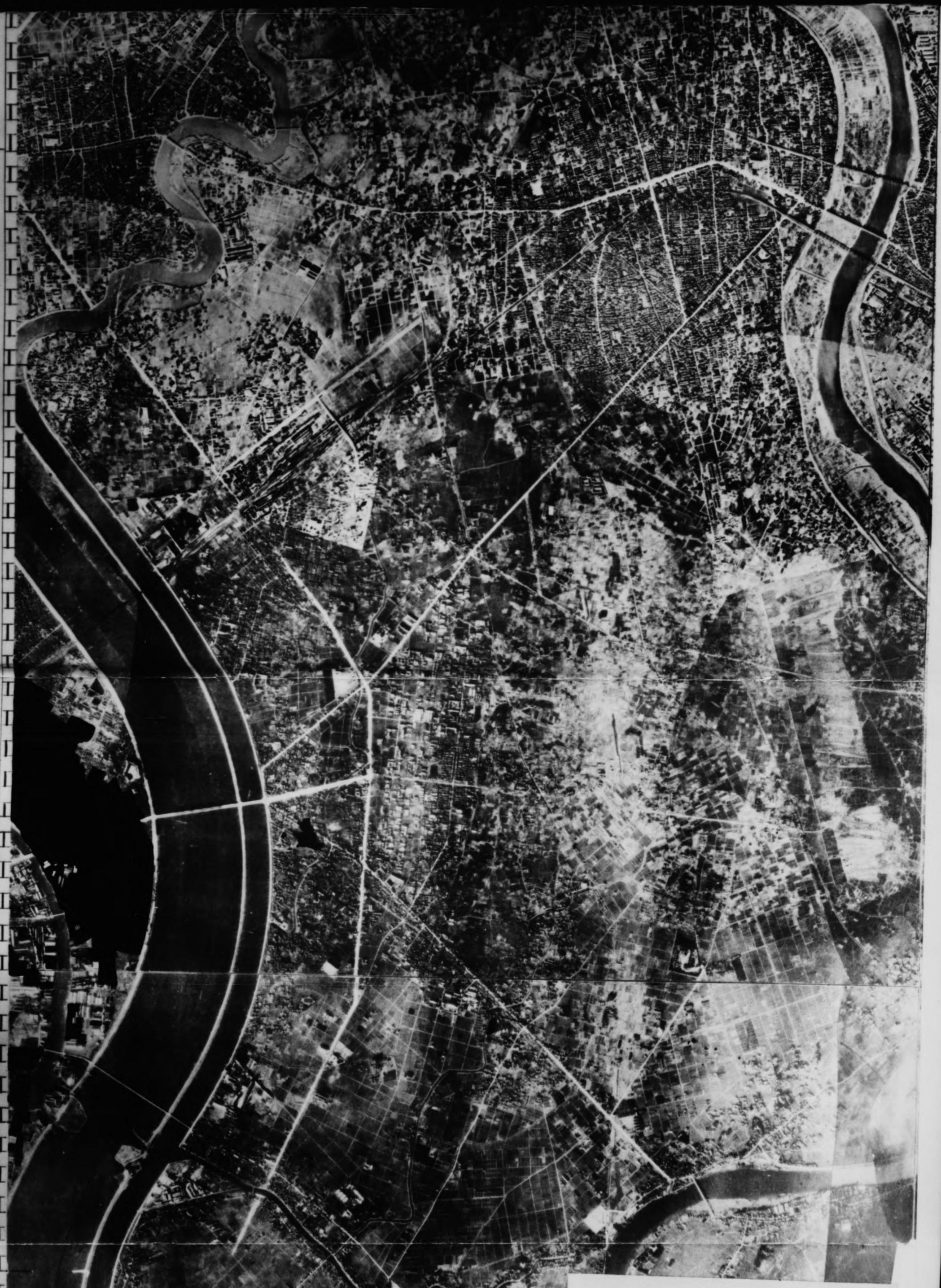
1421

1420

1419

40'

1418



CONFIDENTIAL

NORTH TOKYO

URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 April '45
Black: Previous Damage
White: Recent Firebreaks
REFERENCE: U/DA 3.1

750.084

SHEET # 8

NORTH TOKIO

URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 APRIL '45
Black: Previous Damage
White: Recent Firebreaks
Reference: U/DA 3.1

750.073
CONFIDENTIAL

SHEET #6

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 4M-4 40"V Nov.'44, 4M-37A 24"V Dec.'44, 5M-16 40"V Jan.'45.

Reliability of grid uncertain due to local minor disagreement between photo map and topographic map.

3 2745

Scale 1:24,000 (Approximate)

0 — 1 Mile

1000 — 500 — 0 — 1000 Meters

1000 — 500 — 0 — 1000 Yards

ONE THOUSAND YARD WORLD POLYCONIC GRID, BAND IIIN, ZONE "A"
THE LAST THREE DIGITS OF THE GRID NUMBERS ARE OMITTED

POLYCONIC PROJECTION

CONFIDENTIAL

1°57' OR 35 MILS

4°30' OR 71 MILS

MAGNETIC NORTH

Use diagram only to obtain numerical values. To determine magnetic north line, connect the pivot point "P" on the south edge of the map with the value of the angle between GRID NORTH and MAGNETIC NORTH, as plotted on the degree scale at the north edge of the map.

INDEX TO ADJOINING SHEETS

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9	10		
11	12		

TOKYO NO. 2

CONFIDENTIAL

SHEET # 7

NORTH TOKYO

URBAN DAMAGE ASSESSMENT PLOT
Hatched: Damage 14/15 April '45
Black: Previous Damage
White: Recent Firebreaks
REFERENCE: U/DA 3.1

750.082 CONFIDENTIAL

MISSION SUMMARY

Mission Number 9

1. Date: 29 November 1944

2. Code Name: Brooklyn #1

3. Target: Primary - Industrial Area Tokyo, Secondary - None.
Last Resort - Any Industrial City

4. Participating Unit: 73rd Bombardment Wing

5. Number A/C Airborne: 29

6. % A/C Bombing Primary: 79% (Primary 23, Last Resort - 2)

7. Time Over Primary: Primary - 300050K - 300527K
Last Resort - 300108K - 300157K

8. Altitude of Attack: Primary - 25,000 - 33,200
Last Resort - 21,000 - 33,200

9. Weather Over Target: Primary - 10/10, Last Resort - 10/10

10. Total A/C Lost: 1

11. Resume of Mission: Bombed by radar results unknown. Last resort targets Yokohama and Numozu. Four aircraft non-effective. One aircraft missing to unknown reasons. A/A heavy, meager to inaccurate. Enemy air opposition slight - five attacks. Average bomb load 7000 lbs. Average gas reserve 1238 gallons.

TOKYO URBAM

T.A.S.

HEADQUARTERS
COMMANDER SHORE BASED AIR FORCE
FORWARD AREA, CENTRAL PACIFIC
APO 244

CONFIDENTIAL

21 November 1944

Photographic Intelligence Memorandum No. 70.

Subject: TOKYO CITY, TOKYO AREA, HONSHU ISLAND.

Based on 21 BC (3PR) photos of 7 November 1944.

References: (a) AAF Objective Folder 90.17.
(b) AAF Objective Folder 90.14.

Enclosures: (A) Orientation photo mosaic of west and central TOKYO districts.
(B) Orientation photo mosaic of east TOKYO district.
(C) Photo mosaic of targets in west TOKYO district.
(D) Photo mosaic of targets in central TOKYO district.
(E) Photo mosaic of targets in east TOKYO district.

Photos confirm the existence of major industrial targets described by Ref. (a). Target numbers used are those of Ref. (a) and are annotated on Encls.(C), (D), and (E) and listed below. Previously unreported activities are annotated but the scope of this report does not permit a detailed study. Encls. (A) and (B) are intended for overall orientation of areas containing targets.

WEST TOKYO DISTRICT TARGETS

356 Nakajima Aircraft, Ogikubo Plant.
357 Nakajima Aircraft, Musashin Plant.
880 Konishi Photo Works.
1344 Japan Auto Co.
1359 Shoda Aircraft. (This target is not located as shown in Ref. (a). The industrial plant annotated as 1395 in this report appears to be an aircraft parts assembly plant.)

CENTRAL TOKYO DISTRICT TARGETS

214 Armory.
352 Army Arsenal and Engineering School.
359 Uibar Oil Co.
363 Radio Station JOAK.
367 Tokyo Central Station.
369 Uneo RR Station.
910 Rising Sun Petroleum Refinery.
911 Ogura Oil Co.
912 Nisshin Spinning Mill.
913 Hattori Co.
914 - 915 Oriental Weaving Co.

916 Hitachi Engineering, Kameido Plant.
1342 Japan Machine Industry.
1350 Tokyo Kozai Co.
1325 Steel Plants in NE Joto Ku.
1364 Physico-Chemical Industries, Ltd.
1365 Japan Bakelite Co.
1366 Nippon Oil Co.
1370 Sumida River Bridge and Sumida River Railroad yard of Joban Line.
1372 Sumida River Bridge of Sobu RR; Ryogoku Station & RR Yard.
1373 Sobu RR Bridge, Arakawa River and Shinkoiwa Yard.
1374 Shinjuku Station and RR Junction.
1394 Kinegafuchi Spinning Mill Co.
1397 Japan Refining Works.
1418 Marunouchi Telephone Exchange.
1419 Navy Dept. Towers.
1430 Nippon Elec. Wire & Cable Co.
1450 Koto Market.

EAST TOKYO DISTRICT

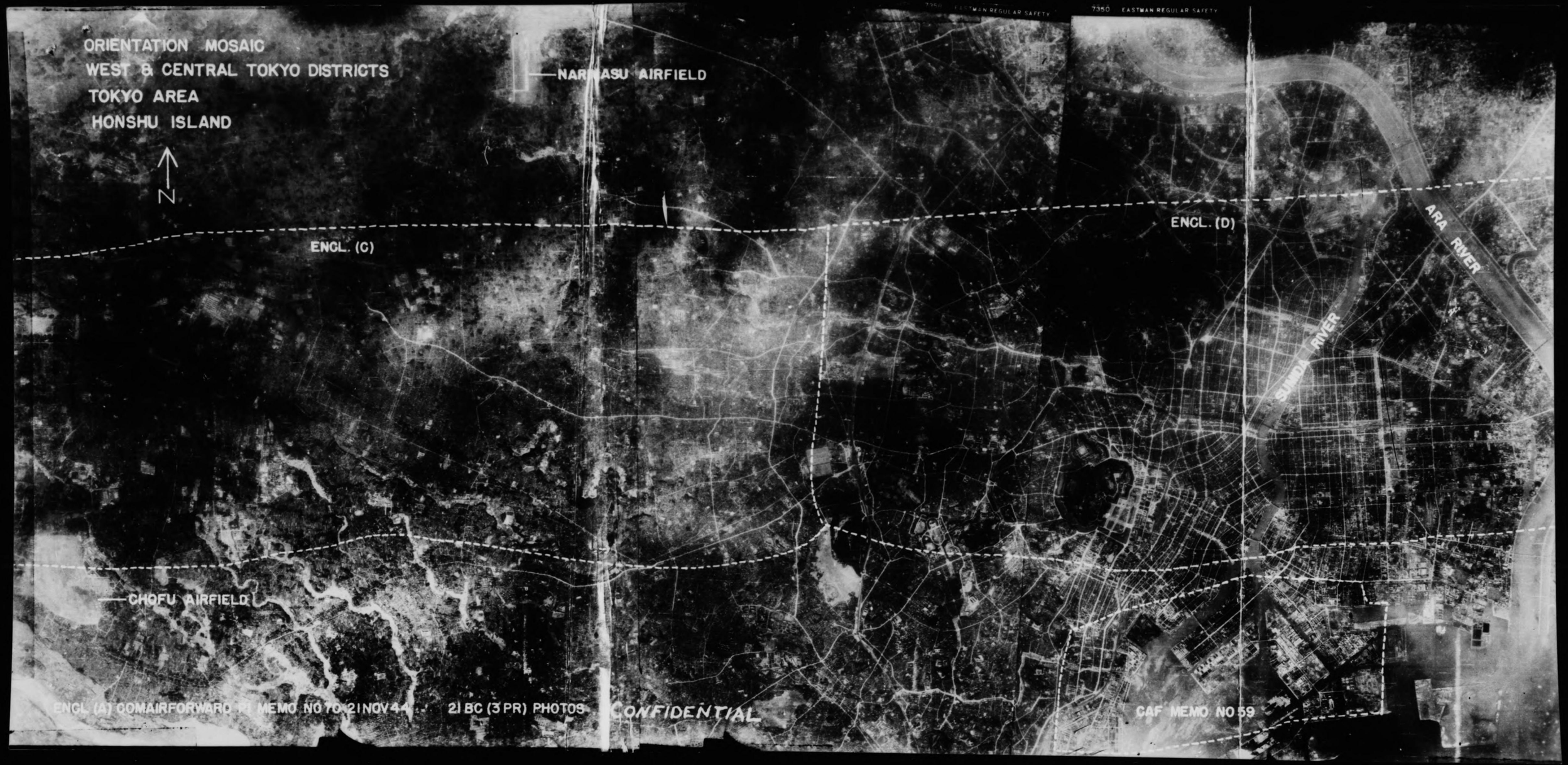
1409, 1420 and 1490 are located in this district by Refs. (a) and (b).
1409 Narishimo Paratroop Training Center is not definitely confirmed. A large military training base is located northeast of Funabashi.
1420 Funabashi, Naval Transmitting Station may be the Radio and RDF station northwest of Funabashi.
1490 Tsudanuma Airdrome is unconfirmed. As shown in Encl. (B), at least two military training bases are located east and south of Funabashi.

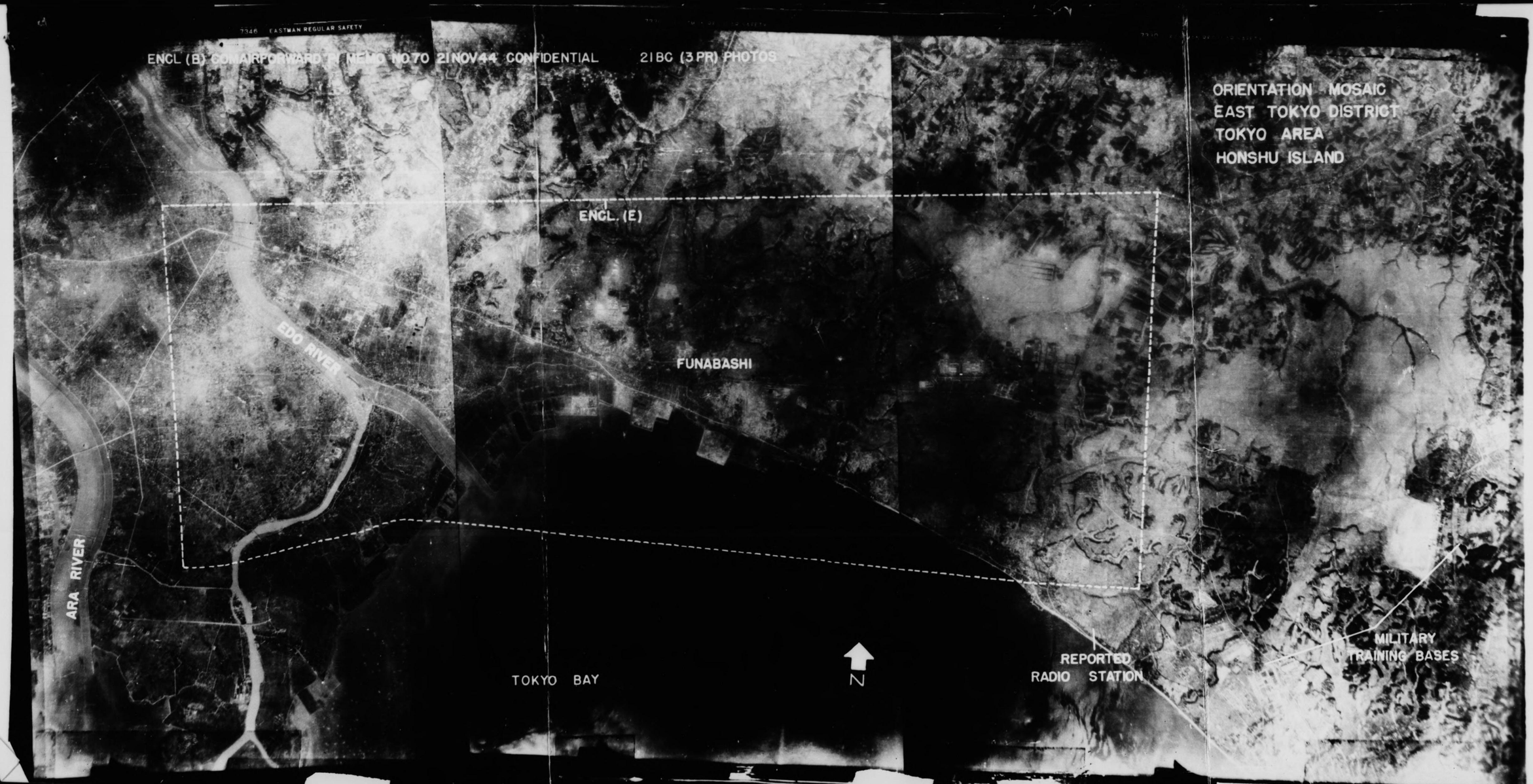
Not previously reported is an assembly plant north of Funabashi.

LAWRENCE J. CARR,
Colonel, G. S. C.,
Chief of Staff.

