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COPY No. 423

AIR TARGET INTELLIGENCE
JAPANESE WAR

TARGET ANALYSIS BY AREAS

VOLUME 6

JOINT TARGET GROUP

WASHINGTON, D. C.

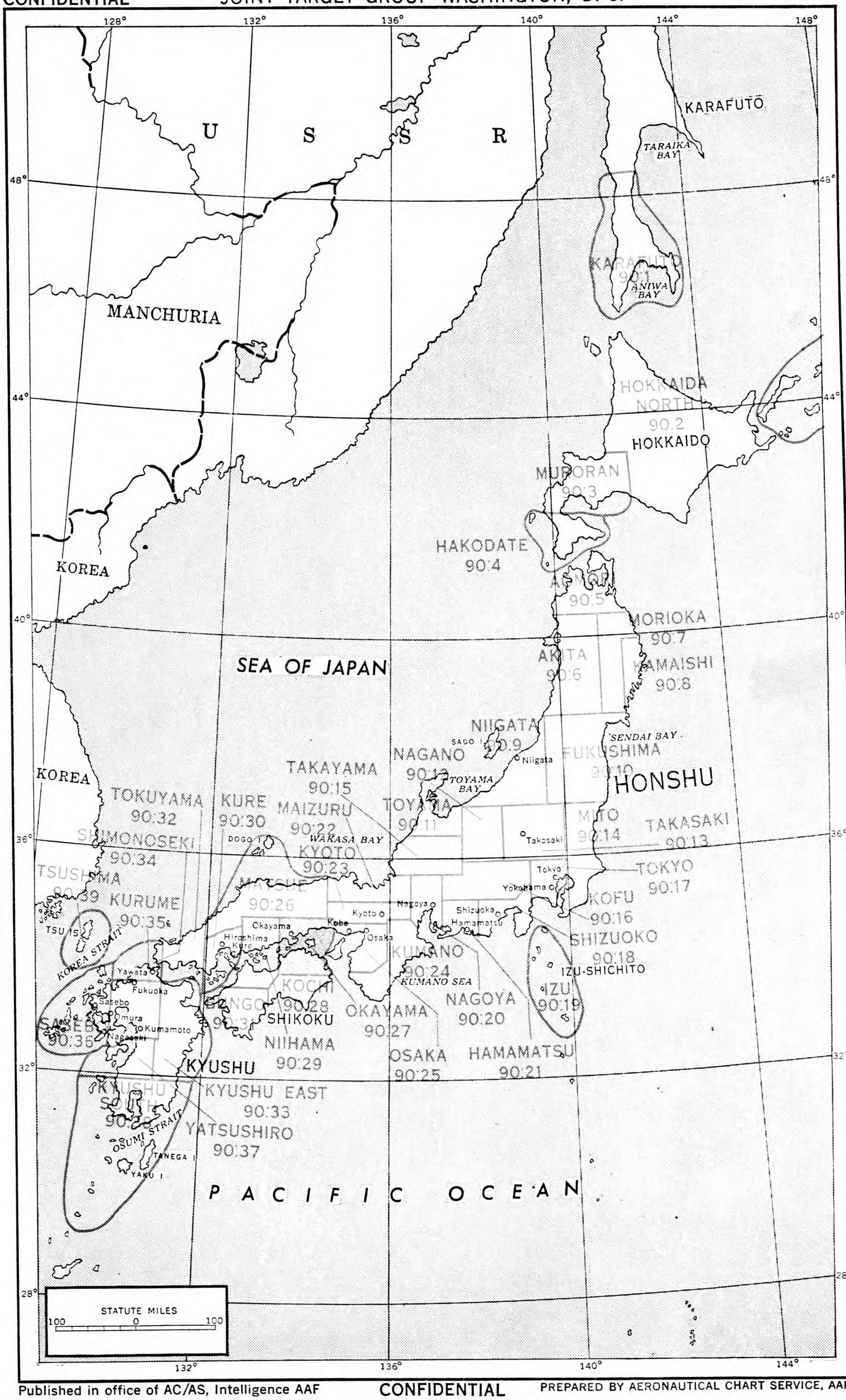
CONFIDENTIAL

JOINT TARGET GROUP
WASHINGTON, D. C.

ADDENDA CHECK LIST

ADDENDUM No.	INSERTED		ADDENDUM No.	INSERTED		ADDENDUM No.	INSERTED		ADDENDUM No.	INSERTED	
	By	Date		By	Date		By	Date		By	Date
1	Included in Binders		26			51			76		
2			27			52			77		
3			28			53			78		
4			29			54			79		
5			30			55			80		
6			31			56			81		
7			32			57			82		
8			33			58			83		
9			34			59			84		
10			35			60			85		
11			36			61			86		
12	New Binders Issued Complete		37			62			87		
13			38			63			88		
14			39			64			89		
15			40			65			90		
16			41			66			91		
17			42			67			92		
18			43			68			93		
19			44			69			94		
20			45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

JOINT TARGET GROUP WASHINGTON, D. C.



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90:27 OKAYAMA

File No. 640,100

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX—JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:27—OKAYAMA (JAPAN)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:27-1281 Okayama (Japan)	**Dai Nippon Celluloid Co.**	**Near coast SE of Aboshi.**	**34°47′N 134°36′E**	**EPI** BPI	**A** C	**Manufactures celluloid, acetate plastics for aircraft industry and nitrocellulose for propellants.**
90:27-1283 Okayama (Japan)	**Sanyo Steam Power Plant No. 3**	**S of Shikama at E mouth of Shikama Harbor.**	**34°47′N 134°40′E**	**BSU**	**EP**	**Largest plant in Himeji region, with reported expansion from 70,000 kw to 100-125,000 kw.**
90:27-1284 Okayama (Japan)	**Chugoku Steam Power Plant**	**On E bank and ½ mile from mouth of Asahi River, below Okayama.**	**34°36′N 133°59′E**	**BSU**	**EP**	**Largest in Okayama region with 75,000 kw capacity. Reinforced concrete power house.**
90:27-1286 Okayama (Japan)	Sanyo Steam Power Plants Nos. 1 & 2	S Shikama City in NE corner of Shikama Harbor.	34°47′N 134°40′E	BSU	EP	Two small standby plants with total capacity of 23,000 kw.
90:27-1289 Okayama (Japan)	Uno Harbor	S Uno.	34°28′N 133°57′E	BSU	S	Cancelled. See Target No. 90:27-3428.
90:27-1290 Okayama (Japan)	**Japan Iron Works, Hirohata Plant**	**S of Hirohata.**	**34°47′N 134°38′E**	**BPI**	**CIS**	**Most modern integrated plant in Japan Proper with largest ship's plate capacity in Jap Empire.**
90:27-1290A Okayama (Japan)	**Japan Iron Works, Hirohata Power Plant**	**Within compound of Japan Iron Works, Hirohata Plant (90:27-1290).**	**34°47′N 134°38′E**	**BSU**	**EP**	**75,000 kw. Supplies the iron works.**
90:27-1295 Okayama (Japan)	**Mitsui Tama Shipyard**	**E and SE of Tama on Katsurashima Strait.**	**34°28′N 133°56′E**	**BEI** BSU	**TE** S	**One of leading Japanese shipyards with pre-war launchings of 12% of commercial production. Builds and repairs tankers, cargo ships, Diesel engines, boilers, etc.**
90:27-1296 Okayama (Japan)	**Harima Shipyard**	**On NW side of Oo Bay, ½ mile SW of Oo.**	**34°47′N 134°28′E**	**BEI** BSU	**TE** S	**One of leading shipyards with 9% of total pre-war launchings. Builds and repairs ships and makes steam engines, boilers and machinery. Has built submarines and mine layers.**
90:27-1297 Okayama (Japan)	Mitsubishi Copper Smelter & Zinc Refinery	On Nao Island, across Katsurashima Strait and 1 mile E of Mitsui Tama Shipyard (90:27-1295).	34°28′N 133°58′E	BPI	NFM C	Important copper and high grade zinc refinery. Also has sulphuric acid plant.
90:27-1303 Okayama (Japan)	**Tadotsu RR Yards & Repair Shops**	**Near coast in NW Tadotsu**	**34°16′N 133°45′E**	**BSU**	**RRT**	**Extensive freight yards. Only major railroad shops on Shikoku Island. Repairs both locomotives and cars.**
90:27-1648 Okayama (Japan)	Asada Alumina Plants	ENE edge of Shikama.	34°48′N 134°41′E	BPI	NFM	Two small alumina plants on adjoining sites. Estimated capacity 3,000 tons with increase planned.
90:27-1681 Okayama (Japan)	**Mitsubishi Aircraft, Mishima Plant**	**1½ miles S of Tsurashima and 3¼ miles SE of Tamashima.**	**34°31′N 133°44′E**	**EPI**	**AC**	**One of major airframe plants in quantity production of navy bombers.**
90:27-1920 Okayama (Japan)	Sanyo Steel Co., Shikama Plant	Large area just E of Shikama and W of Ichi River.	34°47′N 134°41′E	BPI	CIS	Medium producer of special steels, rolled and forged products.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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SHEET . . . . . ATI
DATE . . . . . 20 June 1945

JOINT TARGET GROUP, WASHINGTON, D. C.
AIR TARGET INDEX — JAPANESE WAR
NUMERICAL TARGET INDEX

OBJECTIVE AREA 90:27—OKAYAMA (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:27-1921 Okayama (Japan)	Nippon Iron Sand Industry, Shikama Plant	E of Shikama and W of Ichi River.	34°47′N 134°41′E	BPI	CIS	Medium size supplier of bearing steel.
90:27-1922 Okayama (Japan)	Teikoku Mining Co., Hibi Refinery	About ½ mile W of Hibi.	34°27′N 133°55′E	BPI	NFM C	Zinc refinery and large sulphuric acid producer. Probably expanded.
90:27-2047 Okayama (Japan)	**Kawanishi Aircraft, Himeji Plant**	**In E Himeji.**	**34°50′N 134°43′E**	**EPI**	**AC**	**Nippon Keori Textile Mill converted to production of new Navy fighter GEORGE.**
90:27-2120 Okayama (Japan)	**Tokyo Shibaura Electric Co., Aboshi Plant**	**W of town of Aboshi. About 1¼ miles WSW of Dai Nippon Celluloid Co. (90:27-1281).**	**34°46′N 135°35′E**	**BEI**	**MMT**	**New heavy electrical equipment plant of this company.**
90:27-2232 Okayama (Japan)	**Takahashi Munitions storage**	**Takahashi**	**34°56′N 134°44′E**	**MS**	**M**	**Munitions storage area.**
90:27-3427 Okayama (Japan)	Hibi—Port Area	On Strait between Hiuchi and Harima Seas in SW Honshu.	34°27′N 133°56′E	BSU	S	Landing.
90:27-3428 Okayama (Japan)	Uno/Tama—Port Area	On Strait between Hiuchi and Harima Seas in SW Honshu.	34°28′N 133°57′E	BSU BEI	S TE	Annual capacity about 1,089,000 metric tons. Shipyard. Terminus of rail ferry from Takamatsu.
90:27-3429 Okayama (Japan)	Oo—Port Area	On Harima Sea in SW Honshu.	34°47′E 134°28′E	BSU BEI	S TE	Landing, anchorage and shipyard.
90:27-3436 Okayama (Japan)	Sakaide—Port Area	On Strait between Hiuchi and Harima Seas in NE Shikoku.	34°20′N 133°52′E	BSU	S	Annual capacity about 214,000 metric tons. Port for small vessels.
90:27-3437 Okayama (Japan)	Tadotsu—Port Area	On Hiuchi Sea in N Central Shikoku.	34°16′N 133°45′E	BSU	S	Port for coastal vessels.
90:27-3438 Okayama (Japan)	Kannonji—Port Area	On Hiuchi Sea in N Central Shikoku.	34°07′N 133°39′E	BSU	S	Port for small vessels.
90:27-3500 Okayama (Japan)	Komatsushima—Port Area	S of Naruto Strait in E Central Shikoku.	34°01′N 134°35′E	BSU	S	Annual capacity about 973,000 metric tons. Port for coastal vessels.
90:27-3514 Okayama (Japan)	Hirohata/Shikama—Port Area	On Harima Sea in S Central Honshu.	34°47′N 134°39′E	BSU	S	Port of Himeji. Steel.
90:27-3516 Okayama (Japan)	Takamatsu—Port Area	On Harima Sea in NE Shikoku.	34°21′N 134°03′E	BSU	S	Annual capacity about 1,518,000 metric tons. Terminus of rail ferry from Uno.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

DAI NIPPON CELLULOID CO.
ABOSHI JAPAN

SHEET . . . . . 90:27-1281—TL
DATE . . . . . 18 May 1945
TARGET 90:27-1281
CATEGORY . End Prdt. Ind.—ARMAMENT
COORDINATES . . . . 34°47'N 134°36'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

A medium size plant believed to be devoted primarily to the production of nitrocellulose probably for propellants and/or acetate plastics for the aircraft industry.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,250

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:30,500

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File No. 642,281.1

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

Sheet	90:27-1681—TI
Date	6 April 1945
Page	1
Target	90:27-1681
Obj. Area	90:27
Obj. Folder	New Target
Category:	End Prdt. Ind.—AIRCRAFT
Lat.	34°31′N
Long.	133°44′E
Alt.	10 feet

MITSUBISHI AIRCRAFT, MISHIMA PLANT

TAMASHIMA • • • • • • • • • JAPAN

ALL PREVIOUS SHEETS CANCELLED

REPRINT

SIGNIFICANCE

This is a new Mitsubishi plant still under construction. Production of Betty bombers was begun early in 1944 and at present output is estimated by MID at 25 per month. The huge size of the plant—nearly 3.5 million square feet—suggests that eventual monthly capacity may well be 150–200 planes of this type. Peak production will probably not be reached before 1946 but the plant might become quite important before that time, especially if facilities from the Nagoya plant are moved here.

LOCATION

On the coast, 1.5 miles south of the town of Tsurashima, 3.25 miles southeast of the city of Tamashima. The plant and airfield are on a small irregular peninsula which is bounded on the east by the East Takahashi River and on the west by a shallow inlet. Ohira Mountain, a wooded area, lies 2 miles north. An elongated cantonment area extends toward this mountain from the factory area.

DESCRIPTION AND LAY-OUT

(Refer to Illustration No. 90.27–1681 P4.) The total target area is about 4,000 feet east-west by 3,100 feet north-south, roughly rectangular in shape. This plant is one of the first known Japanese attempts to disperse within a site area. The built-up area (including buildings under construction) is relatively low, amounting to slightly over 25 percent. A considerable amount of building construction and site preparation is in evidence on the photography of 8 December 1944 and 16 February 1945. Construction was continuing on buildings 8 and 17. In general, the material flow in this plant is from the east side to the west side. Those buildings in the eastern third of the plant are mainly devoted to raw material preparation and metal forming. The center portion is mainly devoted to subassembly while the western section contains the final assembly buildings. A test field with hangars lies immediately south of the factory area. A long cantonment for workers lies north of the plant.

PRIMARY OBJECTIVES

(Refer to Illustrations No. 90.27–1681 P4, P5, and P6.) The primary and secondary objectives, listed in approximate order of productive importance are as follows:

Primary	*Secondary*
41	17
51	58
71	12
47	74
	66
	72
	75

Destruction of the primary buildings would curtail production greatly in the vital subassembly and metal fabrication sections of the plant. Final assembly, machining, heat treating, and wood-working are among the processes believed housed in the secondary units. While buildings 63 to 65 are not shown on Illustration No. 90.27–1681 P5 as secondary objectives, this group contains the foundry and the drop hammer shop and their loss also would affect production to a considerable extent.

CONSTRUCTION AND VULNERABILITY

(Refer to Illustration No. 90.27–1681 P4, P5, and P6.)

Primary and secondary objectives listed in order of importance:

Building No.	Plan area (sq. ft.)	Roof [1]	Combustibility	HE vulnerability [2]
41	232,500	Light	Noncombustible	V4
51	232,500	do	do	V4
71	192,700	do	do	V4
47	232,500	do	do	V4
17	402,800	do	do	V4
58	302,400	do	do	V4
12	278,000	do	do	V4
74	75,000	do	do	V4
66	39,600	do	do	V4
72	57,800	do	do	V4
75	48,100	do	do	V4

[1] [2] See footnotes on p. 2.

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189T-3

Classification of buildings:

	Primary and secondary objectives	Whole target
Total plan area of buildings (square feet)	2,093,900	3,100,000
Total floor area (square feet)	2,093,900	3,340,000
Combustibility (based on plan area):	*Percent*	*Percent*
Fire resistant (R)		0.5
Noncombustible (N)	100	74.5
Combustible (C)		25
HE vulnerability (based on plan area):		
V1 (least vulnerable)		.5
V2		
V3		6
V4	100	93.5
V5 (most vulnerable)		

[1] Lightweight roofs are readily penetrated by all types of incendiary bombs. Initiation of HE tail fuzes by these roofs cannot be depended upon except for bombs striking structural members (30 to 40 percent of bombs striking buildings).

[2] HE vulnerability classifications are explained in JTG Memorandum No. JTG/M/3/1 which is now in process of revision. In brief, a single vulnerability classification is assigned types of industrial buildings which behave in a similar manner when attacked with the same HE weapon. These vulnerability classes are arranged in order of vulnerability to HE attack, with very invulnerable multi-story, earthquakeproof structures assigned the classification V1. The other classifications V2, V3, V4, V5 are progressively more vulnerable types, V5 being the most vulnerable large span, arched hangar type structures. Most 1-story buildings fall in class V4.

Susceptibility of contents to IB (whole target): Fair (average industrial fire occupancy). For detailed study of susceptibility of structures and contents to incendiary attack refer to Illustration No. 90.27–1681 P5.

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WEAPON RECOMMENDATIONS

Refer to Weapon Recommendations Sheet No. 90.27–1681 WR1 for high and medium altitude attack and to Weapon Recommendations Sheet No. 90.27–1681 WR2 for low altitude attack.

CAMOUFLAGE, DECOYS, AND SMOKE SCREENS

Photography of 8 December 1944 shows no attempt at camouflage. Photography of 16 February 1945 shows some disruptive roof painting. Use of decoys or smoke screens has not been reported.

ADDITIONAL INFORMATION

The line-up of over 20 bombers within the plant area in photography of 8 December 1944, and 15 or more on 16 February 1945, suggests that either some final assembly functions are being carried on out of doors until building 17 is completed, or that some production problem on a component or part has necessitated this temporary alinement.

JOINT TARGET GROUP, WASHINGTON, D. C.

WEAPON RECOMMENDATIONS SHEET

Sheet	90:27-1681—WR1
Date	5 April 1945
Page	1
Target	90:27-1681
Obj. Area	90:27
Obj. Folder	New Target
Category:	End Prdt. Ind.—AIRCRAFT
Lat.	34°31'N
Long.	133°44'E
Alt.	10 feet

MITSUBISHI AIRCRAFT, MISHIMA PLANT

TAMASHIMA . . . . . JAPAN

ALL PREVIOUS SHEETS CANCELLED

HIGH AND MEDIUM ATTACK

(See also 90.27–1681 TI and associated target illustrations)

AIMING POINT

For maximum damage to primary objectives the aiming point should be the West portion of building 47. (Illustrations No. 90.27–1681- P4, P5.)

WEAPONS AND FUZING

	HE	Fuze	IB
Preferred	1,000-lb. GP	0.01 N/ND T.	AN-M50 4-lb. (in aimable clusters).
Alternative	500-lb. GP 2,000-lb. GP	0.01 N/ND T. 0.01 N/ND T.	AN-M69 6-lb. (in aimable clusters). AN-M47 70-lb. AN-M76 500-lb.
Not recommended.	Smaller GP bombs. SAP and AP bombs. Depth bombs.		

NOTES

(a) Use 0.1 N fuzes, if 0.01 N fuzes are not available.

(b) The 500-lb. GP and 2000-lb. GP bombs are both approximately 95 percent as effective as the 1000-lb. GP bombs.

LOADING TABLE FOR INITIAL ATTACK

Loading table for preferred combination of bombs [1]

[This table is prepared for an initial attack on this target. For its application to later attacks see JTG Memorandum No. 3]

Tons (actual) dispatched	Percent of bombs dispatched falling within 1,000 feet of aiming point											
	10%			15%			20%			30%		
	Tons—		F[2] %	Tons—		F[2] %	Tons—		F[2] %	Tons—		F[2] %
	HE	IB		HE	IB		HE	IB		HE	IB	
100	40	60	15	35	65	20	30	70	20	25	75	25
200	40	160	25	35	165	30	30	170	30	25	175	35
400	40	360	35	90	310	40	120	280	40	170	230	45
800	390	410	45	490	310	50	520	280	50	570	230	55
1,200	790	410	50	890	310	60	920	280	60	-----	-----	----
1,600	1,190	410	60	-----	-----	----	-----	-----	----	-----	-----	----

[1] If alternative bombs are used, the distribution of the load between HE and IB should be the same. The expected percent of damage will, of course, be lower.

[2] Expected percent of serious damage to the whole target.

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JOINT TARGET GROUP, WASHINGTON, D. C.

WEAPON RECOMMENDATIONS SHEET

MITSUBISHI AIRCRAFT, MISHIMA PLANT

TAMASHIMA . . . . . JAPAN

Sheet	90:27-1681—WR2
Date	5 April 1945
Page	1
Target	90:27-1681
Obj. Area	1927
Obj. Folder	New Target
Category:	End Prdt. Ind.—AIRCRAFT
Lat.	34°31'N
Long.	133°44'E
Alt.	10 feet

ALL PREVIOUS SHEETS CANCELLED

LOW ALTITUDE ATTACK

(See also No. 90.27–1681 T1/2 and associated target illustrations)

TYPE OF ATTACK

This sheet applies primarily to an attack by carrier based aircraft, fighter bombers, or other similar aircraft which carry out dive, glide, low level, or minimum altitude attacks.

BUILDINGS CONSIDERED

Data are given below for an attack on primary and/or secondary buildings only (see Ill. No. 90.27–1681 P4, P5). Other buildings are of insufficient importance to merit specific attack.

WEAPONS AND FUZING

A pure HE attack (no incendiaries) may be launched against the buildings specified in the table below. The choice of a particular HE weapon for attack on a given building can be made by considering both the number of hits on that building required for the various bombs (see the table below) and the stowage capabilities of the aircraft to be used. The proper fuzings for the HE weapons to be used against the individual buildings are given in the table below, with the exception that for minimum altitude attacks a 4–5 sec. delay is required for safety to the aircraft. The use of SAP, AP, smaller GP, or depth bombs is not recommended for this target.

NUMBER OF HITS

Number of hits required to achieve 50 percent serious damage to individual important buildings [1]

Buildings in order of importance to production (Ill. No. 90.27–1681 P4, P5)	Number of hits			Fuzing [2]
	500-lb. GP	1,000-lb. GP	2,000-lb. GP	
41	39	20	11	Against all buildings use 0.01 N/ND T fuzing.
51	39	20	11	
71	33	17	9	
47	39	20	11	
17	68	35	19	
58	51	26	14	
12	47	24	13	
74	13	7	3	
66	7	3	2	
72	10	5	3	
75	8	4	2	

[1] To obtain the number of hits required to achieve 30 percent serious damage to an individual important building, multiply the appropriate entry in the table by 0.5; for 70 percent serious damage, multiply by 1.7.

[2] Use 0.1 N fuzes, if 0.01 N fuzes are not available.

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191 T-4

TARGET NO. 90:27–1681

COORDINATES 34° 31' N 133° 44' E

PHOTOGRAPHED 8 DECEMBER 1944

JOINT TARGET GROUP • WASHINGTON, D. C.

MITSUBISHI AIRCRAFT, MISHIMA PLANT

TAMASHIMA, JAPAN

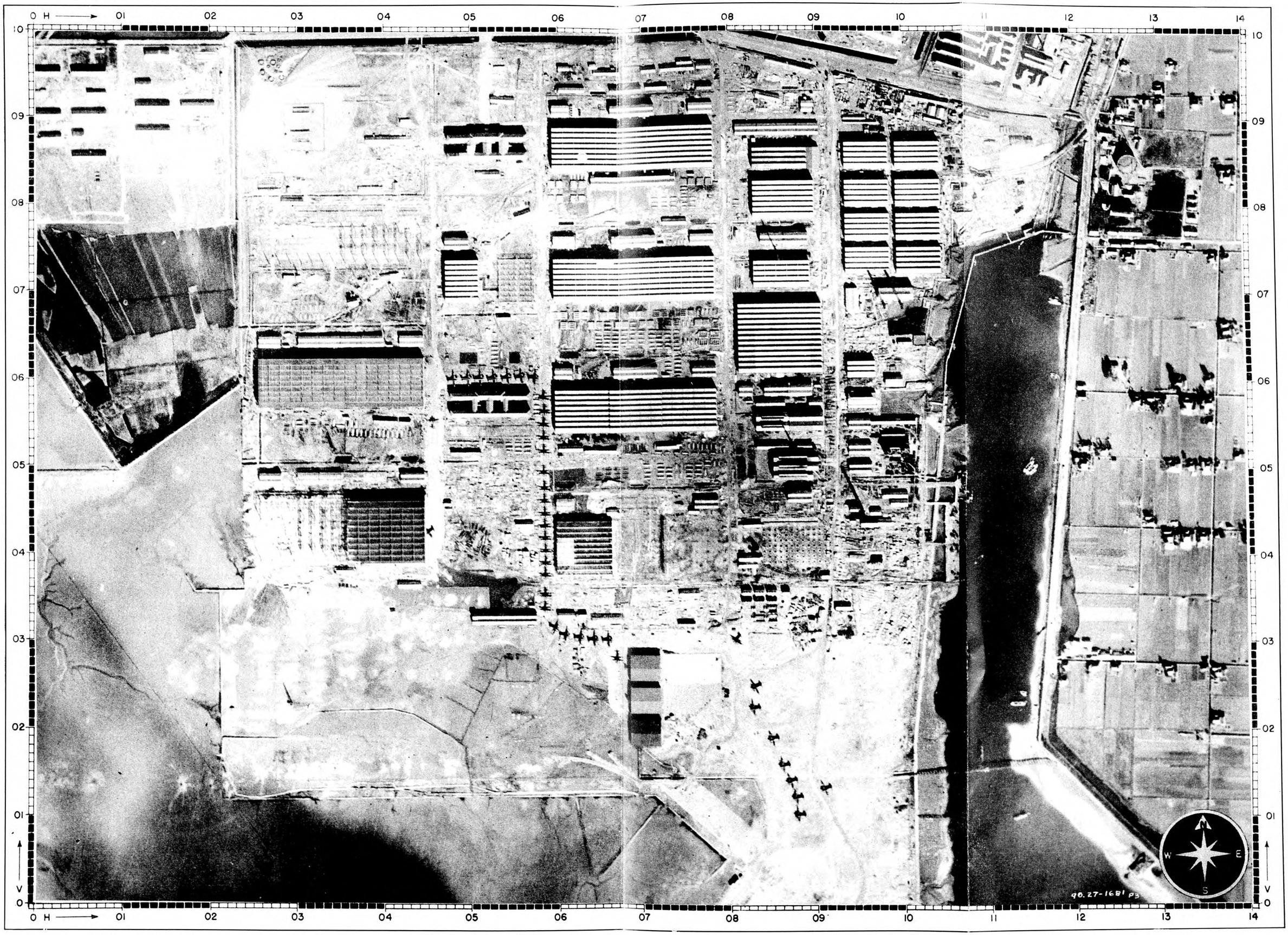
0 500 1000 0 2000 2500 3000 FEET

0 1/4 1:6000 APPROX. 1/2 MILE

ILLUSTRATION NO. 90:27–1681 P3

ISSUED 7 MARCH 1945

RESTRICTED



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FILE No. **642,681.56**

TARGET NO. 90:27–1681

COORDINATES 34° 31' N 133° 44' E

PHOTOGRAPHED 8 DECEMBER 1944

JOINT TARGET GROUP • WASHINGTON, D. C.

MITSUBISHI AIRCRAFT, MISHIMA PLANT

TAMASHIMA, JAPAN.

0 500 1000 1500 2000 2500 3000 FEET

0 1/4 1:6000 APPROX. 1/2 MILE

ILLUSTRATION NO. 90:27–1681 P4

ISSUED 7 MARCH 1945

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1. Quarters for A.A. Crew
2-4. Building contractors huts
5-7. Finished stores for #8 (all under construction)
8. Under construction (probable sub-assembly)
9-11. Finished stores for #12
12. Final assembly
13. Building contractors hut
14-16. Finished stores for #17 (15 under construction)
17. Final assembly (sub-division under construction)
18-21. Probable contractor's huts
22. Engineering building
23-24. Shops, possible detail or benchwork (#24 under construction)
25. Stores for #23
26-27. Unidentified
28. Administration
29. Part of administration
30-37. Storage
38-40. Finished stores for #41
41. Sub-assembly
42. Shop annex of #41
43. Unidentified
44-46. Finished stores for #47
47. Sheet metal fabrication (N.W. corner near bldg. #46 contains probable presses and paint shop)
48-50. Finished stores for #51
51. Sub-assembly
55-57. Finished stores for #58 (56 under construction)
58. Probable sub-assembly (foundation laid for extension)
59. Unidentified
60. Under construction
61. Unidentified
62. Warehouse
63-65. Foundry and drop-hammer shop
66. Pattern shop and wood working shop
67-68. Unidentified
69. Warehouse
70. Unidentified
71. Sub-assembly and detail work
72. Heat treatment and anti-corrosion treatment
73. Warehouse
74. Machine shop
75. Machine shop or tool shop
76-94. Receiving and storage (85 under construction)
95. Main boiler house
96. Pump house
97. Water storage
98-103. Small miscellaneous shop buildings
104. Unidentified
105. Shop building
106-107. Unidentified
108. Small boiler house.
109-110. Unidentified

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FILE NO. 642,681.58

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JOINT TARGET GROUP, WASHINGTON, D. C.

FIRE SUSCEPTIBILITY PLAN

MITSUBISHI AIRCRAFT
MISHIMA PLANT
TAMASHIMA, JAPAN

SHEET . . . . . 90:27-1681—P5
DATE . . . . . 28 February 1945
TARGET 90:27-1681
COORDINATES . . . . . 34°31'N 133°44'E
PHOTOGRAPHED . . . . . 8 December 1944

SCALE 1:6,000
500 0 500 1000 FEET

LEGEND

Building No	Function of building
1	Quarters for AA crew
2-4	Building contractors' huts
5-7	Finished stores for No. 8 (all under construction)
8	Under construction (probably subassembly)
9-11	Finished stores for No. 12
12	Final assembly
13	Building contractors' hut.
14-16	Finished stores for No. 17 (15b under construction)
17	Final assembly (subdivision "b" under construction)
18-21	Probable contractors huts
22	Engineering building
23, 24	Shops, possible detail or benchwork (No. 24 under construction)
25	Stores for No. 23
26, 27	Unidentified
28	Administration
29	Part of administration
30-37	Storage
38-40	Finished stores for No. 41
41	Subassembly
42	Shop annex of No. 41
43	Unidentified
44-46	Finished stores for No. 47
47	Sheet metal fabrication (northwest corner near building No. 46 contains probable presses and paint shop)
48-50	Finished stores for No. 51
51	Subassembly
55-57	Finished stores for No. 58 (56 "b" under construction)
58	Probable subassembly (area "b" under construction)
59	Unidentified
60	Under construction
61	Unidentified
62	Warehouse
63-65	Die foundry and drop-hammer shop
66	Pattern shop and wood working shop
67, 68	Unidentified
69	Warehouse
70	Unidentified
71	Subassembly and detail work
72	Heat treatment and anticorrosion treatment
73	Warehouse
74	Machine shop
75	Machine shop or tool shop
76-94	Receiving and storage (85 under construction)
95	Main boiler house
96	Pump house
97	Water storage
98-103	Small miscellaneous shop buildings
104	Unidentified
105	Shop building
106, 107	Unidentified
108	Small boiler house
109-110	Unidentified

There are a large number of probable reinforced concrete air-raid shelters 10 by 40 feet dispersed about the plant. The greatest concentration is in the vicinity of the subassembly area.

(Based on F/A Report No. 56, AC AS, Intelligence, Photographic Division, dated 31 January 1945.)

Note.—Illustration No. 90:27-1681-P5 shows buildings 17 and 58 as primary objectives They should be listed as secondary

FIRE SUSCEPTIBILITY PLAN

PRIMARY BUILDINGS	(P)	FIRE WALL, CERTAIN	
SECONDARY BUILDINGS	(S)	FIRE WALL, PROBABLE	

BUILDINGS		CONTENTS	
COMBUSTIBLE		NON-COMBUSTIBLE	
NON-COMBUSTIBLE		SLIGHTLY COMBUSTIBLE	
FIRE RESISTANT		MODERATELY COMBUSTIBLE	
COMBINATION I.E. COMBUSTIBLE ROOF RESISTANT FLOORS		HIGHLY COMBUSTIBLE	
		EXTREMELY COMBUSTIBLE	
WATER TANK	(W)	INTERMEDIATE VALUES	

AREA IN SQ. FT.	PRIMARY	ALL BLDGS. SHOWN
NO. OF BUILDINGS	6	103
NO. OF FIRE DIVISIONS	8	133
PLAN AREA	1,390,000	3,100,000
TOTAL FLOOR AREA	1,390,000	3,340,000
SITE AREA	13,400,000	

PREPARED BY AERONAUTICAL CHART SERVICE, AAF.

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CONFIDENTIAL

File No. 642,681.7

REPRINT

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . 90:27-2047—TI
DATE . . . . . 25 May 1945
PAGE 1

TARGET 90:27-2047
OBJ. AREA 90:27
OBJ. FOLDER . . New Target
CATEGORY
End Prdt. Ind.—AIRCRAFT

LAT. . . . . 34° 50′ N
LONG. . . . . 134° 43′ E
ALT. . . . . 44 feet

KAWANISHI AIRCRAFT, HIMEJI PLANT

HIMEJI **JAPAN**

SIGNIFICANCE

This plant, the former Nippon Keori Textile Mill, appears to be the second most important aircraft plant of the Kawanishi Aircraft Co. Ground intelligence and the presence in photography of 20 January 1945 of numerous single-engine aircraft within the target area indicate that the plant assembles and probably manufactures major parts of George, one of the newer and more important of the Navy fighter types.

LOCATION

(Refer to Illustration No. 90:27-2047 P2). In the E outskirts of Himeji city, about 2000 feet E of Himeji Castle. It is situated about 2000 feet W of the generally N-S flowing Ichi River, about 4 miles N of its mouth on the Inland Sea. The Sanyo Mainline RR between Kobe and Okayama passes about 2800 feet S. A branch line runs N to form the W boundary of the plant, the other boundaries being major or minor city streets.

DESCRIPTION AND LAYOUT

(Refer to Illustrations No. 90:27-2047 P3, P5.) The plant site is irregular in shape. The longest boundary runs NE-SW about 2000 feet, and its greatest width is about 1650 feet. The plant site is about 45 percent built-up.

The only sizable buildings added since the plant operated as a textile mill are the final and post assembly building (45), in the S corner, an adjacent possible paint shop (41) and a small parts shop (13) in the E corner. Because of its previous use, there have probably been some departures from the usual aircraft production flow lines. Metal preparation and small parts manufacture probably occur in the NE section of the plant (buildings 11, 12, 13, and 16), principal sub-assembly (34a and 36) and major and final assembly (34b and 35) in the center of the plant, and final and post assembly (40, 45) and painting (41) in the S section. Machine shop work appears to be performed in smaller buildings (19, 20, 31a) to the NW.

Photography of 2 April 1945 shows buildings 14, 29 and 44, all small, and parts of the main workers' quarters (9) in N corner of the site have been removed, probably to reduce the fire hazard. There is some possibility of fire spread from the surrounding residential areas.