OFFICIAL:

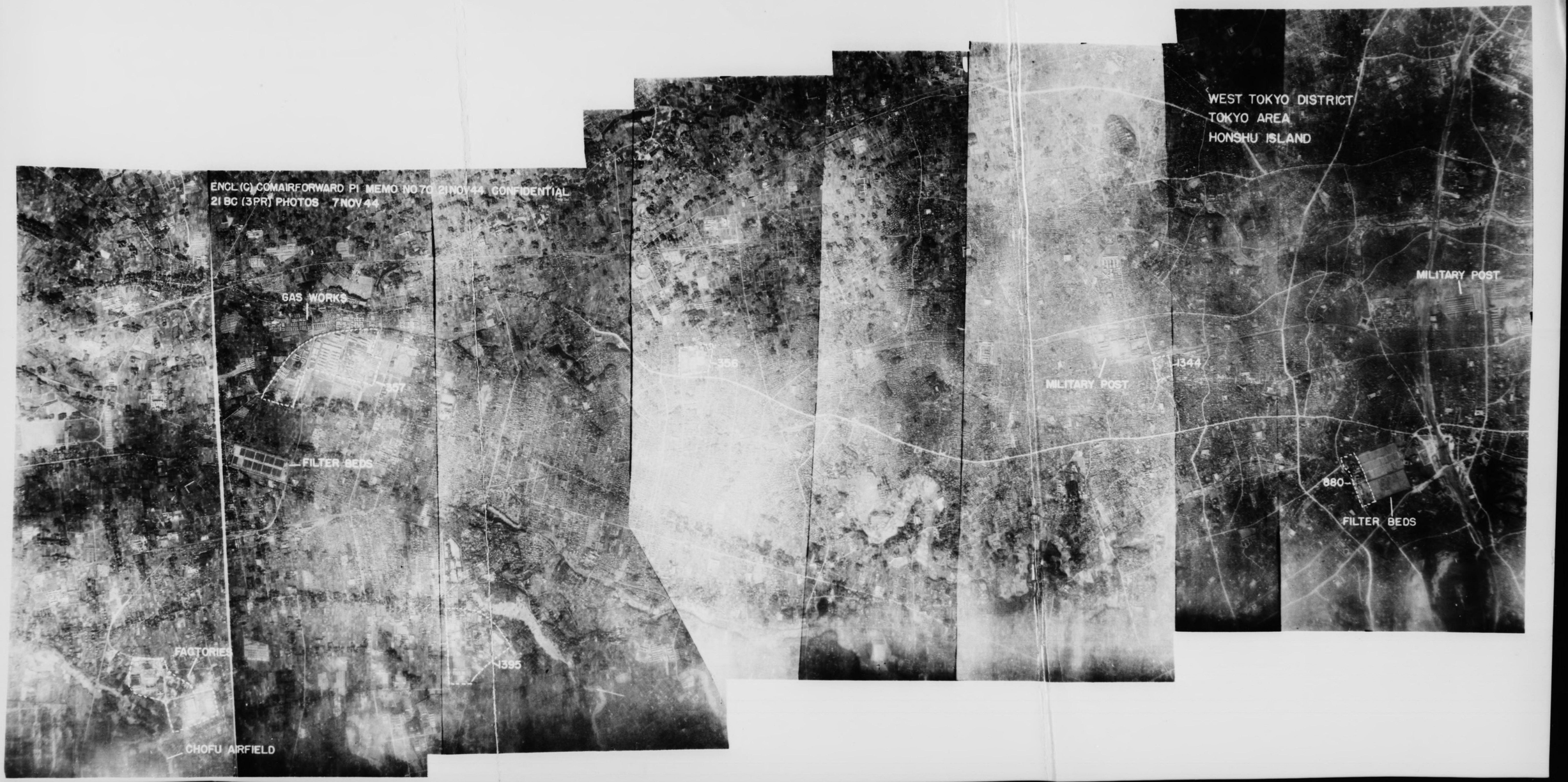
R. L. DENSFORD,
Commander, U.S.N.,
AC/S, J-2.


ORIENTATION MOSAIC
WEST & CENTRAL TOKYO DISTRICTS
TOKYO AREA
HONSHU ISLAND
N
NARIMASU AIRFIELD
ENCL. (C)
ENCL. (D)
ARA RIVER
SUMIDA RIVER
CHOFU AIRFIELD
ENCL (A) COMAIRFORWARD PI MEMO NO 70 2 I NOV 44
21 BC (3 PR) PHOTOS
CONFIDENTIAL
CAF MEMO NO 59


7346 EASTMAN REGULAR SAFETY
ENCL (B) COMAIRFORWARD LTR MEMO NO 70 21 NOV 44 CONFIDENTIAL
21 BC (3 PR) PHOTOS
ORIENTATION MOSAIC
EAST TOKYO DISTRICT
TOKYO AREA
HONSHU ISLAND
ENCL. (E)
EDO RIVER
FUNABASHI
ARA RIVER
TOKYO BAY
N
REPORTED
RADIO STATION
MILITARY
TRAINING BASES

Tokyo Inboard

ENCL (E) COMAIRFORWARD PI MEMO NO 70 21NOV44 CONFIDENTIAL 21BC (3PR) PHOTOS


ENCL (C) COMAIRFORWARD PI MEMO NO 70 21NOV44 CONFIDENTIAL
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367
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FACTORIES
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880
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SPINNING MILLS
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TOKYO
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ENCL(D) COM AIR FORWARD P MEMO NO.70 20NOV44 CONFIDENTIAL

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ELECTRIC POWER
CENTRAL HONSHU AND TOKYO NETWORKS

LEGEND

Major Transmission Lines ——

Primary Transformer Stations ×

Key Steam Power Plants ●

Network Boundaries — — —

HEIGHTS IN METERS

Scale 1:2,000,000

Miles 20 0 20 40 60 80 100

Kilometers 20 0 20 40 60 80 100 140 120

Office of the Assistant Chief of Air Staff, Intelligence, Washington, D. C.

CONFIDENTIAL

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REVISED ELECTRIC POWER
SUMMARY AND EVALUATION

AIR OBJECTIVE FOLDER NO. 90.17
TOKYO AREA

ELECTRIC POWER - TOKYO AREA

The Tokyo Bay district is the focal point of an electric power network extending 150 miles to the N and NW. The bulk of the power is generated by hinterland hydro plants, but the big steam stations in Tokyo-Kawasaki are of critical importance during the dry seasons.

During the dry seasons (November-March, and August) hydro-electric supply is so sharply reduced that, even with the steam plants in full operation, pre-war rationing was necessary to meet essential power requirements. Wartime industrial power needs will have increased the importance during the dry seasons of the four largest steam stations in the Tokyo Bay district. Three of these stations (TARGETS 110, 111, 493), with more than 350,000 KW capacity, are located within a quarter-mile radius on the Kawasaki waterfront. The fourth (TARGET 230) is in the northern part of Tokyo City. Other steam stations listed as targets are considerably smaller and of secondary importance.

Even during the dry seasons, more than half of the district's power is hydro. Critical year-round reduction in the district's power supply would require neutralization, along with the 4 steam stations, of hydro power from the network. This hydro power feeds through more than 10 primary transformer stations in the Tokyo Bay district. These stations are dispersed, the vital equipment of each is relatively small and they are interconnected in a grid which could continue to transmit power unless practically all the stations were destroyed. A large number of hydro plants supply the network; by far the most important are two (TARGETS 1592, 1593), with a combined capacity of 320,000 KW, which are located 8 miles apart on the Shinano River, over 100 miles from Tokyo in the Nagano Area (90.12).

The Tokyo power supply system is separated from the Osaka-Nagoya network by a difference in frequency, but there are a few large hydro plants in Central Honshu equipped to supply power to either region. It is technically possible for this double-frequency capacity to be entirely diverted to the Tokyo region. The effect of attack on power for the Tokyo district would be considerably increased by destruction of the double-frequency plants, or by neutralization of 4 big steam plants which supply a large part of the year-round as well as dry-season power in the Osaka-Nagoya network, the loss of which would make the double-frequency capacity of critical importance in the Osaka-Nagoya region.

Far Eastern Branch
Target Information Section

15 MARCH 1944
OFFICE OF AC/AS, INTELLIGENCE

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JOINT TARGET GROUP, WASHINGTON, D. C.
URBAN AREA MOSAIC

TOKYO No. 7 — JAPAN

Damage Plot

SHEET.....TOKYO No. 7–DP
ISSUED.....24 April 1945

REPRINT

1422 1421 1420 1419 40' 1418 1417 1416 1415 35°38' 1414 000yds. N.

676 000yds. E. 139° 44' 677 678 679 680 681 682 683 48' 684 685 686 139° 50' 687 688

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 5M-16 40"V Jan. '45, 4M-4 · 4M-20 24"V Nov. '44, 4M-10 · 4M-37A 24"V Dec. '44, 5M-5 12"V Jan. '45,

Reliability of grid uncertain due to local minor disagreement between photo map and topographic map.

Damage on Photos to 27 March 1945

Damage on Photos from 27 February to 11 March 1945

Scale 1:25,000 (Approximate)

1/2 0 1 Nautical Mile

1/2 0 1 Statute Mile

1000 500 0 1000 Meters

1000 500 0 1000 Yards

ONE THOUSAND YARD WORLD POLYCONIC GRID, BAND IIIn, ZONE "A"
THE LAST THREE DIGITS OF THE GRID NUMBERS ARE OMITTED

POLYCONIC PROJECTION

CONFIDENTIAL

1°52' OR 33 MILS

6°00' OR 11 MILS

Use diagram only to obtain numerical values. To determine magnetic north line, connect the pivot point "P" on the south edge of the map with the value of the angle between GRID NORTH and MAGNETIC NORTH, as plotted on the degree scale at the north edge of the map.

APPROXIMATE MEAN DECLINATION 1945
FOR CENTER OF SHEET
ANNUAL MAGNETIC CHANGE - WESTERLY

INDEX TO ADJOINING SHEETS

1	2	3	4
5	6		8
	9	10	
	11	12	

File No. 540,

700.935

JOINT TARGET GROUP, WASHINGTON, D. C.
URBAN AREA MOSAIC

TOKYO No. 7 — JAPAN

Damage Plot

CONFIDENTIAL

ILLUSTRATION No. TOKYO No. 7—DP
ISSUED . . . . . 24 April 1945

6° 5° 4° 3° 2° 0°

6⁷⁶ 139°44′ 6⁷⁷ 6⁷⁸ 6⁷⁹ 6⁸⁰ 46′ 6⁸¹ 6⁸² 6⁸³ 48′ 6⁸⁴ 6⁸⁵ 6⁸⁶ 139°50′ 6⁸⁷ 6⁸⁸

14²⁸ 14²⁷ 35°44′ 14²⁶ 14²⁵ 14²⁴ 14²³ 42′ 14²² 14²¹ 14²⁰ 14¹⁹ 40′

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 5M-16 40"V Jan.'45, 4M-4 · 4M-20 24"V Nov.'44, 4M-10 · 4M-37A 24"V Dec.'44, 5M-5 12"V Jan.'45,

Reliability of grid uncertain due to local minor disagreement between photo map and topographic map.

Damage on Photos to 27 March 1945

Damage on Photos from 27 February to 11 March 1945

Scale 1:25,000 (Approximate)

1/2 0 1 Nautical Mile

1/2 0 1 Statute Mile

1000 500 0 1000 Meters

1000 500 0 1000 Yards

ONE THOUSAND YARD WORLD POLYCONIC GRID, BAND IIIn, ZONE "A"
THE LAST THREE DIGITS OF THE GRID NUMBERS ARE OMITTED

POLYCONIC PROJECTION

CONFIDENTIAL

1°52′ OR 33 MILS

4°00′ OR 71 MILS

MAGNETIC NORTH

Use diagram only to obtain numerical values. To determine magnetic north line, connect the pivot point "P" on the south edge of the map with the value of the angle between GRID NORTH and MAGNETIC NORTH, as plotted on the degree scale at the north edge of the map.

APPROXIMATE MEAN DECLINATION 1945 FOR CENTER OF SHEET ANNUAL MAGNETIC CHANGE 1 WESTERLY

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TOKYO No. 7—DP

3PR 5 M58 -

NTIAL

← 16" →
plus 3/8" white border all around

DAMAGE ASSESSMENT REPORT
C.I.U. - XXI BOMBER COMMAND

AIR RAID DAMAGE TO MAJOR CITIES IN JAPAN

Air Defense Headquarters

(15 Aug 45)

NAME OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	INJURED	HOUSES TOTALLY BURNED OR DESTROYED	NO. LESS	POPULATION (8 JUL 44)
TOKYO	25 Feb 45	(150 large, 500 small)	87,538	60,079	746,101	2,857,392	6,569,815
	10 Mar 45	(130 large)					
	13 Apr 45	(170 large, 10 small)					
	15 Apr 45	(200 large, 330 small)					
	24 May 45	(250 large)					
	25 May 45	(300 large)					
OSAKA	13 Mar 45	(90 large)	9,553	22,760	309,109	1,112,275	2,842,083
	1 Jun 45	(400 large, 100 small)					
	7 Jun 45	(350 large)					
	15 Jun 45	(300 large)					
NAGOYA	12 Mar 45	(130 large)	7,496	10,317	117,903	478,562	1,348,061
	19 Mar 45	(160 large)					
	24 Mar 45	(130 large)					
	14 May 45	(400 large)					
	17 May 45	(120 large)					
KOBE	17 Mar 45	(60 large)	4,194	9,639	115,779	433,484	918,101
	5 Jun 45	(350)					
YOKOHAMA	15 Apr 45	(200 large, 330 small)	4,570	14,117	99,746	403,672	1,033,447
	29 May 45	(300 large, 100 small)					
KYOTO	26 Jun 45		51	183	71	660	964,466

AIR RAID DAMAGE TO MAJOR CITIES IN JAPAN (Continued)

(15 Aug 45)

NAME OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	INJURED	HOUSES TOTALLY BURNED OR DESTROYED	HOMELESS	POPULATION (8 JUL 44)
TAIRA	10 Mar 45 29 Jul 45	(3 large)	18	24	751	3,000	28,731
KAGOSHIMA	8 Apr 45 17 Jun 45	(30 large) (50 large)	1,759	1,738	23,602	87,188	189,991
KORIYAMA	12 Apr 45	(160 large)	313	123	637	2,500	58,279
HAMAMATSU	30 Apr 45 15 Jun 45	(30 large) (50 large)	1,783	1,963	18,749	56,000	162,754
YOKKAICHI	18 Jun 45	(80 large)	529	1,500	11,140	47,153	114,250
OMUDA	18 Jun 45 26 Jul 45	(90 large) (100 large)	445	758	12,847	63,816	179,574
SHIZUOKA	19 Jun 45	(140 large)	1,643	6,652	24,866	117,199	211,666
FUKUOKA	19 Jun 45	(60 large)	813	1,076	15,314	63,257	324,499
TOYOHASHI	20 Jun 45	(90 large)	279	463	16,800	83,893	142,220
TSU	26 Jun 45 24 Jul 45	(100 large)	498	420	1,776	7,464	74,393
UBE	3 Jul 45	(30 large)	204	1,780	4,952	50,000	124,109
HIMEJI	3 Jul 45	(70 large)	176	155	10,342	49,511	102,359
SUMA	3 Jul 45	(70 large)	6	63	389	2,066	36,685
KOCHI	4 Jul 45	(70 large)	273	800	13,000	49,000	136,699
TOKUSHIMA	4 Jul 45	(40 large)	727	669	17,859	71,395	116,734

AIR RAID DAMAGE TO MAJOR CITIES IN JAPAN — Air Defense Headquarters

(15 Aug 45)

AREA OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	INJURED	HOUSES TOTALLY BURNED OR DESTROYED	NO HOUSES	POPULATION (1 JUL 44)
TOKYO	25 Feb 45	(150 large, 500 small)	87,538	60,079	746,101	2,857,392	6,569,815
	10 Mar 45	(130 large)					
	13 Apr 45	(170 large, 10 small)					
	15 Apr 45	(200 large, 330 small)					
	24 May 45	(250 large)					
	25 May 45	(300 large)					
OSAKA	13 Mar 45	(90 large)	9,553	22,760	309,108	1,112,275	2,842,083
	1 Jun 45	(400 large, 100 small)					
	7 Jun 45	(350 large)					
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NAGOYA	12 Mar 45	(130 large)	7,496	10,317	117,903	478,562	1,348,061
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	17 May 45	(120 large)					
KOBE	17 Mar 45	(60 large)	4,194	9,639	115,779	433,484	918,101
	5 Jun 45	(350)					
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	29 May 45	(500 large, 100 small)					
KYOTO	26 Jun 45		51	183	71	660	964,466

AIR RAID DAMAGE TO MAJOR CITIES IN JAPAN (Continued)

(15 Aug 45)

NAME OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	INJURED	HOUSES TOTALLY BURNED OR DESTROYED	HOMELESS	POPULATION (6 JUL 44)
MAEBASHI	5 Aug 45	(50 large)	200	250	6,700	54,000	85,006
KAIZUKA	10 Jul 45	(80 large)	4		775	4,028	440,969
UTSUNOMIYA	12 Jul 45	(80 large)	534	1,145	10,600	48,000	90,145
ICHINOMIYA	13 Jul 45 29 Jul 45	(100 large)	348	835	10,000	45,300	66,380
TSURUGA	13 Jul 45	(10 large)	63	262	4,230	21,150	30,544
KAMAISHI	14 Jul 45 9 Aug 45	bombing and naval shelling	383	350	3,612	12,000	41,256
AKASHI	7 Jun 45 9 Jun 45 22 Jun 45 7 Aug 45	(100 large) (100 large) (100 large) (60 large)	585	976	19,952	91,489	78,585
AMAGASAKI	26 Jun 45 20 Jul 45	(100 large) (50 large)	164	250	1,492	7,634	270,075
SASEBO	29 Jun 45	(30 large)	794	446	10,352	64,361	341,239
MOJI	29 Jun 45 2 Jul 45	(20 large) (30 large)	239	519	11,341	50,373	135,730
OKAZAKI	19 Jul 45	(80 large)	158	134	8,281	31,884	80,073
HAMAMATSU	26 Jul 45 27 Jul 45	(60 large)	100	300	14,000	72,000	12,091 (TN Sic.)
AOMORI	28 Jul 45	(70 large)	722	280	100,862 (TN Sic.)	100,862	100,077

AIR RAID DAMAGE TO MAJOR CITIES IN JAPAN (Continued)

(15 Aug 45)

NAME OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	INJURED	HOUSES TOTALLY BURNED OR DESTROYED	HOMELESS	POPULATION (8 JUL 41)
OGAKI	29 Jul 45	(77)	6	100	4,500		56,990
SENDAI	29 Jul 45						64,792
KUSAOKA	2 Aug 45	(55 large)	300	2,000	9,000	50,000	67,121
TOYAMA	2 Aug 45	(150 large)	2,000		20,000	80,000	160,537
HACHIOJI	2 Aug 45	(130 large)	237	205	13,234	58,091	66,082
MAEBASHI	10 Jul 45	(50 large)	1,208	4,560	31,137	113,548	205,396
SAKAI	10 Jul 45	(80 large)	720	1,472	14,585	54,892	217,939
KAWASAKI	15 Apr 45 25 Jul 45 1 Aug 45	(200 large, 330 small) (50 large) (100 large)	1,062	2,145	34,823	191,998	380,916
SHIMONOSEKI	29 Jun 45	(30 large)	30	81	1,526	7,000	206,961
OMUTA	29 Jun 45	(70 large)	1,480	908	25,237	104,999	106,902
MOJIDOKA	29 Jun 45	(30 large)	189	904	3,511	13,571	72,566
KUMAMOTO	2 Jul 45	(60 large)	260	348	9,952	41,132	211,011

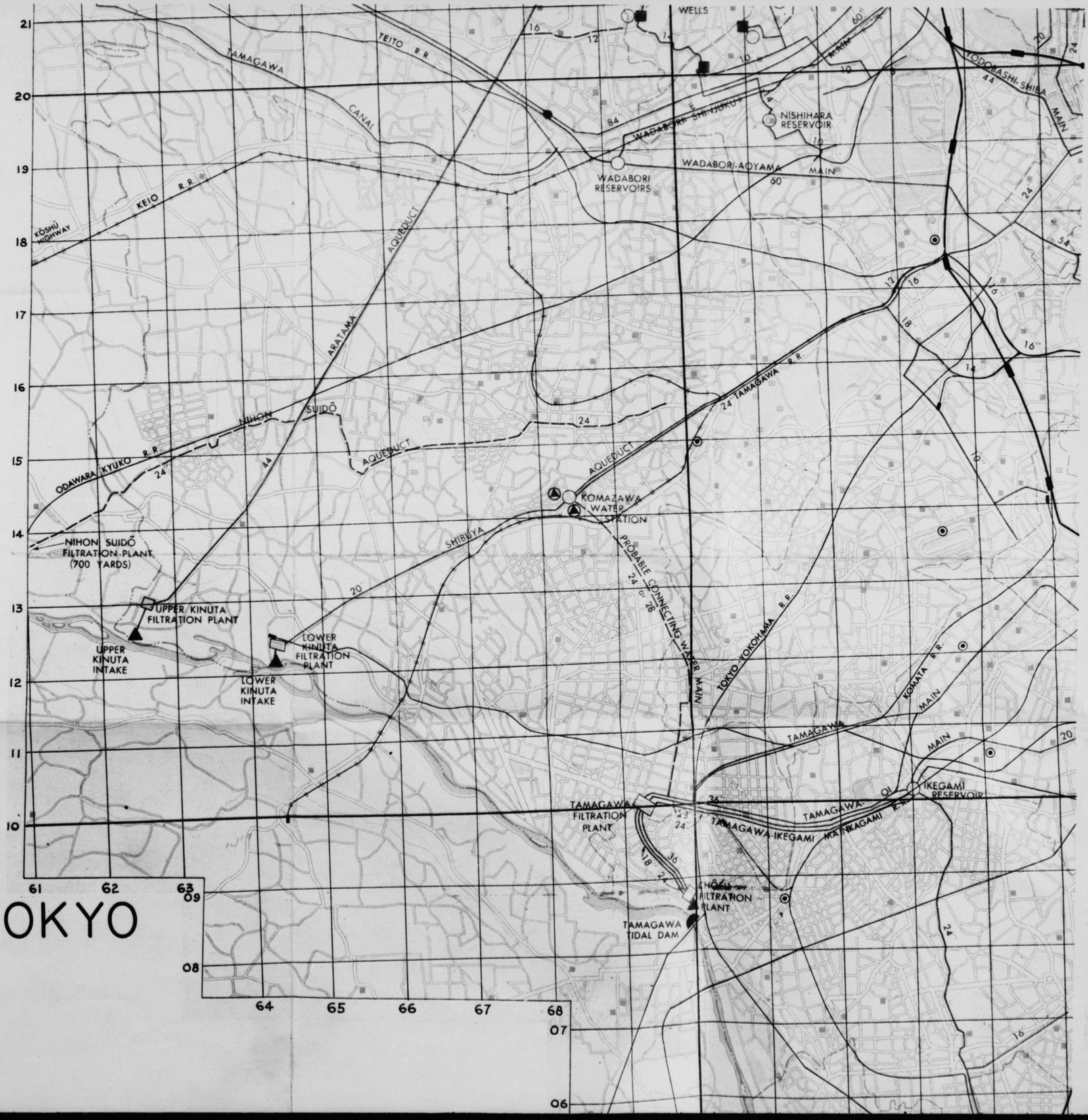
AIR RAID DAMAGE TO [illegible] (Continued)

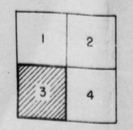
([illegible])

NAME OF CITY	DATE OF AIR RAID	NUMBER OF AIRPLANES	DEAD	[illegible]	[illegible]	[illegible]	[illegible]TION ([illegible] 44)
KURE	2 Jul 45	(80 large)	1,817	[illegible]53	[illegible]	[illegible]	[illegible],632
GIFU	10 Jul 45	(90 large)	524	248	18,818	97,[illegible]0	174,676
HIROSHIMA	6 Aug 45	(3 or 4 large)	11,733	140,000		200,000	336,485
NAGASAKI	9 Aug 45						270,113
SAGA	9 Aug 45						49,179
KUMAGAYA	15 Aug 45		100		4,500	35,000	52,249
ISEZAKI	15 Aug 45						40,458

Remarks: Cities listed here are those which sustained large-scale damage up to 15 Aug 45.

CITY PLAN OF TOKYO





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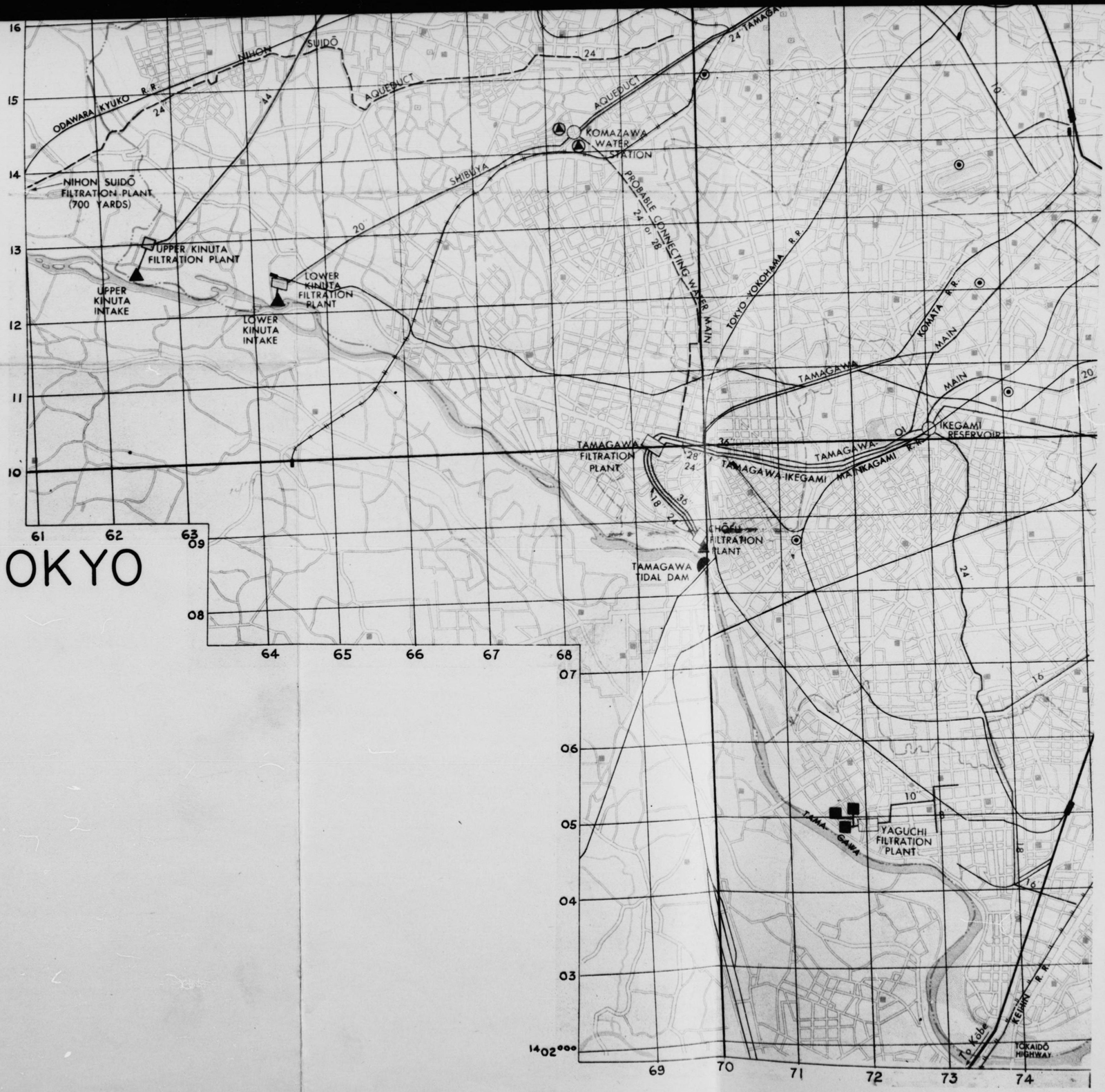
CITY PLAN OF TOKYO

INDEX TO SHEETS



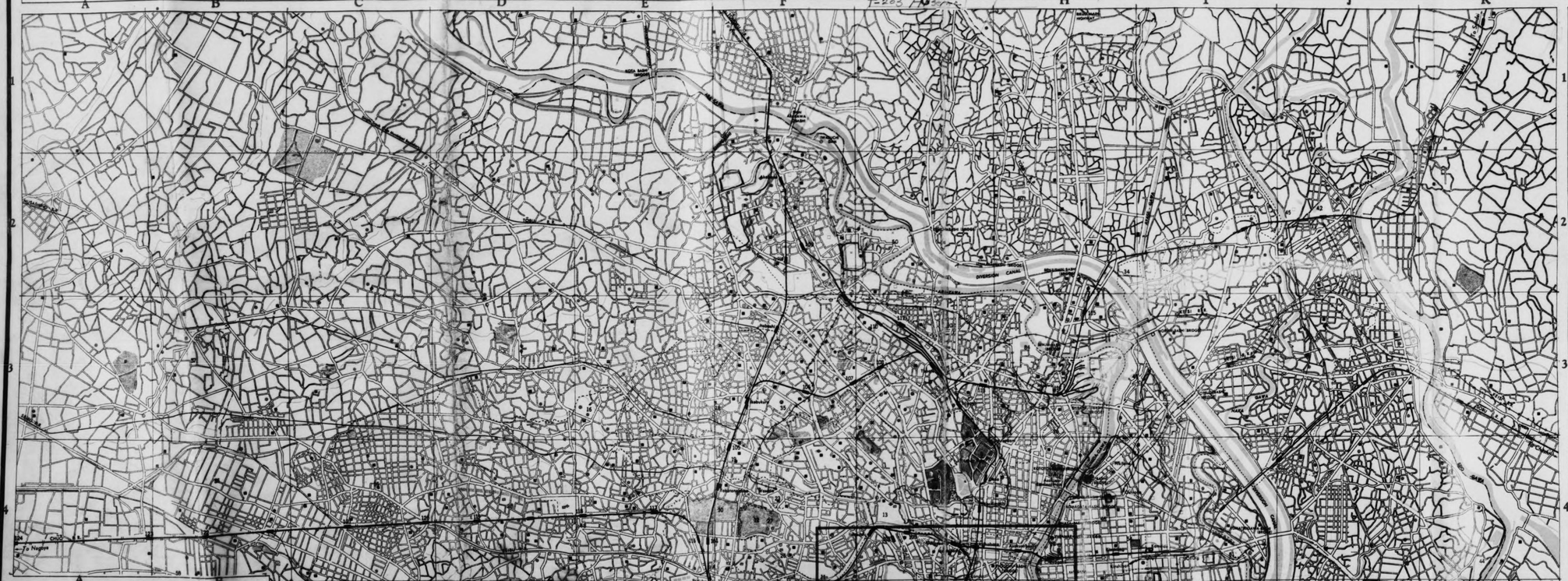
CITY PLAN OF TŌKYŌ

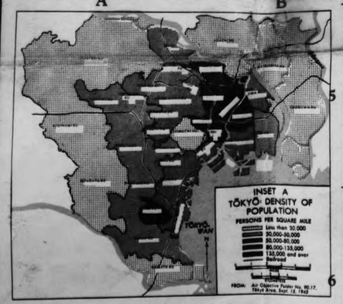
T-201. Ord. Storehouse

T-202 Arsenal

T-203 Arsenal

T-207 Military Gun Works





T-915-Gas Tank or Wenger Gas Plant

T-911-Osaka Gas Co.

T-910 Rising Sun Oil Co. Ltd. Oil Refinery

T-334 Nissa Steel Casting Co.

T-1342-Toyo Machine Industry

T-826 Fuji Kura Electric Cable Works

LEGEND

GOVERNMENT ELECTRIFIED RAILROADS

GAUGE	TRACK
3'6"	Double with part multiple
3'6"	Double

PRIVATE ELECTRIFIED RAILROADS

GAUGE	TRACK
3'6"	Double
4'6"	Double
4'8½"	Double

CENTRAL URBAN LINES
- Street Car Line and Transfer Point
- Subway

BOUNDARIES
- Ku (Ward)
- Greater Tokyo

MAIN OPEN SPACES
Park, Shrine, Cemetery, Palace Grounds, Golf Links, Race Track, Military Parade Grounds, etc.

GENERAL PUBLIC BUILDINGS
- Theater, Temple or Church
- General Administrative Office (including Ward Office)
- Police Station
- Military or Naval Administration Building
- Hospital

BILLETING FACILITIES
- Palace
- Hotel, Y.M.C.A., etc.
- School or University
- Military or Naval Barracks or School
- Industrial Barracks

COMMERCIAL AND INDUSTRIAL BUILDINGS
- Commercial Building
- Industrial Building of Chiefly Military Importance
- Industrial Building of Chiefly Civilian Importance
- Industrial Building, Unclassified
- Warehouse or Market
- Oil or Coal Storage Facilities

PUBLIC UTILITIES
- Electric Power Plant or Substation
- Water Supply Installation
- Sewage or Garbage Installation
- Telephone, Telegraph, or Radio Station
- Gas Plant
- Fire Station

MISCELLANEOUS
- Airport
- Crematory
- Prison
- Fort

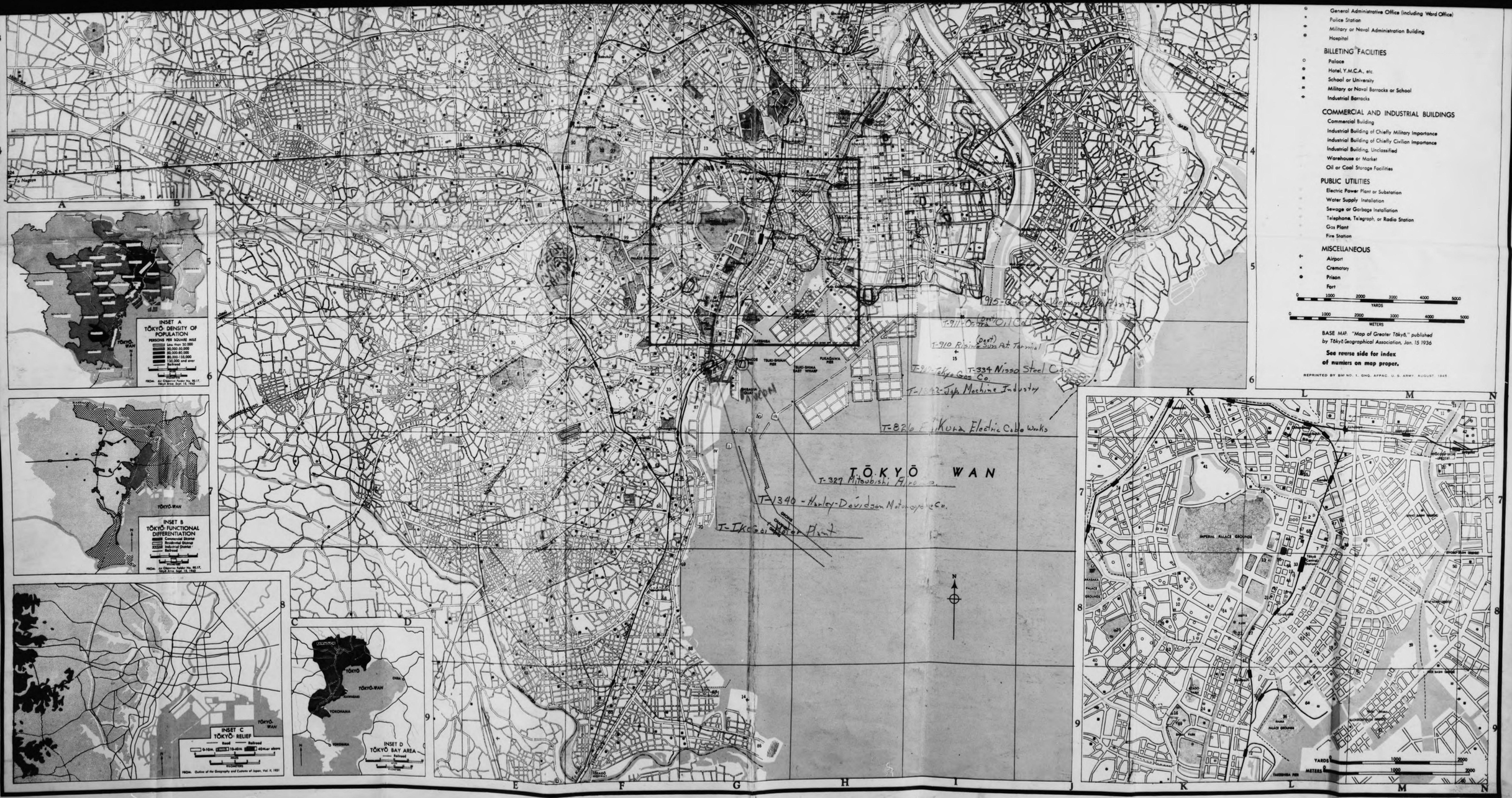
0 1000 2000 3000 4000 5000 YARDS

0 1000 2000 3000 4000 5000 METERS

BASE MAP: "Map of Greater Tōkyō," published by Tōkyō Geographical Association, Jan. 15 1936

See reverse side for index of numbers on map proper.