The relatively high proportion of final and post assembly floorspace at this plant and the apparent lack of final assembly space at Kawanishi's main aircraft plant at Naruo (TARGET 90:25-18) suggest the possibility that major aircraft sections manufactured at the Naruo plant may be brought to his plant for final assembly.

PRIMARY OBJECTIVES

(Refer to Illustration No. 90:27-2047 P3, P5.) The sub-assembly and final assembly buildings (34, 35, 36) across the center of the site are the primary objectives whose loss would most reduce production. Buildings (11, 12, 13, 16) to the NE, housing metal preparation, small parts, and benchwork processes are the secondary or next most vital objectives. It is not practicable to determine priorities between the individual buildings comprising either set of objectives.

CONSTRUCTION AND VULNERABILITY

(Refer to Illustration No. 90:27-2047 P3, P5.)

Primary and Secondary Objectives:

Building No.	Plan area (sq. ft.)	Stories	Roof[1]	Combustibility	HE vulnerability[2]
34a, b	108,800	1	Light	Noncombustible	V4A
34c	3,100	2	Light	Noncombustible	V3
34d	2,500	3	Light	Noncombustible	V3
35	48,100	1	Light	Noncombustible	V4
36	54,400	1	Light	Noncombustible	V4A
11	44,800	1	Light	Noncombustible	V4
12	44,800	1	Light	Noncombustible	V4
13	77,500	1	Light	Noncombustible	V4
16	42,000	1	Light	Noncombustible	V4

[1]Lightweight roofs are readily penetrated by all types of incendiary bombs. Initiation of HE tail fuzes by these roofs cannot be depended upon except for bombs striking structural members (30 to 40 percent of bombs striking buildings).

[2]For explanation of HE vulnerability classifications refer to JTG Memorandum No. JTG/M-3/1, dated 26 March 1945 (nontechnical), or No. JTG/N-8 (technical).

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File No. 643,047.1

JOINT TARGET GROUP, WASHINGTON, D. C.
WEAPON RECOMMENDATIONS SHEET

SHEET . 90:27-2047–WR1
DATE . . . . . 26 May 1945
PAGE 1

TARGET 90:27-2047
OBJ. AREA 90:27
OBJ. FOLDER . . New Target
CATEGORY
End Prdt. Ind.–Aircraft

LAT. . . . . 34° 50′ N
LONG. . . . . 134° 43′ E
ALTITUDE. . . . . 44 feet

KAWANISHI AIRCRAFT, HIMEJI PLANT

HIMEJI JAPAN

HIGH AND MEDIUM ALTITUDE ATTACK

(See also 90:27-2047–TI and associated target illustrations.)

INTRODUCTION

(Refer to Illustrations No. 90:27-2047 P4, P5.) Photography of 2 April 1945 shows that buildings 9 (sections b, d, g, k, and m), 29, and 44 have been removed, and consequently are not considered to be part of the target.

ATTACK DATA

Aiming Point

(Refer to Illustrations No. 90:27-2047 P4, P5.) For maximum damage to primary and secondary buildings the center of the bomb pattern should be in the vicinity of building 34.

Weapons and Fuzing

	High Explosive	Fuzing	Incendiary
Preferred:	1000-lb GP	0.01 N/ND T	AN-M50 4-lb or AN-M69 6-lb (in aimable clusters)
	or 2000-lb GP	0.01 N/ND T	
Alternative:	500-lb GP	0.01 N/ND T	AN-M47 70-lb
	250-lb GP	0.025 N/ND T	AN-M76 500-lb

Not recommended: Smaller GP bombs
SAP or AP bombs
Depth bombs

Notes: (a) Use 0.025 N or 0.1 N fuzes if 0.01 N fuzes are not available, and 0.01 T fuzes if ND tail fuzes are not available. ND tail fuzing is recommended since most of the buildings have light roof material and are best destroyed by blast effects.

(b) The above recommendations are on a weight for weight basis.

Loading Table

The table below is prepared for an initial attack against this target. For its application to later attacks see JTG Memorandum No. 3/1.

Loading Table for Preferred Combination of Bombs[2]

Tons (actual) Dispatched	Percent of bombs dispatched falling within 1000 feet of aiming point (building 34).							
	10%		15%		20%		30%	
	Tons HE-IB	F[1] %	Tons HE-IB	F[1] %	Tons HE-IB	F[1] %	Tons HE-IB	F[1] %
100	30— 70	25	20— 80	35	15— 85	40	10— 90	50
200	30—170	40	20—180	50	15—185	50	70—130	55
400	30—370	50	150—250	55	210—190	60	270—130	65
600	230—370	55	350—250	60	....	..	....	..
800	430—370	60	....	..	....	..	....	..

[1] The percent of serious damage to the whole target.

[2] If alternative bombs are used, the distribution of the load between HE and IB should be the same. The percent of serious damage will, of course, be lower.

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File No. 643,047.4

JOINT TARGET GROUP, WASHINGTON, D. C.—
WEAPON RECOMMENDATIONS SHEET

SHEET . 90:27-2047—WR2
DATE . . . . . 26 May 1945
PAGE 1

TARGET 90:27-2047
OBJ. AREA 90:27
OBJ. FOLDER . . New Target
CATEGORY
End Prdt. Ind.—Aircraft

LAT. . . . . 34° 50′ N
LONG. . . . . 134° 43′ E
ALTITUDE . . . . . 44 feet

KAWANISHI AIRCRAFT, HIMEJI PLANT

HIMEJI JAPAN

LOW ALTITUDE ATTACK

(See also 90:20-2047—TI and associated target illustrations.)

INTRODUCTION

This sheet applies primarily to an attack by carrier based aircraft, fighter bombers, or other similar aircraft which carry out dive, glide, low level, or minimum altitude attacks.

(Refer to Illustrations No. 90:27-2047 P4, P5.) Photography of 2 April 1945 shows that buildings 9 (sections b, d, g, k and m), 29, and 44 have been removed, and consequently are not considered to be part of the target.

Data are given below for an area attack against the target as a whole and an attack against individual important buildings.

DATA FOR AREA ATTACK

Weapons and Fuzing

	High Explosive	Fuzing	Incendiary
Preferred:	1000-lb GP	0.01 N/ND T	AN-M50 4-lb or AN-M69 6-lb (in clusters)
	or 2000-lb GP	0.01 N/ND T	
Alternative:	500-lb GP	0.01 N/ND T	AN-M47 70-lb
	250-lb GP	0.025 N/ND T	AN-M76 500-lb
			Fire bombs (minimum altitude only)

Not recommended: Smaller GP bombs
SAP or AP bombs
Depth bombs

Notes: (a) The use of 8-15 sec. delay fuzing is necessary for minimum altitude attacks.

(b) Use 0.025 N or 0.1 N fuzes if 0.01 N fuzes are not available, and 0.01 T fuzes if ND T fuzes are available. ND tail fuzing is recommended since most of the buildings have light roof material and are best destroyed by blast effects.

(c) The above recommendations are on a weight for weight basis.

Tons on Target

The numbers of tons which must be delivered on the site area of the target to achieve various levels of serious damage are given in Table I. These requirements assume that the bombing results in a random distribution of bombs over the area.

TABLE I

Number of Tons on Target Area Required for Various Percentages of Serious Damage

Percent Serious Damage to Target Area	Tons on Target — Mixed Attack (Preferred bombs)			Tons on Target — Pure HE Attack (Preferred bombs)
	HE	IB	Total	
30%	2	6	8	46
50%	2	21	23	91
70%	76	25	101	158

DATA FOR ATTACK AGAINST IMPORTANT BUILDINGS

Weapons and Fuzing

The choice of a particular HE weapon for the attack of individual important buildings can be made by considering the recommendations above, the number of hits required for the various bombs (see Table II below), and the stowage characteristics of the aircraft to be used. The proper fuzing for the HE weapon to be used is also given in Table II, with the exception that for minimum altitude attacks an 8-15 sec. delay is required for safety to the aircraft.

Number of Hits

Table II below gives the number of hits required to achieve 50 percent serious damage to individual important buildings.

TABLE II

Number of Hits Required to Achieve 50% Serious Damage to Individual Important Buildings[1]

Buildings in order of importance to production. (Ill. No. 90:27-2047 P4, P5)	Number of Hits — 250-lb GP	500-lb GP	1000-lb GP	2000-lb GP	Fuzing
34	164	35	13	7	For 250-lb GP: 0.025 N/ND T
35	26	8	4	2	
36	75	15	5	3	
11	29	8	4	2	For other GP: O.01 N/ND T
12	29	8	4	2	
13	41	13	7	4	
16	22	7	4	2	
Total Number of Hits	386	94	41	22	
Total Tons [2]	50.0	24.7	20.3	22.9	

[1] To obtain the number of hits required to achieve 30% serious damage to individual important buildings, multiply the appropriate entry in Table II by 0.5; for 70% serious damage, multiply by 1.7.

[2] Tonnages are based on actual (not nominal) weight of bombs.

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JOINT
TARGET
GROUP
WASHINGTON, D. C.

KAWANISHI AI RAFT, HIMEJI PLANT

HIMEJI — JAPAN

0 2000
0 ½
1:32

4000 6000 FEET
1 MILE
APPROX.

RESTRICTED

SHEET 90:27-2047 P1
DATE . . . . . 25 May 1945
TARGET 90:27-2047
COORDINATES . . . 34°50'N 134°43'E
PHOTOGRAPHED . . 19 January 1945

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File No. 643,047.52

JOINT TARGET GROUP
WASHINGTON, D. C.

KAWANISHI A[illegible]CRAFT, HIMEJI PLANT

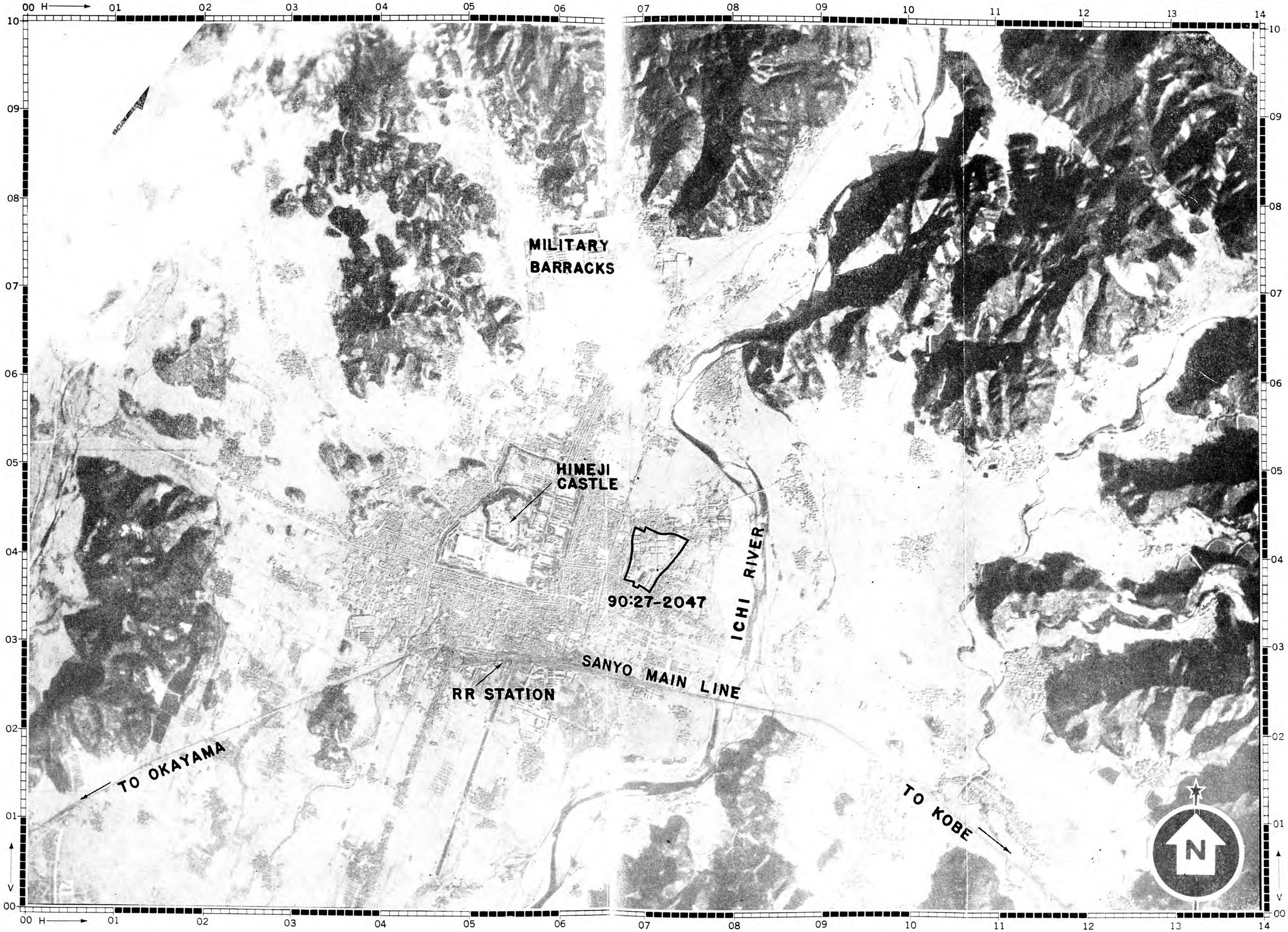
HIMEJI **JAPAN**

0 2000 4000 6000 FEET
0 1 MILE

1:3[illegible]0 APPROX.

RESTRICTED

SHEET 90:27-2047 P2
DATE . . . . . 25 May 1945
TARGET 90:27-2047
COORDINATES . . . 34°50'N 134°43'E
PHOTOGRAPHED . . 19 January 1945



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File No. 643,047.54

CONFIDENTIAL

JOINT TARGET GROUP
WASHINGTON, D. C.

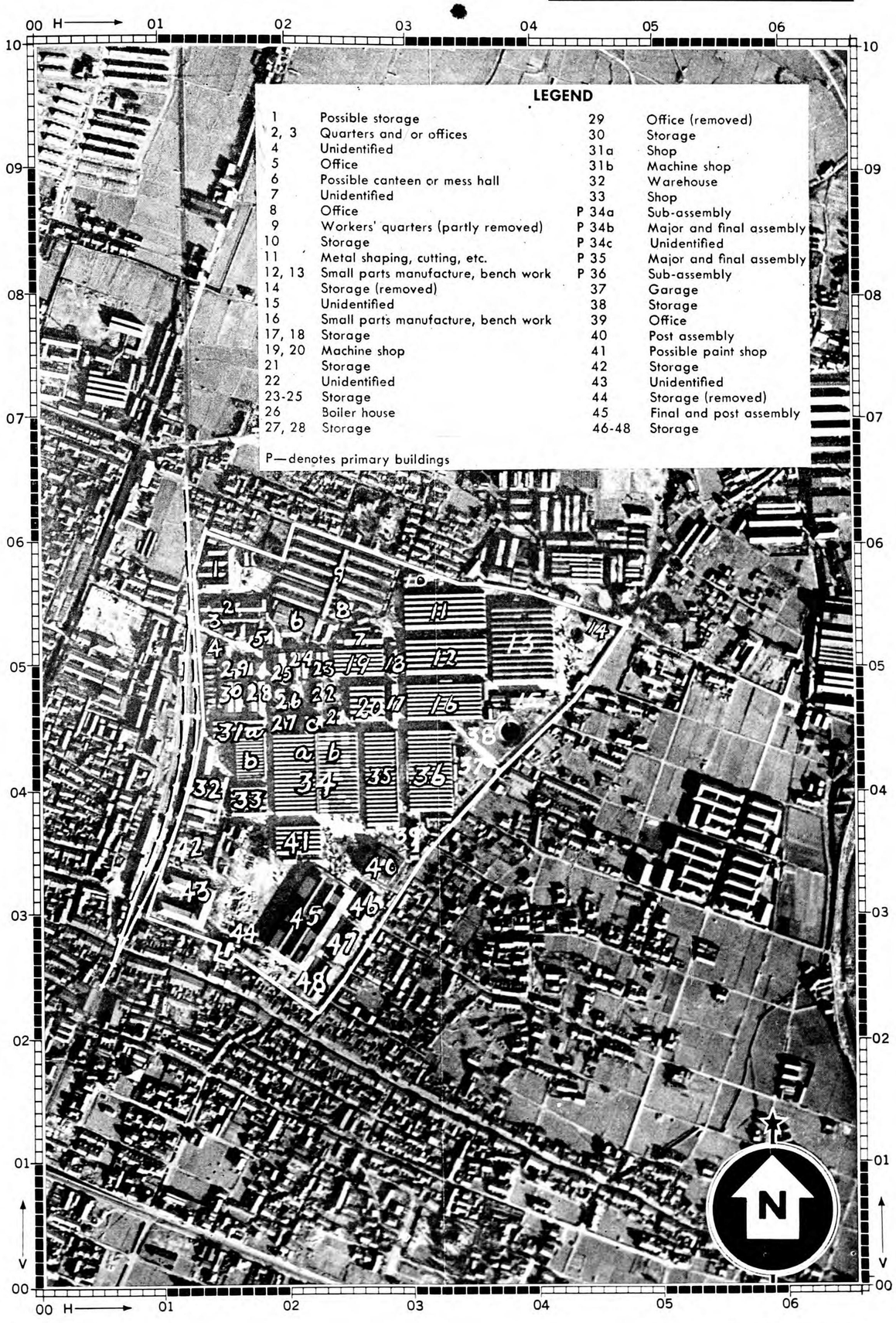
KAWANISHI AI CRAFT, HIMEJI PLANT

HIMEJI — JAPAN

0 500 1000 0 1/4

00 2000 2500 3000 FEET
1:6000 APPROX. 1/2 MILE

SHEET	90:27-2047 P3
DATE	25 May 1945
TARGET	90:27-2047
COORDINATES	34°50'N 134°43'E
PHOTOGRAPHED	19 January 1945



LEGEND

1	Possible storage	29	Office (removed)
2, 3	Quarters and or offices	30	Storage
4	Unidentified	31a	Shop
5	Office	31b	Machine shop
6	Possible canteen or mess hall	32	Warehouse
7	Unidentified	33	Shop
8	Office	P 34a	Sub-assembly
9	Workers' quarters (partly removed)	P 34b	Major and final assembly
10	Storage	P 34c	Unidentified
11	Metal shaping, cutting, etc.	P 35	Major and final assembly
12, 13	Small parts manufacture, bench work	P 36	Sub-assembly
14	Storage (removed)	37	Garage
15	Unidentified	38	Storage
16	Small parts manufacture, bench work	39	Office
17, 18	Storage	40	Post assembly
19, 20	Machine shop	41	Possible paint shop
21	Storage	42	Storage
22	Unidentified	43	Unidentified
23-25	Storage	44	Storage (removed)
26	Boiler house	45	Final and post assembly
27, 28	Storage	46-48	Storage

P—denotes primary buildings

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File No. 643,047.56

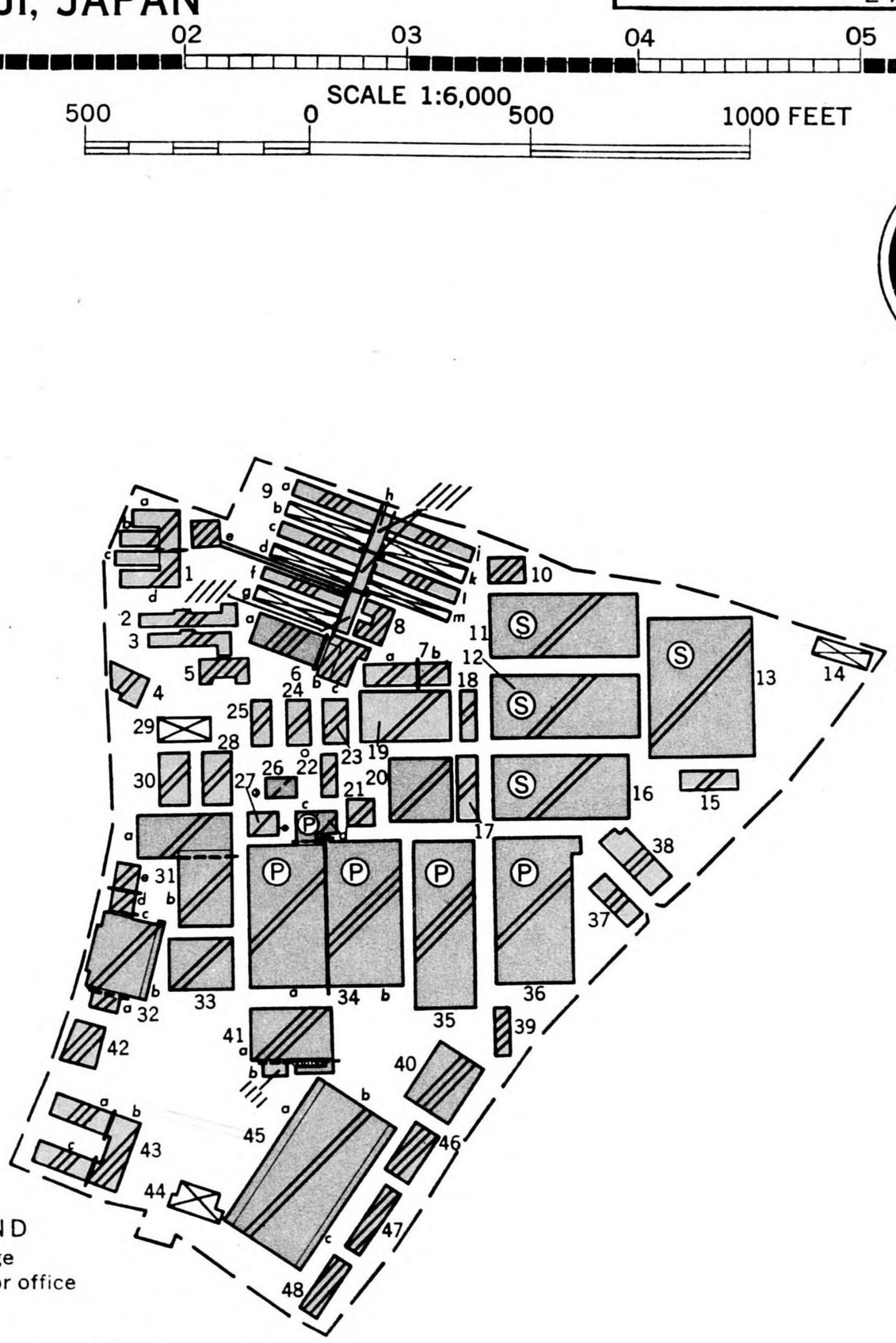
CONFIDENTIAL

JOINT TARGET GROUP WASHINGTON, D. C.
FIRE SUSCEPTIBILITY PLAN

KAWANISHI AIRCRAFT,
HIMEJI PLANT,
HIMEJI, JAPAN

ILLUSTRATION 90.27-2047-P5
DATE 14 May 1945
TARGET 90.27-2047
COORDINATES 34°50′N 134°43′E
PHOTOGRAPHED 20 Jan 1945 and 2 April 1945

SCALE 1:6,000
500 0 500 1000 FEET



LEGEND

1 Possible storage
2,3 Quarters and/or office
4 Unidentified
5 Office
6 Possible canteen or mess hall
7 Unidentified
8 Office
9 Workers' quarters
10 Storage
11 Metal shaping, cutting, etc.
12,13 Small parts manufacture, bench work
14 Storage
15 Unidentified
16 Small parts manufacture, bench work
17,18 Storage
19,20 Machine shop
21 Storage
22 Unidentified
23-25 Storage
26 Boiler house
27,28 Storage
29 Office
30 Storage
31a Shop
31b Machine shop
32 Warehouse
33 Shop
P 34a Sub-assembly
P 34b Major and final assembly
P 34c Unidentified
P 35 Major and final assembly
P 36 Sub-assembly
37 Garage
38 Storage
39 Office
40 Post assembly
41 Possible paint shop
42 Storage
43 Unidentified
44 Storage
45 Final and post assembly
46-48 Storage

P denotes Primary Buildings

NOTE:
⊠ Buildings Removed.
Figures below do not include those for Buildings Removed.

FIRE SUSCEPTIBILITY PLAN

PRIMARY BUILDINGS (P) — FIRE WALL, CERTAIN
SECONDARY BUILDINGS (S) — FIRE WALL, PROBABLE

BUILDINGS	CONTENTS
COMBUSTIBLE	SUSCEPTIBILITY TO INCENDIARIES:
NON-COMBUSTIBLE	NONE
	POOR
	FAIR
	GOOD
WATER TANK (W)	EXCELLENT

AREA IN SQ. FT.	PRIMARY	SECONDARY	ALL BLDGS. SHOWN
NO. OF BUILDINGS	3	4	46
NO. OF FIRE DIVISIONS	5	4	66
PLAN AREA	216,900	209,100	913,900
TOTAL FLOOR AREA	225,000	209,100	1,040,600
SITE AREA	2,110,000		

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File No. 643,047.7

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

TOKYO SHIBAURA ELECTRIC CO., ABOSHI PLANT

ABOSHI — JAPAN

SHEET . . . . . 90:27-2120—TL
DATE . . . . . 8 June 1945
TARGET 90:27-2120
CATEGORY . . . . . Bsc. Serv. & Utly.—MACHY. & MACH. TOOLS
COORDINATES . . . . . 34°46'N 134°35'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

New plant of one of major Japanese producers of electrical equipment reported constructed to manufacture heavy electrical machinery. There is no information on specific products.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:21,300

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:64,000

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File No. 643,120.1

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

TAKAHASHI MUNITIONS STORAGE
TAKAHASHI JAPAN

SHEET	90:27-2232—TL
DATE	5 June 1945
TARGET	90:27-2232
CATEGORY	MILITARY STORES
COORDINATES	34°57′N 134°44′E
ALTITUDE	233 feet

SIGNIFICANCE:

A medium sized area believed to be devoted primarily to the storage of explosive end products including ammunition.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:60,000

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File No. 643,232.1

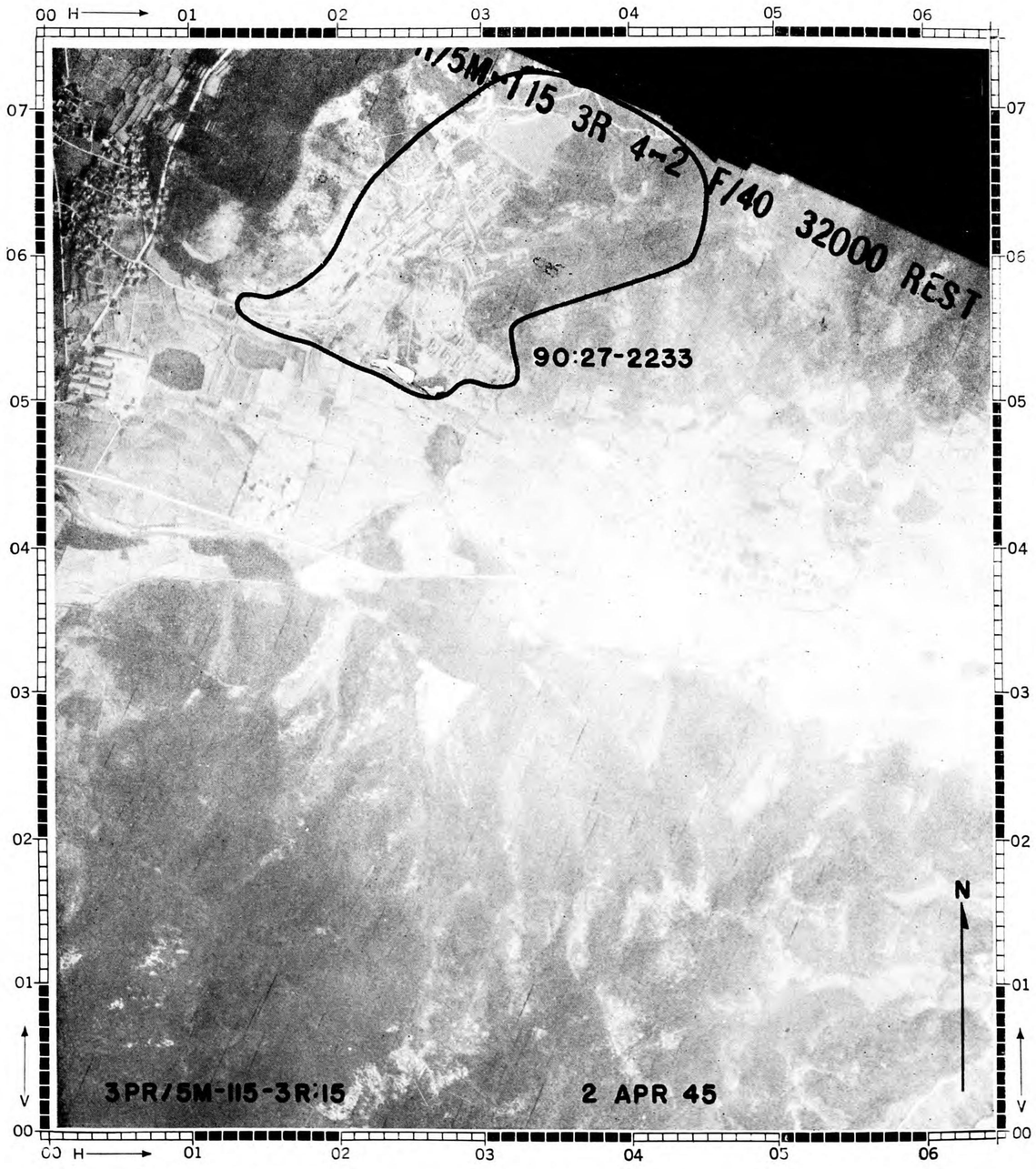
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

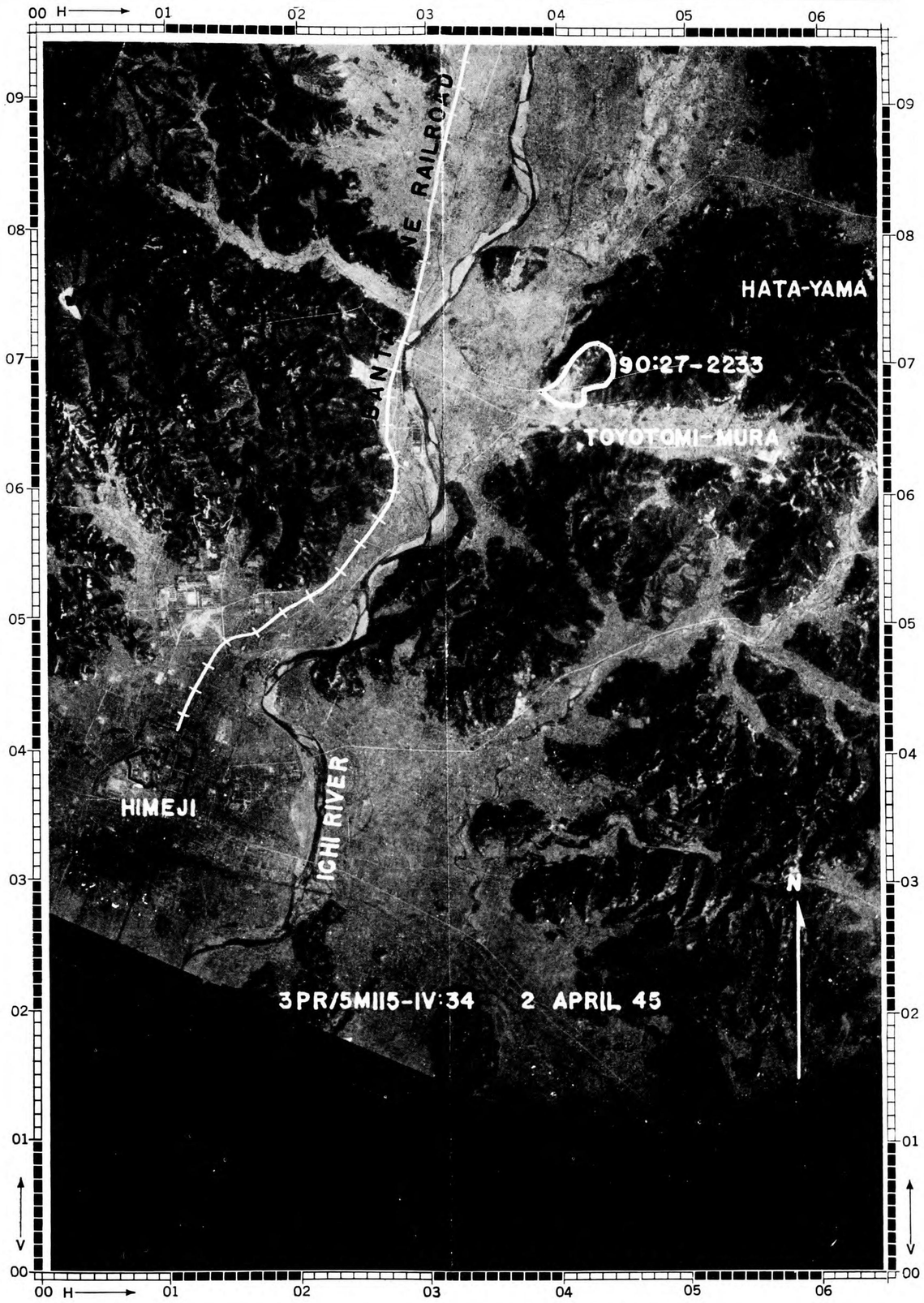
TOYOTOMI EXPLOSIVES WORKS
TOYOTOMI JAPAN

SHEET . . . . . 90:27-2233—TL
DATE . . . . . 7 June 1945
TARGET 90:27-2233
CATEGORY . End Prdt. Ind.—ARMAMENT
COORDINATES . . . . . 34°53'N 134°45'E
ALTITUDE . . . . . 333 feet

SIGNIFICANCE:

A small area believed to contain a medium sized component loading plant.





LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:9,600

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:64,000

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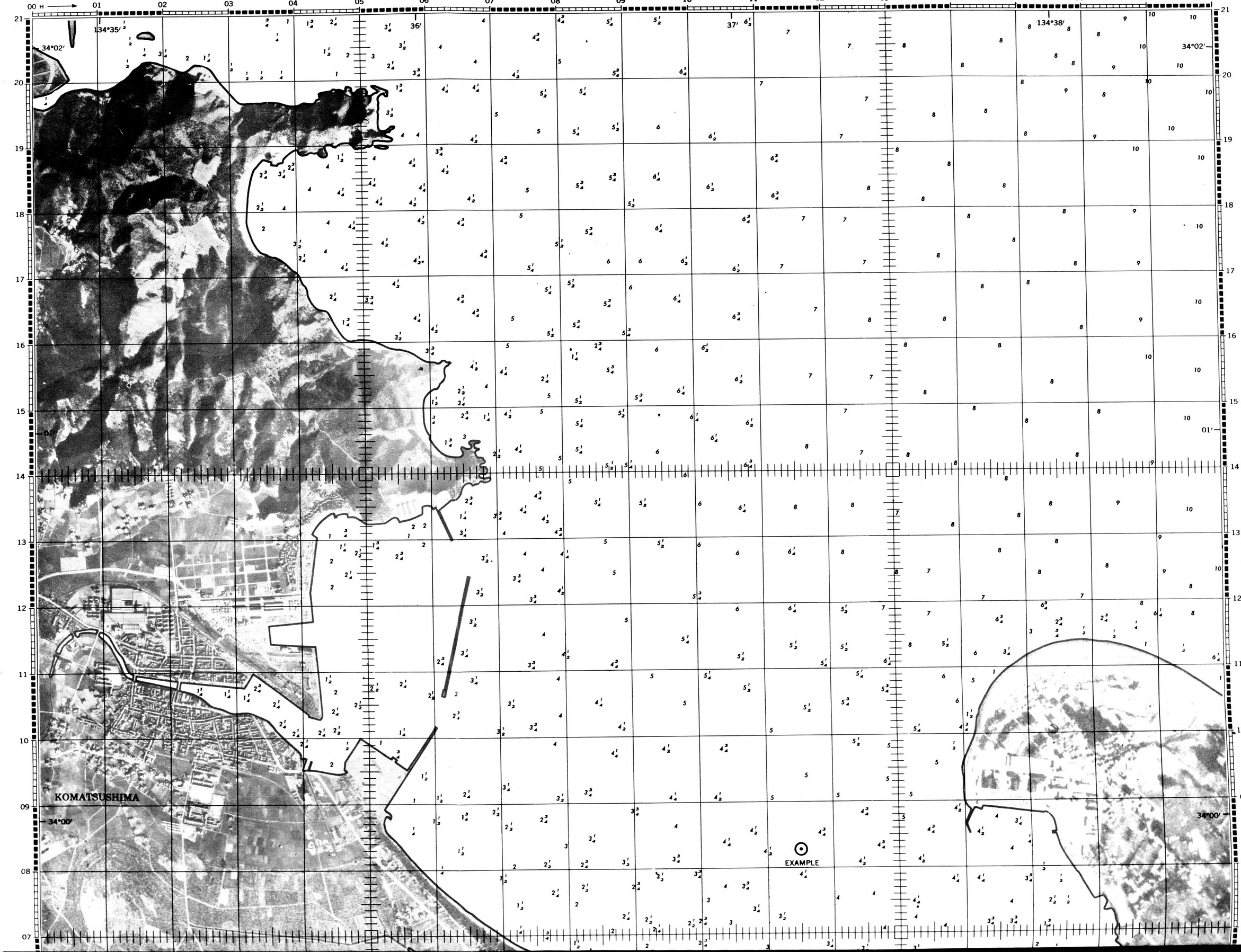
RESTRICTED

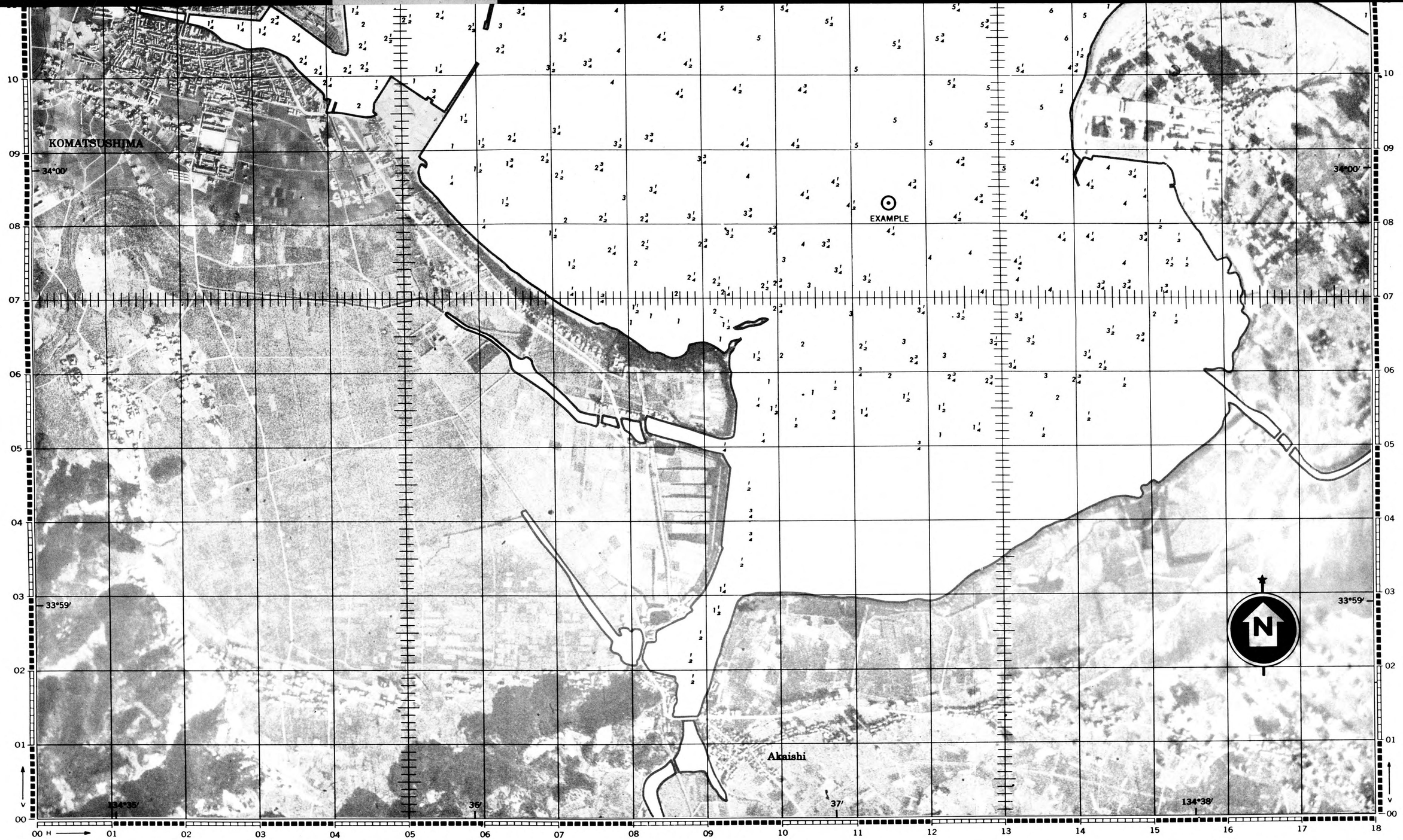
JOINT TARGET GROUP, WASHINGTON, D. C.
PORT SHIPPING PLOT

KOMATSUSHIMA, JAPAN

Scale 1:12,500

ILLUSTRATION ..... 90:27-3500 PSP
DATE ..... 7 June 1945





EXAMPLE Grid Reading:
Komatsushima (or 90:27-3500) PSP H115 V083
Always use three digits preceded by H & V

Prepared under the direction of the Aeronautical Chart Service by Aero Service Corp., Phila., Pa. 1945. Aerial photographs flown by U.S.AAF. (Sortie): SM-18 19 Jan. '45. USHO Chart 1658 '31 cor. to '42.

1/2 Statute 0 Miles 1/2
1/2 Nautical 0 Miles 1/2

500 0 500 1000 Yards
1"=1041.7 Ft 0 1000 2000 3000 Feet

DEPTH IN FATHOMS AT NEARLY LOWEST LOW WATER

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RESTRICTED

90:27-3500 PSP

File No. **644,500.66**

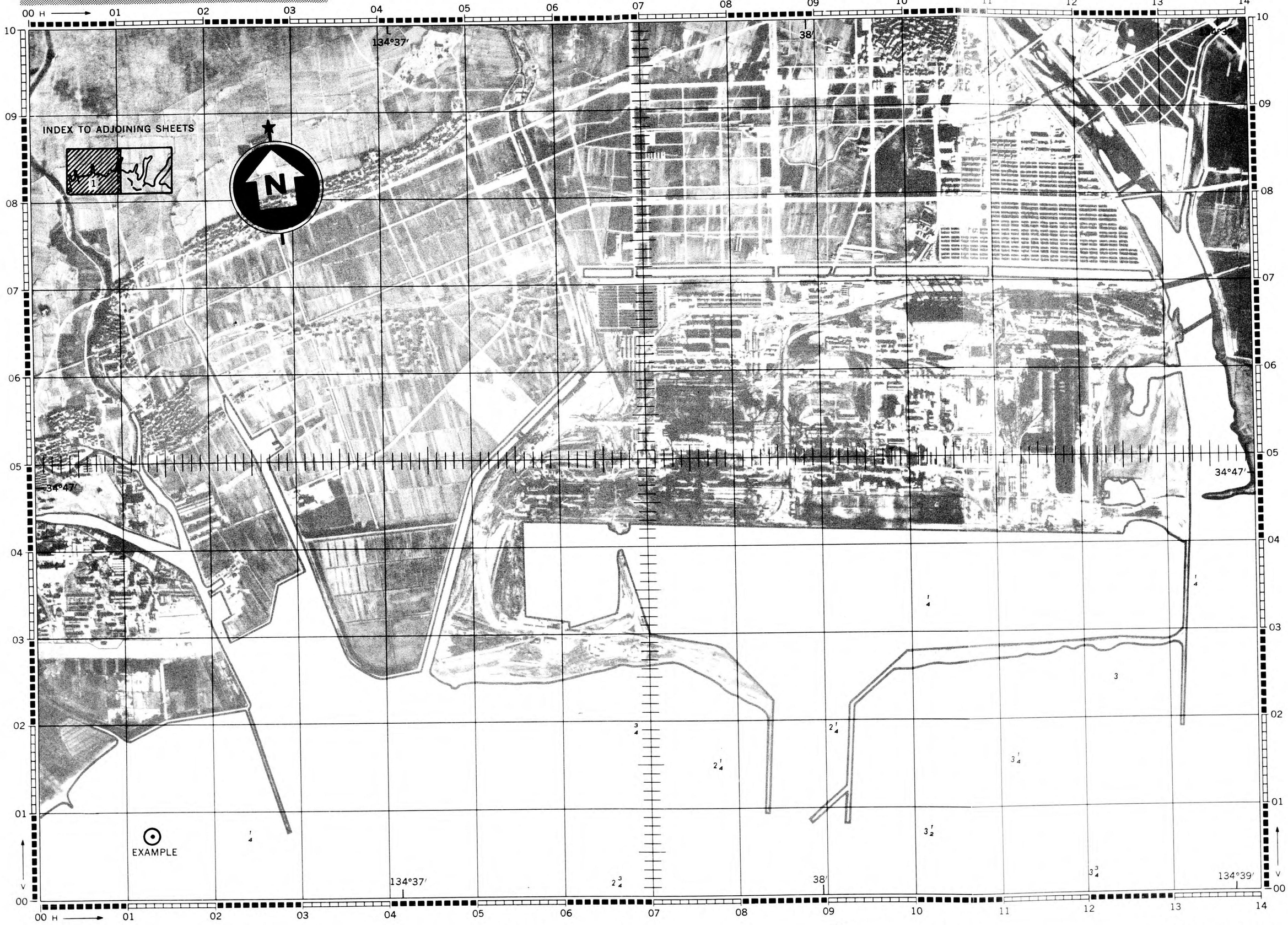
RESTRICTED

JOINT TARGET GROUP, WASHINGTON, D. C.
PORT SHIPPING PLOT

HIROHATA/SHIKAMA, JAPAN

Scale 1:12,500

SHEET ..... 90:27-3514 PSP 1
DATE ..... 7 June 1945



EXAMPLE Grid Reading:
Hirohata (or 90:27-3514) PSP1 H013 V007
Always Use Three Digits Preceded by H & V

Prepared under the direction of the Aeronautical Chart Service by Aero Service Corp., Phila., Pa., 1945, from Controlled Mosaic by Aero Service Corp. Aerial photographs flown by U.S.A.A.F. (Sorties): 4M-41 Dec. '44, 5M-17 Jan. '45, 5M-115 April '45. AAF City Plan, Shikama, Hirohata and Aboshi Dec. '44.

1/2 Statute Miles 1/2
1/2 Nautical Miles 1/2

500 0 500 1000 Yards
1"=1041.7 Ft 0 1000 2000 3000 Feet

DEPTH IN FATHOMS AT NEARLY LOWEST LOW WATER

PUBLISHED IN OFFICE OF AC/AS INTELLIGENCE, A.A.F., BY COMBINED PERSONNEL OF UNITED STATES AND BRITISH SERVICES FOR THE USE OF ALLIED FORCES.

90:27-3514 PSP 1

File No. 644,514.66

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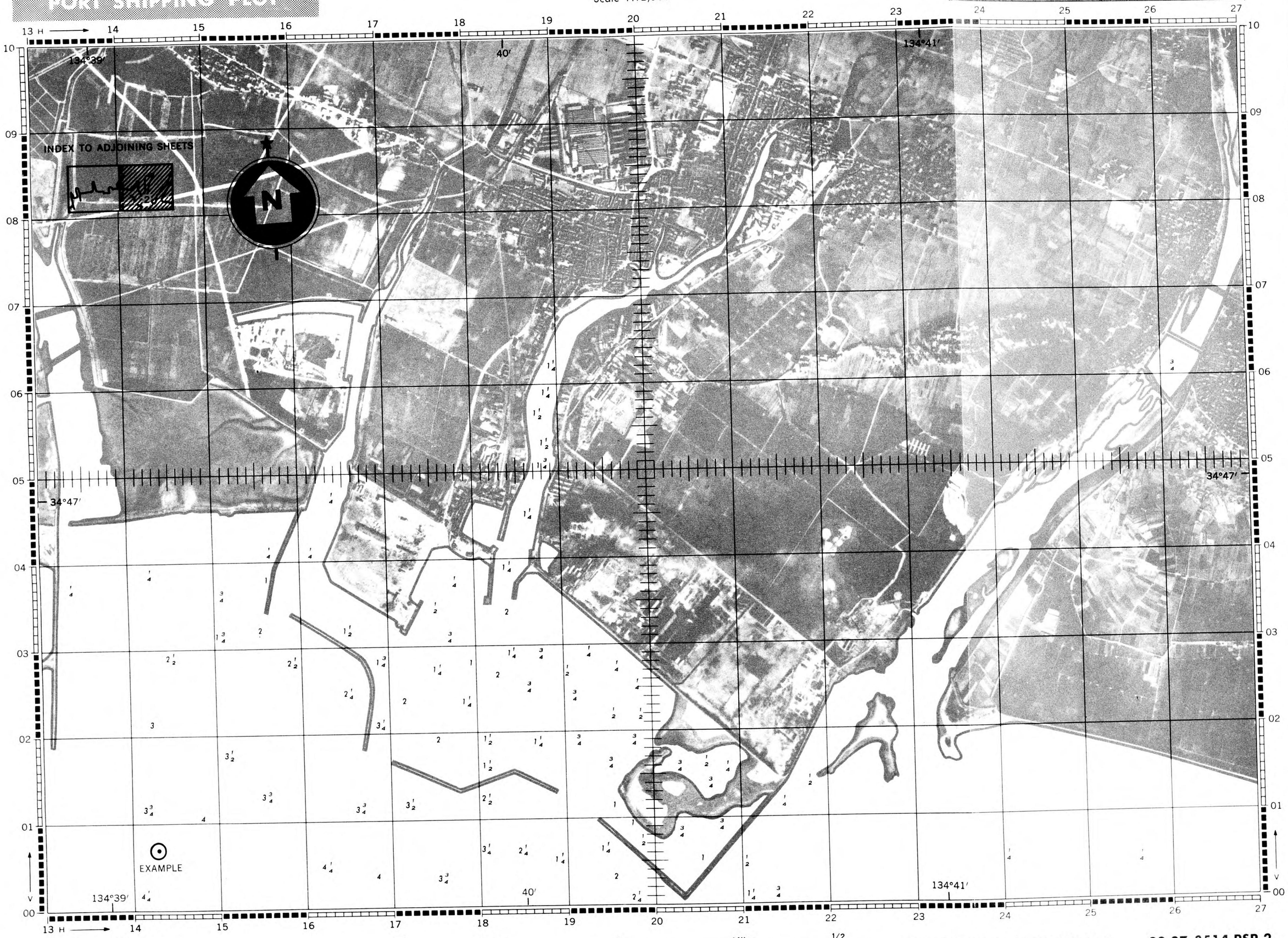
JOINT TARGET GROUP, WASHINGTON, D. C.
PORT SHIPPING PLOT

HIROHATA/SHIKAMA, JAPAN

Scale 1:12,500

SHEET ..... 90:27-3514 PSP 2
DATE ..... 7 June 1945



EXAMPLE Grid Reading:
Hirohata (or 90:27-3514) PSP2 H143 V007
Always Use Three Digits Preceded by H & V

Prepared under the direction of the Aeronautical Chart Service by Aero Service Corp., Phila., Pa. 1945, from Controlled Mosaic by Aero Service Corp. Aerial photographs flown by U.S.AAF. (Sorties): 4M-41 Dec. '44, 5M-17 Jan. '45, 5M-115 April '45, AAF City Plan, Shikama, Hirohata and Aboshi Dec. '44.

1/2 Statute 0 Miles 1/2
1/2 Nautical 0 Miles 1/2

500 0 500 1000 Yards
1″=1041.7 Ft 0 1000 2000 3000 Feet

DEPTH IN FATHOMS AT NEARLY LOWEST LOW WATER

PUBLISHED IN OFFICE OF AC/AS INTELLIGENCE, A.A.F., BY COMBINED PERSONNEL OF UNITED STATES AND BRITISH SERVICES FOR THE USE OF ALLIED FORCES.

90:27-3514 PSP 2

File No. 644,514.67

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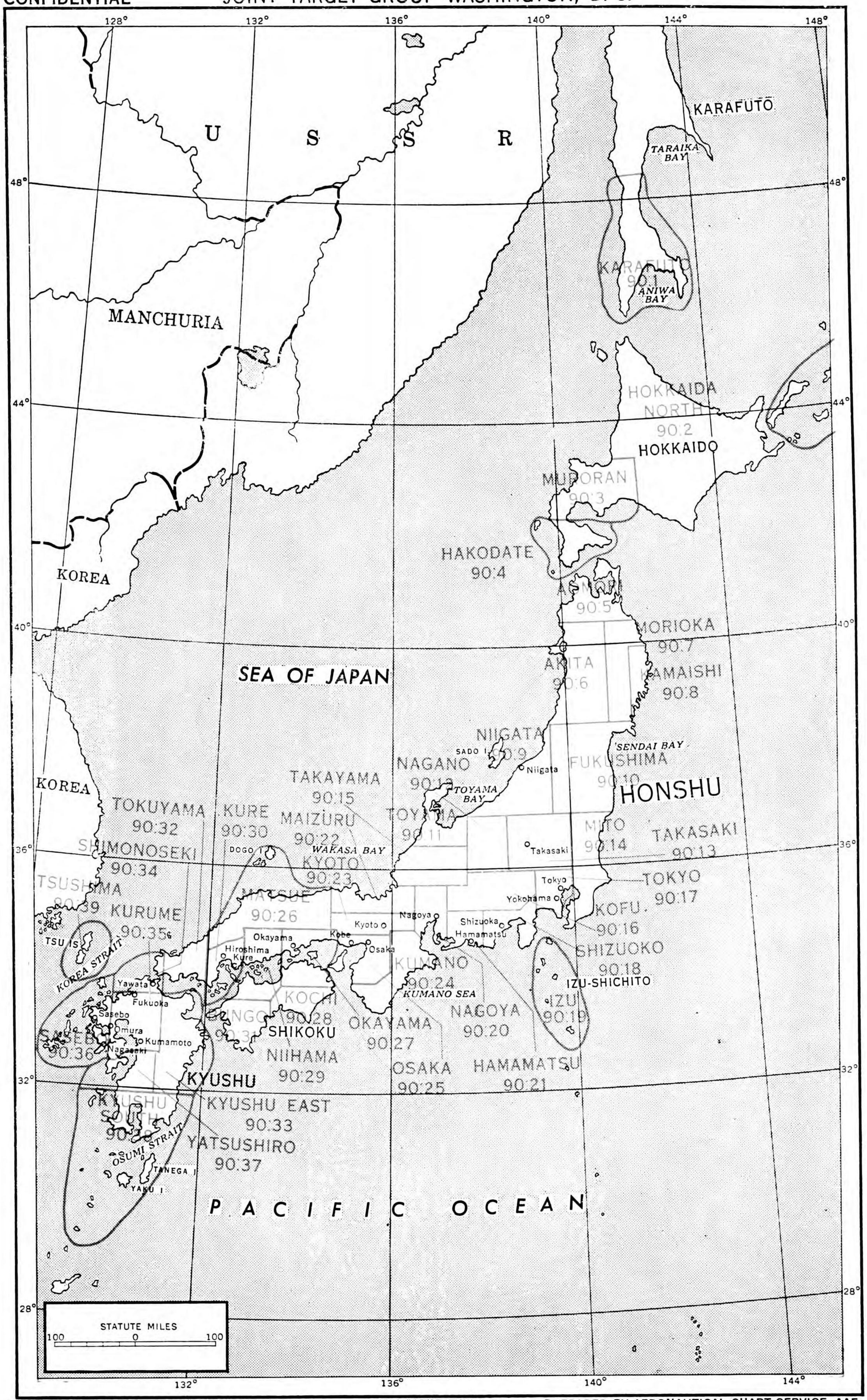
JOINT TARGET GROUP WASHINGTON, D. C.



90:29 NIIHAMA

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File No. 660,100

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX — JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:29—NIIHAMA (JAPAN)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:29-814 Niihama (Japan)	Sumitomo Copper Smelter	NW half Mino Is., about 10 miles NNW of Niihama.	34°06′N 133°11′E	BPI	NFM	Blister copper, 13,000-16,000 metric tons annually plus 115,332 metric tons sulphuric acid.
90:29-815 Niihama (Japan)	Sumitomo Copper Refinery	SE corner Niihama Harbor, across from Sumitomo Chemical Company to the W (90:29-923).	33°58′N 133°16′E	BPI	NFM	One of 5 principal Jap copper refineries. 20,000 metric tons annually. Copper and nickel sulphates also.
90:29-923 Niihama (Japan)	**Sumitomo Chemical Co.**	**On W side of Niihama Harbor, just N of Shinden.**	**33°58′N 133°16′E**	**BPI**	**C CIS**	**One of largest chemical plants in Japan. Produces nitrogen, sulphuric acid, nitric acid, methanol, phosphate, coke.**
90:29:924 Niihama (Japan)	**Sumitomo Aluminum Reduction Plant**	**NE of Niihama on 12-acre reclaimed plot on E side of Niihama Harbor.**	**33°58′N 133°17′E**	**BPI**	**NFM**	**One of 14 most important aluminum plants. Annual capacity 20,000 metric tons.**
90:29-925 Niihama (Japan)	**Niihama Copper Concentrating Mill**	**SW of Niihama and just S of Shinden.**	**33°57′N 133°16′E**	**BPI**	**NFM**	**Flotation and gravity treatment of ores from nearby Besshi mines.**
90:29-927A Niihama (Japan)	**Habu Shipyards**	**On SW coast of Inno-Shima in straits just S of Habu. Approximately 1 mile W of Shannosho Shipyards (90:29-927B)**	**34°17′N 133°11′E**	**BEI BSU**	**TE S**	**Has 4 building ways, longest 500-foot, 3 drydocks, longest reported 800 feet.**
90:29-927B Niihama (Japan)	**Shannosho Shipyards**	**On SE coast of Inno-Shima. Approximately 1 mile E of Habu Shipyards (90:29-927A)**	**34°17′N 133°12′E**	**BEI BSU**	**TE S**	**Has 2 building ways, longest 370 feet. 2 drydocks, longest 460 feet.**
90:29-931 Niihama (Japan)	Niihama Steam Power Plant	NE of Niihama on E side of Niihama Harbor. Just S of Sumitomo Aluminum Reduction Plant (90:29-924).	33°58′N 133°17′E	BSU	EP	Reported capacity 60,000 kw.
90:29-932 Niihama (Japan)	Sumitomo Machinery Works	On water on W edge of Shinden.	33°57′N 133°16′E	BEI	MMT	Produces mining and smelting equipment.
90:29-934 Niihama (Japan)	Itozaki Oil Storage	On water, about 1½ miles E of Mihara.	34°23′N 133°07′E	MS	P	About ten tanks with approximate capacity of 175,000 barrels; workshops, warehouses, RR and tanker facilities.
90:29-1602 Niihama (Japan)	Saijo Steam Power Plant	Exact location unknown. Near Saijo, probably near harbor.	33°55′N 133°11′E	BSU	EP	Capacity 60,000 kw. One of 2 plants comprising principal source of power for Niihama region.
90:29-1657 Niihama (Japan)	**Sumitomo Alumina Plant**	**Near Niihama, on tip of reclaimed land extending toward Miyo Island.**	**33°58′N 133°16′E**	**BPI**	**NFM**	**Alumina plant with annual capacity of 20,000 tons.**

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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SHEET . . . . . ATI
DATE . . . . . 20 June 1945

JOINT TARGET GROUP, WASHINGTON, D. C.
AIR TARGET INDEX—JAPANESE WAR
NUMERICAL TARGET INDEX

OBJECTIVE AREA 90:29—NIIHAMA (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:29-1690 Niihama (Japan)	**Asano Cement Co., Itozaki Plant**	**Itozaki.**	**35°23′N 133°07′E**	**BPI**	**NFM**	**Converted cement plant. One of 5 most important alumina plants.**
90:29-1931 Niihama (Japan)	**Imperial Dye Works**	**In E Fukuyama town, on inlet from Kasaoka Bay.**	**34°29′N 133°23′E**	**BPI**	**C**	**One of 4 largest dye plants. Important producer of ingredients for explosives. Potential producer of poison gas.**
90:29-1935 Niihama (Japan)	Chigiri Shima Copper Smelter	On small island off NE side of Chigiri Island. About S of Takehara town.	34°18′N 132°54′E	BPI	NFM	Medium size copper producer.
90:29-1936 Niihama (Japan)	Takehara Electrolytic Copper Refinery	Between Takehara town and coast.	34°20′N 132°55′E	BPI	NFM	Medium size copper producer.
90:29-2132 Niihama (Japan)	**Yoko Shima Oil Storage**	**On SW coast of Yoko Shima, about 8 miles SE of Onomichi.**	**34°20′N 133°16′E**	**MS**	**P**	**About eleven large sized tanks.**
90:29-2134 Niihama (Japan)	**Omi Shima Oil Storage**	**On NE coast of Omi Shima.**	**34°16′N 133°02′E**	**MS**	**P**	**About 12 large tanks.**
90:29-3426 Niihama (Japan)	Mihara/Itosaki—Port Area	On Hiuchi Sea in SW Honshu.	34°23′N 133°06′E	BSU	S	Oil port.
90:29-3439 Niihama (Japan)	Imabari—Port Area	On Hiuchi Sea in NW Shikoku.	34°04′N 133°00′E	BSU	S	Annual capacity about 430,000 metric tons. Port for coastal vessels.
90:29-3508 Niihama (Japan)	Niihama—Port Area	On Hiuchi Sea in N Central Shikoku.	33°58′N 133°16′E	BSU	S	Annual capacity about 214,000 metric tons. Chemicals port.
90:29-3513 Niihama (Japan)	Mitsugahama—Port Area	On Iyo Sea in NW Shikoku.	33°52′N 132°43′E	BSU	S	Port for coastal vessels
90:29-3521 Niihama (Japan)	Onomichi—Port Area	On Huichi Sea in SW Honshu.	34°24′N 133°12′E	BSU	S	Annual capacity about 115,000 metric tons. Boat repair.
90:29-3539 Niihama (Japan)	Takahama—Port Area	On Iyo Sea in W Shikoku.	33°53′N 132°35′E	BSU	S	Port for small vessels.
90:29-3578 Niihama (Japan)	Habu—Port Area	On S end of Inno Island in Hiuchi Sea, SW Honshu.	34°17′N 133°11′E	BSU	S	Port for coastal vessels. Shipbuilding and repair.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores. . . . . .

A—Armament; AC—Aircraft; C—Chemicals; CIS— Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Mnitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

JOINT TARGET GROUP
WASHINGTON, D. C.
OBJECTIVE AREA
TARGET LOCATION MAP

OBJECTIVE AREA 90:29–NIIHAMA, JAPAN

CONFIDENTIAL

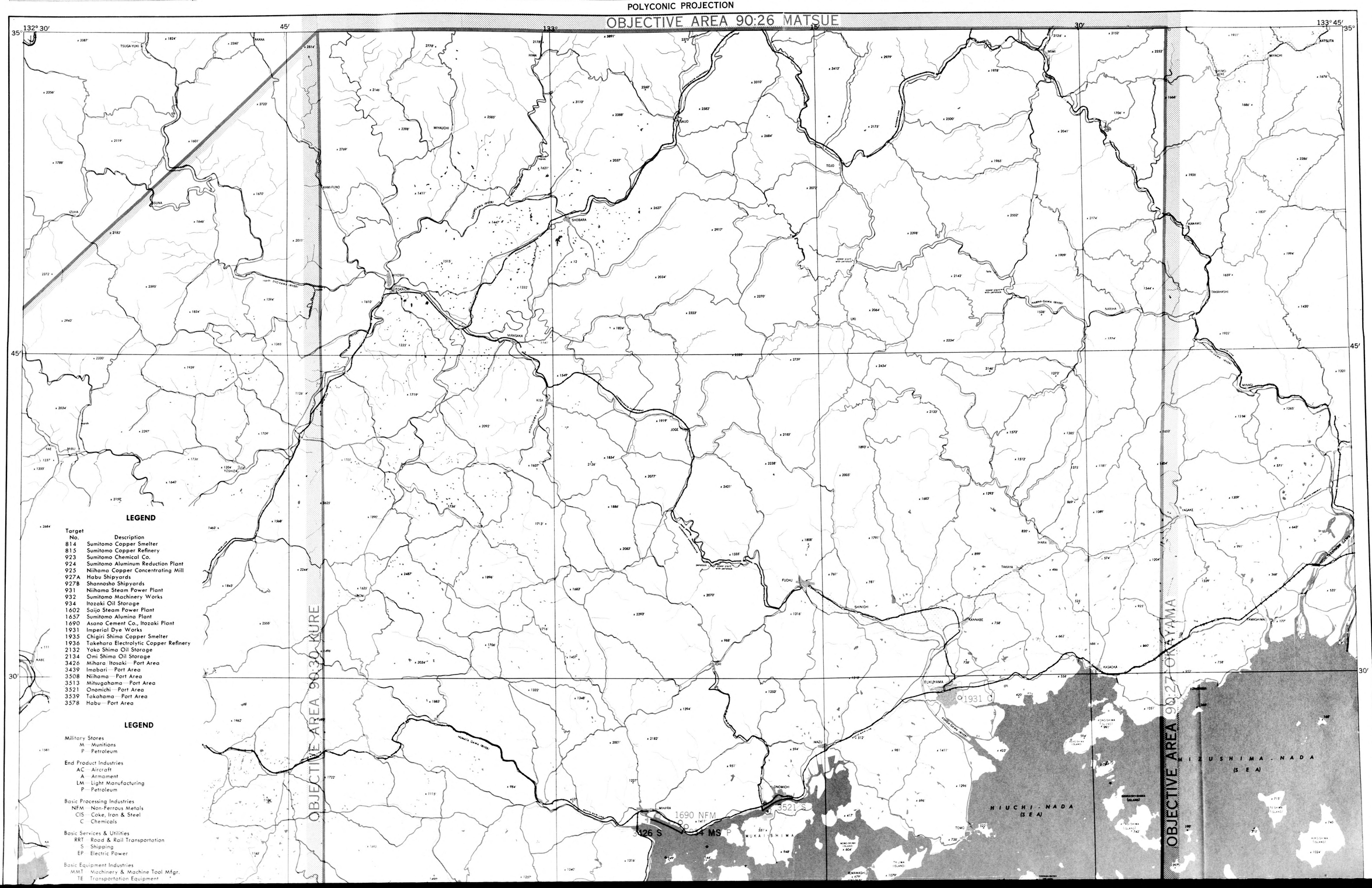
SHEET	90:29–M1
DATE	June 1945
AREA	90:29

SCALE 1:200,000

0 5 10 15 20 STATUTE MILES

5 0 5 10 15 20 NAUTICAL MILES

POLYCONIC PROJECTION



LEGEND

Target No.	Description
814	Sumitomo Copper Smelter
815	Sumitomo Copper Refinery
923	Sumitomo Chemical Co.
924	Sumitomo Aluminum Reduction Plant
925	Niihama Copper Concentrating Mill
927A	Habu Shipyards
927B	Shannosho Shipyards
931	Niihama Steam Power Plant
932	Sumitomo Machinery Works
934	Itozaki Oil Storage
1602	Saijo Steam Power Plant
1657	Sumitomo Alumina Plant
1690	Asano Cement Co., Itozaki Plant
1931	Imperial Dye Works
1935	Chigiri Shima Copper Smelter
1936	Takehara Electrolytic Copper Refinery
2132	Yoko Shima Oil Storage
2134	Omi Shima Oil Storage
3426	Mihara Itosaki—Port Area
3439	Imabari—Port Area
3508	Niihama—Port Area
3513	Mitsugahama—Port Area
3521	Onomichi—Port Area
3539	Takahama—Port Area
3578	Habu—Port Area

LEGEND

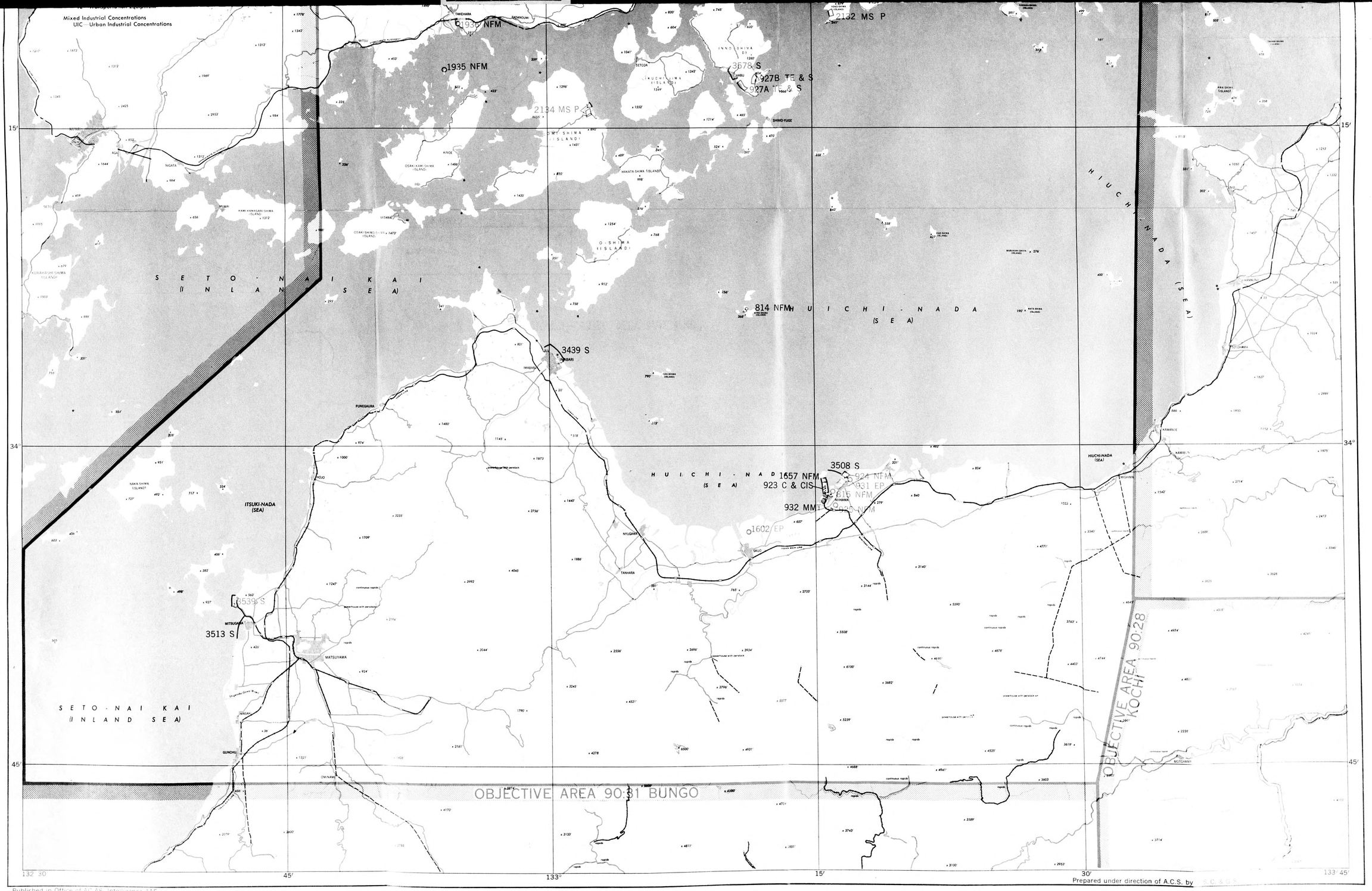
Military Stores
- M—Munitions
- P—Petroleum

End Product Industries
- AC—Aircraft
- A—Armament
- LM—Light Manufacturing
- P—Petroleum

Basic Processing Industries
- NFM—Non-Ferrous Metals
- CIS—Coke, Iron & Steel
- C—Chemicals

Basic Services & Utilities
- RRT—Road & Rail Transportation
- S—Shipping
- EP—Electric Power

Basic Equipment Industries
- MMT—Machinery & Machine Tool Mfgr.
- TE—Transportation Equipment



Prepared under direction of A.C.S. by S.C. & G.S.