REPRINTED BY BW NO. 1, GHQ, AFPAC, U. S. ARMY, AUGUST, 1945


General Administrative Office (including Ward Office)
Police Station
Military or Naval Administration Building
Hospital
BILLETING FACILITIES
Palace
Hotel, Y.M.C.A., etc.
School or University
Military or Naval Barracks or School
Industrial Barracks
COMMERCIAL AND INDUSTRIAL BUILDINGS
Commercial Building
Industrial Building of Chiefly Military Importance
Industrial Building of Chiefly Civilian Importance
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Fire Station
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Airport
Crematory
Prison
Fort
YARDS
METERS
BASE MAP: "Map of Greater Tōkyō," published by Tōkyō Geographical Association, Jan. 15 1936
See reverse side for index of numbers on map proper.
REPRINTED BY BM NO. 1, GHQ, AFPAC, U. S. ARMY, AUGUST, 1945
INSET A
TŌKYŌ: DENSITY OF POPULATION
PERSONS PER SQUARE MILE
INSET B
TŌKYŌ: FUNCTIONAL DIFFERENTIATION
INSET C
TŌKYŌ: RELIEF
INSET D
TŌKYŌ BAY AREA
TŌKYŌ WAN
T-911-Octra (Dest) Oil Co.
T-910 Rising Sun Pet. Terminal
T-334 Nissa Steel Co.
T-826 Fujikura Electric Cable Works
T-327 Mitsubishi Aircraft
T-1340 - Harley-Davidson Motorcycle Co.
T-IKOGAI Motor Plant
IMPERIAL PALACE GROUNDS
YARDS
METERS

INDEX OF NUMBERS ON MAP PROPER

INDEX REFERS TO NUMBERS ON MAP NO. 5279, "CITY PLAN OF TŌKYŌ."

A. CHIEF OPEN SPACES

1. Shinjuku Imperial Park F5
2. Ueno Park G4
3. Sumida Park H4
4. Asakusa Park H4
5. Botanical Gardens G4
6. Meiji Inner Shrine E5
7. Meiji Outer Shrine F5
8. Kanazawa Parade Ground E6
9. Aoyama Parade Ground and Akasaka Palace Grounds F5
10. Cavalry Regiment Parade Ground and Firing Range F4
11. Military Academy Grounds F4
12. Military Parade Grounds Barracks Area F4
13. Artillery School and Military Arsenal Grounds G
14. Haneda Airport G9
15. Sunamachi Airport J6

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17. Japan Red Cross Society's Hospital F6
18. Dōai Hospital H4
19. Peer's School F4
20. Tōkyō Prefectural High School E7
21. First High School G4
22. Tōkyō Imperial University G4
23. Waseda University F4
24. Keio University G6
25. St. Paul's University F3
26. Army Administration (or Paymaster's School) F4
27. Army Cavalry, Artillery and Engineering School F4
28. Army Communications School D4
29. Army Veterinary School E6
30. Cavalry Unit Barracks E5
31. Artillery Units Barracks and Parade Grounds E6
32. Army Automobile School D6
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35. Sugamo Prison F1
36. Shin-yoshiwara H3

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39. Fuji Cotton Spinning Factory I5
40. Hisabin Spinning Company H5
41. Kanegafuchi Spinning Company H5
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43. Japanese Imperial Spinning Factory H5
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46. Government Monopoly Bureau (Factory and Warehouse) H4
47. Nippon Typewriter Company E9
48. Japan Automobile Company E4
49. Oshima Steel Works I5
50. Nippon Chemical Fertilizer Company G2
51. Nippon Iron and Steel Works I4
52. Sakurada Engineering Company I5
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54. Hattori Company (Precision Instruments) H4
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63. Kitashin Electric Engineering Company E9
64. Niigata Iron Works F9
65. Oriental Otis Elevator Company F9
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70. Shinagawa Shipyards G7
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75. Nippon Electric Company G6
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85. Sunamachi Sewage Disposal Plant I5
86. Haneda Sewage Disposal Plant G9
87. Shibaura Sewage Pumping Station G6
88. Tōkyō Gas Company (Omori Plant) G9
89. Tōkyō Gas Company (Shibaura Plant) G6
90. Inawashiro Transformer Plant G3

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119. Ogikubo C4
120. West Ogikubo C4
121. Mitaka B4
122. Musashi-seika A4
123. Musashi-kokaniji A4

SOURCES.

1. Japanese Imperial Land Survey 1:10,000 map series covering greater Tōkyō, 1932
2. New Model Map of Greater Tōkyō (edited by Morita Yoshiharu; Kudan Shobo Tōkyō, 1940)
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4. Sanyusyu-Do: Tōkyō Shi Ki Ban Chiku Betsu Ichiran Zu (Index Map of Districts of Greater Tōkyō; Gashi Sandō Publishers, Tōkyō, 1936)
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6. U.S. War Department, Office of the Assistant Chief of Air Staff, Intelligence, Air Objective Folder, AO-17 Tōkyō
7. U.S. War Department, Office of Chief of Engineers, Engineer Research Office, Japan-General Report No. 46, volumes II and IV, 1943

And various other sources.

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64. Municipal Central Wholesale Market L9
65. Kanda Branch of Central Wholesale Market L6
66. Kobe Branch of Central Wholesale Market M6

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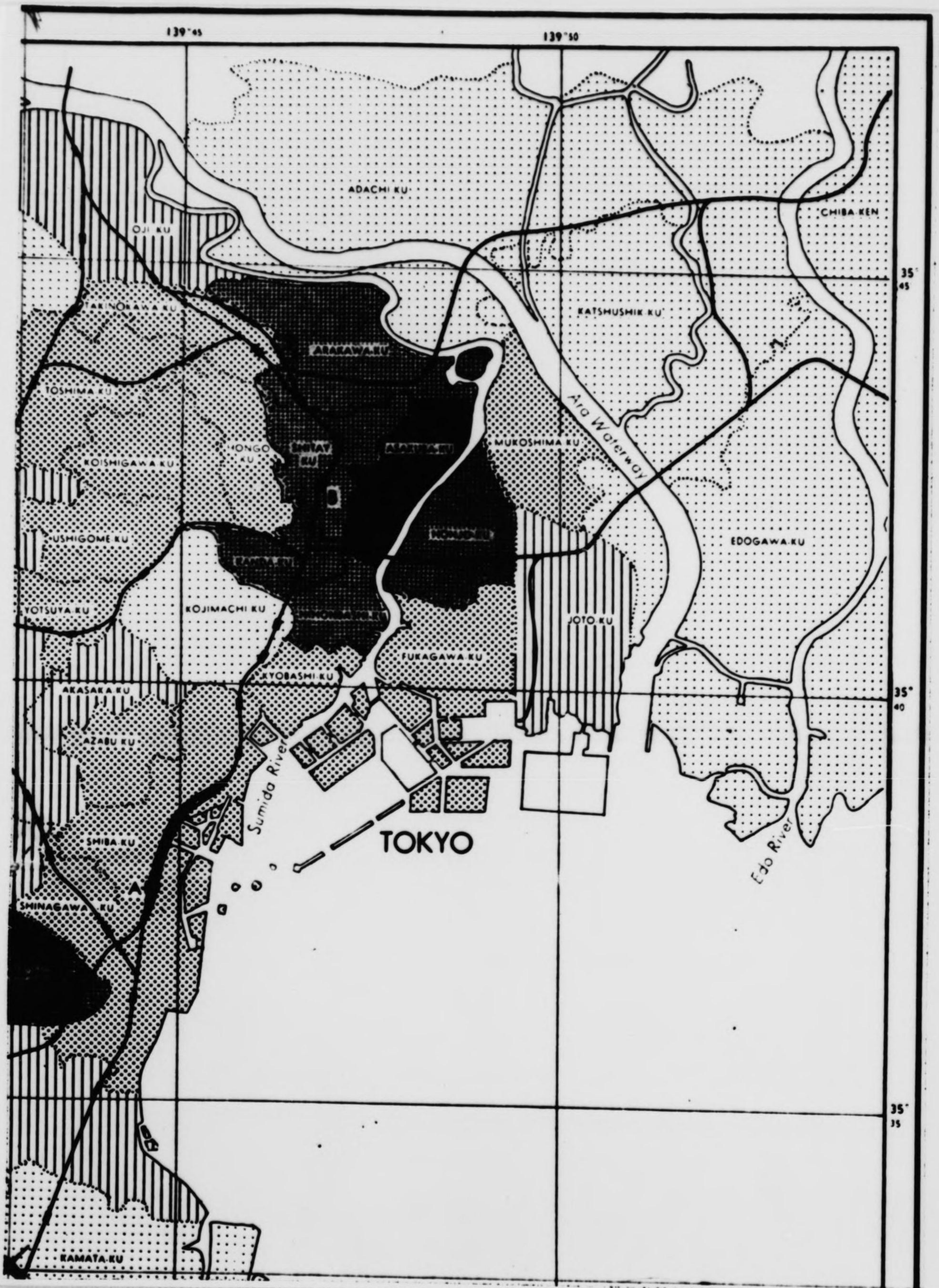
72. Hamamatsu L9
73. Yotsuya J7
74. Ichigaya J7
75. Idomachi K6
76. Suidobashi K6

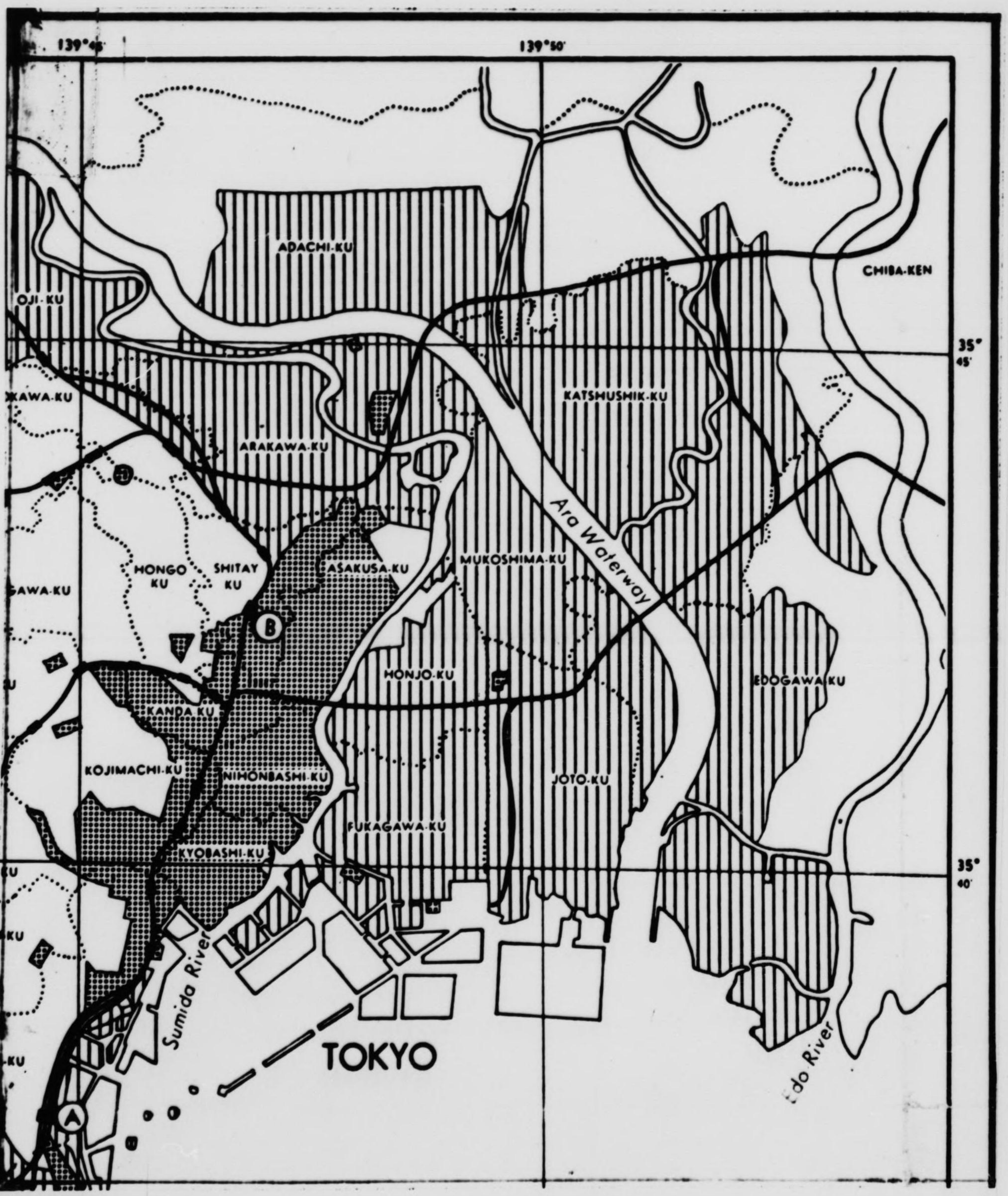
NO. 5279 I - R & A, OSS
17 OCTOBER 1944

RESTRICTED


139°45
139°50
ADACHI KU
OJI KU
CHIBA KEN
35°
45
TAKINOGAWA KU
KATSUSHIKA KU
ARAKAWA KU
TOSHIMA KU
Ara Waterway
MUKOSHIMA KU
KOISHIGAWA KU
USHIGOME KU
EDOGAWA KU
YOTSUYA KU
KOJIMACHI KU
JOTO KU
FUKAGAWA KU
KYOBASHI KU
35°
40
AKASAKA KU
AZABU KU
Sumida River
SHIBA KU
TOKYO
Edo River
SHINAGAWA KU
35°
35
KAMATA KU

139°45
139°50
ADACHI KU
CHIBA KEN
OJI KU
35°45
KATSHUSHIK KU
ARAKAWA-KU
TOSHIMA KU
SHITAY KU
ASAKUSA-KU
MUKOSHIMA KU
KOISHIGAWA KU
B
HONJO-KU
EDOGAWA KU
USHIGOME KU
KANDA-KU
YOTSUYA KU
KOJIMACHI KU
NIHONBASHI-KU
JOTO KU
FUKAGAWA KU
KYOBASHI KU
35°40
AKASAKA KU
AZABU KU
SHIBA KU
TOKYO
SHINAGAWA KU
KAMATA KU

139°45
139°50
35°45
35°40
ADACHI-KU
OJI-KU
CHIBA-KEN
KATSUSHIK-KU
ARAKAWA-KU
Ara Waterway
HONGO KU
SHITAY KU
ASAKUSA-KU
MUKOSHIMA-KU
HONJO-KU
EDOGAWA-KU
KANDA-KU
KOJIMACHI-KU
NIHONBASHI-KU
JOTO-KU
FUKAGAWA-KU
KYOBASHI-KU
Sumida River
TOKYO


139°45'
139°50'
ADACHI-KU
CHIBA-KEN
OJI-KU
35° 45'
KATSUSHIKA-KU
ARAKAWA-KU
Ara Waterway
MUKOSHIMA-KU
HONGO KU
SHITAYA KU
ASAKUSA-KU
B
HONJO-KU
EDOGAWA-KU
KANDA KU
KOJIMACHI-KU
NIHONBASHI-KU
JOTO-KU
FUKAGAWA-KU
KYOBASHI-KU
35° 40'
Sumida River
TOKYO
Edo River

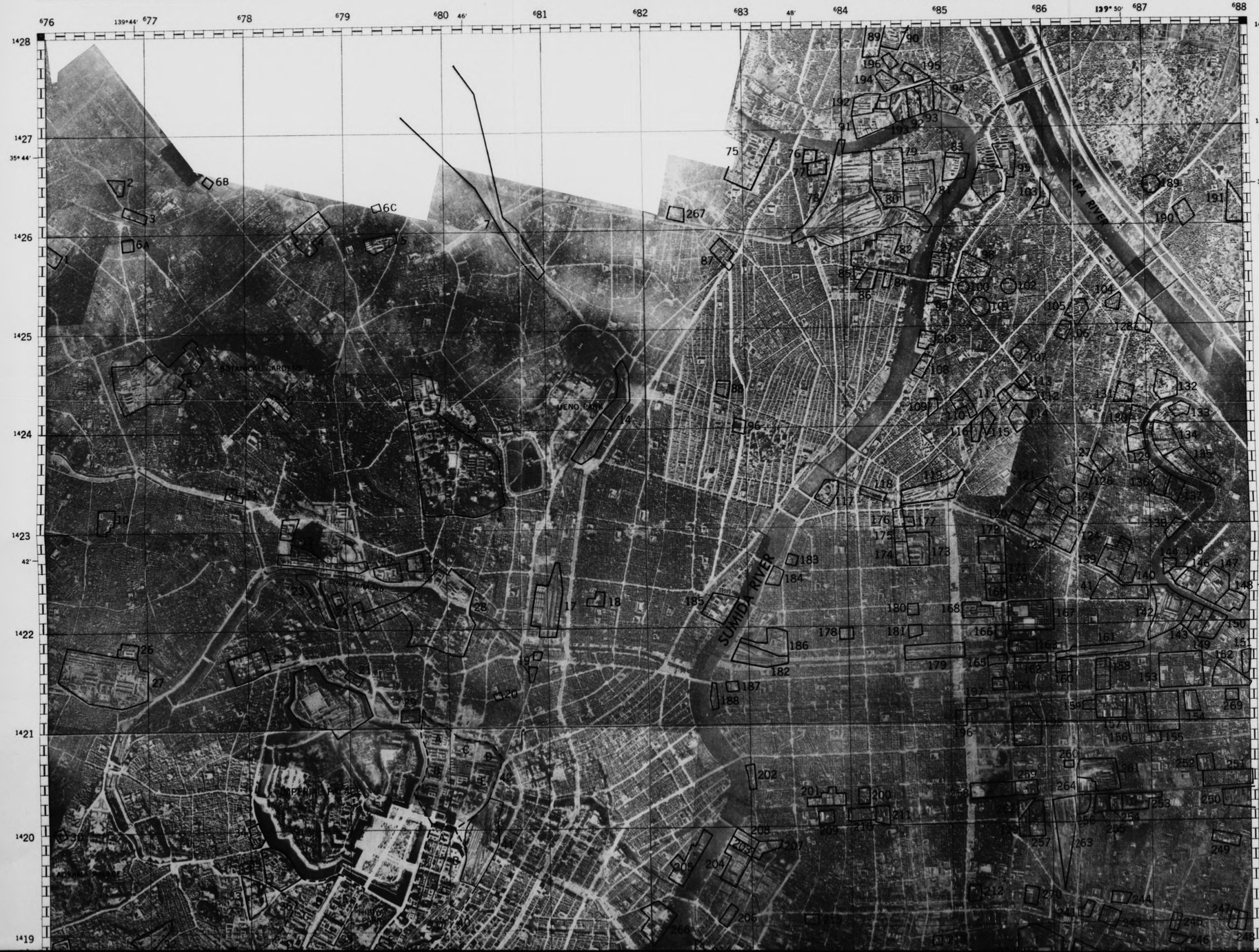
CONFIDENTIAL

JOINT TARGET GROUP, WASHINGTON, D. C.
URBAN AREA MOSAIC

TOKYO No. 7 — JAPAN

Annotated Mosaic

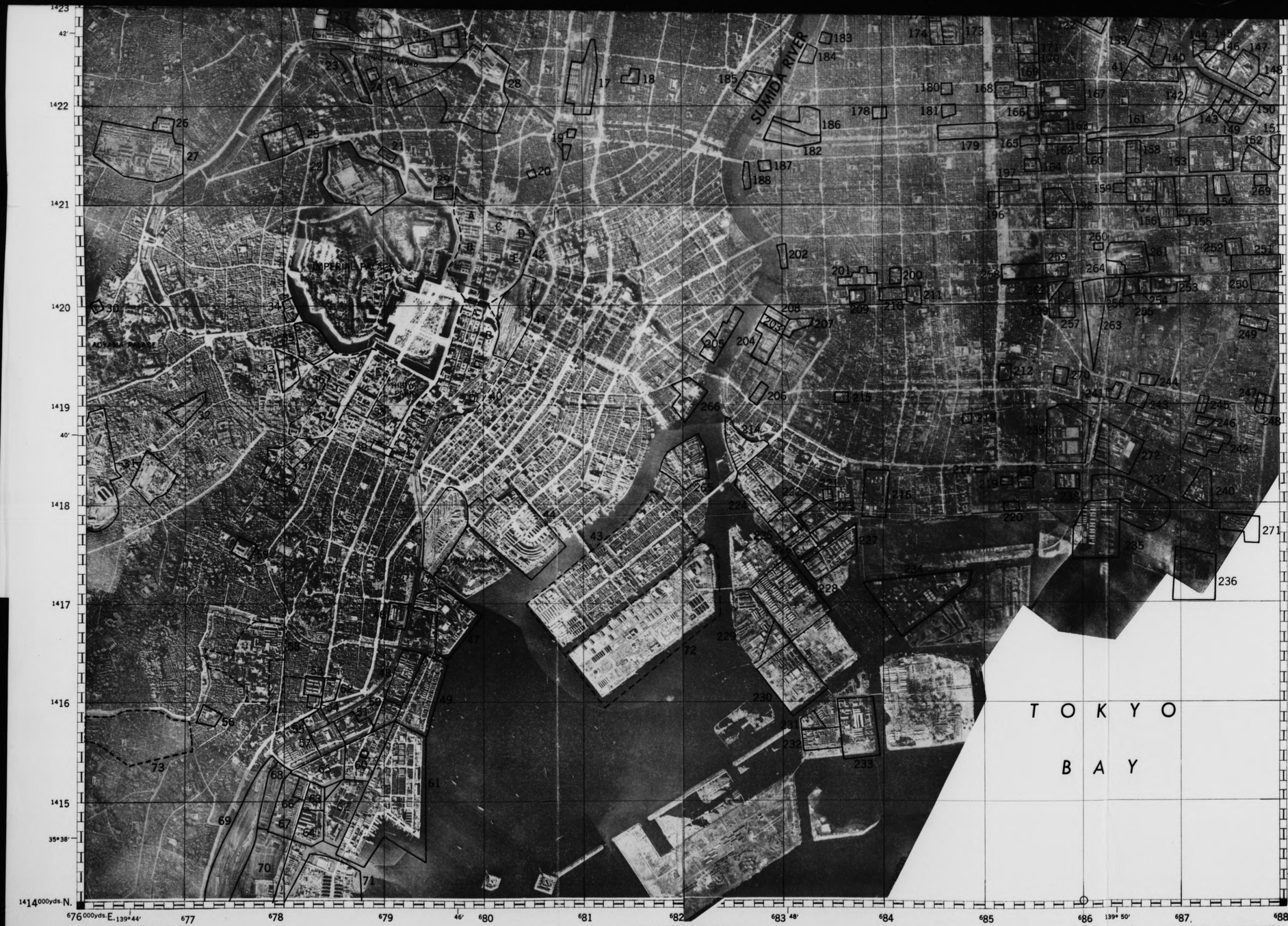
ILLUSTRATION No. **TOKYO No. 7—PA**
ISSUED . . . . . **24 April 1945**



LEGEND

Page No.	Target No.	Name
1		Tokyo Prison
2		Nagata Precision Co.
3		Pilot Fountain Pen Co.
4	90.17-1364	Physical-chemical Industries, Ltd.
5		Komegome Hospital
6a, b, c		Street Car and Bus Terminals
7	90.17-224	Tobata—Nippori RR Yards
8	90.17-214	Koishikawa Armory
9		Kyodo Printing Co.
10		Japan Printing Co.
11		Toppan Printing Co., Koishikawa Plant
12	90.17-352	Army Engineering School
13		Imperial University
14	90.17-369	Ueno RR Station
15		School
16		Hongo Waterworks
17	90.17-1449	Kanda Market and Station
18		Toppan Printing Co. Shitaya Plant
19		RR Transformer Stations
20		Telephone exchange
21		Military Police Hq.
22		Imperial Guards HQ. and Barracks: Inspectorate General of Military Training
23		Iida RR Yards
24		Ice Plant
25		Yasukuni Shrine and Park
26		Japan Printing Co.
27		Imperial GHQ; Inspectorate General of Aviation
28		Schools and Public Buildings
29		Meteorological Center
30		Japan Paper Co.
31		Army Barracks and Supply Center
32		Imperial Guards Barracks
33		Parliament Building
34		Hq., Munitions and Aviation Depts.
35		War Department, Army General Staff
36		Government Departments a. Metropolitan Police Hq. b. Home Office c. Foreign Office d. Minor Civil Departments e. Courts and Justice Depts.
37		US Embassy and minor public buildings
38	90.17-1419	Navy Department Hq.
39	90.17-1363	JOAK Broadcasting Center
40		Business and Financial District a. Marunouchi Building b. Central Post Office c. City Hall d. Municipal Electric Bureau e. Imperial Hotel f. 4 principal banking institutions
41	90.17-367	Tokyo Central Station
42		Public Buildings and Utilities a. Tax Office b. Treasury c. Government Printing Office d. Communications Department
	90.17-1418	e. Marunouchi Telephone Exchange
43		Numerous machine shops and precision instrument plants
44	90.17-1448	Tsukiji Market and Wholesale Warehouses
45	90.17-*365	Shiodome Freight Yards
46		Shiba carbarns and bus terminal
47	90.17-885	Takeshiba Pier
48	90.17-1331	Kayaba Engineering Works and Kunitoji Steelworks
49	90.17-886	Hinode-cho Piers
50	90.17-*327	Mitsubishi A/C, Shibaura Plant
51	90.17-1345	Tokyo Municipality Steam Plant & Shiba Gas Works
52	90.17-*882	Ikegai Machine Foundry
53	90.17-*326	Factory No. 2 of Nippon Electric Co.
54		Mita Carbarns
55	90.17-883	Ikegai Motor Plant
56	90.17-2082	Japan Optical Mfg. Co.
57		Municipal Electric Bureau
58		Schools and Public Buildings, including Keio University and National Insurance Hq.
59		Imperial Mint
60		District of small machine shops
	90.17-889	including Factory No. 3 of Nippon Electric
61	90.17-887	Shibaura Wharf
62		Municipal Electric Bureau, Shiba Workshops
63	90.17-2083	Small casting and machine shops
64		Tokyo Structural Steel Co.
65		Small ironworks and machine shops
66	90.17-888	Oki Electric Co. Ltd., Plant No. 1
67		Ensuiko Sugar Co. and Kinuta Electric Co.
68		Yokogawa Bridge Co.
69	90.17-*364	Shinagawa RR Yards
70		Shibaura Sewage Disposal Plant
71		New warehouse area
72		Military storage and transshipment area
73		Small precision machinery plants
74		Precision Parts Plants
75		Former Senju Woolen Mill
76		South Senju Engineering Works
77		Ishimura Factory
78	90.17-1370	Sumida River Bridge & RR Yard
79		Kanegafuchi Spinning Co., Senju Mill
80	90.17-1366	Nippon Oil Co.

Page No.	Target No.	Name
128		Cork Products Co.
129		Toyo Drug Co.
130		Meiji Leather Co.
131		Chiyoda Mfg. Co.
132		Nissan Chemical Mfg. Co., Kinoshita Plant
133		Uno Ironworks
134		Nakayama Steel Co., Tokyo Plant
135		Lion Soap Co., Hirai Plant
136		Felt Works
137		Azuma Steel Works
138		Dye Works
139		Japan Military Goods Co., No. 2 Plant
140		Ishibara Steel Works, Mukajima Plant
141		Daido Steel Co., Teihatsu Plant
142	90.17-*916	Hitachi Engineering, Kameido Plant
143		Ishii Ironworks
144		Oriental Steel Works
145		Mitado Rubber Products Co.
146		Taisai Chemical Mfg. Co.
147		Nitto Soda Works
148		Yanagishima Drug Co.
149		Riken Steel Products Company
150		Tawara Engineering Works
151		Japan Chemical Equipment Co.
152		Shimizu Oxygen Equipment Co.
153	90.17-914 & 915	Oriental Weaving Co.
154		Japan Cast Steel Co., Oshima Tool Plant
155	90.17-911	Oguro Oil Co.
156 & 157	90.17-1350	Tokyo Kozai (Steel Products) Co.
158	90.17-2126	Hattori Co., Otsuki Branch
159		Takasago Iron Works
160		Hamada Printing Machinery Co., Plant No. 1
161		Kameido Station and Yards
162		Hamada Printing Machinery Co., Plant No. 2
163	90.17-910	Rising Sun Petroleum Terminal
164		Kameido Coke Co., Joto Plant
165		Unidentified industry
166		Japan Ford Products Co.
167	90.17-912	Nisshin Spinning Mill
168	90.17-913	Hattori Co.
169		Aoki Dyeworks
170		Japan Acetic Acid Co.
171		Nisshin Dyeing Co.
172		Kurihara Woolen Mill
173		Tobacco Monopoly, Honjo Plant
174		Mitado Rubber Products
175		Tokyo Gas Co. Branch
176	90.17-1342	Japan Machine Industry
177		Marine Products Co.
178		Kamezawa Lathe Co.
179		Kinshi-cho Freight Yards
180		Tajiro Industrial Co.
181		Shinohara Machinery Co., Honjo Plant
182	90.17-1372	Sumida River Bridge, Ryogoku Station and RR Yard
183		Toppan Printing Co., Honjo Plant
184		Lion Toothpaste Co.
185		Tobacco Monopoly, Asakusa Plant
186	90.17-1450	Koto Market
187		Toppan Printing Co.
188		Okada Manufacturing Co.
189		Municipal Utility Workshops
190		Tokyo Belting Co.
191		Yamato Rubber Works
192		Unidentified Industry
193		Warehouses
194		Takasaki Paper Machinery Co.
195		Ito Machine Shop
196		Takasaki Paper Co.
197		Yokohama Equipment Co.
198		Hirasawa Iron Works
199		Ironworks
200		Tokushima Machinery Co.
201		Asano Warehouses
202		Tokyo Rice Co.
203		Asano Cement Co.
204		Imperial Warehouses
205		Yusen Warehouses
206		Shibusawa Warehouses
207		Kiyosumi Lumber Mill
208		Mitsubishi Warehouses
209		Kicho Copper Works
210		Nitta Veneer Mfg. Co.
211		Kyodo Printing Co.
212		Toyo Lumber Co.
213		Lumber Mill
214	90.17-355	Army Provisions Depot
215		Unidentified industry
216	90.17-826	Fujikura Electric Cable Works
217		Bus Barns
218		Unidentified industry
219		Unidentified
220		Unidentified industry Warehouse
221		
222	90.17-2085	Hitachi Engineering Works, Fukagawa Plant
223		Teikoku Lumber Co.
224		Merchant Marine School
225		Aircraft Experimental Station
226		Unidentified industry
227		Government Grain Warehouses
228	90.17-2086	Probable new Fukagawa plant of Mitsubishi Heavy Industry
229	90.17-1459	Susuki Dockyard of Ishikawajima Shipbuilding and Engineering Corp.
230		Unidentified Industry
231		Unidentified Industry
232		Unidentified Industry



		c. Government Printing Office	
		d. Communications Department	
	90.17-1418	e. Marunouchi Telephone Exchange	
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57		Municipal Electric Bureau	
58		Schools and Public Buildings, including Keio University and National Insurance Hq.	
59		Imperial Mint	
60		District of small machine shops including Factory No. 3 of Nippon Electric	
	90.17-889		
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63	90.17-2083	Small casting and machine shops	
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68		Yokogawa Bridge Co.	
69	90.17-*364	Shinagawa RR Yards	
70		Shibaura Sewage Disposal Plant	
71		New warehouse area	
72		Military storage and transshipment area	
73		Small precision machinery plants	
74		Precision Parts Plants	
75		Former Senju Woolen Mill	
76		South Senju Engineering Works	
77		Ishimura Factory	
78	90.17-1370	Sumida River Bridge & RR Yard	
79		Kanegafuchi Spinning Co., Senju Mill	
80	90.17-1366	Nippon Oil Co.	
81		Former Japan Spinning Co., Senju Mill	
82	90.17-2084	Tokyo Gas Co., Senju Works	
83		Machinists School	
84		Yaeguchi Works	
85		Oana Mfg. Co., Senju Plant	
86		Dye Works	
87		Minawa Street Car Barns	
88		Bus Terminal	
89		N Senju RR Yards	
90		Showa Rubber Co.	
91		Warehouses	
92		Japan Concrete Pole Co.	
93		Tokyo Iron Works	
94		Azuma Steel Works	
95	90.17-1394	Kanegafuchi A. C. Parts Plant No. 1	
96		Asakusa Telephone Exchange	
97		Kubota Machinery Works, Sumida Plant	
98	90.17-1365	Japan Bakelite Co.	
99	90.17-*2106	Oana Mfg. Co., Mukojima Plant	
100		Telephone Exchange	
101		Choseki Cord Mfg. Co.	
102		Terajima Transformer Station	
103		Kanegafuchi Iron Works	
104		Daido Aluminum Products Co.	
105		Marumiya Rubber Works	
106		Kyowa Leather Co.	
107		Rubber Works	
108		Haneda Belt Co.	
109		Lion Soap Co.	
110	90.17-1430	Nippon Electric Wire and Cable Co.	
111		Soap Works	
112		Kyowa Leather Co.	
113		Tokyo Iron Works	
114		Royal Celluloid Co.	
115		Tokyo Cork Co.	
116		Daido Rubber Works	
117		Japan Brewery Co.	
118		Komiai Alcohol Co.	
119		Narihira Station & Yards	
120		Ito Dye Works	
121		Toyo Textiles, Mukojima Plant	
122		Japan Military Goods Co. No. 1 Plant	
123		Japan Machinery Co., Azuma Branch	
124		Japan Fat and Soap Co.	
125		Glass Works	
126		Tokyo Chemical Works	
127		Miyoshi Chemical Products Co.	
183		Toppan Printing Co., Honjo Plant	
184		Lion Toothpaste Co.	
185		Tobacco Monopoly, Asakusa Plant	
186	90.17-1450	Kato Market	
187		Toppan Printing Co.	
188		Okada Manufacturing Co.	
189		Municipal Utility Workshops	
190		Tokyo Belting Co.	
191		Yamato Rubber Works	
192		Unidentified Industry	
193		Warehouses	
194		Takasaki Paper Machinery Co.	
195		Ito Machine Shop	
196		Takasaki Paper Co.	
197		Yokohama Equipment Co.	
198		Hirasawa Iron Works	
199		Ironworks	
200		Tokushima Machinery Co.	
201		Asano Warehouses	
202		Tokyo Rice Co.	
203		Asano Cement Co.	
204		Imperial Warehouses	
205		Yusen Warehouses	
206		Shibaura Warehouses	
207		Kiyosumi Lumber Mill	
208		Mitsubishi Warehouses	
209		Kicho Copper Works	
210		Nitta Veneer Mfg. Co.	
211		Kyodo Printing Co.	
212		Toyo Lumber Co.	
213		Lumber Mill	
214	90.17-355	Army Provisions Depot	
215		Unidentified Industry	
216	90.17-826	Fujikura Electric Cable Works	
217		Bus Barns	
218		Unidentified Industry	
219		Unidentified	
220		Unidentified Industry	
221		Warehouse	
222	90.17-2085	Hitachi Engineering Works, Fukagawa Plant	
223		Teikoku Lumber Co.	
224		Merchant Marine School	
225		Aircraft Experimental Station	
226		Unidentified Industry	
227		Government Grain Warehouses	
228	90.17-2086	Probable new Fukagawa plant of Mitsubishi Heavy Industry	
229	90.17-1459	Susaki Dockyard of Ishikawajima Shipbuilding and Engineering Corp.	
230		Unidentified Industry	
231		Unidentified Industry	
232		Unidentified Industry	
233		Unidentified Industry	
234		Hitachi Warehouse Area	
235		Unidentified	
236		Sunamachi Sewage Disposal Plant	
237	90.17-1349	Japan Special Stee Works	
238		Tsukijima Ironworks, Sunamachi Branch	
239	90.17-366	Steam Engineering and Rolling Stock Mfg. Co.	
240		Unidentified	
241		Hasegawa Steel Works, Plant No. 2	
242		Asahi Steel Works	
243		Nakajima Iron Works	
244		Hasegawa Steel Works, Plant No. 1	
245		Azuma Steel Works, Sunamachi Plant	
246		Miya Steel Works	
247		Saito Iron Works	
248		Japan Manufacturing Co.	
249		Tokyo Heavy Industry	
250	90.17-904	Sakurada Engineering Works	
251		Showa Feed Co.	
252		Yokoyama Mfg. Co., Plant No. 2	
253		~~Japan Copper Co.~~	
254		Asahi Steel Works, Sunamachi Plant	
255		Nasu Aluminum Procucts Co.	
256		Kameido Coke Co., Sunamachi Briquette Works	
257	90.17-907	Tokyo Gas Co., Sunamachi Branch	
258	90.17-907	Tokyo Gas Co., Sunamachi Branch	
259		Unidentified Industry	
260		Japan Steel Wire Co.	
261	90.17-334	Nisso Steel Mfg. Co.	
262		Hasegawa Steel Works, Plant No. 3	
263		Sunamachi Freight Yards	
264		Japan Flour Co., Tokyo Mill	
265	90.17-*330	Ishikawajima Shipbuilding Co., Marine Engine Works	
266		Toshin Warehouses	
267		Japan Ebonite	
268		Sumida Boatyard	
269		Nakayama Machine Co.	
270		Maruboshi Mfg. Co., Suna Works	
271		Suction Gas Engine Co.	