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NIIHAMA 90.29

File No. 660,300

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

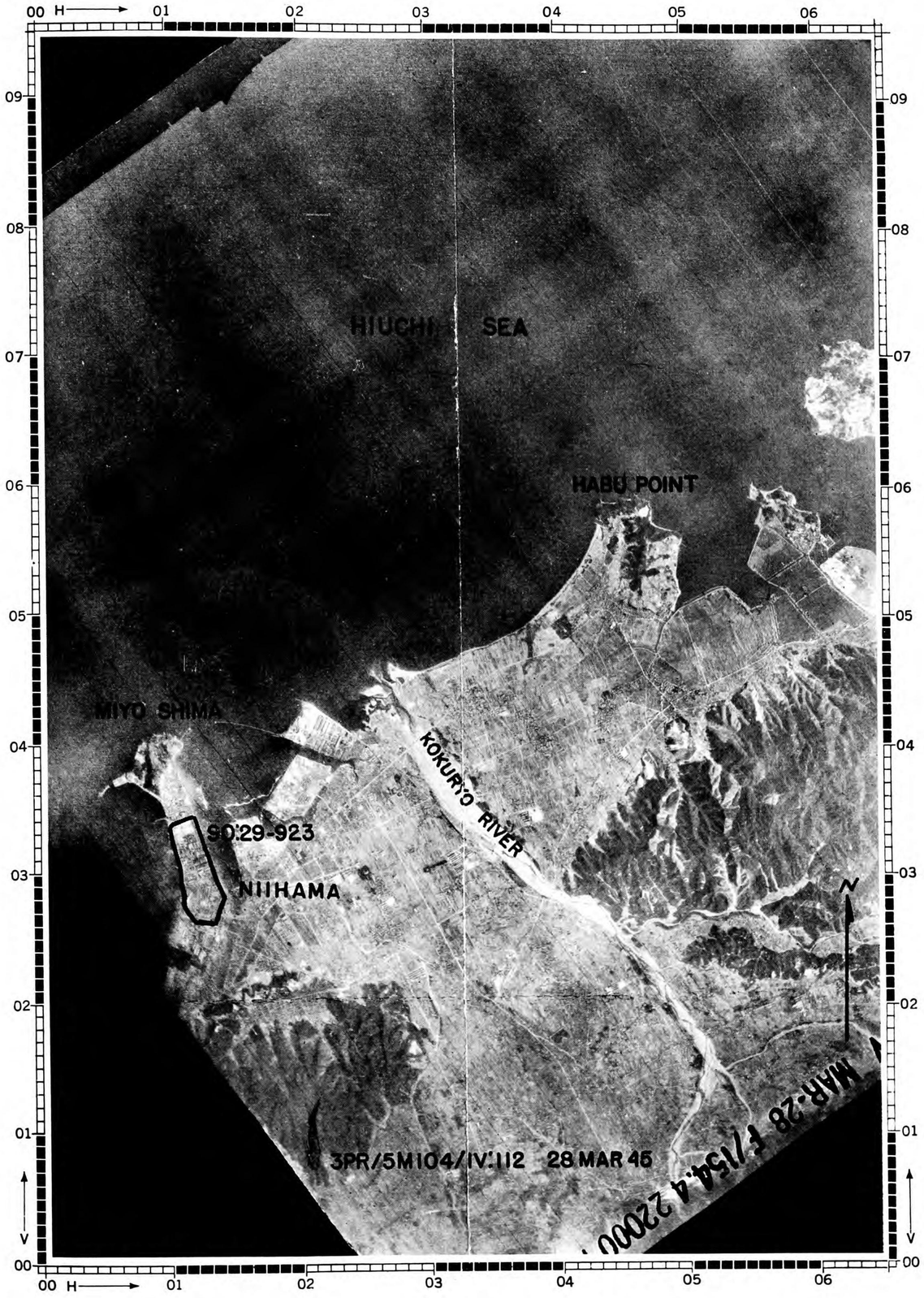
SUMITOMO CHEMICAL CO.
NIIHAMA JAPAN

SHEET . . . . . 90:29-923—TL
DATE . . . . . 30 May 1945
TARGET 90:29-923
CATEGORY . Bsc. Proc. Ind.—CHEMICALS
COORDINATES . . . . 33°58'N 133°16'E
ALTITUDE . . . . . 20 feet

SIGNIFICANCE:

One of very large diversified chemical developments in Japan. Reported to be among largest producers of sulphuric acid, nitric acid and methanol. Also important producer of phosphate fertilizer and ammonia.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,000



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:44,000

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File No. 661,923.1

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

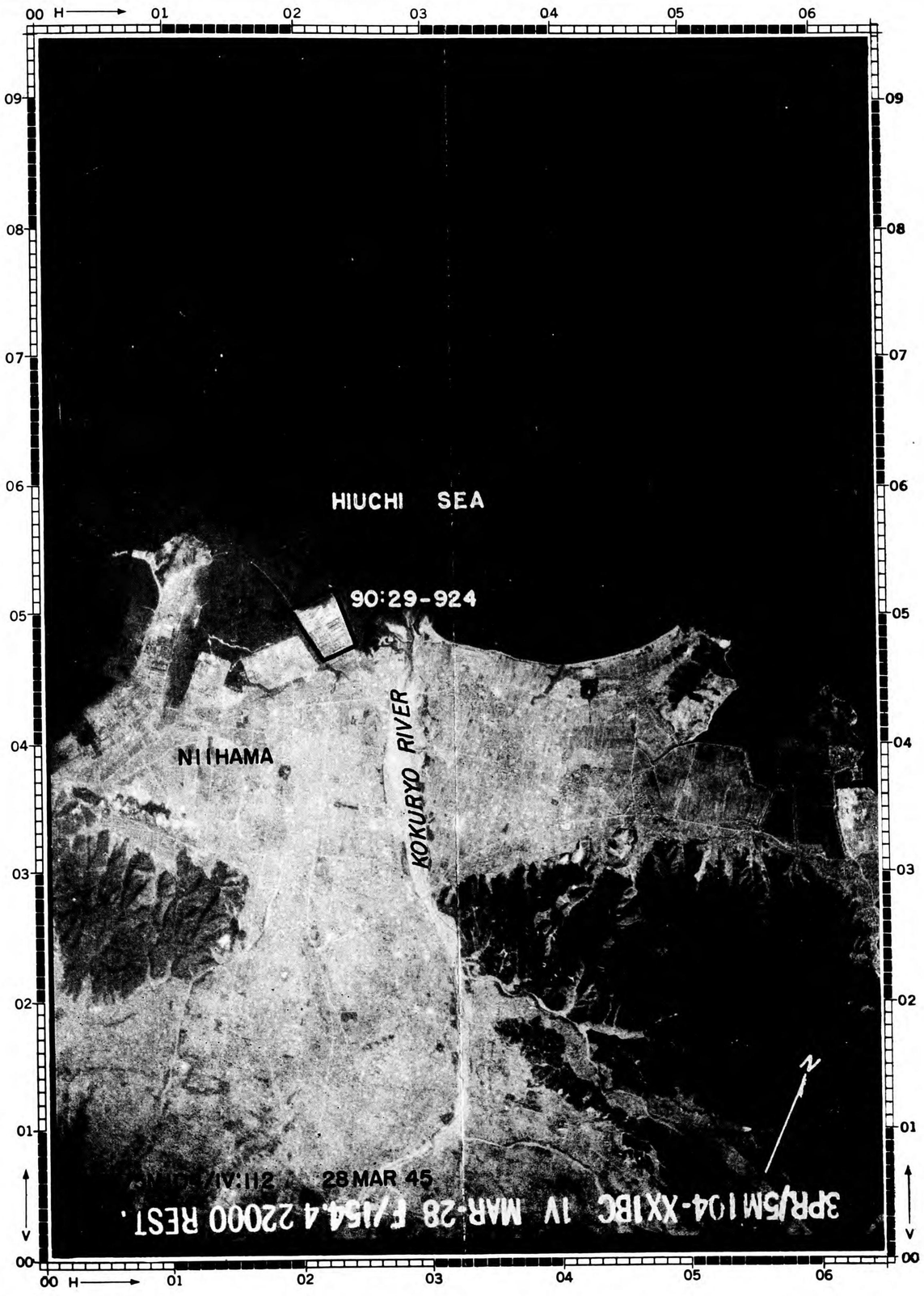
SUMITOMO ALUMINUM REDUCTION PLANT

NIIHAMA JAPAN

SHEET . . . . . 90:29-924—TL
DATE . . . . . 18 May 1945
TARGET 90:29-924
CATEGORY
Bsc. Prdt. Ind.—NON-FERROUS MTLS.
COORDINATES . . . . . 33°58'N 133°17'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

One of the largest aluminum reduction plants under Japanese control—considerably larger than reported in ATSF/NFM. Probably accounts for about 8.5 per cent of total Japanese capacity. Reported in full production. On the basis of inadequate photography, it is believed the plant includes some fabrication and possibly rolling of duralumin sheet.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:24,600

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:61,500

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File No. 661,924.1

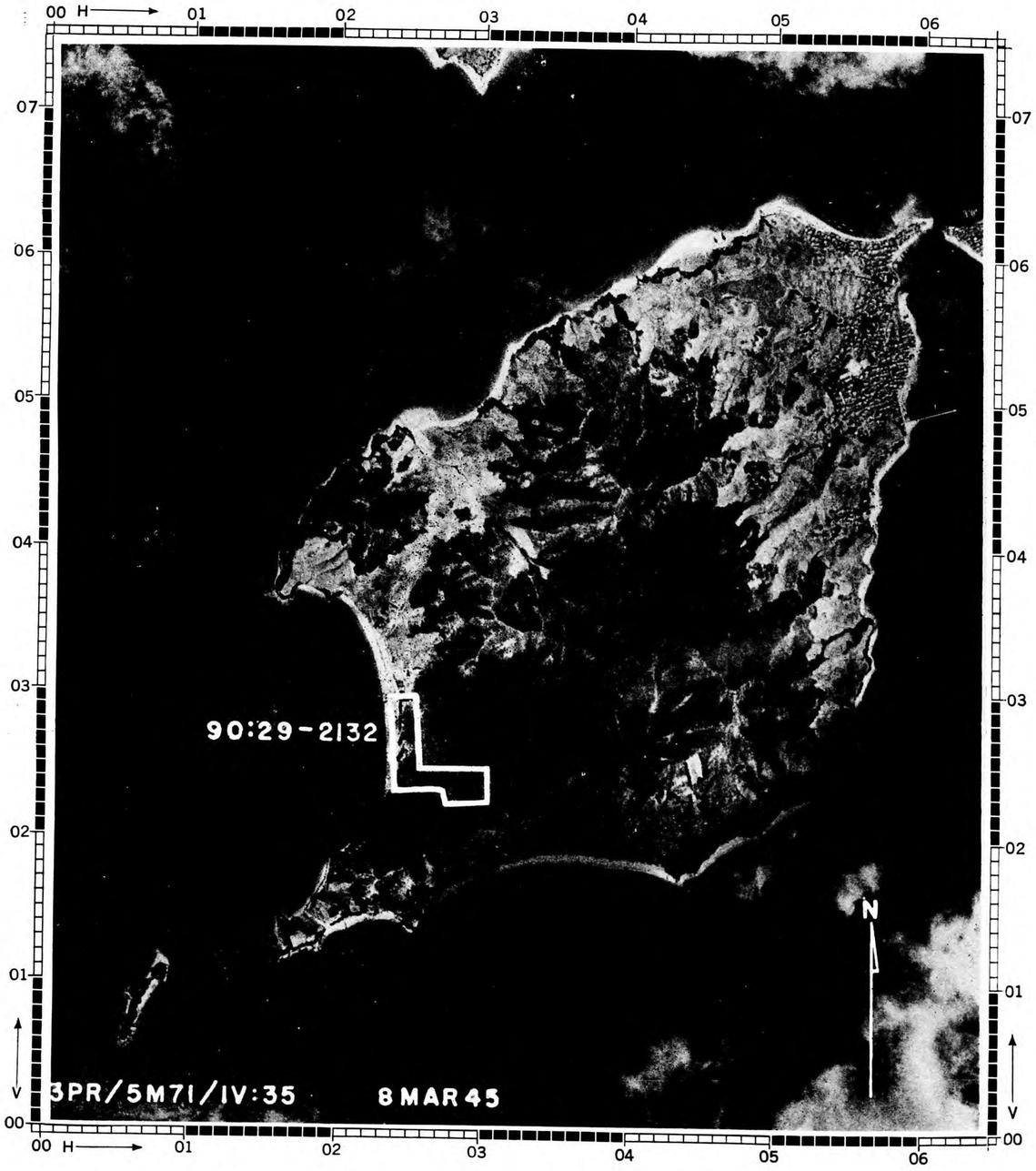
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

YOKO SHIMA OIL STORAGE
YOKO SHIMA JAPAN

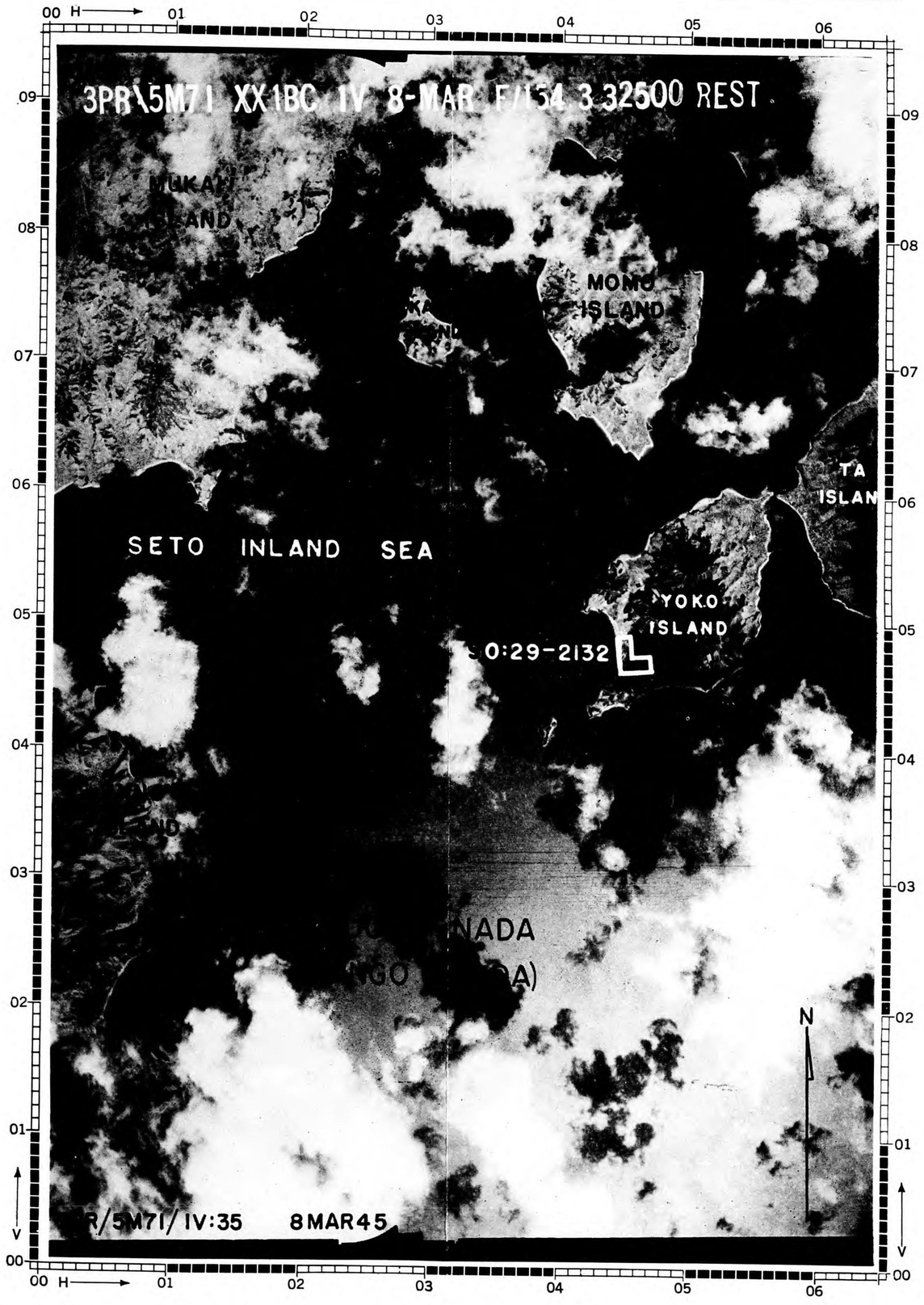
SHEET . . . . . 90:29-2132—TL
DATE . . . . . 29 May 1945
CATEGORY . End Prdt. Ind.—PETROLEUM
COORDINATES . . . . . 34°20'N 133°16'E
ALTITUDE . . . . . 20 feet

SIGNIFICANCE:

Oil tank farm with at least 9 by 75,000 camouflaged surface tanks. Total estimated capacity at least 675,000 barrels.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:22,000



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:65,000

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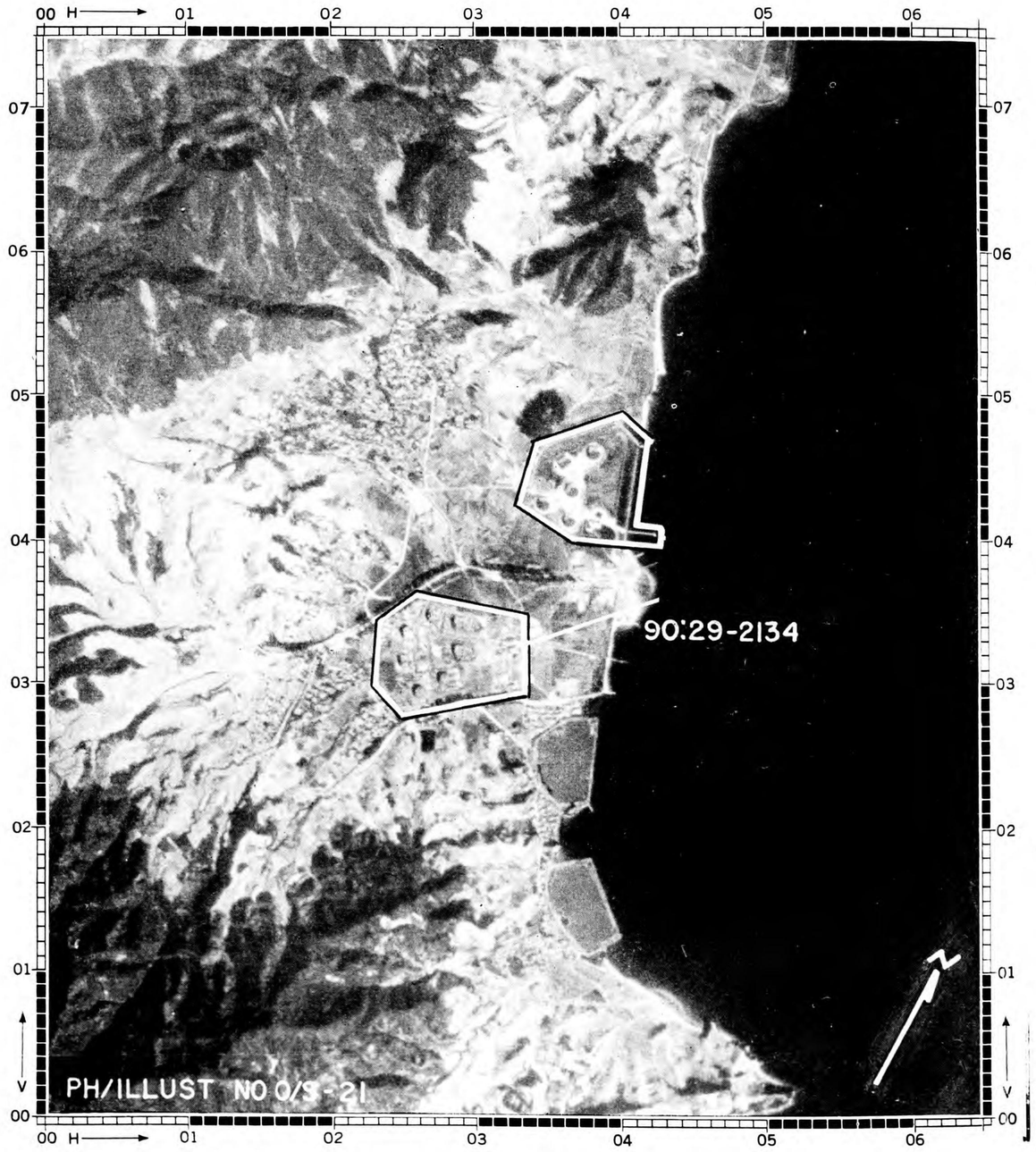
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

OMI SHIMA OIL STORAGE
OMI ISLAND JAPAN

SHEET	90:29-2134–TL
DATE	18 May 1945
TARGET	90:29-2134
CATEGORY	MILITARY STORES
COORDINATES	34°16'N 133°02'E
ALTITUDE	20 feet

SIGNIFICANCE:

Oil tank farm with 12 x 55,000 barrel tanks, total capacity 660,000 barrels. No dismantled tanks plus effective camouflage indicates active storage.



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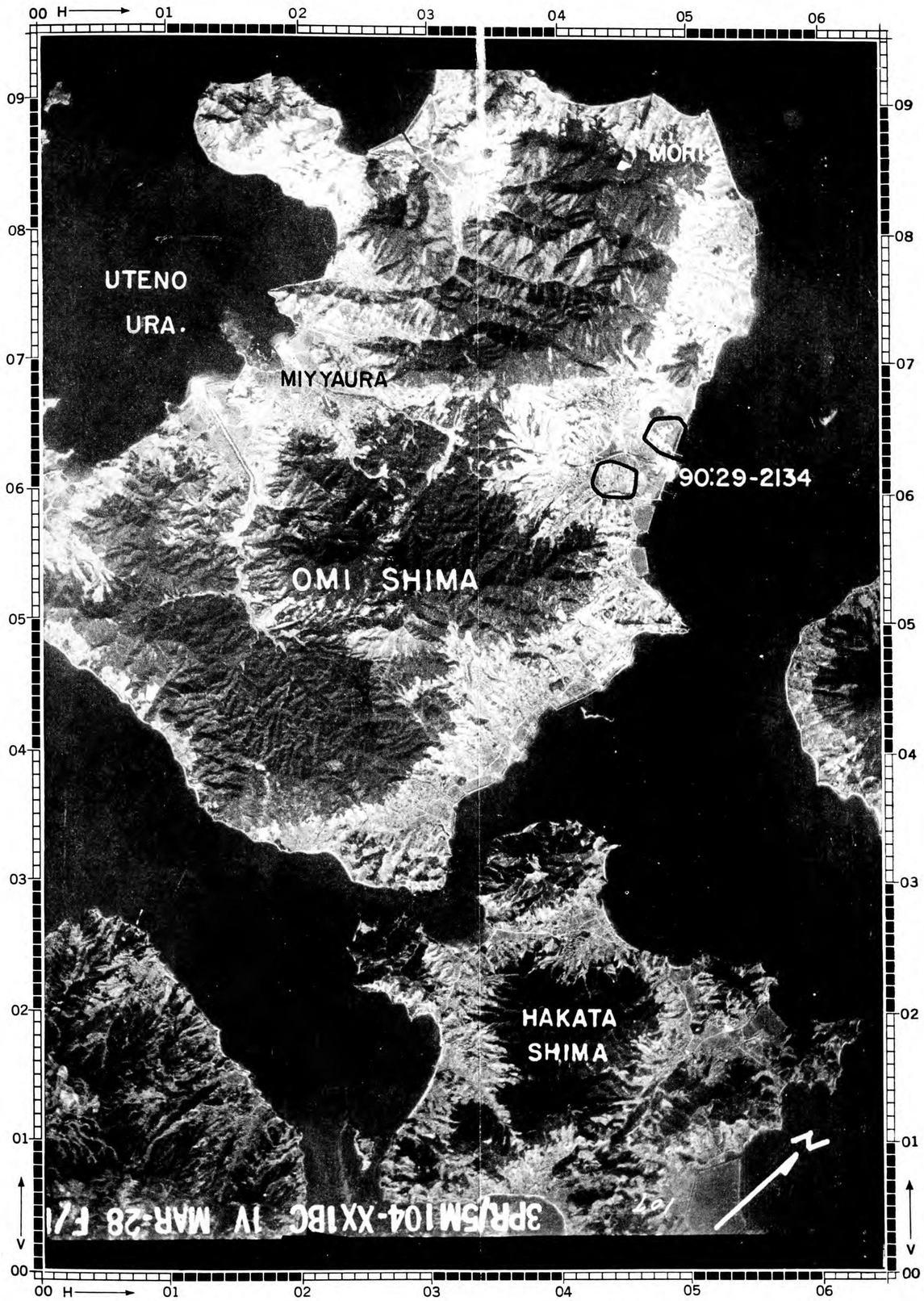

SMALL SCALE ILLUSTRATION–SCALE APPROX.: 1:44,000

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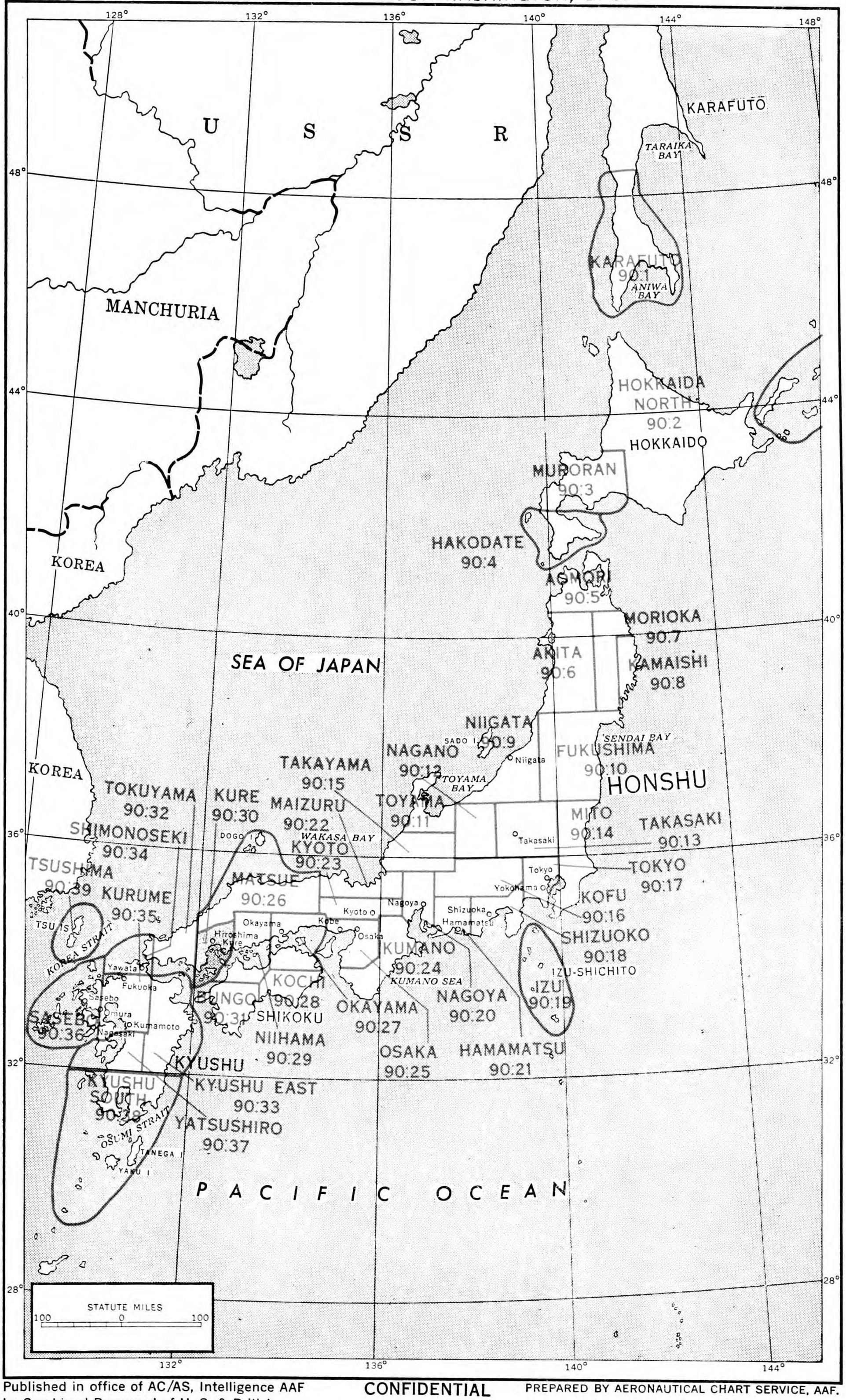
File No. 663,134.1



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File No. 670,100

90:30 KURE

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX—JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:30—KURE (JAPAN)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:30-656 Kure (Japan)	Kure Naval Air Station	At Hiro, about 3 miles SE of Kure.	34°13′N 132°37′E	EPI	AC	Principal air station for naval district. Does testing and repairs for nearby Hiro Naval Aircraft Factory (90:30-660).
90:30-657A Kure (Japan)	**Kure Naval Arsenal**	**On peninsula forming the S side of Kure Harbor, about 2 miles SW of Kure City.**	**34°13′N 132°33′E**	**EPI** BPI	**A** CIS	**With its Hiro Branch (90:30-794) constitutes the principal arsenal for the Japanese Navy. Produces naval and heavy AA guns, projectiles, and other gun parts. Also medium size steel producer.**
90:30-657B Kure (Japan)	**Kure Naval Shipyard**	**On SE side of Kure Harbor, about 1 mile S of Kure City, joining Kure Naval Arsenal (90:30-657A to SW.**	**34°14′N 132°33′E**	**EPI**	**A**	**One of 4 largest Japanese naval shipyards. Highly integrated and equipped to construct and repair all types of naval vessels.**
90:30-657C Kure (Japan)	Torpedo Boat Base and Mine Depot	On NE shore of Kure Harbor at SW edge of Kure City.	34°14′N 132°33′E	EPI MS	A M	Builds and stores torpedoes and mines. Repair shops for torpedo boats.
90:30-657D Kure (Japan)	Provision and Clothing Depot	NE corner of Kure Harbor, N of and adjacent to Kure Naval Shipyard (90:30-657B).	34°14′N 132°34′E	MS	M	Numerous storehouses for food, clothing and miscellaneous supplies.
90:30-658 Kure (Japan)	Kure Submarine Base	On reclaimed land at NW end of Kure inner harbor, about 1¼ miles WSW of Kure City.	34°14′N 132°32′E	EPI	A	Complete engine repair and overhaul facilities and supply depot.
90:30-659 Kure (Japan)	**Hitonose Oil Storage**	**On SE coast of Yeta Shima Island, about 5 miles SW of Kure City.**	**34°12′N 132°29′E**	**MS**	**P**	**Major fuel depot with underground storage and at least 25 surface tanks.**
90:30-660 Kure (Japan)	**Hiro Naval Aircraft Factory**	**At Hiro, 4 miles E of Kure Naval Arsenal. (90:30-657A).**	**34°13′N 132°37′E**	**EPI**	**AC**	**Major repair and maintenance depot with small plane and engine production.**
90:30-730 Kure (Japan)	**Hiro Naval Engine and Turbine Factory**	**NE side of Seto. Inland Sea, just NE of Hiro Naval Aircraft Factory (90:30-660).**	**34°13′N 132°38′E**	**EPI** BEI	**A** MMT	**Turbines, engines and auxiliary machinery.**
90:30-735 Kure (Japan)	Army Transport Base	On N side of Ujina Harbor at SE edge of Hiroshima.	34°21′N 132°28′E	BSU	S	Military harbor.
90:30-736 Kure (Japan)	Army Ordnance Depot	SE edge of Hiroshima.	34°23′N 132°29′E	MS	M	Large stores of munitions and chemicals, primarily for equipment of embarking troops.
90:30-737 Kure (Japan)	Army Food Depot	SE of Hiroshima, just NW of Army Transport Base at Ujina (90:30-735).	34°22′N 132°28′E	MS	M	Provisions depot for embarking troops.
90:30-738 Kure (Japan)	Army Clothing Depot	SW edge of Hiroshima.	34°22′N 132°29′E	MS	M	Manufactures army uniforms. Also a large storage depot.