NOTE: An asterisk adjoining target numbers listed above indicates targets for which Target Information Sheets have been distributed or are in process.

*253 Mitsubishi Steel Wks, Fukagawa Plant

*253 Shibaura Electrical Wks

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 5M-16 40°V Jan.'45, 4M-4 · 4M-20 24°V Nov.'44, 4M-10 · 4M-37A 24°V Dec.'44, 5M-5 12°V Jan.'45.

Reliability of grid uncertain due to local minor disagreement between photo map and topographic map.

71911 Sgt. Freund Com. "W"

Scale 1:25,000 (Approximate)

1/2 0 1 Nautical Mile

1/2 0 1 Statute Mile

1000 500 0 1000 Meters

1000 500 0 1000 Yards

ONE THOUSAND YARD WORLD POLYCONIC GRID, BAND IIIn, ZONE "A"
THE LAST THREE DIGITS OF THE GRID NUMBERS ARE OMITTED

POLYCONIC PROJECTION

CONFIDENTIAL

1°52' OR 33 MILS

4°00' OR 71 MILS

Use diagram only to obtain numerical values. To determine magnetic north line, connect the pivot point "P" on the south edge of the map with the value of the angle between GRID NORTH and MAGNETIC NORTH, as plotted on the degree scale at the north edge of the map.

APPROXIMATE MEAN DECLINATION 1945 FOR CENTER OF SHEET ANNUAL MAGNETIC CHANGE 7 WESTERLY

INDEX TO ADJOINING SHEETS

1	2	3	4
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	9	10	
		11	12

TOKYO No. 7—PA

JOINT TARGET GROUP, WASHINGTON, D. C.
URBAN AREA MOSAIC

TOKYO No. 7 — JAPAN

Clear Mosaic

RESTRICTED

ILLUSTRATION No. TOKYO No. 7—PM
ISSUED . . . . . 24 April 1945

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 5M-16 40″/V Jan. '45, 4M-4 · 4M-20 24″/V Nov. '44, 4M-10 · 4M-37A 24″/V Dec. '44, 5M-5 12″/V Jan. '45,

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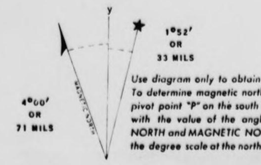
POLYCONIC PROJECTION

RESTRICTED



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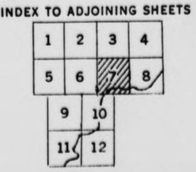
APPROXIMATE MEAN DECLINATION 1945
FOR CENTER OF SHEET
ANNUAL MAGNETIC CHANGE 1 WESTERLY

INDEX TO ADJOINING SHEETS



TOKYO No. 7—PM

CONFIDENTIAL

JOINT TARGET GROUP, WASHINGTON, D. C.
URBAN AREA MOSAIC

TOKYO No. 7 - JAPAN

Annotated Mosaic

SHEET.....TOKYO No. 7-PA
ISSUED.....24 April 1945

LEGEND

Page No.	Target No.	Name
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24		Ice Plant
25		Yasukuni Shrine and Park
26		Japan Printing Co.
27		Imperial GHQ; Inspectorate General of Aviation
28		Schools and Public Buildings
29		Meteorological Center
30		Japan Paper Co.
31		Army Barracks and Supply Center
32		Imperial Guards Barracks
33		Parliament Building
34		Hqs, Munitions and Aviation Depts.
35		War Department, Army General Staff
36		Government Departments a. Metropolitan Police Hq. b. Home Office c. Foreign Office d. Minor Civil Departments e. Courts and Justice Depts.
37		US Embassy and minor public buildings
38	90.17-1419	Navy Department Hq.
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57		Sumida Park Playgrounds, Swimming Pools, University and National Insurance Hq.
58		Imperial Mint
59		District Assembly machine shops
60	90.17-889	Industries Factory No. 3 of Nippon Electric
61	90.17-887	Shibaura Wharf
62		Municipal Electric Bureau, Shiba Workshops
63	90.17-2083	Small casting and machine shops
64		Tokyo Structural Steel Co.
65		Small ironworks and machine shops
66	90.17-888	Oki Electric Co. Ltd., Plant No. 1
67		Ensuiko Sugar Co. and Kinuta Electric Co.
68		Yokogawa Bridge Co.
69	90.17-*364	Shinagawa RR Yards
70		Shibaura Sewage Disposal Plant
71		New warehouse area
72		Military storage and transshipment area
73		Small precision machinery plants
74		Precision Parts Plants
75		Former Senju Woolen Mill
76		South Senju Engineering Works
77		Ishimura Factory
78	90.17-1370	Sumida River Bridge & RR Yard
79		Kanegafuchi Spinning Co., Senju Mill
80	90.17-1366	Nippon Oil Co.
81		Former Japan Spinning Co.,

Page No.	Target No.	Name
128		Cork Products Co.
129		Toyo Drug Co.
130		Meiji Leather Co.
131		Chiyoda Mfg. Co.
132		Nissan Chemical Mfg. Co., Kinoshita Plant
133		Una Ironworks
134		Nakayama Steel Co., Tokyo Plant
135		Lion Soap Co., Hirai Plant
136		Felt Works
137		Azuma Steel Works
138		Dye Works
139		Japan Military Goods Co., No. 2 Plant
140		Ishibara Steel Works, Mukajima Plant
141		Daido Steel Co., Teihatsu Plant
142	90.17-*916	Hitachi Engineering, Kameido Plant
143		Ishii Ironworks
144		Oriental Steel Works
145		Mitado Rubber Products Co
146		Taisai Chemical Mfg. Co.
147		Nitto Soda Works
148		Yanagishima Drug Co.
149		Riken Steel Products Company
150		Tawara Engineering Works
151		Japan Chemical Equipment Co.
152		Shimizu Oxygen Equipment Co
153	90.17-914 & 915	Oriental Weaving Co.
154		Japan Cast Steel Co., Oshima Tool Plant
155	90.17-911	Ogura Oil Co.
156 & 157	90.17-1350	Tokyo Kozai (Steel Products) Co.
158	90.17-2126	Hattori Co., Otsuki Branch
159		Takasago Iron Works
160		Hamada Printing Machinery Co., Plant No. 1
161		Kameido Station and Yards
162		Hamada Printing Machinery Co., Plant No. 2
163	90.17-910	Rising Sun Petroleum Terminal
164		Kameido Coke Co., Joto Plant
165		Unidentified industry
166		Japan Ford Products Co.
167	90.17-912	Nishin Spinning Mill
168	90.17-913	Hattori Co.
169		Aoki Dyeworks
170		Japan Acetic Acid Co.
171		Nishin Dyeing Co.
172		Kurihara Woolen Mill
173		Tobacco Monopoly, Honjo Plant
174		Mitado Rubber Products
175		Tokyo Gas Co. Branch
176	90.17-1342	Japan Machine Industry
177		Marine Products Co.
178		Kamezawa Lathe Co.
179		Kinshi-cho Freight Yards
180		Tajiro Industrial Co.
181		Shinohara Machinery Co., Honjo Plant
182	90.17-1372	Sumida River Bridge, Ryogoku Station and RR Yard
183		Toppan Printing Co., Honjo Plant
184		Lion Toothpaste Co.
185		Tobacco Monopoly, Asakusa Plant
186	90.17-1450	Koto Market
187		Toppan Printing Co.
188		Okada Manufacturing Co.
189		Municipal Utility Workshops
190		Tokyo Belting Co.
191		Yamato Rubber Works
192		Unidentified Industry
193		Warehouses
194		Takasaki Paper Machinery Co.
195		Ito Machine Shop
196		Takasaki Paper Co.
197		Yokohama Equipment Co.
198		Hirasawa Iron Works
199		Ironworks
200		Tokushima Machinery Co.
201		Asano Warehouses
202		Tokyo Rice Co.
203		Asano Cement Co.
204		Imperial Warehouses
205		Yuasa Warehouses
206		Mitsubishi Steel Mill
207		Mitsubishi Warehouses
208		Kubo Copper Works
209		Nitto Veneer Mfg. Co.
210		Kyodo Printing Co.
211		Toyo Lumber Co.
212		Lumber Mill
213		Army Provisions Depot
214	90.17-355	Unidentified industry
215		Fujikura Electric Cable Works
216	90.17-826	Bus Barns
217		Unidentified industry
218		Unidentified
219		Unidentified industry
220		Warehouse
221		Hitachi Engineering Works, Fukagawa Plant
222	90.17-2085	Teikoku Lumber Co.
223		Merchant Marine School
224		Aircraft Experimental Station
225		Unidentified industry
226		Government Grain Warehouses
227		Probable new Fukagawa plant of Mitsubishi Heavy Industry
228	90.17-2086	Susaki Dockyard of Ishikawajima Shipbuilding and Engineering Corp.
229	90.17-1459	Unidentified Industry
230		Unidentified Industry
231		Unidentified Industry
232		Unidentified Industry
233		Hitachi Warehouse Area
234		Unidentified

Prepared under the direction of the Chief of Engineers by the Army Map Service (AM), U. S. Army, Washington, D. C., 1945. Mosaic controlled by average fit to best available map source. Aerial photographs flown by U.S.A.A.F. (Sorties): 5M-16 40°/V Jan.'45, 4M-4 · 4M-20 24°/V Nov.'44, 4M-10 · 4M-37A 24°/V Dec.'44, 5M-5 12°-V Jan.'45.

Reliability of grid uncertain due to local minor disagreement between photo map and topographic map.

Scale 1:25,000 (Approximate)

1/2 0 1 Nautical Mile

1/2 0 1 Statute Mile

1000 500 0 1000 Meters

1000 500 0 1000 Yards

ONE THOUSAND YARD WORLD POLYCONIC GRID. BANDS ONE A THE LAST THREE DIGITS OF THE GRID NUMBERS ARE GIVEN

POLYCONIC PROJECTION

CONFIDENTIAL

1°52' OR 33 MILS

4°00' OR 71 MILS

Use diagram only to obtain numerical values. To determine magnetic north line, connect the pivot point "P" on the south edge of the map with the value of the angle between GRID NORTH and MAGNETIC NORTH, as plotted on the degree scale at the north edge of the map.

MEAN DECLINATION 1945 1°30' OF SHEET RANGE 1 WESTERLY

INDEX TO ADJOINING SHEETS

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TOKYO No. 7—PA

File No. 540,700.635

		b. Treasury	
		c. Government Printing Office	
		d. Comunications Department	
	90.17-1418	e. Marunouchi Telephone Exchange	
43		Numerous machine shops and precision instrument plants	
44	90.17-1448	Tsukiji Market and Wholesale Warehouses	
45	90.17-*365	Shiodome Freight Yards	
46		Shiba carbarns and bus terminal	
47	90.17-885	Takeshiba Pier	
48	90.17-1331	Kayaba Engineering Works and Kunifuji Steelworks	
49	90.17-886	Hinode-cho Piers	
50	90.17-*327	Mitsubishi A/C, Shibaura Plant	
51	90.17-1345	Tokyo Municipality Steam Plant & Shiba Gas Works	
52	90.17-*882	Bengal Machine Foundry	
53	90.17-*326	Factory No. 2 of Nippon Electric Co.	
54		Mita Carbarns	
55	90.17-883	Bengal Motor Plant	
56	90.17-2082	Japan Optical Mfg. Co.	
57		Municipal Electric Bureau	
58		Including Keio University and Mitsubishi Insurance Hq.	
59		Imperial Mint	
60		District of small machine shops	
	90.17-889	including Factory No. 3 of Nippon Electric	
61	90.17-887	Shibaura Wharf	
62		Municipal Electric Bureau, Shiba Workshops	
63	90.17-2083	Small casting and machine shops	
64		Tokyo Structural Steel Co.	
65		Small ironworks and machine shops	
66	90.17-888	Oki Electric Co. Ltd., Plant No. 1	
67		Ensuiko Sugar Co. and Kinuta Electric Co.	
68		Yokogawa Bridge Co.	
69	90.17-*364	Shinagawa RR Yards	
70		Shibaura Sewage Disposal Plant	
71		New warehouse area	
72		Military storage and transshipment area	
73		Small precision machinery plants	
74		Precision Parts Plants	
75		Former Senju Woolen Mill	
76		South Senju Engineering Works	
77		Ishimura Factory	
78	90.17-1370	Sumida River Bridge & RR Yard	
79		Kanegafuchi Spinning Co., Senju Mill	
80	90.17-1366	Nippon Oil Co.	
81		Former Japan Spinning Co., Senju Mill	
82	90.17-2084	Tokyo Gas Co., Senju Works	
83		Machinists School	
84		Yaegushi Works	
85		Oana Mfg. Co., Senju Plant	
86		Dye Works	
87		Minawa Street Car Barns	
88		Bus Terminal	
89		N Senju RR Yards	
90		Showa Rubber Co.	
91		Warehouses	
92		Japan Concrete Pole Co.	
93		Tokyo Iron Works	
94		Azuma Steel Works	
95	90.17-1394	Kanegafuchi A/C Parts Plant	
96		Asakusa Telephone Exchange	
97		Kubota Machinery Works, Sumida Plant	
98	90.17-1365	Japan Bakelite Co.	
99	90.17-*2106	Oana Mfg. Co., Mukojima Plant	
100		Telephone Exchange	
101		Choseki Cord Mfg. Co.	
102		Terajima Transformer Station	
103		Kanegafuchi Iron Works	
104		Daido Aluminum Products Co.	
105		Marumiya Rubber Works	
106		Kyowa Leather Co.	
107		Rubber Works	
108		Haneda Belt Co.	
109		Lion Soap Co.	
110	90.17-1430	Nippon Electric Wire and Cable Co.	
111		Soap Works	
112		Kyowa Leather Co.	
113		Tokyo Iron Works	
114		Royal Celluloid Co.	
115		Tokyo Cork Co.	
116		Daido Rubber Works	
117		Japan Brewery Co.	
118		Komiai Alcohol Co.	
119		Narihira Station & Yards	
120		Ito Dye Works	
121		Toyo Textiles, Mukojima Plant	
122		Japan Military Goods Co. No. 1 Plant	
123		Japan Machinery Co., Azuma Branch	
124		Japan Fat and Soap Co.	
125		Glass Works	
126		Tokyo Chemical Works	
127		Miyoshi Chemical Products Co.	
		Station and RR Yard	
183		Toppan Printing Co., Honjo Plant	
184		Lion Toothpaste Co.	
185		Tobacco Monopoly, Asakusa Plant	
186	90.17-1450	Kato Market	
187		Toppan Printing Co.	
188		Okada Manufacturing Co.	
189		Municipal Utility Workshops	
190		Tokyo Belting Co.	
191		Yamato Rubber Works	
192		Unidentified Industry	
193		Warehouses	
194		Takasaki Paper Machinery Co.	
195		Ito Machine Shop	
196		Takasaki Paper Co.	
197		Yokohama Equipment Co.	
198		Hirasawa Iron Works	
199		Ironworks	
200		Tokushima Machinery Co.	
201		Asano Warehouses	
202		Tokyo Rice Co.	
203		Asano Cement Co.	
204		Imperial Warehouses	
205		Yusen Warehouses	
206		Nippon Electric Mfg.	
207		Mitsubishi Warehouses	
208		Kisha Copper Works	
209		Nitta Veneer Mfg. Co.	
210		Kyodo Printing Co.	
211		Toyo Lumber Co.	
212		Lumber Mill	
213		Army Provisions Depot	
214	90.17-355	Unidentified industry	
215		Fujikura Electric Cable Works	
216	90.17-826	Bus Barns	
217		Unidentified industry	
218		Unidentified	
219		Unidentified industry	
220		Warehouse	
221		Hitachi Engineering Works, Fukagawa Plant	
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228	90.17-2086	Susaki Dockyard of Ishikawajima Shipbuilding and Engineering Corp.	
229	90.17-1459	Unidentified Industry	
230		Unidentified Industry	
231		Unidentified Industry	
232		Unidentified Industry	
233		Hitachi Warehouse Area	
234		Unidentified	
235		Sunamachi Sewage Disposal Plant	
236		Japan Special Steel Works	
237	90.17-1349	Tsukijima Ironworks, Sunamachi Branch	
238		Steam Engineering and Rolling Stock Mfg. Co.	
239	90.17-366	Unidentified	
240		Hasegawa Steel Works, Plant No. 2	
241		Asahi Steel Works	
242		Nakajima Iron Works	
243		Hasegawa Steel Works, Plant No. 1	
244		Azuma Steel Works, Sunamachi Plant	
245		Miya Steel Works	
246		Saito Iron Works	
247		Japan Manufacturing Co.	
248		Tokyo Heavy Industry	
249		Sakurada Engineering Works	
250	90.17-904	Showa Feed Co.	
251		Yokoyama Mfg. Co., Plant No. 2	
252		Japan Sugar Co.	
253		Asahi Steel Works, Sunamachi Plant	
254		Nasu Aluminum Products Co.	
255		Kameido Coke Co., Sunamachi Briquette Works	
256		Tokyo Gas Co., Sunamachi Branch	
257	90.17-907	Tokyo Gas Co., Sunamachi Branch	
258	90.17-907	Unidentified Industry	
259		Japan Steel Wire Co.	
260		Nisso Steel Mfg. Co.	
261	90.17-334	Hasegawa Steel Works, Plant No. 3	
262		Sunamachi Freight Yards	
263		Japan Flour Co., Tokyo Mill	
264		Ishikawajima Shipbuilding Co., Marine Engine Works	
265	90.17-*330	Toshin Warehouses	
266		Japan Ebonite	
267		Sumida Boatyard	
268		Nakayama Machine Co.	
269		Maruboshi Mfg. Co. Suna Works	
270		Suction Gas Engine Co.	
271			

NOTE: An asterisk adjoining target numbers listed above indicates targets for which Target Information Sheets have been distributed or are in process.

ENCL (D) COMAIRFORWARD P I MEMO NO 59 13 NOV 44 CONFIDENTIAL
1351
109
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133
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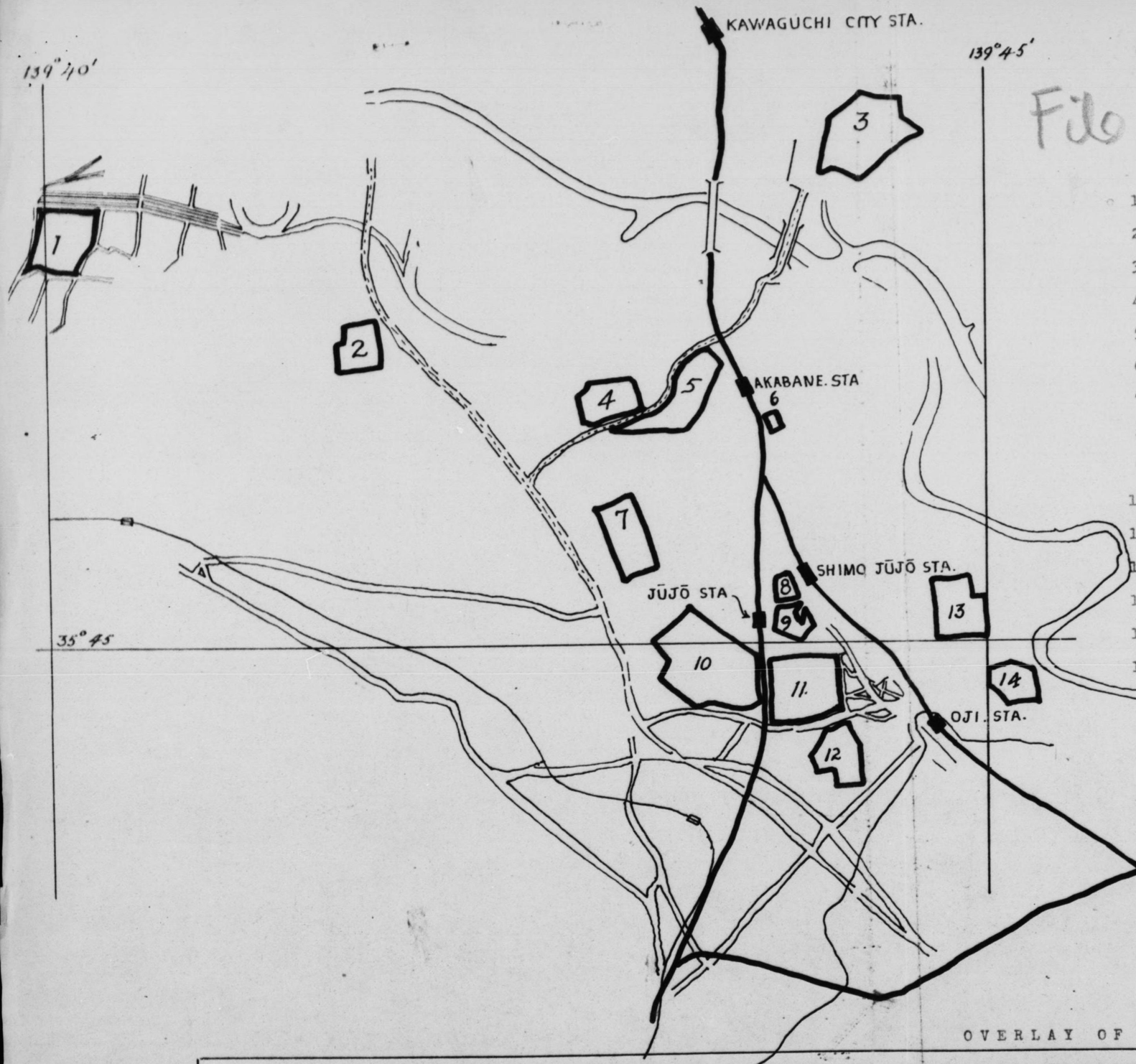
1337
POSSIBLY 129
KAWASAKI WATERFRONT
TOKYO BAY AREA
HONSHU I.

SECRET (A-188)

File Urban Areas, Tokyo

1316
844



1. JAPAN STEEL CO., YOTSUBA PLANT.
2. RIKEN INDUSTRIAL CO. ROLLING MILL, HASUNE PLANT.
3. JAPAN PISTON RING CO., KAWAGUCHI PLANT.
4. AKABANE POWDER STORAGE, TARGET 201.
5. AKABANE POWDER STORAGE, TARGET 202.
6. AKABANE POWDER STORAGE.
7. ITABASHI POWDER PLANT, TARGET 203.
8. JAPAN PISTON RING CO., JŪJŌ PLANT.
9. RIKEN IRON AND LIGHT METAL CO., JŪJŌ PLANT.
10. ITABASHI POWDER PLANT, TARGET 205.
11. OJI ARMY ARSENAL TARGET 206.
12. TAKINOGAWA ARMY ARSENAL, TARGET 209.
13. OJI POWDER PLANT, No.2, TARGET 207.
14. OJI POWDER PLANT, No.1 TARGET 208.
15. JAPAN SPINNING MILLS (ARMY CLOTHING SUPPLY), SENJU, ARAKAWA-KU, TOKYO.

OVERLAY OF TOKYO CITY MAP 1935.

KAWAGUCHI (SAITAMA PREF.) & ITABASHI–OJI–TAKINOGAWA (ITABASHI-KU, ŌJI-KU, TAKINOGAWA, TOKYO) AREAS.

OBS. 1944 — SKETCH No. 844. — DRAWN FEBRUARY 1945.

Secret

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5906

FF12-5/A16-3
(WTK-31-gfw)

UNITED STATES PACIFIC FLEET
AIR FORCE, PACIFIC FLEET

Serial 00721

~~SECRET~~ SECRET

5 APR 1945

FIRST ENDORSEMENT to:
CNO(Op-16-V Asn) Dir.
AirIntelGrp. Secret
ltr. Serial 00654916
dated 20 Mar. 1945.

From: Commander Air Force, Pacific Fleet.
To : Officer-in-Charge, Joint Intelligence Center, Pacific Ocean Areas (Attn: Target Analysis Section).

Subject: Joint Target Group Material - Forwarding of.

1. Forwarded.

A. N. McGEOCH, Jr.,
By directoin

Fwd: Cdr. Air force, Pac fet. cover.

Encl filed: JTG
T.F.H.

encl(A)

FF12-5/A16-3
(WTK-31-gfw)

UNITED STATES PACIFIC FLEET
AIR FORCE, PACIFIC FLEET

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A. N. McGEOCH, Jr.,
By directoin

NAVY DEPARTMENT
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON 25, D.C.

Op-16-VAsn
SECRET
Serial 00654916

SECRET

COPY

20 MAR 1945

From: Director, Air Intelligence Group,
Division of Naval Intelligence.
To : Commander Air Force, Pacific Fleet.
Officer in Charge, Operational Intelligence Section.

SUBJECT: Joint Target Group Material - Forwarding of.

Enclosure: (A) One copy of "Spot Damage Assessment Report No. 17 - Tokyo Urban Area" - Attacks of 25 Feb. and 10 Mar. 1945. Dated 16 March, 1945.

1. Enclosure (A) is forwarded for information of the Commander Air Force, Pacific Fleet and onward transmission to Joint Intelligence Center, Pacific Ocean Area, attention Target Analysis Section.

/s/ WARD CHENEY
By direction

SECRET

Encl (B)

16 March 1945

SECRET
By Authority of
The Commanding General
Army Air Forces
17 May 45 A.J.E. ai.
Date Initials

SPOT DAMAGE ASSESSMENT REPORT NO. 17

TOKYO URBAN AREA

Attacks of 25 February and 10 March 1945

PARTICULARS OF ATTACKS

On 25 February 167 aircraft dropped approximately 432 tons on Tokyo urban area, of which about 390 tons were M18 type IB clusters and the remainder consisted of 500-pound GP bombs. This attack was followed on 10 March by an attack on the central section of Tokyo north and northwest of the Palace and in the area between the Sumida and Naka Rivers by 285 planes carrying M47 and M69 IB bombs with an aggregate bomb weight of 1282 tons. The attack of 25 February was conducted during daylight from high altitude by radar with squadrons in column. The attack of 10 March was delivered from 6,000 to 9,000 feet with individual aiming by radar and visually. 1/

PREVIOUS REPORTS

None

CONCLUSIONS

Direct production loss resulting from attack is estimated as follows:

Direct Production Loss in Man-Months

	Destruction of Buildings and Equipment	Absenteeism	Total
Factories in Damaged Area			
Priority Factories			
Large	225,000	32,000	257,000
Small	371,000	37,000	408,000
Non-Priority Factories	247,000	--	247,000
Sub-total	843,000	69,000	912,000
Factories Outside Damaged Area	--	100,000	100,000
TOTAL	843,000	169,000	1,012,000

Direct Production Loss as a Proportion of Total Industrial Production in Tokyo and Japan Proper

(Based on man-months of industrial employment)

	3 Month Production	1 year's Production
Tokyo	24.8%	6.1%
Japan Proper	3.6%	.9%

3738

It is probable that repair and replacement will be limited to the high priority industrial plants having only a moderate or slight amount of damage. Small factories and non-priority manufacturing establishments are not likely to be rebuilt. Recuperation of

1/ Excluded from consideration is the attack of 3 March, of 462 tons (mainly HE) directed by radar from altitudes of 25,000 ft. and above. This attack was generally ineffective.

File - Tokyo - J.A.G.

-1- Encl (C)

To Serial 006354916

CONCLUSIONS (Cont'd)

priority production probably will emphasize the employment of existing excess capacities and greater over-all efficiency in production. The loss of production of consumer goods and services probably will be largely absorbed. This will mean further reduction in the standard of living of the affected population.

Essential transport and communication facilities probably will be quickly restored. Such repair and replacement will represent only partial restoration of the pre-attack plant and will be held to a bare minimum.

Should the large priority factories with moderate damage and essential transport and communication plants be repaired and replaced, an additional 317,000 man-months will be required. In this event, total production loss is 1,329,000 man-months.

It is estimated that 1.2 million persons were dehoused. The housing cushion in Tokyo has been largely removed with the destruction of some 200,000-250,000 homes. Persons dehoused representing essential labor probably will be rehoused in the undamaged dwellings and public buildings. Attempts will be made to evacuate as many as possible of the dehoused non-essential population. The magnitude of the number of those dehoused will cause re-adjustment both within and without the community of serious proportions, necessitating immediate government action.

Casualties are estimated at 50,000 of which about half are fatal.

Production loss from absenteeism is comparatively small because of the relative completeness of industrial destruction. Factories outside the damaged area are estimated to incur large-scale absenteeism for some three days.

A significant order of direct production loss of short duration has been imposed on the Japanese economy. Large scale community re-adjustment is necessitated. The man-months cost of a minimum industrial repair and replacement program is of substantial proportions. The industrial loss to priority industry end-products is not of itself significant, as the concentration of loss is essentially in the primary and secondary stages of processing, spread among numerous small and medium-size establishments. This diffused and widespread production loss will have serious effects in the interruption of industrial pipelines and their reorganization and in production stoppages of dependent plants where supply and inventories of components are in precarious balance. The large total of small segmentary damage even though deep in the economy will impose industrial strains and factors of unbalance which the Japanese probably can absorb in large part through further reduction in the standard of living.

The Japanese war economy has been characterized by rapid expansion of government controls of increasing rigidity. Tokyo is the nerve center of governmental war administration. The destruction and damage of a number of important government buildings contributes significantly to post-attack governmental disorganization. To the extent this disorganization exists some interference and confusion in war production may be expected. Although impossible to appraise in quantitative terms, this will be an added factor of production loss. It is questionable whether Japanese pre-attack planning facilities, and existing governmental controls are in any real measure adequate to meet the exigencies of such widespread devastation.

BGE

SECRET

DESCRIPTION AND SIGNIFICANCE

Attacks 25 February and 10 March 1945 were delivered to the central part of Tokyo comprising the area between the Naka and Sumida Rivers and an irregular area west of the Sumida river extending north and northeast from the general vicinity of the Imperial Palace. Additional and isolated damage occurred in and around the Palace grounds and in areas as far west as Nakano Ku. The largest areas of destruction were the central business section and the industrial/commercial/residential area west of the Sumida River. These sections include two of the most populous wards in Tokyo. The location here of some 3,000 plants and shops (predominantly small) gave the area considerable industrial significance. Available data indicate that plants in the area were engaged in producing building materials, such as cement, glass, lumber and hardware; in metal working such as drawing, rolling, galvanizing, casting, forging, stamping and plating; in the production of chemical, textile and mining machinery, locks, gears, bearings, simple machine tools, small gas engines, optical and precision instruments; small electric motors, wire and cable, switches, switch boards, tube bases and filaments; and consumer goods such as processed foods, clothing, drugs, soap; furniture and household articles. There are extensive wholesale food and other markets, storage facilities and some marine engine and boat building capacity in the area. Most of these establishments are located in the area between the Naka and Sumida Rivers. East of the Sumida River there is a greater preponderance of commercial and governmental administrative buildings and comparatively few of the production facilities described above.

PHYSICAL DAMAGE

Estimates of the damaged area as revealed in post strike photography aggregates some 369 million square feet or 13.2 square miles for both attacks of which an estimated 350 million square feet or 12.6 square miles related to the attack of 10 March.1/ Between 200,000 and 259,000 dwellings were destroyed dehousing an estimated 1,200,000 persons. Most of the small factories in the area were destroyed. (See Appendix A for a list of the more important factories and the extent of the physical damage to them.) Only a few of the larger, better constructed, and protected factories escaped total destruction. Housing in the area of the conflagration was destroyed.

1 attack!

CASUALTIES

It is estimated that some 50,000 persons may have been injured during and immediately succeeding the attack of which about half were fatal. If intrapment occurred because of the rapidity of fire spread and blocking of means of exit, casualties may be greater. (See Appendix B for comparison with Tokyo fire of 1923). Carefully guarded statement of the Japanese press and radio have voiced criticism of air raid defenses, have urged more extensive evacuation and have admitted to a "considerable" number of victims.

FUTURE TARGET VALUE

The devastated area has no future target value except for a few important plants at the north and south extremities.

Two other target areas in Tokyo of approximately the same size, with equal or greater industrial importance and comparable vulnerability, should be attacked as soon as possible.

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1/ - Reports of small, scattered damage in the west and northwest parts of the city cannot be verified because of incomplete photo cover.

SECRET

Table 1. Estimated Physical Damage to a Selected List of More Significant Installations

(Damaged Installations are Listed in Appendix A)

Type of Facility	Number of Factories				
	Total	Destroyed 1/	Extensively damaged 1/	Moderately damaged 1/	Slightly damaged 1/
Total	107	45	26	20	16
Aircraft	4	2	2	--	--
Armament	3	2	--	1	--
Chemicals	9	6	2	1	--
Electrical Equip.	5	3	1	--	1
Iron and Steel	10	3	2	3	2
Machine tools & precision instruments	5	1	3	--	1
Machined Metal Products	4	2	1	1	--
Machinery	4	1	1	--	2
Petroleum	3	2	--	1	--
Shipbldg. and repair	3	1	--	--	2
Textiles	5	4	--	--	1
Miscellaneous industrial	17	12	3	2	--
Storage	8	--	3	3	2
Transportation	8	3	3	1	1
Utilities	9	2	1	4	2
Public buildings	10	1	4	3	2

1/ Definition of damage categories:
"Destroyed" - more than 60 %
"Extensively" - 21% to 60%
"Moderately" - 5% to 20%
"Slightly" - less than 5%
Percentages are based on visible damage to building area. They exclude invisible damage to interiors and contents.

ECONOMIC ASSESSMENT

Damage and destruction to manufacturing plants was extensive with the principal impact on small and medium-size establishments.

Large plants are estimated to account for some 30 percent of manufacturing employment in the damaged area. Among the large plants suffering substantial damage are the Fujikura Electric Cable Works (90.17-826) a major producer of all types of insulated wire and cable (estimated 10 percent of Japanese capacity); the Rolling Stock Manufacturing Co. plant (90.17-366) producing locomotives and ordnance; the Hisao Steel Manufacturing Co. plant (90.17-334) producing special steel products; the Sakurada Engineering Works (90.17-904) manufacturing aircraft engine parts including carburetors; the Japan Machine Industry plant (90.17-1342) producing ordnance and aircraft components; the Tokyo Kosai Co. plant (90.17-1350) producing alloy and bearing steel, rolled products, and springs; Japan Bakelite Co. plant (90.17-1368) producing bakelite products - important metal substitute items (Japan's largest plant); the Nippon Electric Wire and Cable Co. plant (90.17-1430) a large-scale producer of wire and cable for power and communications systems; the Hiroshin Spinning Mill (90.17-912) possibly converted to aircraft or ordnance components; and the Japan Military Goods Co. plant (Ref. No. 122) a converted textile mill producing small naval ordnance components.

Among the less important and smaller-size manufacturing plants heavily damaged or destroyed are the Japan Fat and Soap Co. (Ref. No. 134) a large glycerine manufacturing plant, the Ozma Engineering Works (Ref. No. 85) producing aircraft electrical equipment; the Japan Machinery Co. plant (Ref. No. 123) manufacturing aircraft parts, including landing gear; the Hitto Veneer Manufacturing Co. plant (Ref. No. 210) producing plywood for trainer aircraft; the Asahi Steel Works, Sunamachi Plant (Ref. No. 284) producing ordnance components; the Japan Ebonite Co., Mikawajima plant (Ref. No. 74) producing plastics; the Tokyo Chemical Works plant (Ref. No. 126) producing industrial chemicals; the Nissan Chemical Mfg. Co. plant (Ref. No. 132) producing sulphuric acid; the Tokyo Heavy Industry (Ref. No. 249) manufacturing electrical equipment; the Japan Wire Co. plant (Ref. No. 260) producing wire and cable; the Ishihara Steel Works, Mukojima plant (Refer. No. 140) producing rolled steel products; the Daido Steel Co., Teibatsu plant (Ref. No. 141) producing steel ingots, springs, and forgings for ordnance; the Takasago Iron Works (Ref. No. 159) producing boilers and stripsteel; the Hasegawa Steel Works (Ref. No. 244) manufacturing castings; the Yokoyama Mfg. Co. (Ref. No. 253) producing structural steel products; the Japan Cast Steel Co., Oshima Tool plant (Ref. No. 154) producing machine tools and second grade bearings; the Hanada Printing Machinery Co., Plants Nos. 1 and 2 (Ref. No. 160 & 162) reported producing grinding machines and machine tools (general purpose machine tools); the Shinohara Machinery Co., Honjo plant (Ref. No. 181) a small producer of high quality specialized tools; the Japan Ford Products Co. plant (Ref. No. 166) manufacturing auto parts; the Kicho Copper Works (Ref. No. 209) producing metal products; the Engineering Works (Ref. No. 228) producing metal products for shipyards and auto plants; the Japan Mfg. Co. plant (Ref. No. 248) producing machinery and automotive parts; the Joto Boatyard (Ref. No. 235) building standardized cargo vessels; the Fukui Machinery Co. plant (Ref. No. 188) producing machinery; and the Tokushima Machinery Co. plant (Ref. No. 200) manufacturing gas engines.