BEI—Basic Equipment Industries; BPI—Basuc Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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SHEET . . . . . **ATI**
DATE . . . . . **20 June 1945**

JOINT TARGET GROUP, WASHINGTON, D. C.
AIR TARGET INDEX—JAPANESE WAR
NUMERICAL TARGET INDEX

OBJECTIVE AREA 90:30—KURE (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:30-740 Kure (Japan)	**East Hiroshima RR station**	**E edge of Hiroshima, N of River.**	**34°22′N 132°29′E**	**BSU**	**RRT**	**Most important station in Hiroshima with storehouses, roundhouse and repair facilities.**
90:30-748 Kure (Japan)	Army Division Headquarters	On Castle grounds, in N Central Hiroshima.	34°24′N 132°28′E	MS	M	Important administrative control point for Western Army. Has barracks, magazines and warehouses for ordnance storage.
90:30-794 Kure (Japan)	**Hiro Arsenal**	**Reclaimed land E of mouth of Hiro River adjoining and NE of Kure Naval Air Station (90:30-656).**	**34°14′N 132°37′E**	**EPI**	**A**	**Branch of Kure Naval Arsenal (90:34-657A), heavy naval guns.**
90:30-796 Kure (Japan)	Saka Steam Power Plant	E shore Kaito Bay, 4 miles SE of Hiroshima and 6 miles N of Kure.	34°20′N 132°31′E	BSU	EP	One of 4 largest generating stations West Honshu. Principal source Kure-Hiroshima district; 51,000 kw.
90:30-798 Kure (Japan)	**Kure RR Station.**	**Extending between Niko and Sakai Rivers, Kure, adjoining Torpedo Boat Base and Mine Depot (90:30-657C) to the S.**	**34°14′N 132°34′E**	**BSU**	**RRT**	**Yards and warehouses. Passenger station.**
90:30-1885 Kure (Japan)	**Mitsubishi Electric Mfg. Co.**	**About 3 miles N of castle and military zone in N Center of Hiroshima.**	**34°26′N 132°28′E**	**BEI**	**MMT**	**Major producer of machine tools used in manufacture of aero-engines and ordnance—Van-Norman type millers, lathes.**
90:30-1889 Kure (Japan)	Ujina Shipbuilding Co.	On E coast of Ujina Island.	34°21′N 132°28′E	EPI BEI	A TE	Builds small ships, boilers and possibly military craft.
90:30-1890 Kure (Japan)	**Toyo Industry**	**On E bank of E branch of Kyobashi River, about 1½ miles above mouth, near Hiroshima.**	**34°22′N 132°31′E**	**BEI EPI**	**MMT AC A**	**Major producer of machine tools used in manufacture of aero-engines and ordnance—grinderls lathes, boring machines. Aircraft parts and possiby, arms production.**
90:30-1891 Kure (Japan)	**Japan Steel Co., Hiroshima Plant**	**Near Hiroshima, about 1 mile E of mouth of E branch of Kyobashi River.**	**34°22′N 132°31′E**	**EPI**	**A**	**One of 3 main plants of largest private ordnance producer. Heavy naval guns, torpedoes.**
90:30-1907 Kure (Japan)	Kanokawa Oil Storage	On W shore of Kanokawa Bay, in Nishi Nomi Island, about 12 miles S of Hiroshima town.	34°11′N 132°26′E	MS	P	Six large storage tanks remaining.
90:30-2121 Kure (Japan)	**Otake Oil Refinery**	**On W side of Hiroshima Bay, on bay shore at Otake.**	**34°12′N 132°14′E**	**EPI MS**	**P P**	**Important refinery for Jap Army. Capable of producing best aviation gasoline. Large storage facilities.**
90:30-2133 Kure (Japan)	**Hiro Oil Storage**	**Adjoins Kure Naval Air Station (90:30-656), on waterfront, about 2 miles ESE of Kure.**	**34°14′N 132°37′E**	**MS**	**P**	**Large oil storage, about 120 tanks partially buried. Probably aviation gasoline.**

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EFI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX—JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:30—KURE (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:30-2135 Kure (Japan)	Kurahashi Jima Oil Storage	On S shore of Bay, in SE part of Kurahashi Island.	34°06′N 132°34′E	MS	P	6 large storage tanks intact. Many dismantled or in process of dismantling.
90:30-2177 Kure (Japan)	**Kono(Oze)-gawa RR Bridges (Sanyo Line)**	**Otake**	**34°12′N 132°14′E**	**BSU**	**RRT**	**On Sanyo Line in W Honshu bottleneck section. Important to through rail traffic between Honshu and Kyushu.**
90:30-2178 Kure (Japan)	**Ota-gawa RR Bridge (Sanyo Line)**	**Hiroshima**	**34°24′N 132°28′E**	**BSU**	**RRT**	**On Sanyo Line in W Honshu bottleneck section. Important to through rail traffic between Honshu and Kyushu.**
90:30-2202 Kure (Japan)	**Marifu RR Yards & Roundhouse**	**Marifu**	**34°10′N 132°14′E**	**BSU**	**RRT**	**On Sanyo Line in W Honshu bottleneck section.**
90:30-2226 Kure (Japan)	**Eta Island Munitions Storage No. 1**	**NE coast Eta Island, WNW of Kure**	**34°16′N 132°30′E**	**MS**	**M**	**Small probable ammunition storage.**
90:30-2227 Kure (Japan)	**Eta Island Munitions Area No. 2**	**Central E coast Eta Island, due W of Kure**	**34°14′N 132°30′E**	**MS**	**M**	**Unidentified explosives.**
90:30-2229 Kure (Japan)	**Saijo Explosives Works**	**About 12 miles NW of Mitsu near Saijo.**	**34°27′N 132°41′E**	**MS**	**M**	**2 parts—probable production and storage.**
90:30-3396 Kure (Japan)	Hiro—Port Area	On Inland Sea 3 miles E of Kure	34°13′N 132°37′E	BSU	S	Supplementary port to Kure.
90:30-3425 Kure (Japan)	Murotsu/Kaminoseki—Port Area	On Iyo Sea, in SW Honshu.	33°50′N 132°07′E	BSU	S	Landing.
90:30-3524 Kure (Japan)	Itsukushima—Port Area	On island in Iyo Sea in SW Honshu.	34°17′N 132°19′E	BSU	S	Landing.
90:30-3527 Kure (Japan)	**Kure—Port Area**	**On Iyo Sea in SW Honshu.**	**34°14′N 132°33′E**	**BSU EPI**	**S A**	**Annual capacity about 1,089,000 metric tons. Naval base.**
90:30-3574 Kure (Japan)	**Hiroshima/Ujina—Port Area**	**On Iyo Sea in SW Honshu.**	**34°21′N 132°28′E**	**BSU**	**S**	**Annual capacity about 1,749,000 metric tons. Embarkation port.**

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircrart; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . **90:30-657A–TI**
DATE . **11 December 1944**
PAGE **1**

TARGET **90:30-657A**
OBJ. AREA **90:30**
OBJ. FOLDER **90:30**
CATEGORY **End Prdt. Ind.– ARMAMENT**

LAT. . . . . **34° 13′ N**
LONG. . . . . **132° 33′ E**
ALT. . . . . **20 feet**

KURE NAVAL ARSENAL

KURE JAPAN

ALL PREVIOUS SHEETS CANCELLED

NOTE: As an aid to planning and evaluation of new reconnaissance and other intelligence, this TARGET INFORMATION SHEET is issued in advance of reconnaissance photography of the target. It is correspondingly subject to revision.

REPRINT

SIGNIFICANCE

This target and its branch factory at Hiro (TARGET 90:30-794), constitute the principal arsenal of the Japanese Navy. Known to be made at these two plants are the following items: 40 mm AA machine guns, 120 and 140 mm naval guns, projectiles, fuses, propellants, and torpedoes. This plant is reported to be producing naval guns up to 16 inches, together with mounts for fortress guns and turrets for ship's guns, all types of projectiles, explosives, armor plate, gun sights, periscopes, primers, and radio and other electrical equipment except radar, which is repaired but not manufactured in quantity here.

LOCATION

(Refer to Illustration No. 90:30-657A–PX–2.) At the SW end of the Kure Naval Yard on the peninsula forming the S side of Kure Harbor about 2 miles SW of Kure City. Adjacent to it on the NE is the Naval Shipyard (TARGET 657B). Explosives production is believed to be in a separate compound across Kure Harbor on the peninsula forming the N side of the harbor.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:30-657A–PX–1.) The total target area is about 3600 by 33,000 ft, roughly rectangular with its major axis lying NE-SW. The plant is divided into four main departments. The largest is the Armor Plate Department (Section B) in the western part of the compound. It contains 11 electric arc furnaces (No. 9) with a reported annual capacity of 380,000 metric tons of steel, 3 rolling mill units (No. 7), a castings department (No. 8), and 2 forge shops (No. 6). This department also provides the steel for the Ordnance Department (Section A), which is located through the center of the compound and at the western end. The major units of this section are small and large gun barrel factories (Nos. 2 and 5), and shell (No. 3), turret (No. 1), and gun mount (No. 4) plants. The other two divisions of the plant, in the eastern part of the compound, are the Torpedo Department (Section C), with four sizeable shops, and the Electrical Department (Section D), with a large number of small buildings producing radio and other electrical equipment.

A standby power plant (No. 10), with two tall stacks, is located in the electrical department.

The identifications of buildings are based mainly on P/W information and should be assessed accordingly. However, they appear logical and, in a number of cases, are substantiated by other sources.

PRIMARY OBJECTIVES

(Refer to Illustration No. 90:30-657A–PX–1.) The functional center of this plant is the rolling mill (No. 7) and casting section (No. 8), in the west-central part of the compound. All raw materials for the finishing departments are produced in these units. Owing to the very specialized nature of the precision products, this work can be done satisfactorily only by Naval arsenal plants especially designed for it. Further information is needed to determine the relative vulnerability of the various units.

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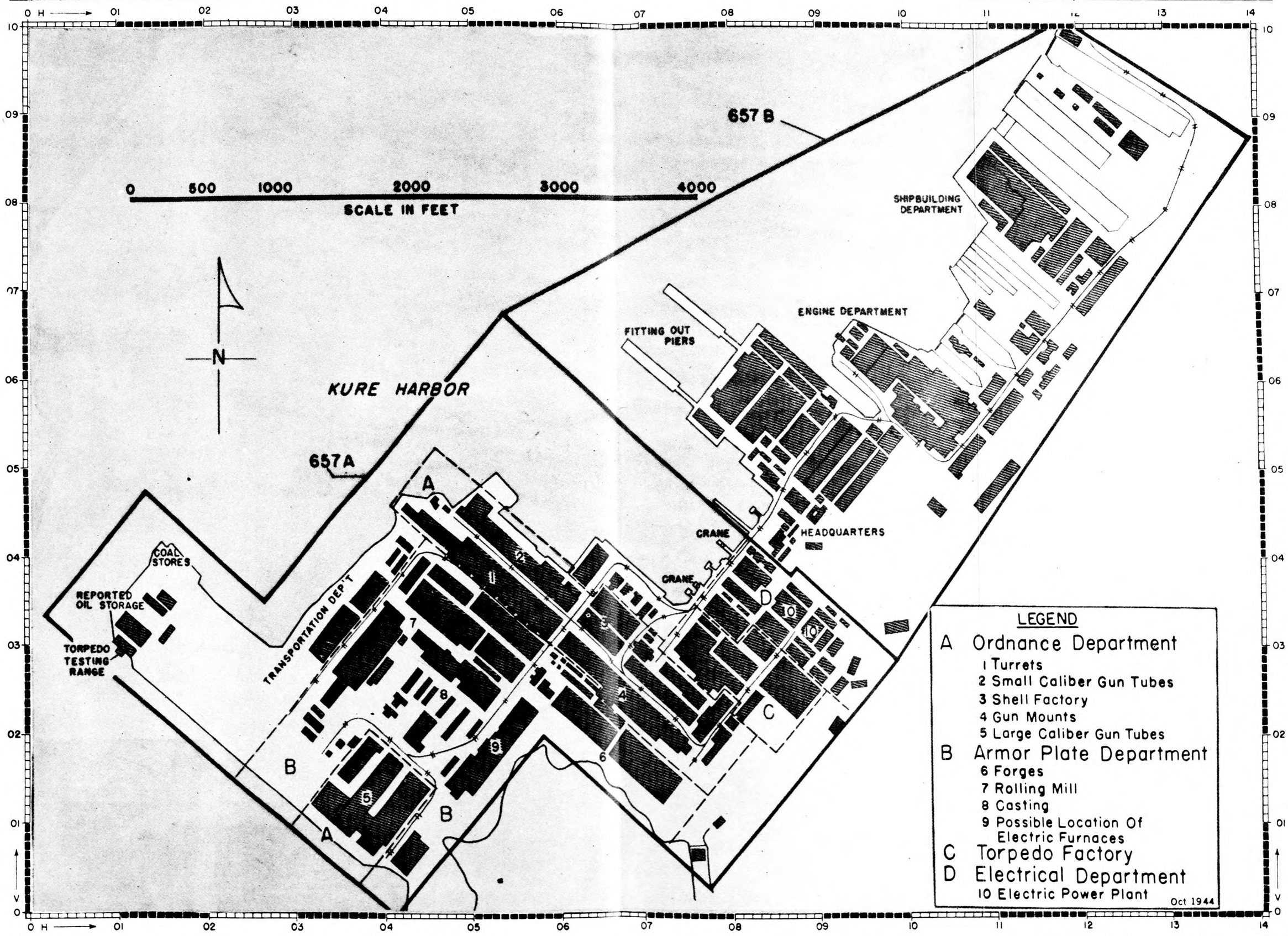
KURE NAVAL ARSENAL
KURE JAPAN

SHEET	90:30-657A–PX1
DATE	January 1945
TARGET	90:30-657A
COORDINATES	34°13′N 132°33′E Approx.



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File No. 671,657.64

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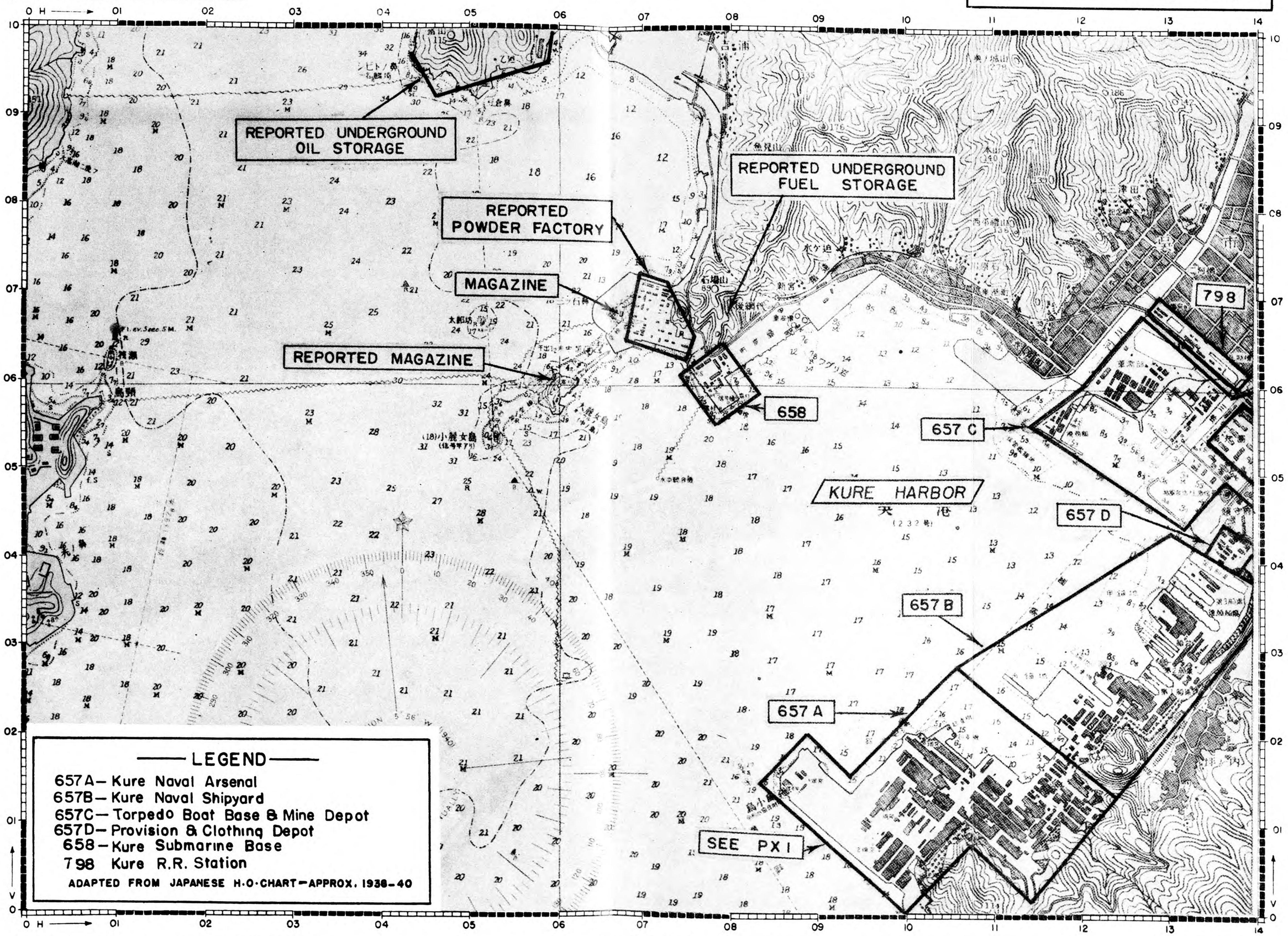
WASHINGTON, D. C.

KURE NAVAL ARSENAL
KURE JAPAN

0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000
SCALE IN FEET

SHEET	90:30-657A—PX2
DATE	January 1945
TARGET	90:30-657A
COORDINATES	34°13'N 132°33'E Approx.



LEGEND

657A— Kure Naval Arsenal
657B— Kure Naval Shipyard
657C— Torpedo Boat Base & Mine Depot
657D— Provision & Clothing Depot
658— Kure Submarine Base
798 Kure R.R. Station

ADAPTED FROM JAPANESE H.O.CHART—APPROX. 1936-40

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File No. 671,657.641

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . . **90:30-657B—TI**
DATE . . **22 February 1945**
PAGE **1**

TARGET **90:30-657B**
OBJ. AREA **90:30**
OBJ. FOLDER . . . **90:27-31**
CATEGORY **End Prdt. Ind.— ARMAMENT**

LAT. . . . . **34° 14′ N**
LONG. . . . . **132° 33′ E**
ALT. . . . . **20 feet**

KURE NAVAL SHIPYARD

KURE JAPAN

ALL PREVIOUS SHEETS CANCELLED

NOTE: As an aid to planning and evaluation of new reconnaissance and other intelligence, this TARGET INFORMATION SHEET is issued in advance of reconnaissance photography of the target. It is correspondingly subject to revision.

REPRINT

SIGNIFICANCE

One of the four largest and most important naval shipyards in Japan; headquarters of the Second Naval District. It is a highly integrated yard and is equipped to construct, fit out and repair every type of naval vessel. There are located at this yard boiler shops, forging plants, structural shops, machine shops, and many other supplemental and complementary buildings. The yard also contains at least four drydocks, two of which can accommodate the largest type naval vessel, one large building dock, three buildingways, two long fitting out piers, a fitting out dock, a relatively large amount of dockage and anchorage area, and many large fixed, movable and floating cranes. Important experimental work is also carried out here.

LOCATION

(Refer to Illustration No. 90:30-657B—PX2.) On the SW inland seacoast of Honshu, approximately 140 air miles W of Kobe, about 12 air miles SSE of Hiroshima. It is situated along the SE side of Kure Harbor about 1 miles S of the city of Kure. Yeta, Nishi-Nomi, and Kura Hashi Islands, large land masses S and SW of Kure Harbor, with the sides of that harbor, give Kure Harbor complete protection from the sea. Contiguous with the target on the SW is the Kure Naval Arsenal (TARGET 90:30-657A). Between the target area and the city of Kure on the N, lie administration buildings, boat basins, barracks areas, naval hospital, etc. (See TARGETS 90:30-657C and D) and the Kure RR Station (TARGET 90:30-798). The target can be considered as the center part of a continuous stretch of buildings along the entire SE side of Kure Harbor. A number of roadways and a railroad parallel the back of the area on the SE. Hills rise abruptly just beyond these roadways to a height of over 1000 feet. Kure Naval Air Base (TARGET 90:30-656) and Hiro Arsenal (TARGET 90:30-794) lie approximately 3.5 miles to the E. Kure is connected with Hiroshima by a single track railroad and with Kobe by a line to Mihara where it joins a main line railroad to Kobe.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:30-657B—PXI.) The total target area is about 4000 feet NE-SW x 2000 feet NW-SE, roughly rectangular with its NE or bay side cut into irregularly by drydocks, slipways, and small basins. The forge, machine, structural, and engine shops are located primarily in the SW section of the target area. Drydocks 1, 2 (approximately 375 and 435 feet in length), the three building ways and a large boiler shop are in the center of the target area. Drydocks 3 and 4 (approximately 700 and 1000 feet in length) and the building way (about 900 feet long) are in the NE end.

The identifications of buildings are based mainly on P/W information and should be assessed accordingly. However, they appear logical and, in a number of cases, are substantiated by other sources.

PRIMARY OBJECTIVES

(Refer to Illustration No. 90:30-657B—PXI.) The machine shops, structural shop, and forging shops (Bldgs. b through i), all closely grouped at the SW end of the yard, are the most critical facilities, from a repair and/or new construction standpoint. If the most immediate front line effect is desired, however, the work in process at the piers, docks, anchorage, and in the drydocks, building ways and building docks, would become the primary objectives.

ADDITIONAL INFORMATION

This target, together with the Kure Naval Arsenal (TARGET 90:30-657A), can be considered as a single target area. This overall area forms a long irregular but continuous line of buildings on the entire SE side of inner Kure Harbor. The facilities of the two areas are intermingled where they join. Both sub areas are of great importance to the Japanese military forces. Together they are one of the most highly integrated industrial units in Japan.

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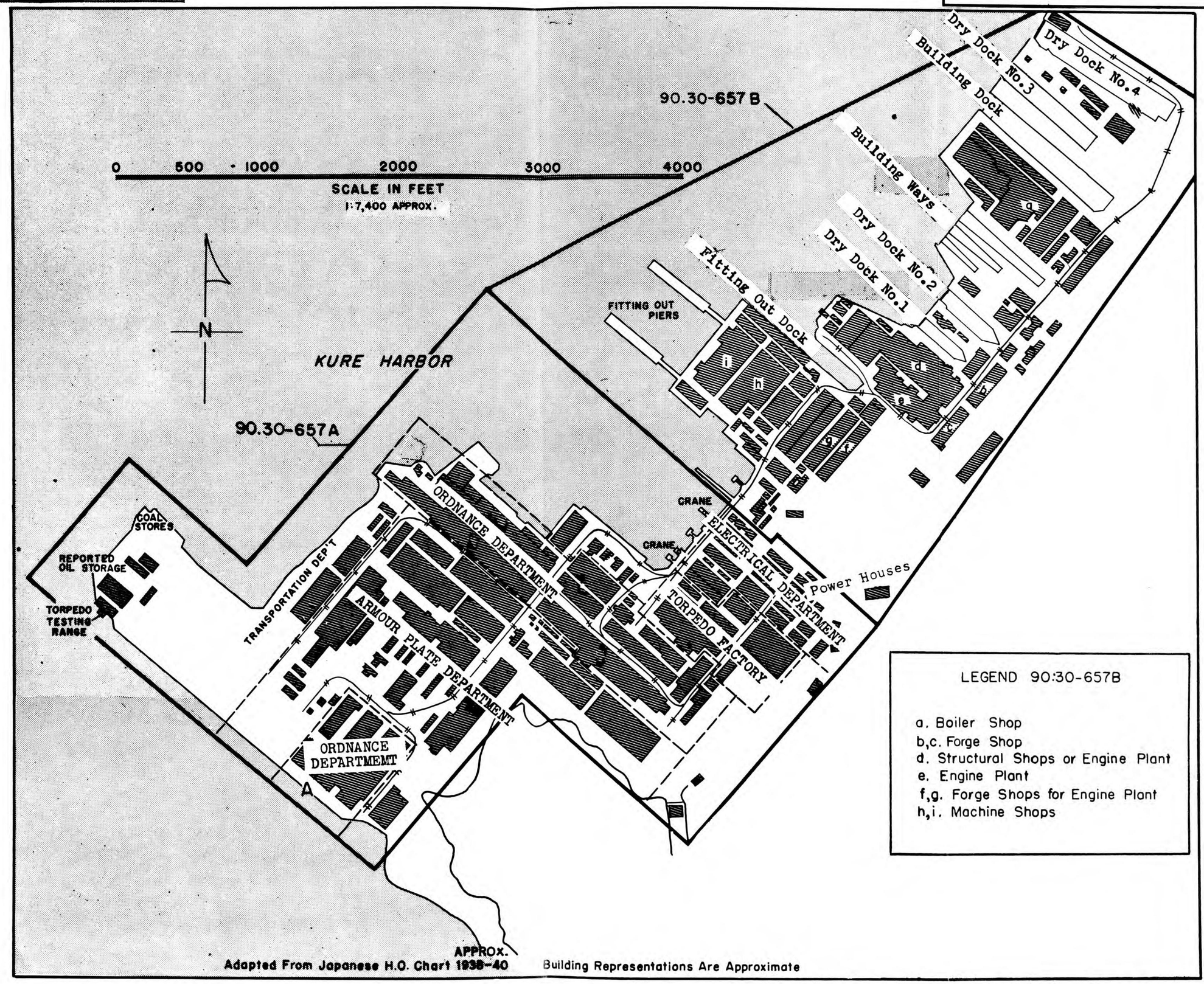
KURE NAVAL SHIP YARD
KURE JAPAN

SHEET ..... 90:30-657B—PX1
DATE ..... March 1945
TARGET 90:30-657B
COORDINATES ..... 34°14'N 132°33'E Approx.



LEGEND 90:30-657B

a. Boiler Shop
b,c. Forge Shop
d. Structural Shops or Engine Plant
e. Engine Plant
f,g. Forge Shops for Engine Plant
h,i. Machine Shops

Adapted From Japanese H.O. Chart 1938-40

Building Representations Are Approximate

HOLDERS OF JTG FOLDERS SHOULD INSERT THIS SHEET IN AIR TARGET SYSTEM FOLDER: JAPANESE SHIPPING

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File No. 671,657.74

JOINT TARGET GROUP
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KURE NAVAL SHIP YARD
KURE JAPAN

0 1000 2000 3000 4000 5000
SCALE IN FEET
1:17,500

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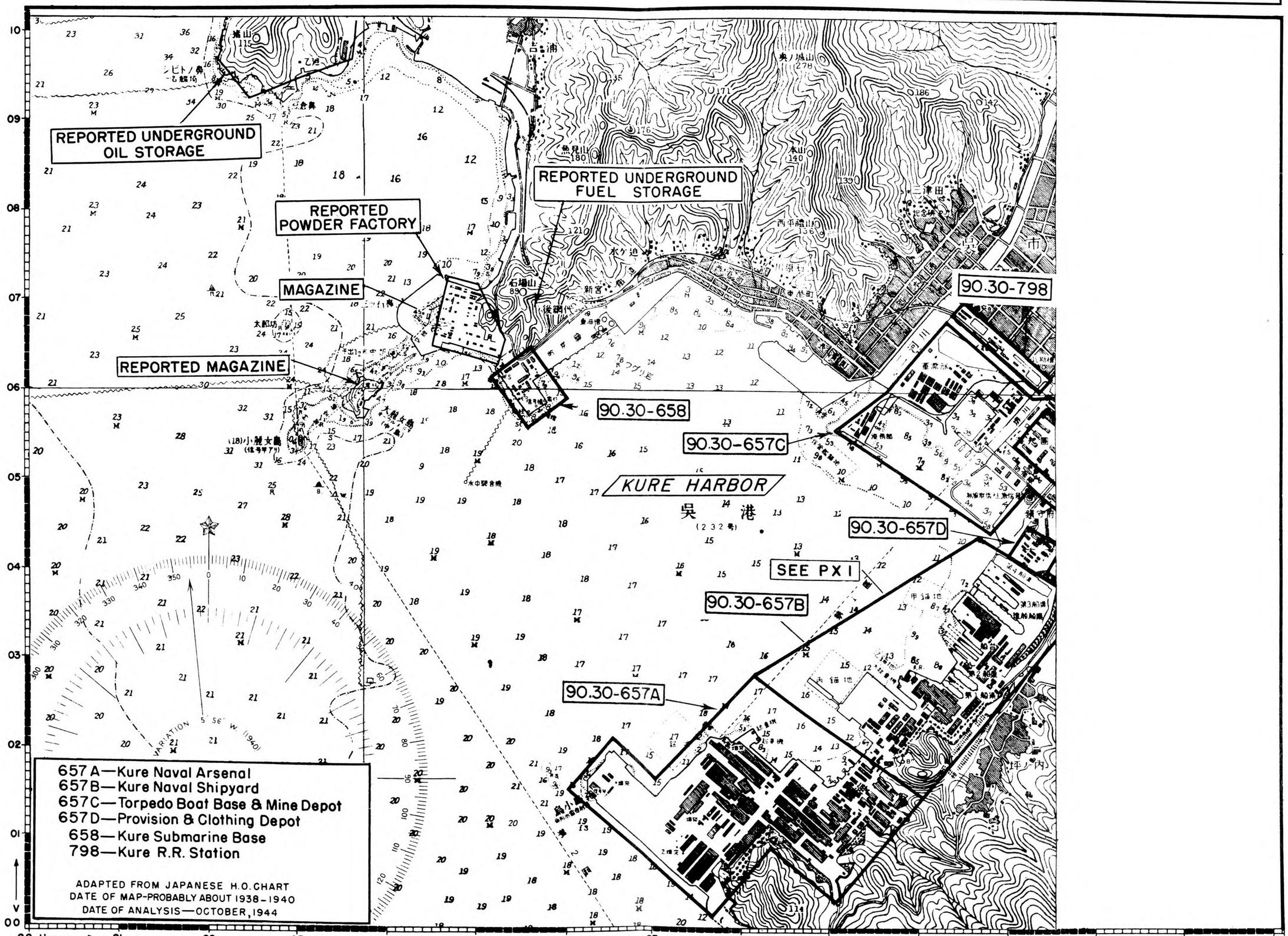
SHEET	90:30-657B—PX2
DATE	March 1945
TARGET	90:30-657B
COORDINATES	34°14'N 132°33'E Approx.



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File No. 671,657.741

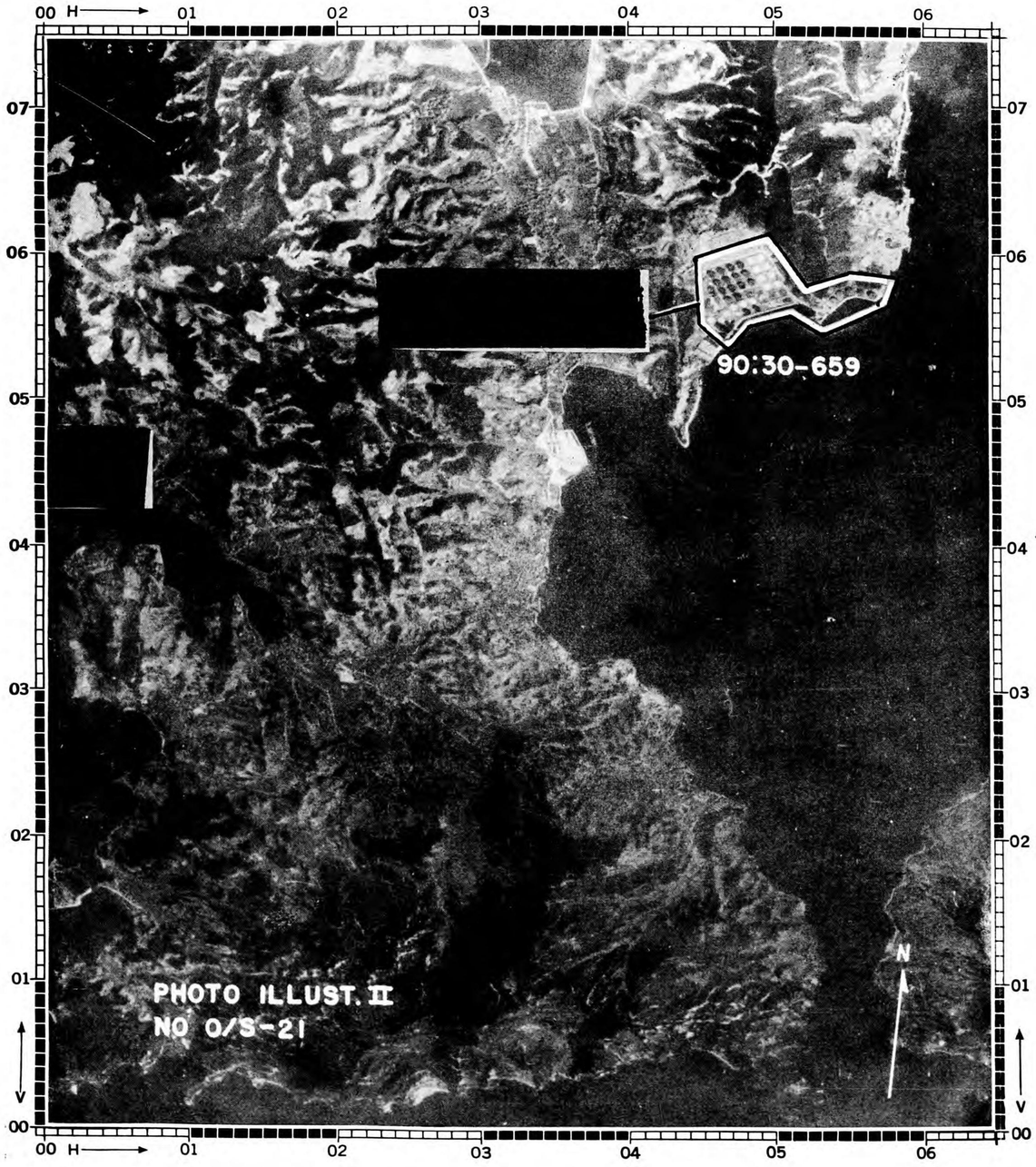
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

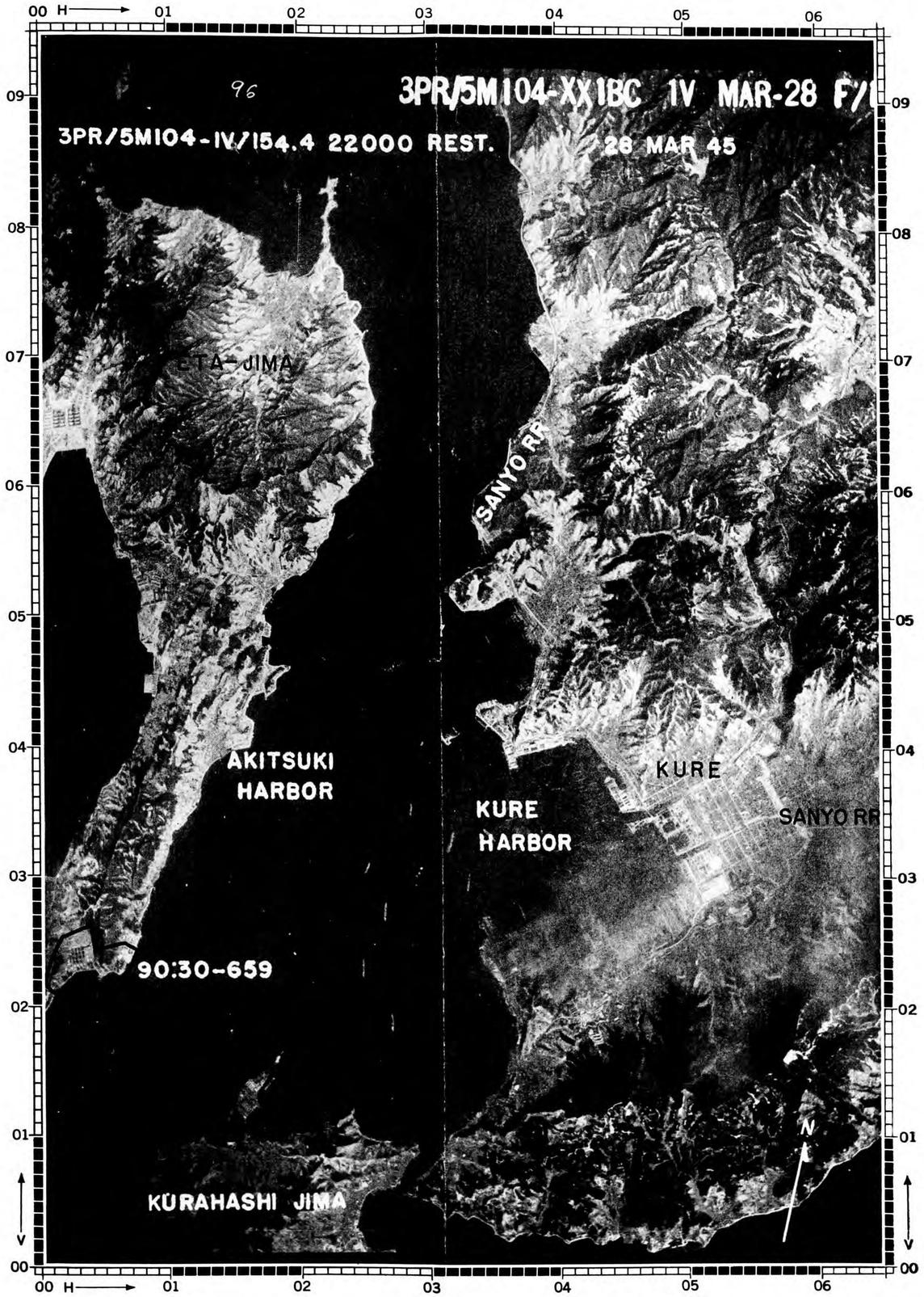
HITONOSE OIL STORAGE
ETA-JIMA JAPAN

SHEET	90:30-659-TL
DATE	18 May 1945
TARGET	90:30-659
CATEGORY	MILITARY STORES
COORDINATES	34°12'N 132°29'E
ALTITUDE	20 feet

SIGNIFICANCE:

Photographs show 26 usable tanks with estimated capacity of 520,000 barrels. Possible underground storage reservoirs (two tanks) with estimated capacity of 1,500,000 barrels. Many surface tanks have been dismantled, accounting for the reduction in surface storage capacity from previous estimates.





LARGE SCALE ILLUSTRATION—OBLIQUE

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:44,000

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File No. 671,659.1

REPRINT

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

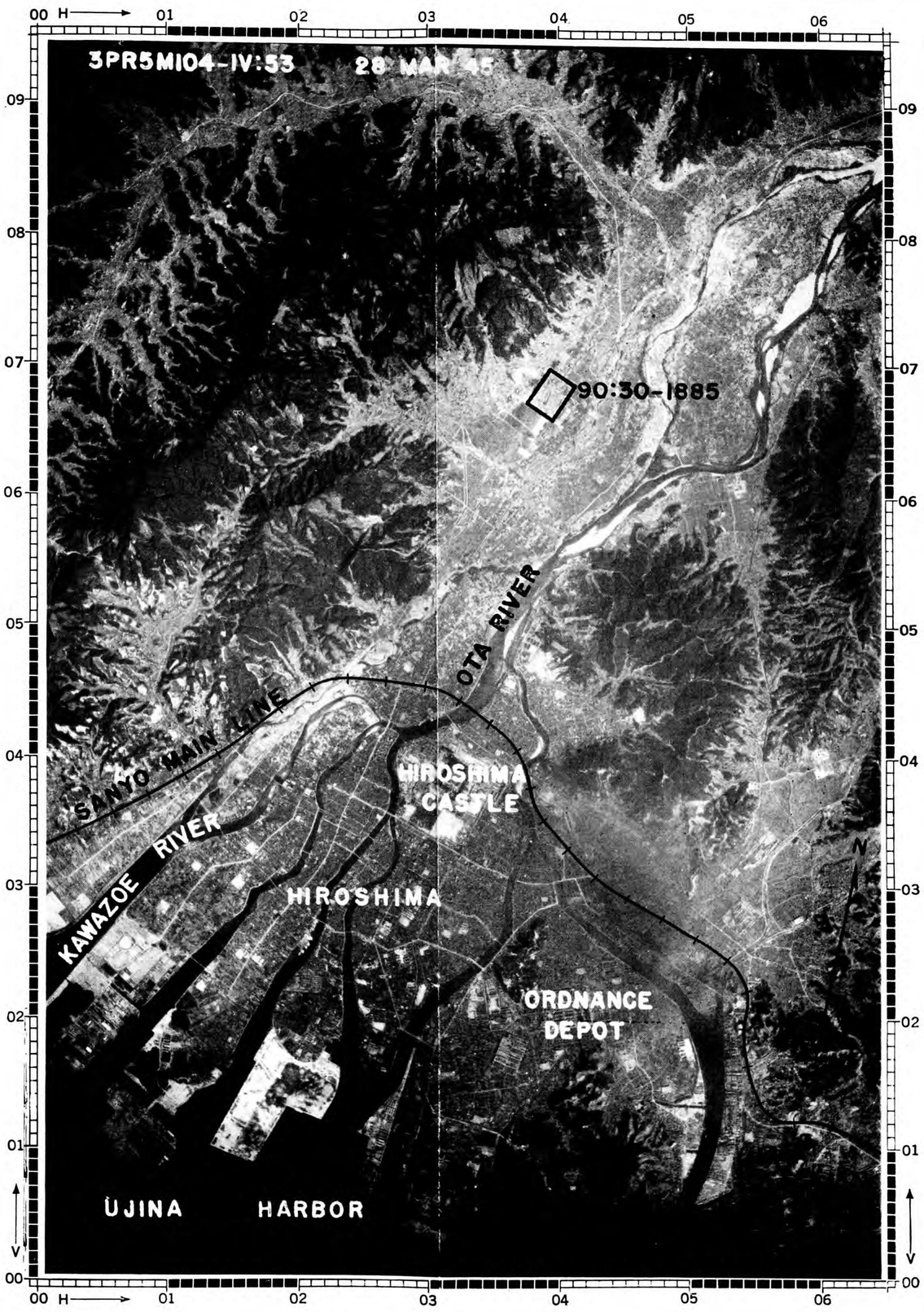
MITSUBISHI ELECTRIC MFG. CO.
HIROSHIMA JAPAN

SHEET . . . . . 90:30-1885—TL
DATE . . . . . 8 June 1945
TARGET 90:30-1885
CATEGORY . . . . . Bsc. Eqpt. Ind.—MACHY. & MACH. TOOLS
COORDINATES . . . . 34°26'N 132°28'E
ALTITUDE . . . . . 25 feet

SIGNIFICANCE:

One of two plants of leading Japanese machine tool producer. This plant was formerly called Toyo Kikai. Reported to manufacture many types and sizes of high-grade lathes (including turret lathes) and milling machines.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,000



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:60,000

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JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

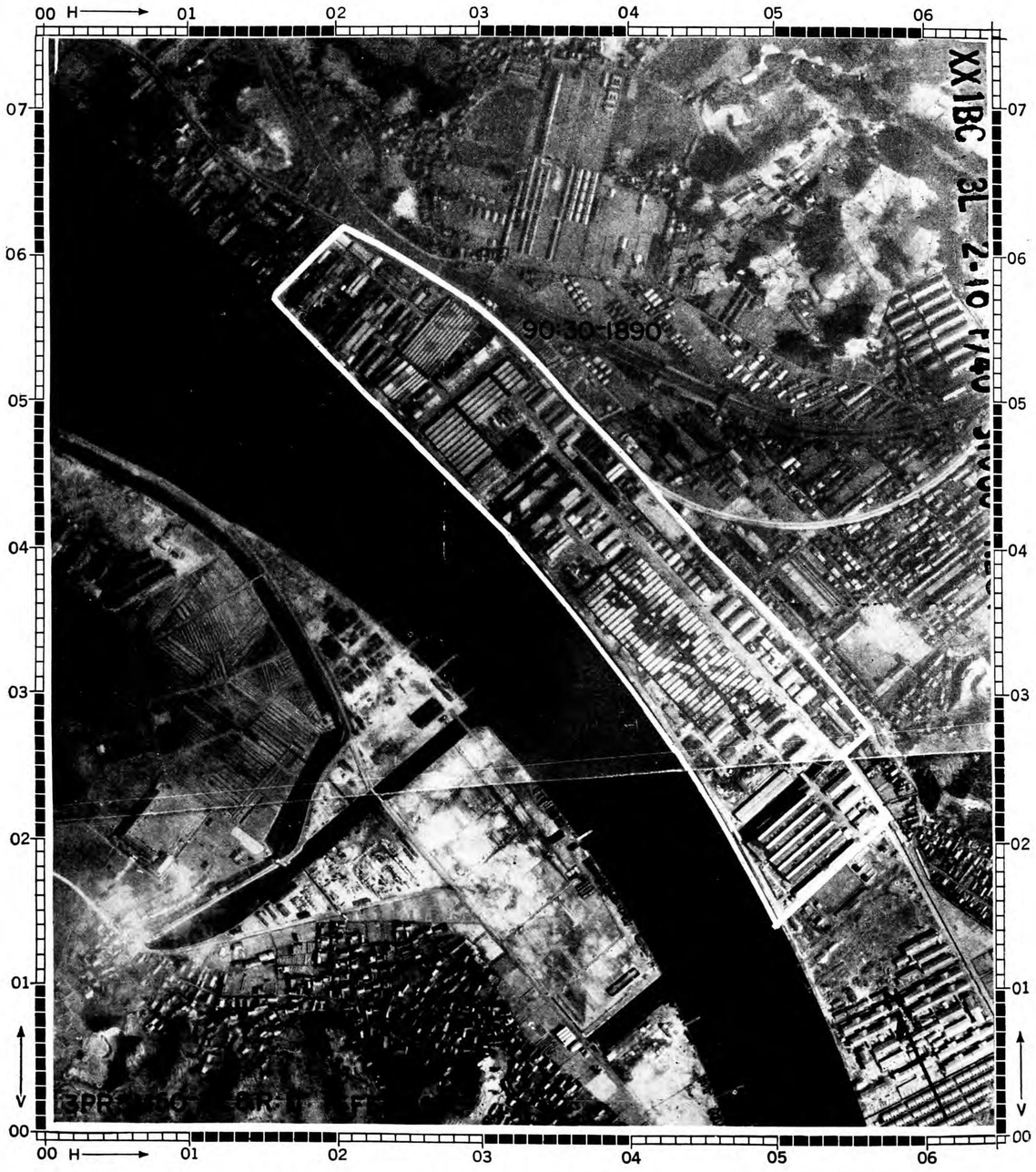
TOYO INDUSTRY

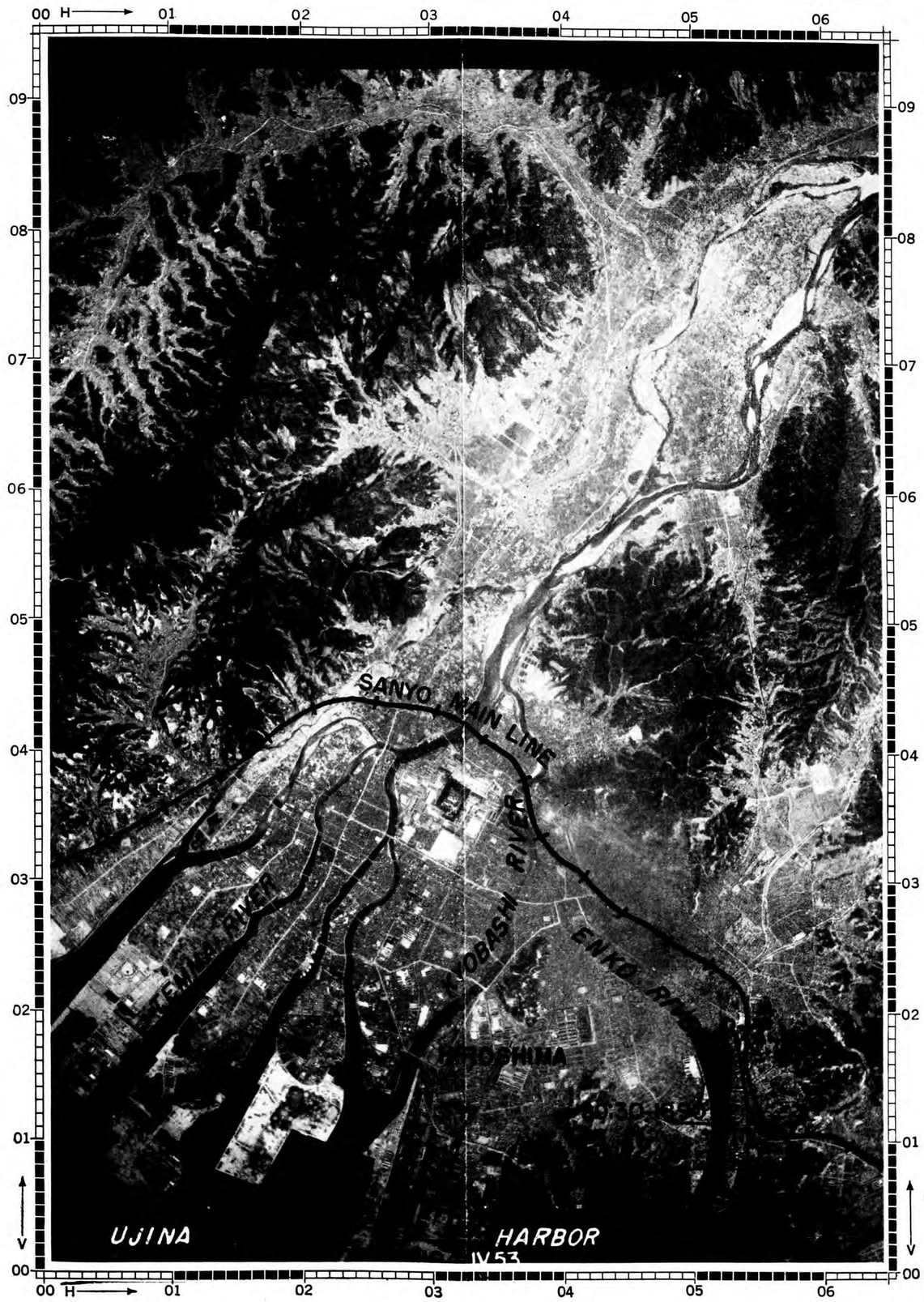
HIROSHIMA JAPAN

SHEET . . . . . 90:30-1890—TL
DATE . . . . . 4 June 1945
TARGET 90:30-1890
CATEGORY . . . . . Bsc. Eqpt. Ind.—MACHY. & MACH. TOOLS
COORDINATES . . . . 34°22'N 132°30'E
ALTITUDE . . . . . 20 feet

SIGNIFICANCE:

One of Japan's leading machine tool producers. Output believed to include grinders (especially automatic and internal), lathes, and precision boring machines. Plant also reported to manufacture aircraft engine and torpedo parts and small arms.
Plant adjacent to N, making grinding wheels, may have been taken over by the company.





LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:9,300

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:62,000

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . 90:30-1891—TI
DATE . . . . . 10 May 1945
PAGE 1

TARGET 90:30-1891
OBJ. AREA 90:30
OBJ. FOLDER
90:27, 28, 29, 30, 31
CATEGORY
End Prdt. Ind.-Armament

LAT. . . . . 34° 22′ N
LONG. . . . . 132° 31′ E
ALT. . . . . 20 feet

JAPAN STEEL CO., HIROSHIMA PLANT
(NIPPON SEIKOSHO KK)

HIROSHIMA **JAPAN**

REPRINT

SIGNIFICANCE

The Japan Steel Co., operating in three major plants, is the largest private producer of ordnance in Japan. These plants are on the same scale as the Army and Navy arsenals. The company is known to produce 75 mm. AA guns, 150 mm. howitzers, 120 mm. Naval guns, 37 and 47 mm. AT guns, and 57 mm. tank guns, but the particular plant associated with each item is unknown. It is believed to produce a full range of Naval and coastal defense ordnance.

The Hiroshima Plant is reported producing 150 and 200 mm. Naval, fortress and Army siege guns, and torpedoes. Production of torpedoes is confirmed by photo interpretation, which also indicates production of heavy guns.

A report that medium tanks are produced here has not been confirmed.

LOCATION

On the N side of Kaito Bay at the NE extremity of Hiroshima Bay in the Inland Sea. It is just SW of the small town of Kataichi, junction of the Sanyo Mainline and Kure Branch Line RR. It is situated about 4.25 miles SE of Hiroshima Castle and about 2.5 miles E of the Army Transport Base at Ujina (TARGET 90:30-735). The Kure Naval Arsenal (TARGET 90:30-657a) is approximately 10 miles SSE. A large military storage depot is adjacent on the SE; Toyo Industry (TARGET 90:30-1890) is about 3000 feet NW. The target is on both sides of a small river flowing S into Kaito Bay and extends SW along the bay from the river mouth. It is bordered on the W by hills and by a sparsely built-up area on the N and E.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:30-1891 P4). The target area is very irregular in shape. The main compound (Area "A") on both sides of the river measures about 2100 feet N-S and 2350 feet E-W (including the river) at its greatest dimensions. The extension SW (Area "B") is about 3200 feet in length.

Area "A" on the N contains the main armament manufacturing facilities of the plant. The buildings on the W side of the river are the original main plant, with recent expansion having taken place on the E side. There is considerable duplication of type and function of buildings on the two sides. The buildings on the E side are reported to have been constructed mainly for tank manufacture but this is unconfirmed and does not appear too probable.

The main heavy machining and assembly work is believed carried on in buildings 7, 8, 14, 17, 19, 20, 26 and 30 throughout the section on the E side of the river, and in 38 and 39 (d, e) at the center on the W side. Foundry and forging work appears to be located mainly in building 11 on the E edge of the E side (with some machining in this shop also), and 39 (a-c) at the center of the W side. There is a possible additional foundry on each side of the river (15, 43). The main storage area is in the S extension on the E side (buildings 45-56), but other capacity is scattered throughout the compound.

Area "B" on the SW is reported to be engaged in the production of torpedoes. This has not been confirmed by reliable ground information but is supported to some extent by photographic interpretation. The group of revetted buildings (67) along the shore near the center appears to be used for a loading operation, possibly torpedo warheads and/or large ammunition. There is no manufacture of HE at this plant. Building 58 at the NE end possibly houses the testing and final re-assembly of torpedoes. Craneways (57) at the end of the building could be used to lift spent torpedoes from the water following towing back from test runs. Fuses and detonators for torpedoes and large shells may be fabricated in the SW end of the area (69).

Area "C" appears to have no administrative connection with the remainder of the target but is included within it for convenience. Unavailability of stereo prints makes interpretation of the photographs difficult, but the most likely function of the area is production of small Naval vessels in shop 71 at the E end, from which they could be launched into the boat basin on the adjacent marine railways (70). Lack of activity on the railways and in the basin suggests that small landing craft for use in the southern areas may formerly have been made here and that the plant is now inactive. The submarines at the finger pier appear to have no connection with the function of Area "C" and are probably awaiting disposition elsewhere.

The target area is served by an industrial railway but appears to have no spur entering it from the Sanyo Mainline to the N. It has good highway and excellent water facilities.

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PRIMARY OBJECTIVES

(Refer to Illustration No. 90:30-1891 P4.) For heavy gun production, the principal machine and assembly shops 8, 19, 20, 26, 30, 38 and 39 (d, e) followed by shops 5, 7, 14, 17 and 42. For torpedo production, shop 58 and the revetted loading area 67.

CONSTRUCTION AND VULNERABILITY

(Refer to Illustration No. 90:30-1891 P4.) Most of the principal buildings in Area "A" are large 1-story steel-framed structures of normal span, roofed with lightweight noncombustible sheet material. Probably half of them are of greater than normal height and contain traveling cranes. Roofs generally are double pitched. Building 20 appears to be of reinforced concrete construction, 1-story, with traveling crane in high central portion.

Buildings in Areas "B" and "C" are more widely dispersed, lower in height (indicating absence of cranes) and probably combustible. Many are very small and protected by earth revetments.

WEAPONS RECOMMENDATIONS

Instructions with regard to weapons will usually be given in Field or Operational Orders, but in the absence of such instructions and to assist Planners in formulating such orders the following information is given:

An attack with a combination of high explosive and incendiary bombs is recommended. A preliminary structural and occupancy analysis of the plant indicates weapons should be selected as follows:

	High Explosive	Fuzing	Incendiary
Preferred:	2000-lb GP	0.1 N/0.1 T	AN-M50 4-lb (in aimable clusters for high altitude attack)
Alternative:	1000-lb GP	0.1 N/0.1 T	AN-M69 6-lb (in aimable clusters for high altitude attack)
	500-lb GP	0.1 N/0.1 T	AN-M47 70-lb AN-M76 500-lb
Not recommended:	Smaller GP bombs SAP or AP bombs Depth bombs		

Notes: (a) The above recommendations are on a weight for weight basis.
(b) The use of 0.1 N/0.025 T fuzing in the HE bombs is an alternative.

CAMOUFLAGE, DECOYS, AND SMOKE SCREENS

None apparent in photography of 8 December 1944 and 16 February 1945.

ADDITIONAL INFORMATION

The other plants of the Japan Steel Co. are as follows:

Nihon Steel Works, Muroran (TARGET 90:3-378)
Japan Steel Co., Yokohama Plant (TARGET 90:17-2042)
Musashi Plant—Fuchu-machi, Kita Tama-gun, Tokyo-fu (much smaller than the others).

REPRINT

JOINT
TARGET
GROUP
WASHINGTON, D. C.

JAPAN STEEL CO., HIROSHIMA PLANT

HIROSHIMA **JAPAN**

0 500 1000 1500 2000 2500 3000 FEET
0 1/4 1:6000 APPROX. 1/2 MILE

RESTRICTED

SHEET **90:30-1891 P3**
DATE . . . . . **10 May 1945**
TARGET **90:30-1891**
COORDINATES . . . **34°22'N 132°31'E**
PHOTOGRAPHED . **16 February 1945**

ALL GRID REFERENCES TO BE READ FROM THIS BASE

PUBLISHED IN OFFICE OF AC/AS INTELLIGENCE, AAF, BY COMBINED PERSONNEL OF UNITED STATES AND BRITISH SERVICES FOR THE USE OF ALLIED FORCES.

RESTRICTED

File No. **672,891.56**

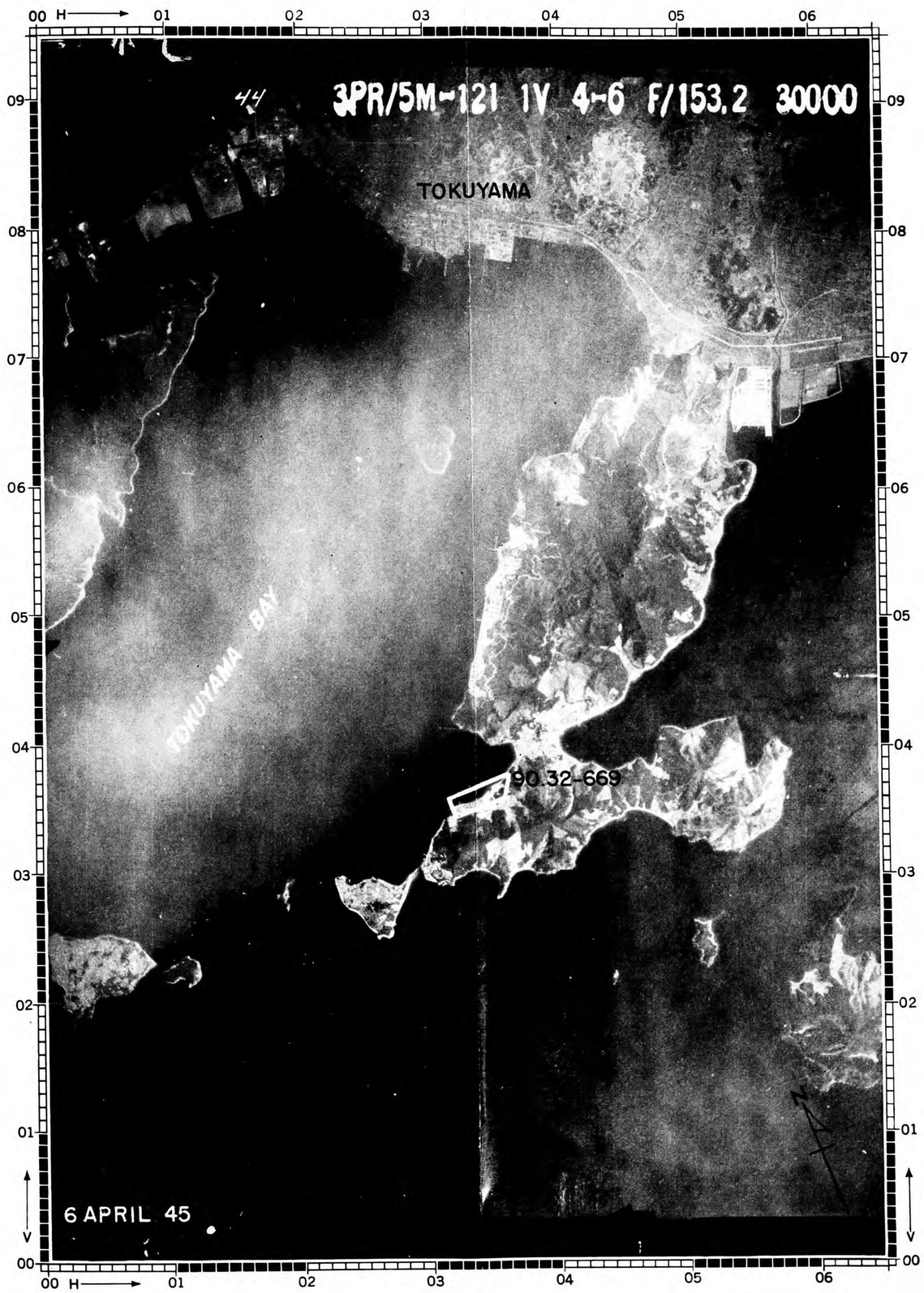
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

HANANO WAKI OIL STORAGE
OSHIMA (TOKUYAMA) JAPAN

SHEET	90:32-669—TL
DATE	14 May 1945
TARGET	90:32-669
CATEGORY	End Prdt. Ind.—PETROLEUM
COORDINATES	33°59'N 131°47'E
ALTITUDE	15 feet

SIGNIFICANCE:

Photographs show 17 surface storage tanks with capacity of 242,000 barrels. Ground intelligence previously reported capacity of 591,000 barrels.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:20,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:60,000

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File No. 691,669.1

REPRINT

JOINT TARGET GROUP, WASHINGTON, D. C.

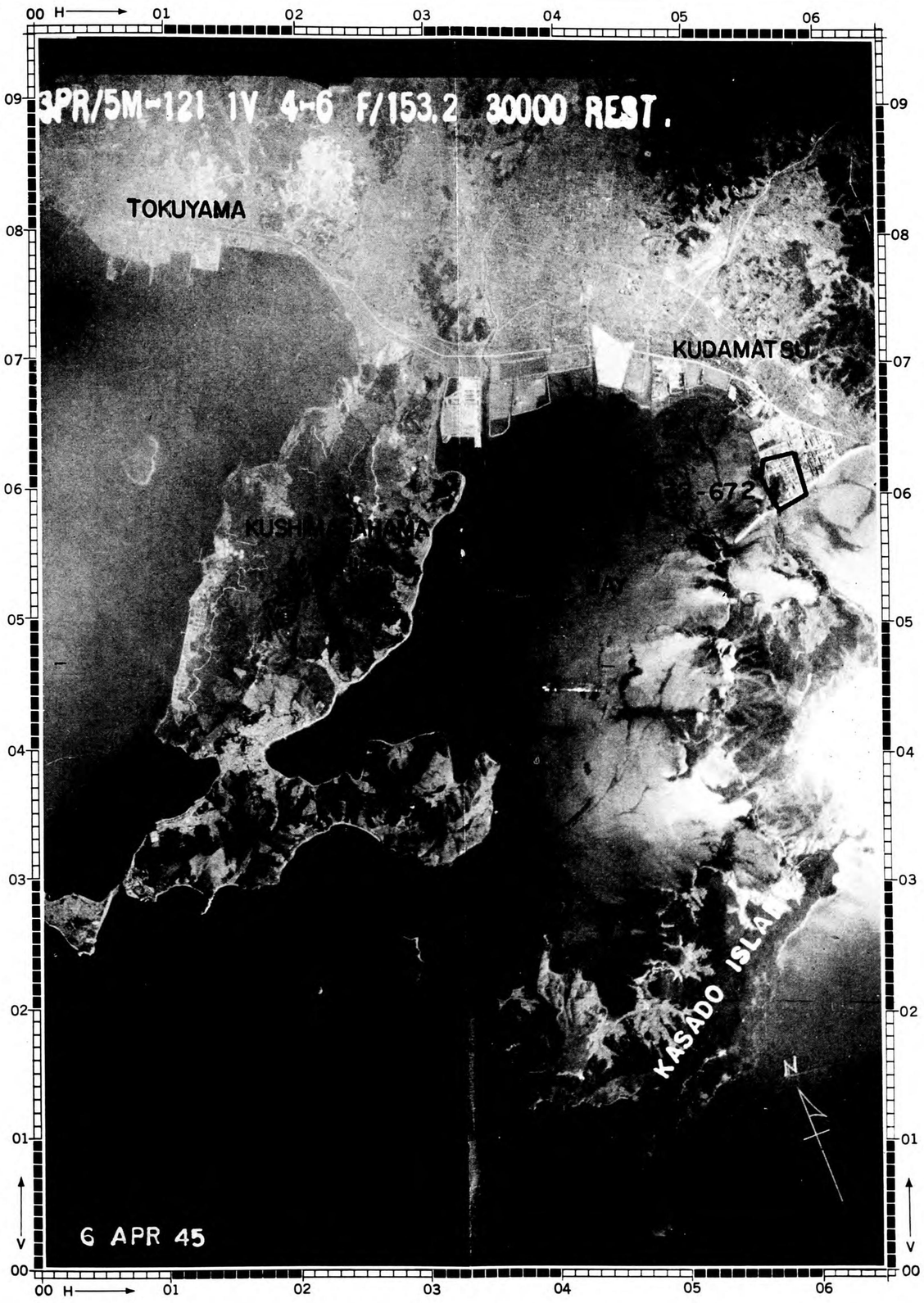
TARGET LOCATION SHEET

NIPPON OIL COMPANY
KUDAMATSU JAPAN

SHEET . . . . . 90:32-672—TL
DATE . . . . . 18 May 1945
TARGET 90:32-672
CATEGORY . End Prdt. Ind.—PETROLEUM
COORDINATES . . . . . 33°59'N 131°52'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

Large crude oil refinery. Estimated annual capacity: refining 2,500,000 barrels; cracking 660,000 barrels. Photographs show previous estimates of storage capacity at the refinery were excessive. There are 25 tanks with estimated capacity of 200,000 barrels.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,500

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JOINT TARGET GROUP, WASHINGTON, D. C.

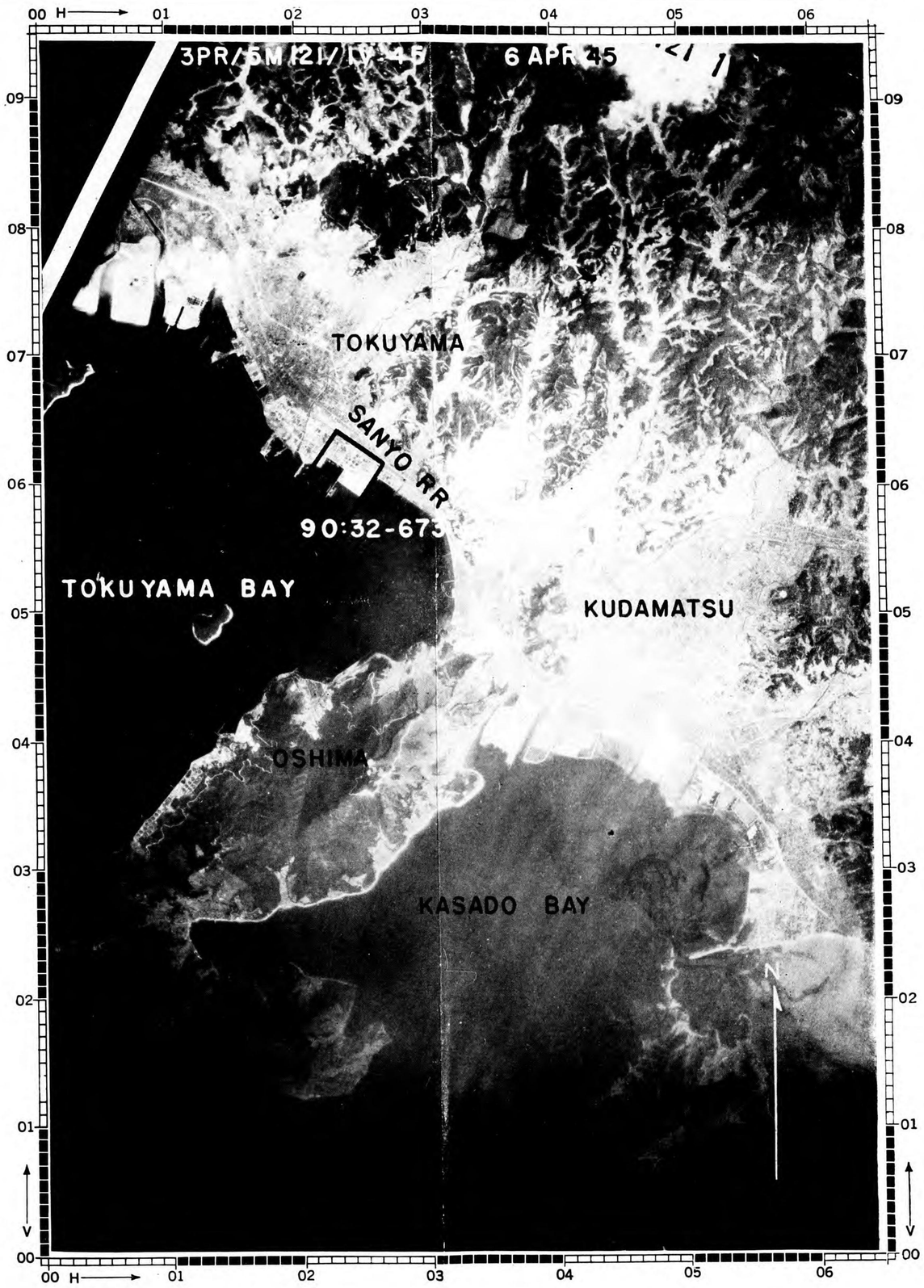
TARGET LOCATION SHEET

TOKUYAMA NAVAL FUELING STATION
TOKUYAMA JAPAN

SHEET 90:32-673–TL
DATE . . . . . 29 May 1945
TARGET 90:32-673
CATEGORY . . . . . End Prdt. Ind.–PETROLEUM–MILITARY STORES
COORDINATES . . . . . 34°02'N 131°49'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

Largest naval fueling station and second largest naval oil refinery. Estimated capacities before aerial attack on 10 May 1945: refining 3,300,000 barrels per year; surface storage 1,200,000 barrels. Attack damaged refinery severely and reduced surface storage to 384,000 barrels.
Tokuyama Synthetic Oil Plant (TARGET 90:32-674) adjoins to the NW.
Three thousand feet E of the target are excavations for buried oil tanks. No tanks appear to have been installed.