Numerous lumber and woodworking plants, textile plants, rubber works, leather plants, and consumer goods manufacturing were extensively damaged or destroyed.

The medium and small-size manufacturing plants are responsible for approximately 70 percent of manufacturing employment.

RESTRICTED

ECONOMIC ASSESSMENT (Cont'd)

Total manufacturing employment in this industrialized area is estimated at some 300,000 workers spread among some 3000 plants.

The highest relative concentration of production loss apparently is in electrical equipment manufacturing, general metal machining, and in a broad category of consumer durable goods. The numerous small plants in these industrial activities were very largely destroyed.

Identified Small Plants Located in Completely Burned-Out Areas

	East of Sumida River	West of Sumida River
Consumer Goods food, clothing, drugs, soap, furniture and household articles	245	160
Building Materials cement, glass, lumber, building hardware	85	10
Metal Working drawing, rolling, galvanizing, casting, forging, stamping and plating; boilers, tanks, structural steel	545	70
Machinery machining, threading, grinding, polishing; automotive and aircraft parts; chemical, textile, mining machinery; tools, locks, gears, bearings; simple machine tools, small gas engines; optical and precision instruments	370	50
Electrical small motors, wire and cable switchboards, switches, tube bases and filaments, meters	90	16
Miscellaneous small chemical plants; plastics; warehouses	80	15
TOTAL	1415	321

In addition to the extensive destruction of manufacturing facilities a substantial number of important storages were severely damaged or destroyed. The more important storages seriously affected are the Mitsubishi Warehouses (Ref. No. 208), the Tsukiji Market and Warehouses (90.17-1448) one of Tokyo's three principal food storage and distribution centers; the Toshin Warehouses (Ref. No. 266) having extensive storage capacity; the Military Storage and Trans-shipment area (Ref. No. 72) a naval storage depot; the Koto Market (90.17-1450) also one of Tokyo's three principal food storage and distribution centers; and the Army Provisions Depot (90.17-355) comprising military storage.

BGSE

ECONOMIC ASSESSMENT (Cont'd)

Important transportation facilities incurred major damage or destruction. Among these facilities were the Shiodome Freight Yards (90.17-365) a key trans-shipment point for central Tokyo with extensive storage capacity; the Minawa Car Barns (Ref. No. 87) a tramway barn; a Bus Terminal (Ref. No. 88) an urban bus terminal and garage; the Narikara Station and Yards (Ref. No. 119) a local freight and shunting yards with freight sheds; the Kinshi-cho Freight Yards (Ref. No. 179) a local freight yard and storage depot; and the Ryogoku Station and Yard (90.17-1372) a local freight yard and storage depot.

Heavy damage was inflicted upon a number of important utility systems among which were the Railroad Transformer Stations (Ref. No. 19) transformer substations serving electric railways; the Tokyo Gas Co., Senju Works (Ref. No. 82) a large gas works with a minor by-products plant; a telephone exchange (Ref. No. 20) a local telephone exchange; the Terajima Transformer Station (Ref. No. 102) a secondary power transformer station; the Tokyo Gas Co., Sei Works (Ref. No. 155) producing coke and by-products; the Tokyo Gas Co., (Ref. No. 175) a gas storage plant; and the Tokyo Gas Co., Sunamachi Plant (90.17-908) producing gas and coke.

Among the important government buildings subject to substantial damage or destruction were the Imperial University (Ref. No. 13) Japan's largest university; the Tokyo Tax Office, the municipal tax Bureau; the National Treasury, the Government Printing Office, the Communications Office, the Agriculture and Forestry Office and the Court and Justice Office (all Ref. No. 42).

No estimate of direct production loss was made for damage and destruction of transportation and communications facilities, storages, and utility systems.

Direct production loss of large priority factories is estimated at 257,000 man-months; for small priority factories 408,000 man-months; total loss for priority industry (within damaged area) is 665,000 man-months.

Non-priority factories (within damaged area) are estimated to incur production loss of 247,000 man-months.

Because of the relative completeness of destruction there is only a relatively small proportion of additive absenteeism - 7.5 percent of total direct loss (plants within area of damage).

Factories outside the damaged area in Tokyo will be affected by the attack and resulting conflagrations. It is estimated that 100,000 man-months of absenteeism will result from firefighting, fatigue, aid to the injured, searching for relatives and friends, etc.

Total direct production loss therefore is 1,012,000 man-months.

Repair and replacement probably will be limited to the high priority industrial plants having no more than a moderate amount of building damage. The extensiveness of the industrial damage, the relative tightness of the Japanese economy, and the existence of some excess capacities in particular industries support this conclusion. Small priority factories and non-priority manufacturing plants are not likely to be replaced. Recuperation of priority production probably will be largely confined to the employment of excess industrial capacities, upgrading of industrial facilities to higher priority uses, and emphasis on greater overall efficiency in production.

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ECONOMIC ASSESSMENT (Cont'd)

Production loss of consumer durables and consumer services probably will be largely absorbed. This will cause further reduction in the standard of living of the affected population.

Transport and communication facilities of the most essential character probably will be quickly restored. Such repair and replacement will represent no more than a partial restoration of the pre-attack plant.

Should the large priority factories with no more than moderate damage and the minimum transport and communications plant replacements occur an additional 317,000 man-months will be required. Productions loss, with inclusion of the minimum replacement requirements, is in the amount of 1,329,000 man-months.

It is estimated that 1.2 million persons were dehoused. The destruction of some 200,000-250,000 homes has largely removed the pre-attack housing cushion in Tokyo. The undamaged housing remaining is estimated to be adequate to absorb the essential workers among those dehoused. Undamaged dwellings and public buildings will be used to provide quarters probably under rigid government direction. Re-adjustment of those dehoused through evacuation of the non-essential population to other areas and the essential persons to undamaged housing facilities in Tokyo will be a major task.

It is improbable that there will be any significant replacement of destroyed housing. The impact of the destroyed housing, therefore, will express itself in further reduction of civilian living standards for the population affected.

Casualties are estimated at 50,000 of which 30,000 are fatal. This represents probably a minimum. Any large-scale entrapments would cause casualties to reach a large total. Present information available does not permit a more adequate estimate of casualties.

3938

REMARKS

1. This report is based on incomplete cover and it is possible that there are additional small areas of damage in other parts of the city.

2. This is the first instance of a conflagration in a highly congested industrial district. It is highly probable that comparable industrial damage can be accomplished in areas of similar character, both in Tokyo and other cities. It demonstrates the importance of avoiding unnecessary firebreaking of important target areas by light, random attacks.

3. It is of urgent importance that two other target areas in south and north Tokyo of approximately the same size, with equal or greater industrial importance and comparable vulnerabilities, be attacked as soon as possible as (a) the undamaged industrial plants will be more fully utilized, (b) a heavier concentration of essential industrial workers will be found in the undamaged housing, (c) first-aid transport, and other facilities essential to post-attack relief are in a critical situation, and (d) general industrial and social disorganization will rapidly pyramid.

4. It should be noted that, while the magnitude of industrial loss from this attack was relatively large, the direct effect on military end-product production - particularly with reference to ground strength - is not of appreciable significance on a short term basis. There are several target areas which offer greater opportunity to inflict direct loss on military end-products.

3520

APPENDIX B

Tokyo Earthquake and Fire of 1923

Fire damage in the earthquake and fire disaster of September 1923 occurred in a section of Tokyo almost identical to the area of damage resulting from the two attacks assessed here. Because information on the extent of damage caused by these two attacks is not available from Japanese sources the following data are presented for the disaster of 1923 for comparative purposes: Area devastated 17 sq. miles; houses completely burned 300,924; houses damaged 10,797; persons dehoused 1,500,000; total casualties 94,928, of which 58,104 were fatal.

It is not possible to estimate the bomb damage to city railway systems and rolling stock from currently available information and photo cover. Date relating to the 1923 earthquake and fire reveal destruction from fire of 900 street cars and all overhead wiring in the burned area.

In making any comparison the following differences between the 1923 disaster and the bombing of 1945 should be noted: (1) The fire began at noon while the bombing attack of 10 March began shortly after midnight, (2) reconstruction of the area after 1923 provided wider straight streets; (3) concrete bridges replaced wooden bridges burned out in the 1923 disaster - loss of life on wooden bridges was considerable in 1923; and (4) the primary entrapment in 1923, occurred at the Military Clothing Depot, while it may be expected that loss of life from the bombing attacks occurred principally from enforced firefighting and the location of small shelters along-side homes.

BCAC

APPENDIX A

SELECTED LIST OF MORE SIGNIFICANT INSTALLATIONS DAMAGED

Physical Damage 1/				Reference No.	Target No.	Name	Product Description
Destroyed	Extensive	Moderate	Slight				
						AIRCRAFT	
	X			85	- -	Oana Engineering Works	Generators and other aircraft electrical equipment.
X				123	- -	Japan Machinery Co.	Aircraft parts, including landing gear.
	X			250	904	Sakurada Engineering Works	Aircraft engine parts (including carburetors).
X				210	- -	Nitta Veneer Manufacturing Co.	Plywood for trainer aircraft.
						ARMAMENT	
X				122	- -	Japan Military Goods Co.	Converted textile mill, producing small naval ordnance components.
X				176	1342	Japan Machine Industry	Ordnance and aircraft components.
		X		254	- -	Asahi Steel Works, Sunamachi Plant	Ordnance components.
						CHEMICALS	
X				74	- -	Japan Ebonite, Mikawajima Plant	Plastics.
	X			98	1365	Japan Bakelite Co.	Japan's largest Bakelite Plant (important metal-substitute items).
X				109	- -	Lion Soap Co.	Fats and glycerine.
	X			118	- -	Komiai Alcohol Co.	Alcohol distillery.
		X		120	- -	Ito Dyeworks	Dyestuffs.
X				124	- -	Japan Fat and Soap Co.	Large glycerine plant.
X				126	- -	Tokyo Chemical Works	Industrial chemicals.
X				127	- -	Miyoshi Chemical Co.	Unidentified chemicals.
X				132	- -	Nissan Chemical Mfg. Co.	Sulphuric acid.
						ELECTRICAL EQUIPMENT	
X				110	1430	Nippon Electric Wire and Cable Co.	Large-scale producer of wire and cable for power and communications.
			X	142	916	Hitachi Engineering, Kameido Plant	Major producer of heavy electrical equipment and industrial machinery.
X				216	826	Fujikura Electric Cable Works	Major producer of all types of insulated wire and cable (10% Jap capacity).
	X			249	- -	Tokyo Heavy Industry	Electrical Equipment.
X				260	- -	Japan Wire Co.	Wire and cable.
						IRON AND STEEL	
X				140	- -	Ishihara Steel Works, Mukojima Plant	Rolled steel products.
X				141	- -	Daido Steel Co., Teihatsu Plant	Alloy steel ingots, springs, forgings for ordnance.
	X			156& 157	1350	Tokyo Kozai Co.	Alloy and bearing steel, rolled products & springs.
X				159	- -	Takasago Iron Works	Boilers and strip steel.

1/ Definition of damage categories:
"Destroyed" - more than 60%
"Extensive" - 21% to 60%
"Moderate" - 5% to 20%
"Slight" - less than 5%
Percentages are based on visible damage to building area. They exclude invisible damage to interiors and contents.

Physical Damage 1/				Reference No.	Target No.	Name	Product Description
Destroyed	Extensive	Moderate	Slight				
						IRON AND STEEL (Cont'd.)	
		X		222	- -	Hitachi Engineering Works, Fukagawa Plant	Alloy steel ingots and castings
			X	237	1349	Japan Special Steel Works	Alloy steel and rolled products.
	X			244	- -	Hasegawa Steel Works	Castings.
			X	245	- -	Azuma Steel Works	Castings and rolled products.
		X		252	- -	Yokoyama Manufacturing Co.	Structural steel.
		X		261	334	Nisso Steel Manufacturing Co.	Special steel products.
						MACHINE TOOLS AND PRECISION INSTRUMENTS	
	X			154	- -	Japan Cast Steel Co., Oshima Tool Plant	Machine tools and second grade bearings.
	X			160	- -	Hamada Printing Machinery Co., Plant #1	Reported producing grinding machines and machine tools.
	X			162	- -	Hamada Printing Machinery Co., Plant #2	General purpose machine tools.
			X	168	913	Hattori Company	Large plant; precision instruments and fuses.
X				181	- -	Shinohara Machinery Co., Honjo Plant	Small producer of high quality, specialised tools
						MACHINED METAL PRODUCTS	
X				166	- -	Japan Ford Products Co.	Auto parts.
X				209	- -	Kicho Copper Works	Metal products.
	X			228	- -	Engineering Works	Metal products for shipyards and auto plants.
		X		248	- -	Japan Manufacturing Co.	Machinery and automotive parts.
						MACHINERY	
			X	43	- -	Tsugishima Machinery Co.	Chemical plant equipment.
			X	152	- -	Yoshizawa Machinery Co.	Chemical plant equipment.
	X			158	- -	Fukui Machinery Co.	Machinery.
X				200	- -	Tokushima Machinery Co.	Gas engines.
						PETROLEUM	
		X		80	1366	Nippon Oil Co.	Local storage and distribution.
X				163	910	Rising Sun Petroleum Terminal	Small tank farm
X				199	911	Ogura Oil Co.	Minor refining capacity; storage.
						SHIPBUILDING AND REPAIR	
			X	229	1459	Susaki Dockyard of Ishikawajima Co.	Shipbuilding and repair yard for medium size naval & merchant ships.
X				235	- -	Joto Boatyard	Builds standardized cargo vessels.
			X	265	330	Ishikawajima Shipbuilding Co., Marine Engine Works	Major producer of all types of marine engines.

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APPENDIX A (Cont'd.)

Physical Damage 1/				Reference No.	Target No.	Name	Product Description
Destroyed	Extensive	Moderate	Slight				
						TEXTILES	
X				73	- -	Japan Woolen Cloth Co.	Textiles.
			X	101	- -	Choseki Cord Manufacturing Co.	Cord.
X				153	1914 1915	Oriental Weaving Co.	Textiles.
X				121	- -	Toyo Textile Co, Mukojima Plant	Textiles.
X				167	912	Misshin Spinning Mill	Large plant; possible conversion to aircraft or ordnance components.
						MISCELLANEOUS INDUSTRIAL	
X				18	- -	Toppan Printing Co., Shitayo Plant	Large engraving and printing plant.
X				105	- -	Marumiya Rubber Works	Rubber products.
X				106	- -	Kyowa Leather Co.	Industrial leather products.
	X			107	- -	Rubber Works	Rubber products.
X				108	- -	Haneda Belt Co.	Industrial belting.
		X		117	- -	Japan Brewing Co.	Large brewery.
X				125	- -	Glass works	Glass products.
X				130	- -	Meiji Leather Co.	Industrial leather products.
X				139	- -	Daido Weaving Co., Kameido Mill	Textiles.
	X			183	- -	Toppan Printing Type Co., Honjo Plant	Type metal and type.
		X		203	- -	Asano Cement Co.	Cement.
X				207	- -	Kiyosumi Lumber Mill	Woodworking.
X				212	- -	Toyo Lumber Co.	Woodworking.
X				213	- -	Lumber mill	Woodworking.
X				223	- -	Teikoku Lumber Co.	Large woodworking plant.
	X			264	- -	Japan Flour Co., Tokyo Plant	Large flour mill.
						STORAGE	
			X	17	1449	Kanda Market and RR Station	Tokyo's principal food storage and distribution center.
	X			208	- -	Mitsubishi Warehouses	Storage.
		X		44	1448	Tsukiji Market and Warehouses	One of Tokyo's 3 principal food storage and distribution centers.
		X		266	- -	Toshin Warehouses	Extensive storage.
			X	71	- -	New Warehouse Area	Unidentified storage.
	X			72	- -	Military Storage and Trans-shipment Area	Naval storage depot.
		X		186	1450	Koto Market	One of Tokyo's 3 principal food storage and distribution centers.
	X			214	355	Army Provisions Depot	Military storage

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"Slight" - less than 5%
Percentages are based on visible damage to building area. They exclude invisible damage to interiors and contents.

APPENDIX A (Cont'd.)

Physical Damage 1/				Reference No.	Target No.	Name	Product Description
Destroyed	Extensive	Moderate	Slight				
						TRANSPORTATION FACILITIES	
			X	14	369	Ueno Station	One of Tokyo's 3 principal passenger stations.
	X			45	365	Shidome Freight Yards	Key trans-shipment point for central Tokyo; extensive storage facilities.
X				87	- -	Minawa Car Barns	Tramway barn.
	X			88	- -	Bus Terminal	Urban bus terminal and garage.
X				119	- -	Narihira Station & Yards	Local freight and shunting yards; freight sheds.
X				179	- -	Kinshi-cho Freight Yards	Local freight yard and storage depot.
	X			182	1372	Ryogoku Station and Yard	Local freight yard and storage depot.
		X		239	366	Rolling Stock Mfg. Co.	Locomotives and ordnance.
						UTILITIES	
		X		19	- -	RR Transformer Stations	Transformer sub-stations serving electric railways.
		X		82	- -	Tokyo Gas Co., Senju Works	Large gas works; minor by-products plant.
		X		20	- -	Telephone Exchange	Local telephone exchange.
			X	100	- -	Telephone Exchange	Local telephone exchange.
		X		102	- -	Terajima Transformer Station	Secondary power transformer station.
X				155	- -	Tokyo Gas Co., Sei Works	Coke and by-products.
			X	42	1418	Marunouchi Telephone Exchange	Tokyo's central telephone exchange.
X				175	- -	Tokyo Gas Co.	Gas storage.
	X			257 258	907	Tokyo Gas Co, Sunamachi plant	Gas and coke.
						PUBLIC BUILDINGS	
			X	12	352	Army Engineering School	H.Q. Army Engineering School.
		X		13	- -	Imperial University	Japan's largest university.
	X			28	- -	Schools and Public Bldgs.	Group of public buildings and schools.
			X	29	- -	Meteorological Center	National meteorological bureau.
	X			42	- -	Tokyo Tax Office	Municipal tax bureau.
	X			42	- -	National Treasury	National treasury bureau.
X				42	- -	Government Printing Office	National printing office.
		X		42	- -	Communications Office	National communications bureau.
	X			42	- -	Agriculture and Forestry Office	National bureau of agriculture and forestry.
		X		42	- -	Court and Justice Office	National court offices.

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