LARGE SCALE ILLUSTRATION–SCALE APPROX.: 1:30,000

SMALL SCALE ILLUSTRATION–SCALE APPROX.: 1:60,000

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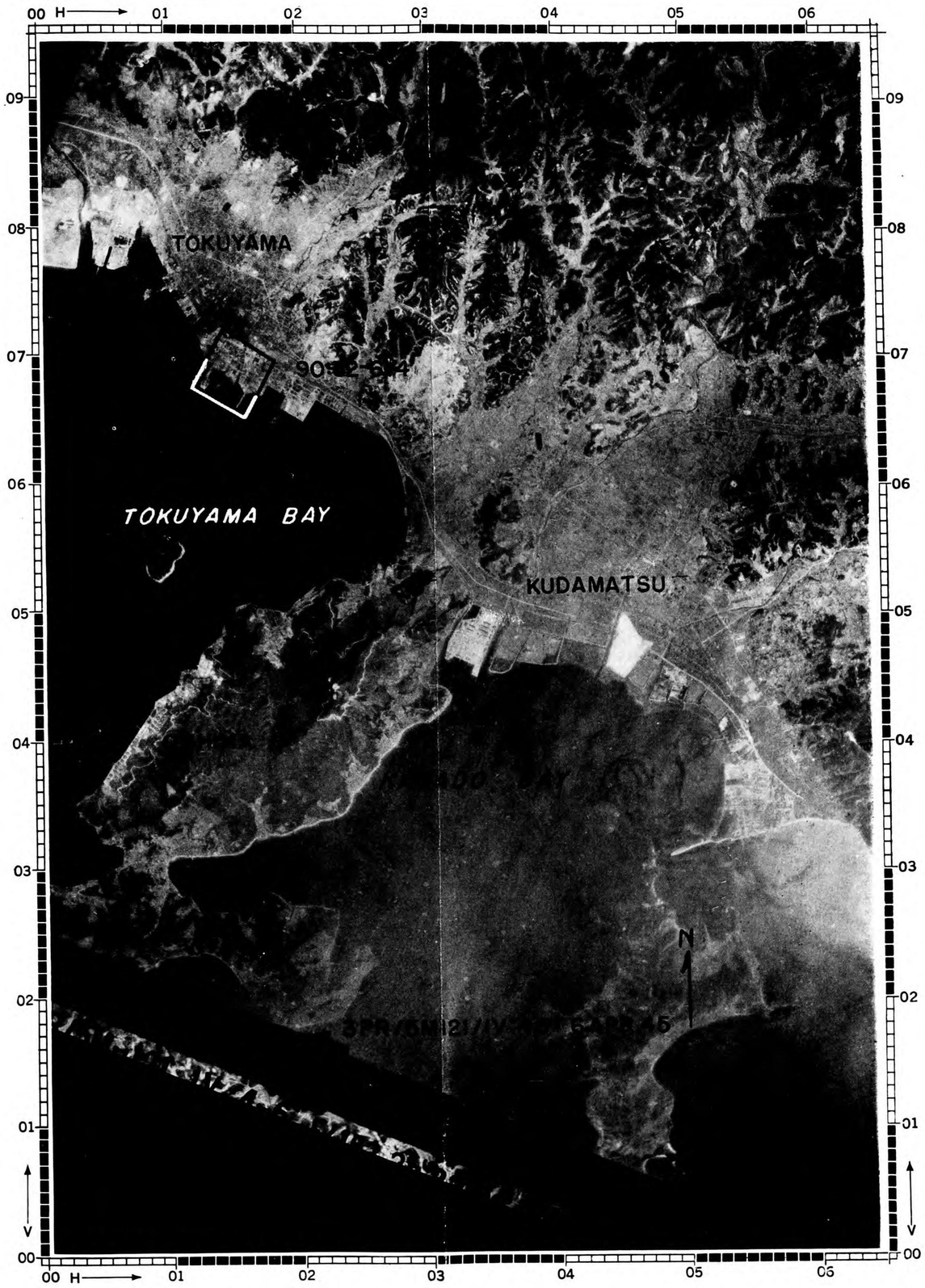
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

TOKUYAMA SYNTHETIC OIL PLANT
TOKUYAMA JAPAN

SHEET . . . . . 90:32-674—TL
DATE . . . . . 13 June 1945
TARGET 90:32-674
CATEGORY . End Prdt. Ind.—PETROLEUM
COORDINATES . . . . 34°02'N 131°49'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

Synthetic oil plant using hydrogenation process. Estimated capacity before attack on 10 May 1945 about 1% of total Inner Zone production. Hydrogenation plant replaced Naval Coal Yard and Briquette Factory formerly occupying the site. Name of target is changed. Tokuyama Naval Fueling Station (TARGET 90:32-673) adjoins to SE.
About 5000 feet E are excavations for buried oil tanks. No tanks appear to have been installed.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:20,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:60,000

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File No. 691,674.1

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

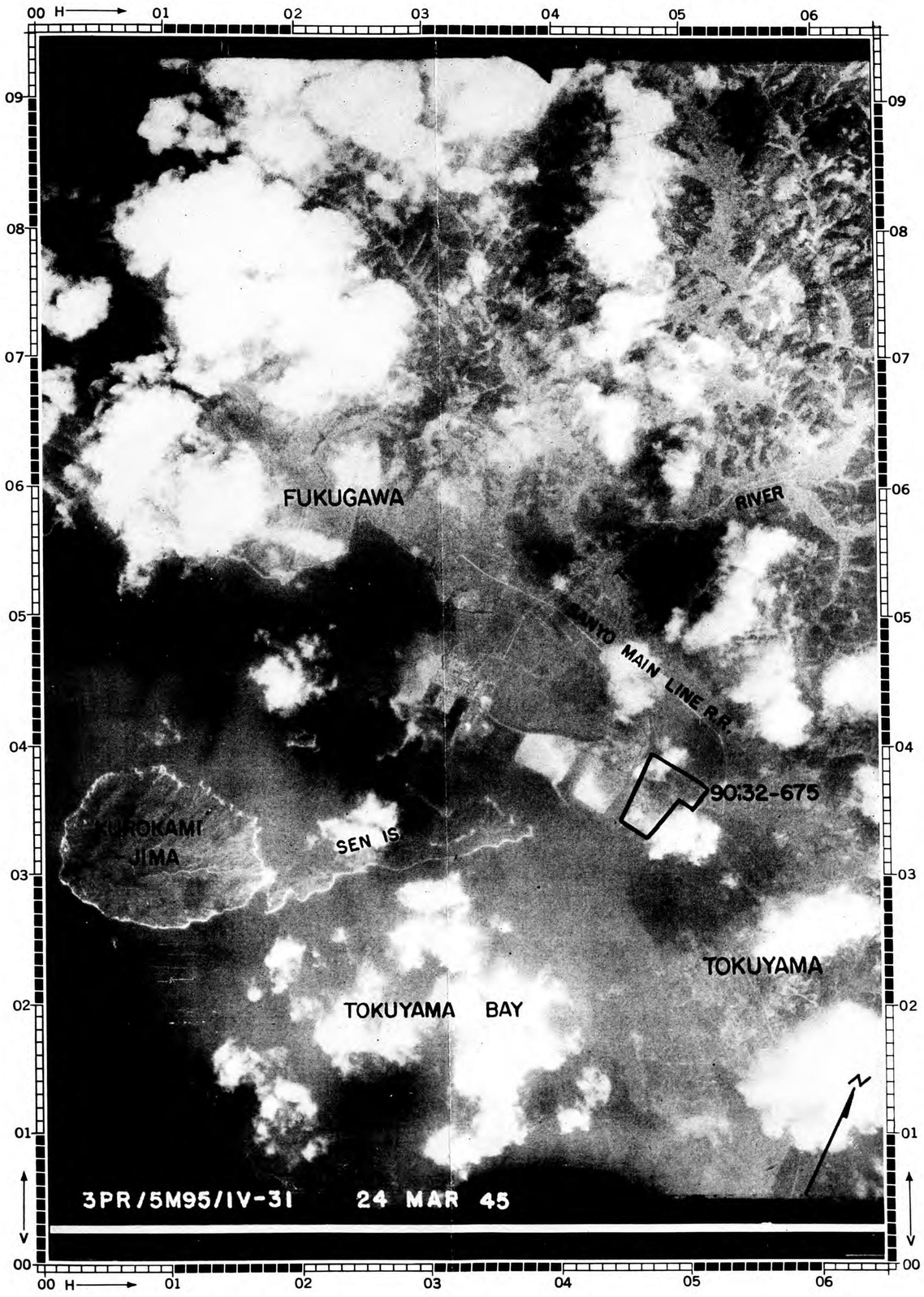
TOKUYAMA SODA COMPANY
TOKUYAMA JAPAN

SHEET . . . . . 90:32-675—TL
DATE . . . . . 23 May 1945
TARGET 90:32-675
CATEGORY . Bsc. Proc. Ind.—CHEMICALS
COORDINATES . . . . 34°03'N 131°48'E
ALTITUDE . . . . . 20 feet

SIGNIFICANCE:

One of the three largest soda ash plants which together are believed to account for nearly ¾ of Japan's total capacity. May be operating at only one-third of capacity. Also produces chlorine and caustic soda, magnesium carbonate, ammonium chloride, and sodium silicate. Probably produces some ingredients for explosives.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,500



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File No. 691,675.1

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

UBE NITROGEN FERTILIZER COMPANY

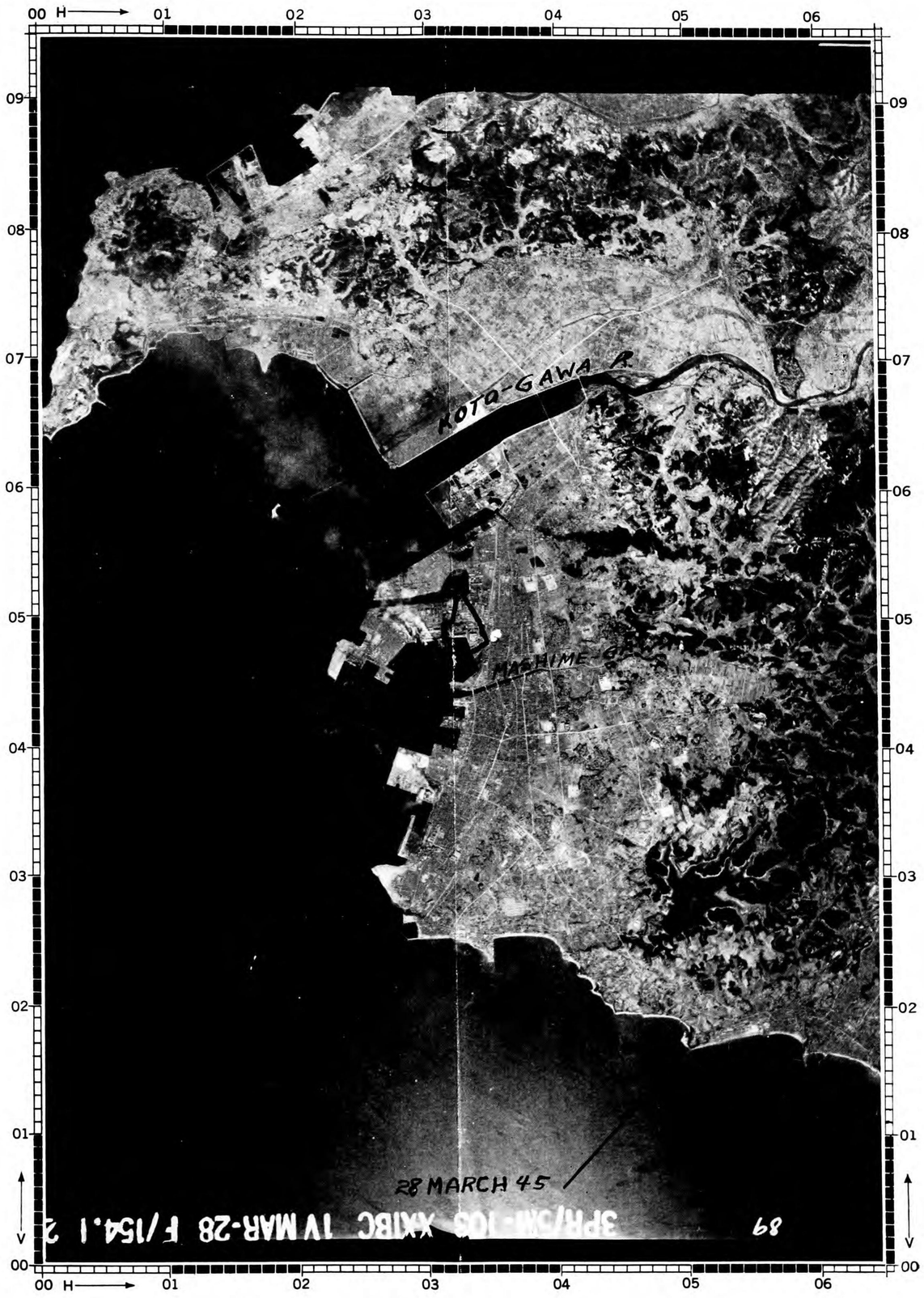
UBE JAPAN

SHEET . . . . . 90:32-818—TL
DATE . . . . . 10 May 1945
TARGET 90:32-818
CATEGORY . Bsc. Proc. Ind.—CHEMICALS
COORDINATES . . . . 33°57'N 131°14'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

One of six largest nitrogen fixation plants which together are believed to account for over half of Japan's total capacity. Uses synthetic ammonia process. Produces sulphuric acid, cresols, tars for synthetic oil and probably ingredients for explosives.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,500



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:50,000

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File No. 691,818.1

REPRINT

JOINT TARGET GROUP, WASHINGTON, D. C.

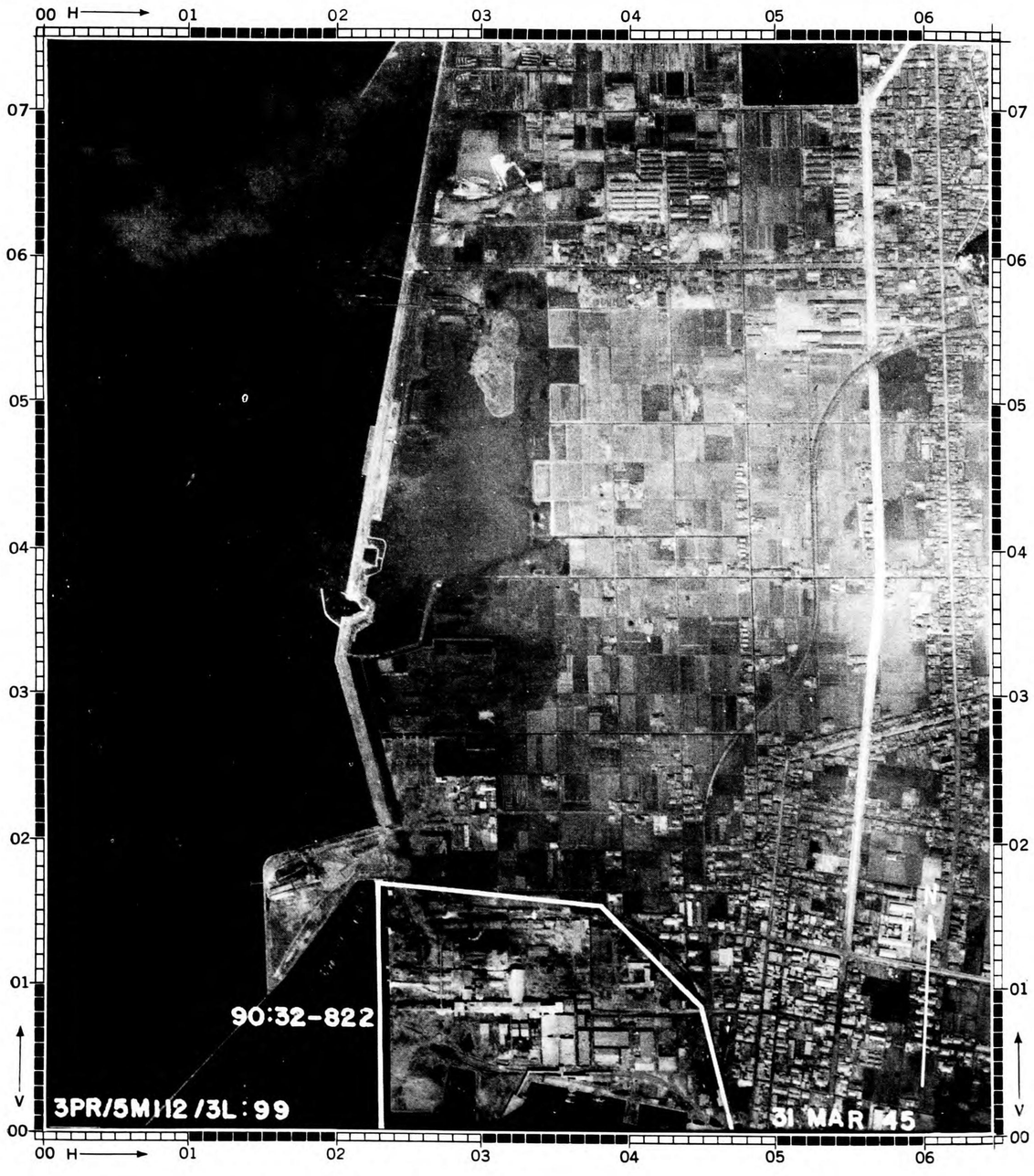
TARGET LOCATION SHEET

ONODA CEMENT CO.
ONODA JAPAN

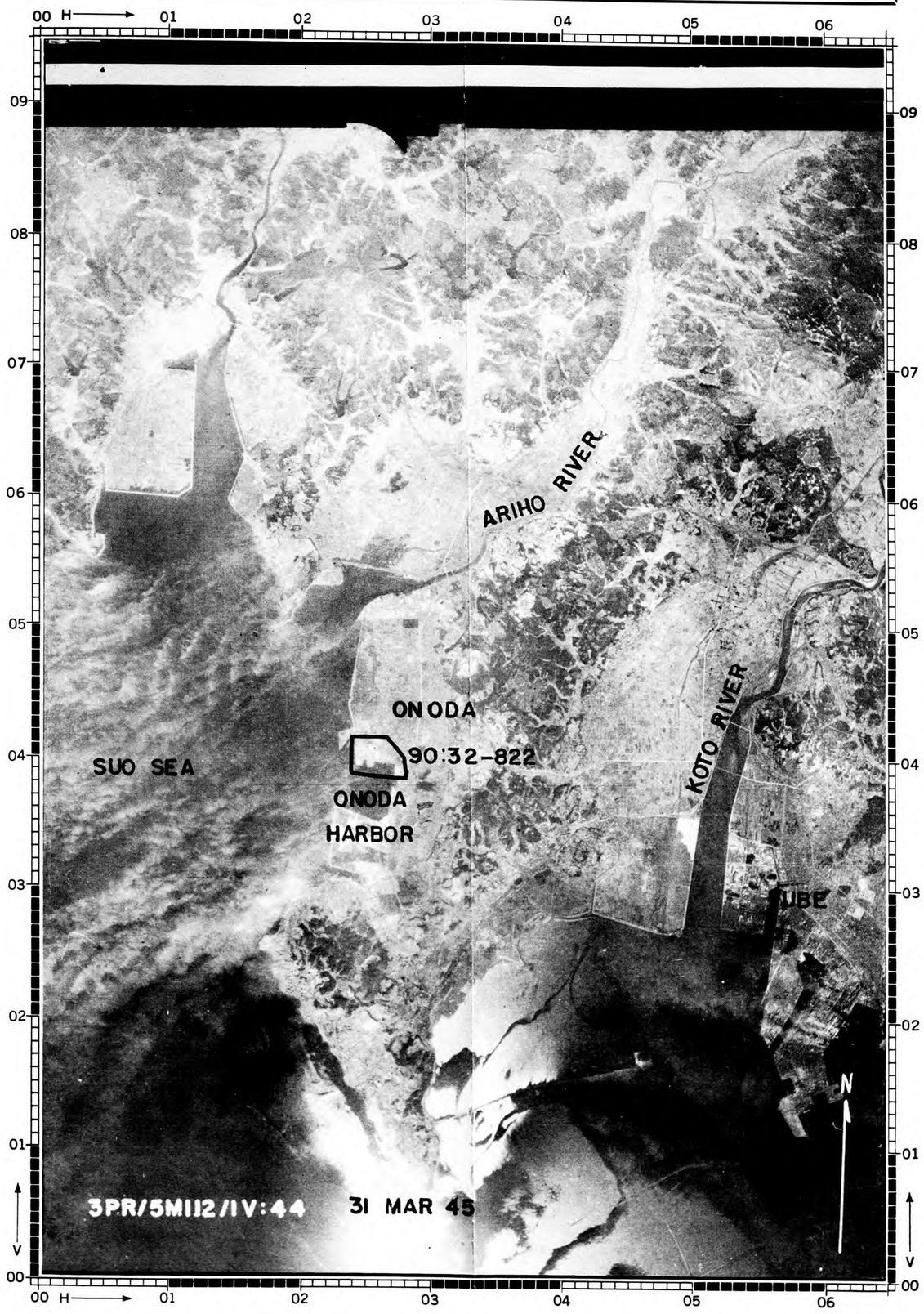
SHEET . . . . . 90:32-822—TL
DATE . . . . . 26 May 1945
TARGET 90:32-822
CATEGORY
Bsc. Proc. Ind., Non-Ferrous Mtls.
COORDINATES . . . . . 33°58'N 131°10'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

Large cement plant converted to the production of alumina using Lime-sinter process. Production believed the largest of any Japanese plant producing alumina. Estimated annual capacity 70,000 metric tons, possibly increased to 100,000 metric tons.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:9,600



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:62,000

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File No. 691,822.1

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

RIKEN METAL CO., UBE PLANT

UBE JAPAN

SHEET .....90:32-922—TL
DATE.....25 May 1945
TARGET 90:32-922
CATEGORY.....Bsc. Proc. Ind.—Non-Ferrous Metals
COORDINATES ....33°57'N 131°14'E
ALTITUDE .....10 feet

SIGNIFICANCE:

Largest magnesium plant in Japanese Inner Zone. Estimated annual capacity 5,000 metric tons. Sea water and magnesite are both believed to be used as raw materials.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:10,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:64,000

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JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

UBE COAL LIQUEFACTION COMPANY
UBE JAPAN

SHEET . . . . . 90:32-1841—TL
DATE . . . . . 10 May 1945
TARGET 90:32-1841
CATEGORY . End Prdt. Ind.—PETROLEUM
COORDINATES . . . . 33°57'N 131°14'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

Reported by ground intelligence to be a synthetic oil plant. Process and capacity have not been identified from available photographs. Appears to be closely integrated with Ube Nitrogen Fertilizer Co. (Target 9032-818).

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,500

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:50,000

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File No. 692,841.1

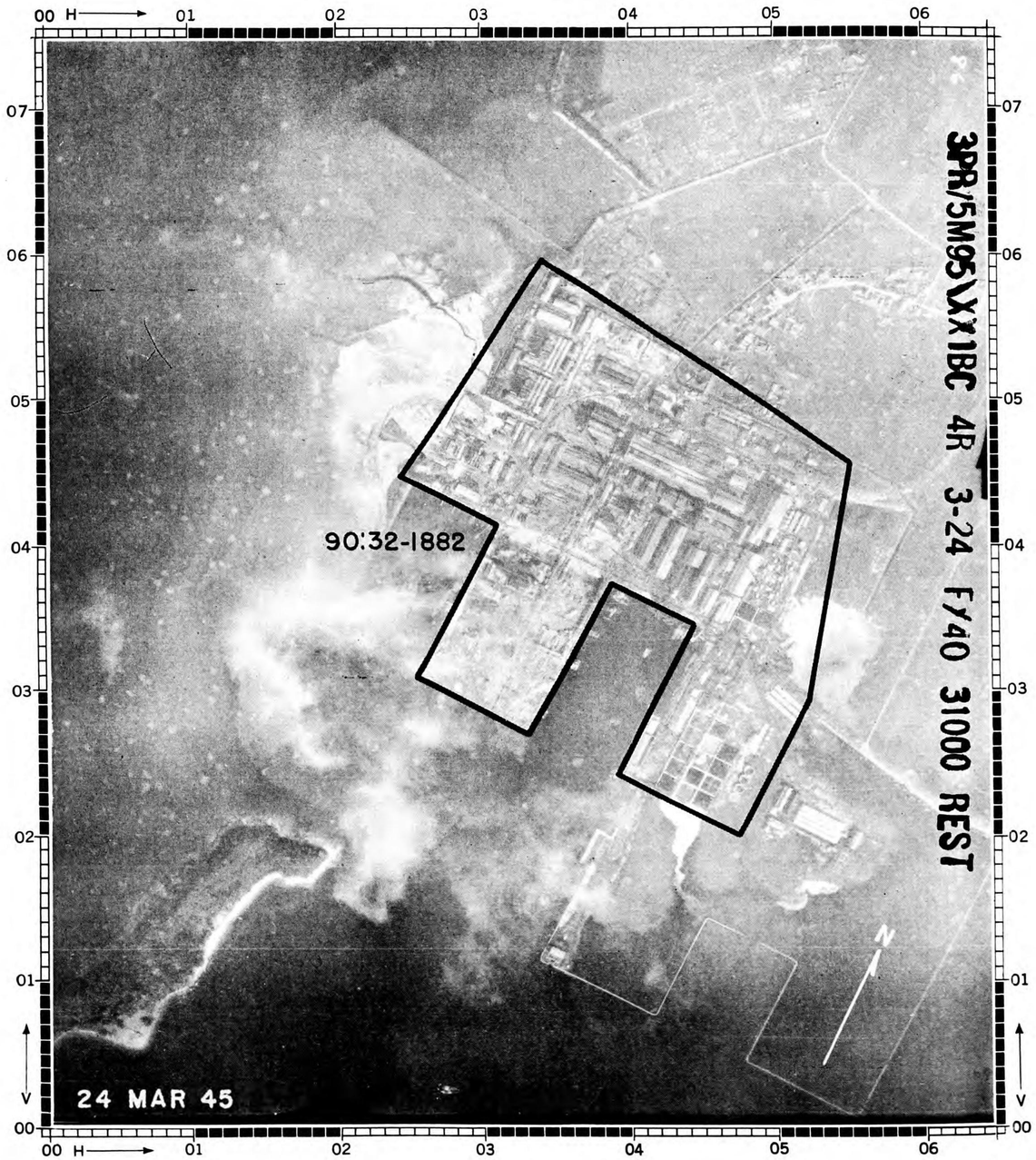
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

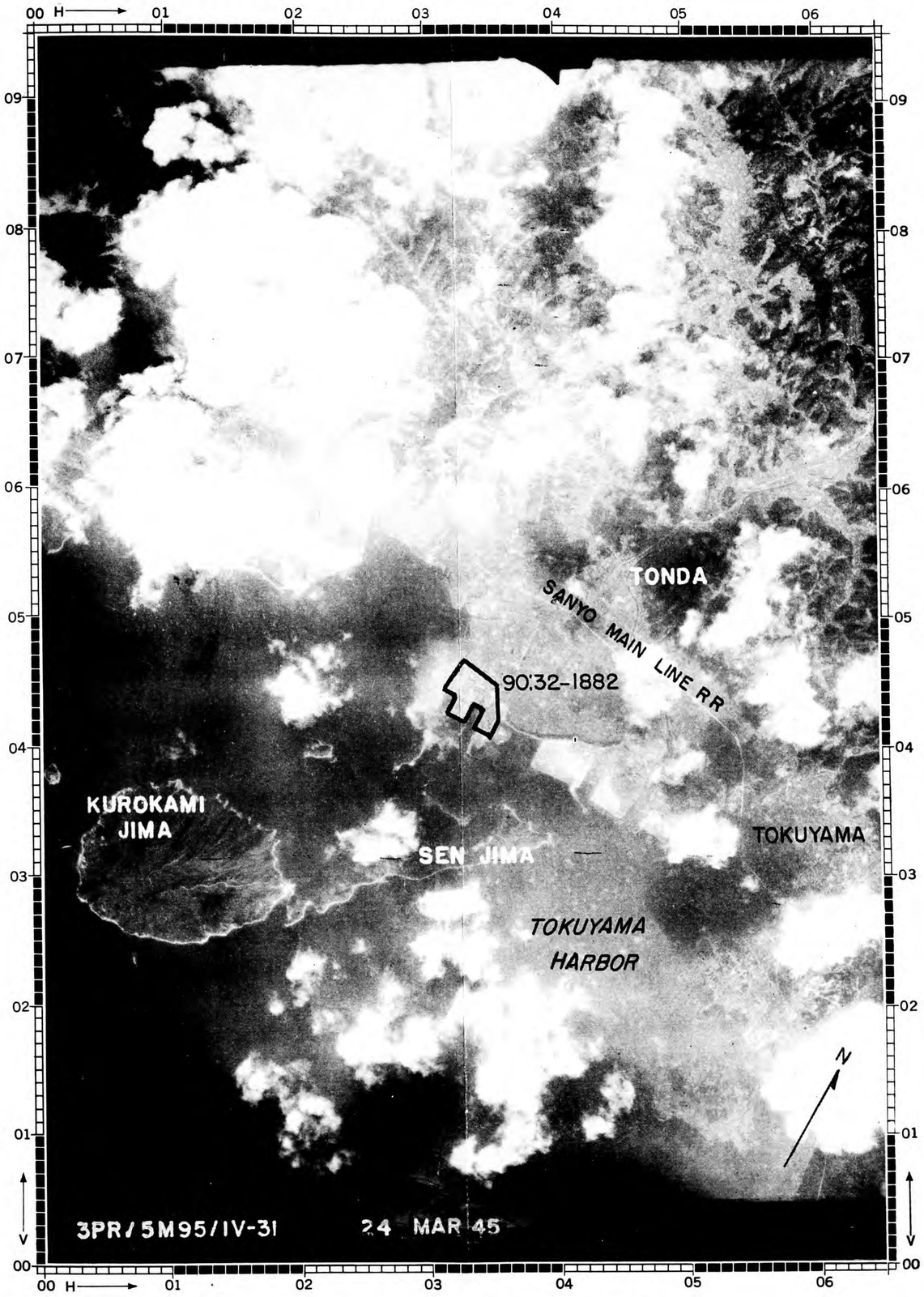
TOYO SODA COMPANY
TONDA JAPAN

SHEET . . . . . 90:32-1882—TL
DATE . . . . . 18 May 1945
TARGET 90:32-1882
CATEGORY . Bsc. Proc. Ind.—CHEMICALS
COORDINATES . . . . . 34°03'N 131°46'E
ALTITUDE . . . . . 12 feet

SIGNIFICANCE:

One of the three largest soda ash plants which together are believed to account for nearly ¾ of Japan's total capacity. May be operating at only ⅓ of capacity. One of five largest electrolytic chlorine plants in Japanese control. Probably produces some ingredients for explosives.





LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:9,394

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:62,000

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File No. 692,882.1

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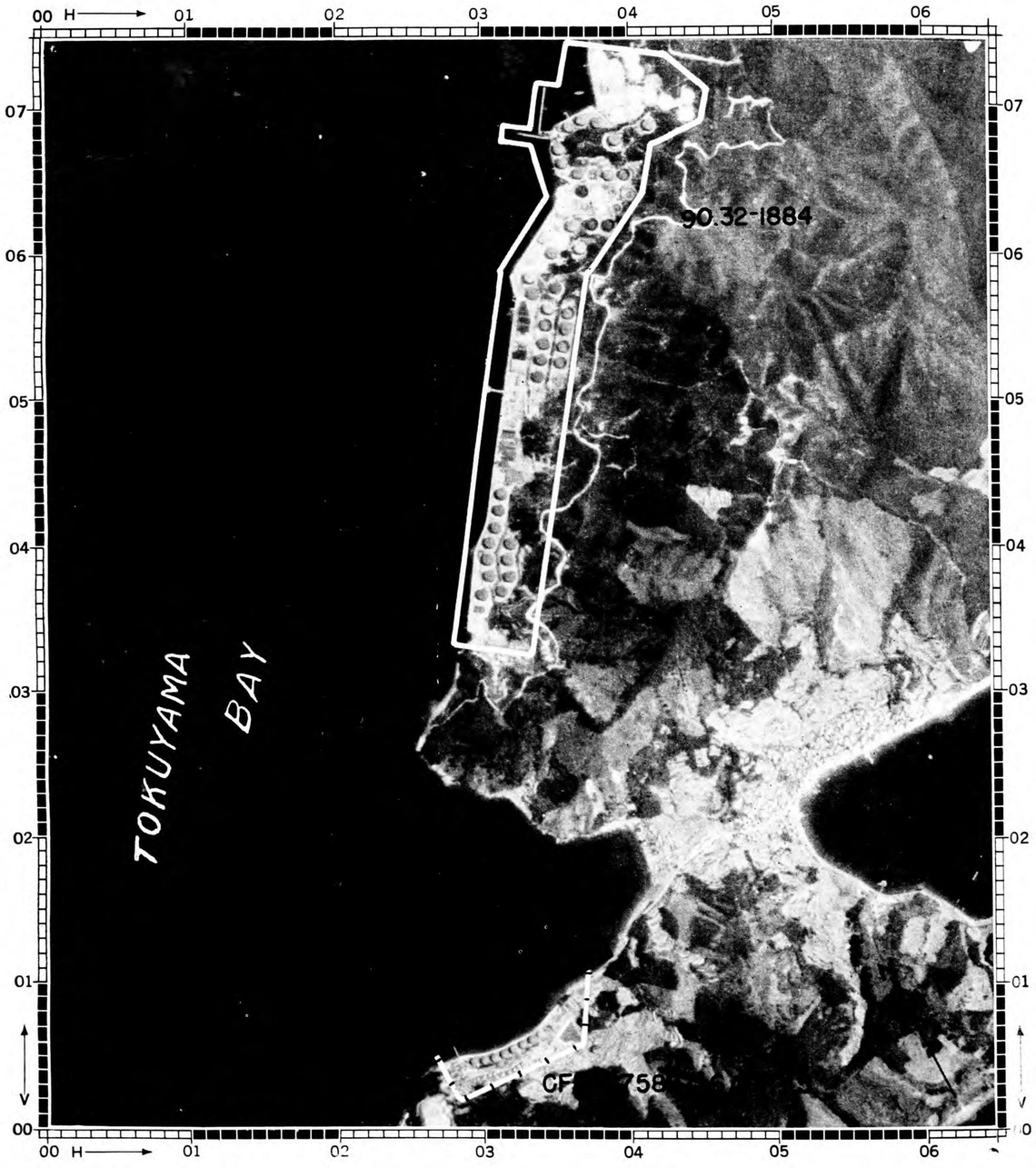
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

O SHIMA NAVAL OIL STORAGE
O SHIMA (TOKUYAMA) JAPAN

SHEET	90:32-1884—TL
DATE	14 May 1945
TARGET	90:32-1884
CATEGORY	MILITARY STORES
COORDINATES	34°00'N 131°48'E
ALTITUDE	50 feet

SIGNIFICANCE:

Present serviceable storage capacity 425,000 barrels in 5 tanks. Prior to air strike on 10 May 1945 had 19 tanks. Was once largest oil storage target in Japan (capacity 3,895,000 barrels), with 28 additional tanks which were partially dismantled or removed prior to 10 May.



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SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:60,000

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File No. 692,884.1

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

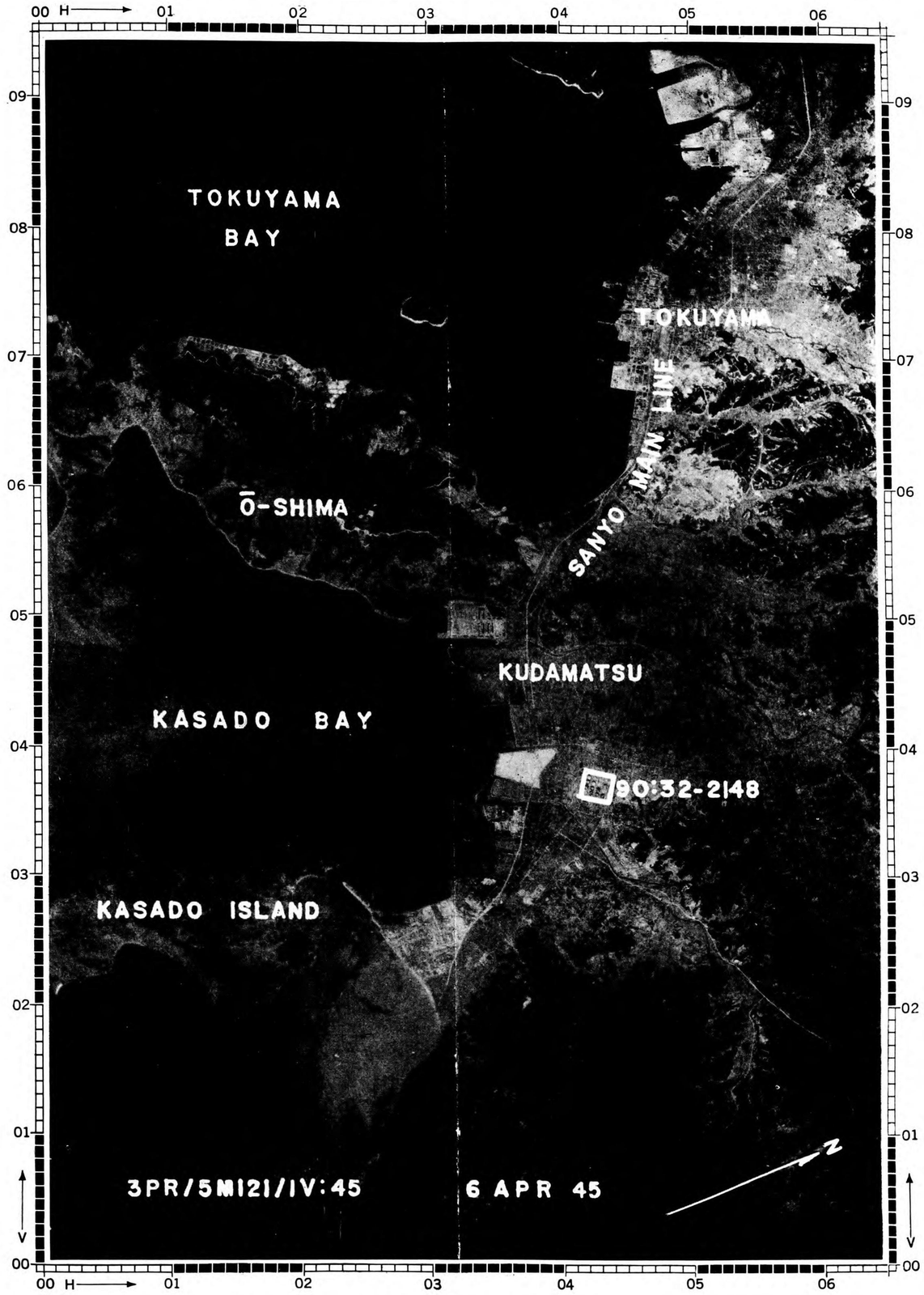
KUDAMATSU TANK FARM
KUDAMATSU JAPAN

SHEET 90:32-2148–TL
DATE . . . . . 29 May 1945
CATEGORY . . . . . MILITARY STORES
COORDINATES . . . . . 34°01'N 131°52'E
ALTITUDE . . . . . 25 feet

SIGNIFICANCE:

Present estimated capacity 385,000 barrels. Only 7 x 55,000 tanks remain serviceable in tank farm with 16 sites.

LARGE SCALE ILLUSTRATION–SCALE APPROX.: 1:20,000



SMALL SCALE ILLUSTRATION–SCALE APPROX.: 1:60,000

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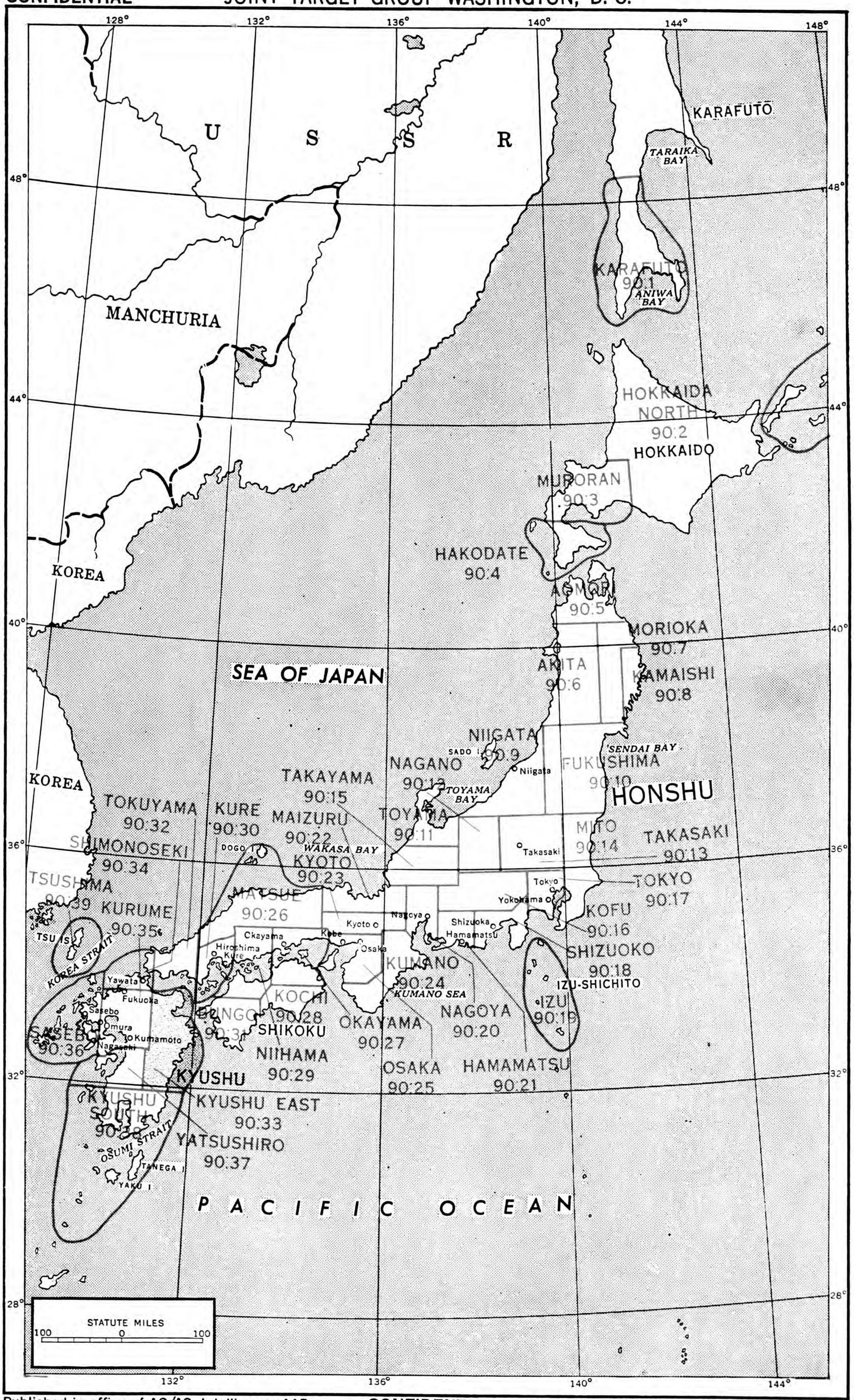

90:33 KYUSHU EAST

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CONFIDENTIAL

PREPARED BY AERONAUTICAL CHART SERVICE, AAF.

File No. 700,100

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX—JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:33—KYUSHU E (JAPAN)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:33-1306 Kyushu E (Japan)	Saeki Naval Air Station	On Nagashima and Mejima Islands, in Saeki Bay.	32°58′N 131°55′E	EPI	AC	Complete airbase and supply depot. Replacement shop for naval planes.
90:33-1308 Kyushu E (Japan)	Oita Naval Air Station	On Beppu Bay, NE of Oita.	33°15′N 131°37′E	EPI	AC	Major repair, modification and maintenance of naval aircraft. Part of 12th Naval Air Depot.
90:33-1310 Kyushu E (Japan)	Asahi Bemberg Gunpowder Plant	N of Nobeoka on S bank of Hori River	32°36′N 131°40′E	EPI	A	May be converted to war production.
90:33-1311 Kyushu E (Japan)	Nobeoka Plant of Nippon Nitrogen Explosives Co.	About 3 miles NE of Nobeoka on E bank of Kita River.	32°36′N 131°43′E	MS EPI	M A	Produces military high explosives. Revetted powder magazine in valley E of plant.
90:33-1312 Kyushu E (Japan)	Raikan Plant of Nippon Nitrogen Explosives Co.	SE of Nobeoka, on seacoast.	32°34′N 131°41′E	MS EPI	M A	Initiator loading.
90:33-1314 Kyushu E (Japan)	Asahi Bemberg Cuprammonium Plant	SE edge of Nobeoka on Nippo Main Line.	32°34′N 131°41′E	BPI	C	Important producer of basic chemicals for explosives. Former celluloid plant now converted to nitrocellulose gunpowder.
90:33-1317 Kyushu E (Japan)	Nippon Dye Works	NE Tsurusaki on Southernmost island in Ono River Delta.	33°14′N 131°42′E	BPI EPI	C A	Large chemical warfare producer, probably also a producer of explosives.
90:33-1328 Kyushu E (Japan)	Saganoseki Copper Works	On peninsula at N edge of Saganoseki.	33°15′N 131°53′E	BPI	NFM	One of largest Japanese copper, lead and zinc refineries. Also produces sulfuric acid, gold and silver.
90:33-1329 Kyushu E (Japan)	Oita RR Yards	S section of Oita.	33°14′N 131°37′E	BSU	RRT	Freight yards at important RR junction. Locomotive shed.
90:33-2080 Kyushu E (Japan)	Oita Naval Air Depot, Engine Section	1 mile S of Beppu Bay between Oita and Ota River mouths.	33°14′N 131°39′E	EPI	AC	Major repair center for aero engines. Limited manufacture of new engines possible.
90:33-2081 Kyushu E (Japan)	Oita Naval Air Depot, Airframe Section	To S of Oita Naval Air Station (90:33-1308).	33°14′N 131°38′E	EPI	AC	Major repair and modification of naval aircraft. Limited production of new planes possible.
90:33-2092 Kyushu E (Japan)	Sakanoichi Branch of Tokyo No. 2 Arsenal	Just E across Ono River from Sakanoichi.	33°14′N 131°43′E	MS EPI	M A	Very large, dispersed initiator loading area.
90:33-2185 Kyushu E (Japan)	Yakkan-gawa RR Bridge (Nippo Line)	Nagasu	33°34′N 131°22′E	BSU	RRT	Long bridge on N-S through line.
90:33-2186 Kyushu E (Japan)	Gokase-gawa RR Bridge (Nippo Line)	In Nobeoka.	32°35′N 131°41′E	BSU	RRT	On E coast N-S through line.
90:33-2187 Kyushu E (Japan)	Hitosuse-gawa RR Bridge (Nippo Line)	Near Obuchi.	32°03′N 131°28′E	BSU	RRT	Long bridge on E coast N-S through line.
90:33-2188 Kyushu E (Japan)	Hori-gawa RR Bridge (Nippo Line)	N of Nobeoka	32°36′N 131°41′E	BSU	RRT	On E coast N-S through line.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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SHEET . . . . . ATI
DATE . . . . . 20 June 1945

JOINT TARGET GROUP, WASHINGTON, D. C.
AIR TARGET INDEX—JAPANESE WAR
NUMERICAL TARGET INDEX

OBJECTIVE AREA 90:33—KYUSHU E (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:33-2189 Kyushu E (Japan)	Moto-gawa RR Bridge (Nippo Line)	N of Nobeoka.	32°40′N 131°42′E	BSU	RRT	On E coast N-S through line.
90:33-2190 Kyushu E (Japan)	Ono-gawa No. 1 RR Bridge (Hohi Line)	Oita.	33°02′N 131°38′E	BSU	RRT	On trans-Kyushu route between Oita and Kumamoto.
90:33-2191 Kyushu E (Japan)	Oita-gawa RR Bridge (Nippo Line)	Oita.	33°14′N 131°38′E	BSU	RRT	On E coast N-S line W of junction with Hohi line.
90:33-2192 Kyushu E (Japan)	Bansho-gawa RR Bridge (Nippo Line)	Near Saeki.	32°57′N 131°51′E	BSU	RRT	On E coast N-S through line.
90:33-2194 Kyushu E (Japan)	Komaru-gawa RR Bridge (Nippo Line)	Takanabe.	32°08′N 131°32′E	BSU	RRT	Long bridge on E coast N-S through line.
90:33-2195 Kyushu E (Japan)	Ono-gawa RR Bridge (Nippo Line)	Tsurusaki.	33°14′N 131°42′E	BSU	RRT	Long bridge on E coast N-S through line.
90:33-2207 Kyushu E (Japan)	Yasaka-gawa No. 5 RR Bridge (Nippo Line)	W of Kitsuki.	33°24′N 131°35′E	BSU	RRT	On E coast N-S through line.
90:33-2208 Kyushu E (Japan)	Bungo-mori Roundhouse	Mori.	33°16′N 131°10′E	BSU	RRT	Roundhouse on cross-island line between Oita and Kurume.
90:33-2210 Kyushu E (Japan)	Mimi-gawa RR Bridge (Nippo Line)	Mimuzo.	32°20′N 131°37′E	BSU	RRT	Long bridge on E coast N-S route.
90:33-2211 Kyushu E (Japan)	Ko-gawa RR Bridge (Nippo Line)	Nobeoka.	32°43′N 131°42′E	BSU	RRT	Long bridge on E coast N-S route.
90:33-2213 Kyushu E (Japan)	Nobeoka South RR Yards	Nobeoka.	32°34′N 131°40′E	BSU	RRT	Main Nobeoka yards and roundhouse.
90:33-2214 Kyushu E (Japan)	Nobeoka North RR Yards	Nobeoka.	32°34′N 131°40′E	BSU	RRT	Supplements Nobeoka South RR Yards (90:33-2213)
90:33-3445 Kyushu E (Japan)	Hososhima—Port Area	On Hyuga Sea in E Central Kyushu.	32°26′N 131°40′E	BSU	S	Port for coastal vessels.
90:33-3446 Kyushu E (Japan)	Totoro—Port Area	On Hyuga Sea in E Central Kyushu.	32°30′N 131°41′E	BSU	S	Fishing port.
90:33-3447 Kyushu E (Japan)	Tsukumi—Port Area	On Hoyo (Bungo) Strait in NE Kyushu.	33°04′N 131°52′E	BSU	S	Cement port.
90:33-3448 Kyushu E (Japan)	Oita—Port Area	On Beppu Bay in NE Kyushu.	33°14′N 131°35′E	BSU	S	Annual capacity about 214,000 metric tons. Port for coastal vessels.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Services & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

JOINT TARGET GROUP, WASHINGTON, D. C.

AIR TARGET INDEX—JAPANESE WAR

NUMERICAL TARGET INDEX

SHEET . . . . . ATI

DATE . . . . . 20 June 1945

OBJECTIVE AREA 90:33—KYUSHU E (JAPAN)—(Continued)

Target Number and Objective Area	Name	Location	Coordinates (approx.)	General Category	Particular Category	Comment
90:33-3449 Kyushu E (Japan)	Beppu—Port Area	On Beppu Bay in NE Kyushu.	33°16′N 131°31′E	BSU	S	Annual capacity about 214,000 metric tons. Port for small vessels.
90:33-3450 Kyushu E (Japan)	Unoshima—Port Area	On Suo Sea in N Central Kyushu.	33°37′N 131°08′E	BSU	S	Port for small vessels.
90:33-3503 Kyushu E (Japan)	Saeki—Port Area	On Saeki Bay in E Central Kyushu.	32°58′N 131°55′E	BSU	S	Anchorage.

BEI—Basic Equipment Industries; BPI—Basic Processing Industries; BSU—Basic Service & Utilities; EPI—End Product Industries; MIC—Mixed Industrial Concentrations; MS—Military Stores.

A—Armament; AC—Aircraft; C—Chemicals; CIS—Coke, Iron & Steel; EP—Electric Power; LM—Light Manufacturing; MMT—Machinery & Machine Tools; M—Munitions; NFM—Non-ferrous Metals; P—Petroleum; RRT—Road & Rail Transportation; S—Shipping; TE—Transportation Equipment; UIC—Urban Industrial Concentrations.

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . **90:33-1306–TI**
DATE . . . . . **26 May 1945**
PAGE **1**

TARGET **90:33-1306**
OBJ. AREA **90:33**
OBJ. FOLDER
90:33; 90:37; 90:38
CATEGORY
End Prdt. Ind.—Aircraft

LAT. . . . . **32° 58′ N**
LONG. . . . . **131° 55′ E**
ALT. . . . . **15 feet**

SAEKI NAVAL AIR STATION

SAEKI **JAPAN**

SIGNIFICANCE

A complete modern airbase and supply depot and a replacement shop for naval planes, with facilities for heavy seaplanes, floatplanes and medium land-based planes, now of reduced importance because of damage suffered by air attacks. Reported also engaged in navy land-based and floatplane training. Attacked by both B-29's and carrier-based planes. Photograph of 21 April shows damage or removal of 15 of the 89 buildings observed on 1 January, including all of the major hangars. The damage does not appear to be such as to interfere with the supply depot operations.

LOCATION

(Refer to Illustration No. 90:33-1306 P2.) On Saeki Bay about 10 miles W of Tsurumi Point, the easternmost tip of Kyushu. It is situated for the most part on two islands, E of the town of Saeki, separated by the Bansho, Nakaye and Nagashima Rivers. There are storage areas along the mainland bank of the Nagashima River, the westernmost of the three. The main railroad around E Kyushu skirts a hill W of the target and town and a spur runs to the main warehouse area.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:33-1306 P4.) The easternmost island between the Bansho and Nakaye Rivers is known as Mejima and used for land based planes. An airfield occupies the N half, with four maintenance hangars (62, 64, 65, 66, all damaged by 21 April) and an operations and control tower (62) on the western edge of the field. The S half of the island is principally an aircraft dispersal area, with fairly extensive warehouse facilities near its S tip.

A seaplane base is W of the airfield on an island known as Nagashima between the Nakaye and Nagashima Rivers. Maintenance seaplane hangars (33, 34, damaged by 21 April) and a concrete apron (32) adjoin Saeki Bay. The N part of Nagashima also contains headquarters buildings (25-27), a radio station (44), and extensive storage facilities (especially 46-58). Two boat basins where over 40 lighters and other craft have from time to time been observed, are on either side of the Nagashima River mouth.

The extensive storage facilities confirm the target's use as a major supply depot. Shortage of shops, however, suggests that repairs, overhaul, and modification are not a major activity. Building 28 near the headquarters building is the only one which appears to be a machine shop.

PRIMARY OBJECTIVES

(Refer to Illustration No. 90:33-1306 P4.) With all important hangars damaged by 21 April, the machine shop, building 28, constitutes the primary objective. Secondary targets include the concentrated storage facilities to the S of the seaplane base (buildings 46-58).

CONSTRUCTION AND VULNERABILITY

Hangars are long span, gable roofed structures, damage cover indicating heavy wood frame construction sheathed with corrugated asbestos. HE vulnerability classification is V5 (see JTG/M-3/1). Storage structures are predominantly one-story, wood frame buildings of short to medium span, HE vulnerability classification being V4. Buildings are dispersed in small to moderate sized groups over a large area.

WEAPON RECOMMENDATIONS

(Refer to Illustration No. 90:33-1306 P4.) Instructions with regard to weapons will usually be given in Field or Operational Orders, but in the absence of such instructions and to assist Planners in formulating such orders the following information is given: (Reference should also be made to General Analysis of Typical Military Targets, Part I, Airfields, published by JTG on 28 February 1945.)

Main Buildings (1-66)

An attack with a combination of incendiary and high explosive bombs is recommended, with incendiaries as the major weapon (high explosive bombs should not exceed 25 percent of the total load). A preliminary structural and occupancy analysis indicates weapons should be selected as follows:

	High Explosive	Fuzing	Incendiary
Preferred:	1000-lb GP or 2000-lb GP or 500-lb GP	0.01 N/ND T (8-15 sec T fuzes for minimum altitude attacks)	AN-M50 4-lb or AN-M69 6-lb (in aimable clusters for high altitude attack)
Alternative:	250-lb GP	0.01 N/ND T (8-15 sec T fuzes for minimum altitude attacks)	AN-M47 70-lb AN-M76 500-lb Fire bombs (Napalm filled gas tanks)

Not recommended: 100-lb GP
SAP or AP bombs
Depth bombs

Note: (a) If 0.01 N fuzes are not available, use either 0.1 or 0.025 N, and if ND T fuzes are not available, use 0.01 T. ND T fuzing is recommended as the hangars and shops have light roofs and are best destroyed by blast effects.

(b) The above recommendations are on a weight for weight basis.

(c) Fire bombs are recommended as alternative selections for low altitude attacks only.

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Airfield (67)

	High Explosive	Fuzing	Incendiary
Preferred:	100-lb GP or 250-lb GP or 500-lb GP	0.1N/0.025 T and none/LD T	No incendiaries are recommended
Alternative:	1000-lb GP	0.1 N/0.025 T and none/LD T	
Not recommended:	2000-lb GP SAP or AP bombs Depth bombs		

Note: (a) The above fuzings are designed to crater and deny the enemy the use of the airfield. LD T fuzes should be set for 2-24 hour delays.

(b) Above recommendations are on a weight for weight basis.

Ammunition Dump (68) and Aircraft Dispersal Area (69)

	High Explosive	Fuzing	Incendiary
Preferred:	Strafing (minimum altitude only) 20-lb Frag	inst. N/none	AN-M50 4-lb or AN-M69 6-lb. Incendiaries are recommended against the ammunition dump only.
Alternative:	Rockets (minimum altitude only) 100-lb GP	inst. N/NDT	
Not recommended:	Other GP bombs SAP or AP bombs Depth bombs		

Note: (a) The above recommendations are on a weight for weight basis.

(b) Grounded aircraft probably will be found in most of the uncovered revetments within dispersal area.

Warehouse Area (70-89)

An attack with a combination of incendiary and high explosive bombs is recommended, with incendiaries as the major weapon (high explosive bombs should not exceed 25 percent of the total load). Weapons should be selected as follows:

	High Explosives	Fuzing	Incendiary
Preferred:	500-lb GP or 1000-lb GP	0.01 N/ND T	AN-M50 4-lb or AN-M69 6-lb (in aimable clusters for high altitude attack)
Alternative:	250-lb GP or 2000-lb GP	0.01 N/ND T	AN-M47 70-lb Fire bombs (napalm filled gas tanks)
Not recommended:	100-lb GP SAP or AP bombs Depth bombs		AN-M76 500-lb

Note: (a) If 0.01 N fuzes are not available, use either 0.1 or 0.025 N, and if ND T fuzes are not available, use 0.01 T. ND fuzing is recommended as the warehouses are best destroyed by blast effects.

(b) The above recommendations are on a weight for weight basis.

(c) Fire bombs are recommended as an alternative selection for low altitude attack only.

CAMOUFLAGE, DECOYS, AND SMOKE SCREENS

Photography of 1 January, 28 March and 21 April 1945 indicates no camouflage, decoys, or smoke screens.

JOINT TARGET GROUP
WASHINGTON, D. C.

SAEKI NAVAL AIR STATION

SAEKI **JAPAN**

0 2000 4000 6000 FEET

0 ½ 1 MILE

1:32 000 APPROX.

RESTRICTED

ILLUSTRATION **90:33-1306 P1**
DATE . . . . . **26 May 1945**
TARGET **90:33-1306**
COORDINATES . . . **32°58'N 131°55'E**
PHOTOGRAPHED . . . **1 January 1945**

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RESTRICTED

File No. **702,306.52**

JOINT TARGET GROUP
WASHINGTON, D. C.

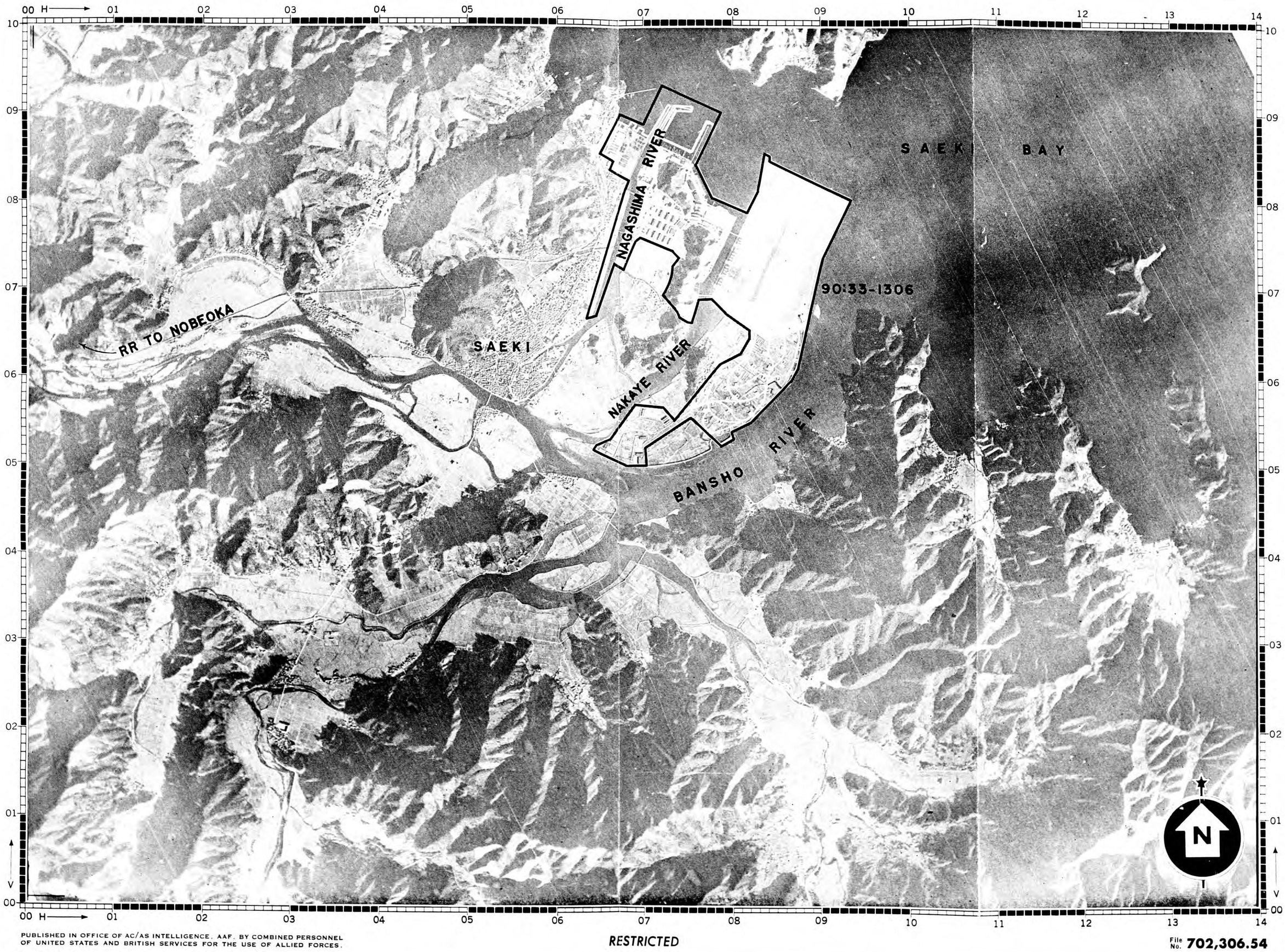
SAEKI NAVAL AIR STATION

SAEKI **JAPAN**

0 2000 4000 6000 FEET
0 ½ 1 MILE
1:32 000 APPROX.

RESTRICTED

ILLUSTRATION	90:33-1306 P2
DATE	26 May 1945
TARGET	90:33-1306
COORDINATES	32°58′N 131°55′E
PHOTOGRAPHED	1 January 1945



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RESTRICTED

File No. 702,306.54

JOINT TARGET GROUP
WASHINGTON, D. C.

SAEKI NAVAL AIR STATION

SAEKI JAPAN

0 500 1000 1500 2000 2500 3000 FEET
0 1/4 1:6000 APPROX. 1/2 MILE

RESTRICTED

ILLUSTRATION	90:33-1306 P3
DATE	26 May 1945
TARGET	90:33-1306
COORDINATES	32°58'N 131°55'E
PHOTOGRAPHED	1 January 1945

90:33-1306 P3

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File No. 702,306.56

CONFIDENTIAL

JOINT TARGET GROUP
WASHINGTON, D. C.

SAEKI NAVAL AIR STATION

SAEKI JAPAN

0 500 1000 1500 2000 2500 3000 FEET
0 1/4 1:6000 APPROX. 1/2 MILE

ILLUSTRATION	90:33-1306 P4
DATE	26 May 1945
TARGET	90:33-1306
COORDINATES	32°58'N 131°55'E
PHOTOGRAPHED	1 January 1945

00 H → 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18

COAL STORAGE 14
SAEKI R.R. & SHUNTING YARD
OPEN STORES 45
RADIO STATION
AIRCRAFT DISPERSAL AREA 6
AIRFIELD 67
AIRCRAFT DISPERSAL AREA

LEGEND

1-13	Warehouses (buildings 3, 5, 7, 9, and 12 have been removed in 21 April 1945 coverage and their sites cleared of debris).
14	Coal Storage Yard (with shipping facilities)
15-22	Warehouses
23	Transformer Sub-Station (Removed)
24	Boiler House
25-27	Headquarters Buildings
P28	Machine Shop
29	Hangar-type Building
30	Not identified
31	Storage-type Building
32	Concrete apron (960 x 150 feet on front of seaplane hangars with slightly damaged ramp extension, 680 x 100 feet, into Saeki Bay. Large hammerhead crane at south end of ramp).
33,34	Maintenance Seaplane Hangars (roofs off)
35	Navy Garage (roof appears to be off)
36-41	Warehouses (Buildings 39 and 41 removed by 21 April 1945).
42	Possible Barracks
43	Possible Mess
44	High and medium frequency radio station (with two tripod truss-type towers).
45	Open stores (line both sides of Nagashima River).
46-58	Warehouses (with heavily revetted building 49 and 53 probably used for storage of precision instruments. Building 56 removed and debris cleared. Railway spur enters area).
59	Underground Storage Area (several small roadways lead into foot of hill).
59a-59c	Storage-type Buildings (heavily revetted).
60	Possible Ammunition and Fuel Storage Area (blast walls in front of three possible tunnel entrances).
61	Aircraft Dispersal Area (with seven 72 foot wide "U" shaped revetments.
62	Hangar (roof off)
63	Operations and Control Tower
64-66	Hangars (65 has severe roof damage over ½ its area; 66 has roof damage over ⅔ its area; and 64 has its roof off)
67	Airfield (one NNE SSW runway hard surfaced, 3000 x 160 feet, one NW SE hard surfaced runway 1550 x 160 feet. Landing area approximately 4800 x 1250 feet, well drained and serviceable during most weather).
68	Ammunition Dump
69	Aircraft Dispersal Area (with 34, 72 foot wide "U" shaped revetments; one under construction. Five covered fighter revetments are along the extremity of the airfield).
70-89	Warehouses (only foundations laid for buildings 71 through 74, 78, 79, 81, 83 and 87).

P—denotes primary building

90:33-1306 P4

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CONFIDENTIAL

File No. 702,306.58

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET . . . **90:33-1308–TI**
DATE . . . . . **May 1945**
PAGE **1**

TARGET **90:33-1308**
OBJ. AREA **90:33**
OBJ. FOLDER **90:33-37-38**
CATEGORY **End Prdt. Ind.– AIRCRAFT**

LAT. . . . . **33°15'N**
LONG. . . . . **131°37'E**
ALT. . . . . **13 feet**

OITA NAVAL AIR STATION

OITA JAPAN

NOTE: This Target Information Sheet is issued to show the status and importance of the target following serious damage by air attack.

SIGNIFICANCE

Prior to attack Oita Naval Air Station together with Oita Naval Air Depot, Airframe Section and Engine Section (TARGETS 90:33-2081 and 2080) constituted the headquarters of the 12th Naval Air Depot engaged in modification, repair and maintenance of naval aircraft. It was also a major combat base, training school, and replacement center.

The Air Station and both sections of the Air Depot have been attacked by both B-29's and carrier-based aircraft. Photography of 11 May shows all three targets heavily damaged and probably no longer performing significant repair or modification functions. At the Air Station 24 of the 35 buildings sustained major damage, and those remaining apparently undamaged, although including two shops and one hangar, have little target value. The airfield was probably still operational on 11 May, however, and together with extensive storage areas in the hills to the SE, may continue to have tactical importance.

For location and other details refer to Target Information Sheets and Illustrations 90:33-2080 and 90:33-2081. No illustrations will be issued for this target unless warranted by new construction.

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File No. 702,308.1

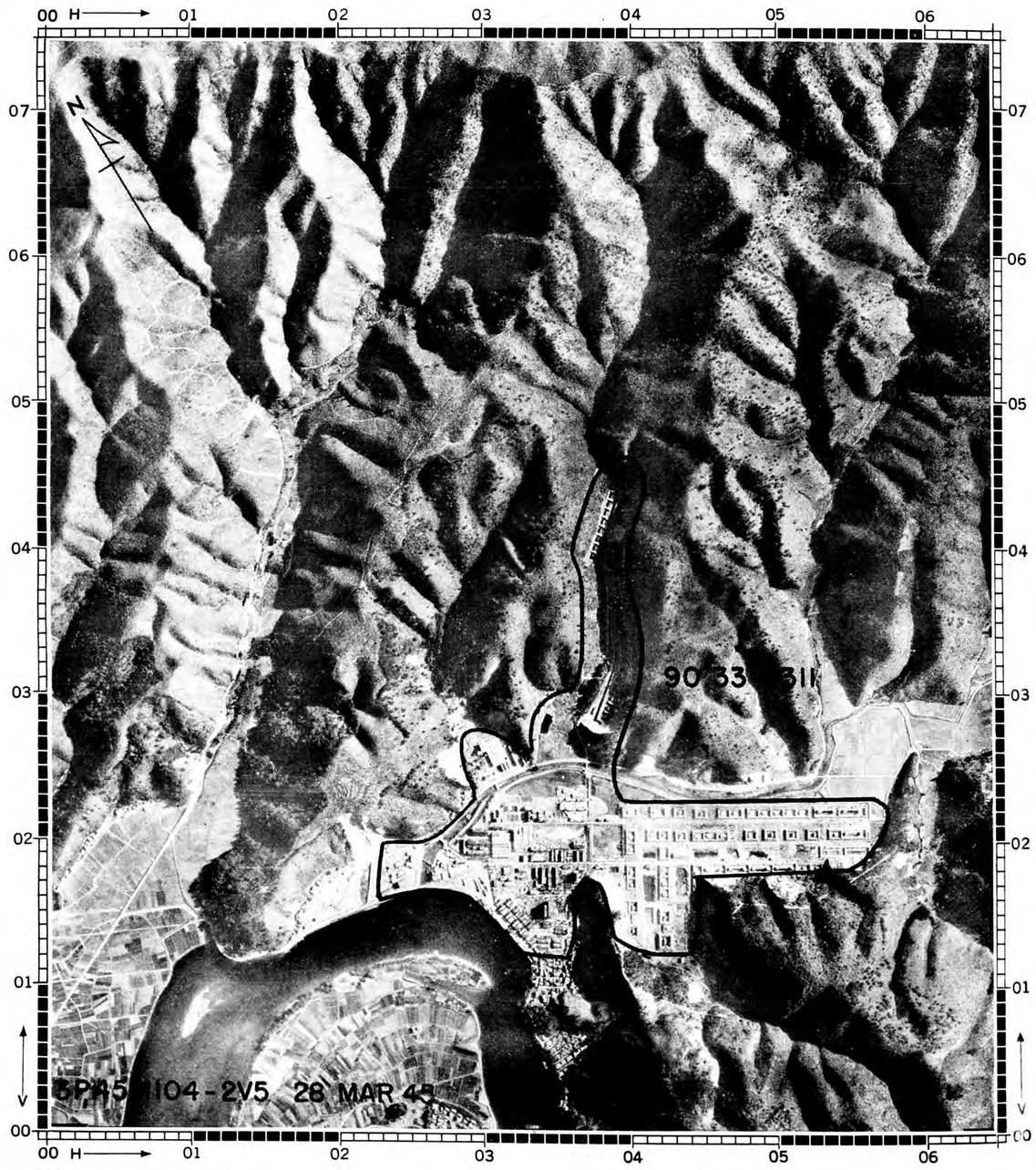
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

NOBEOKA PLANT OF NIPPON NITROGEN EXPLOSIVES CO. KAWASHIMA JAPAN

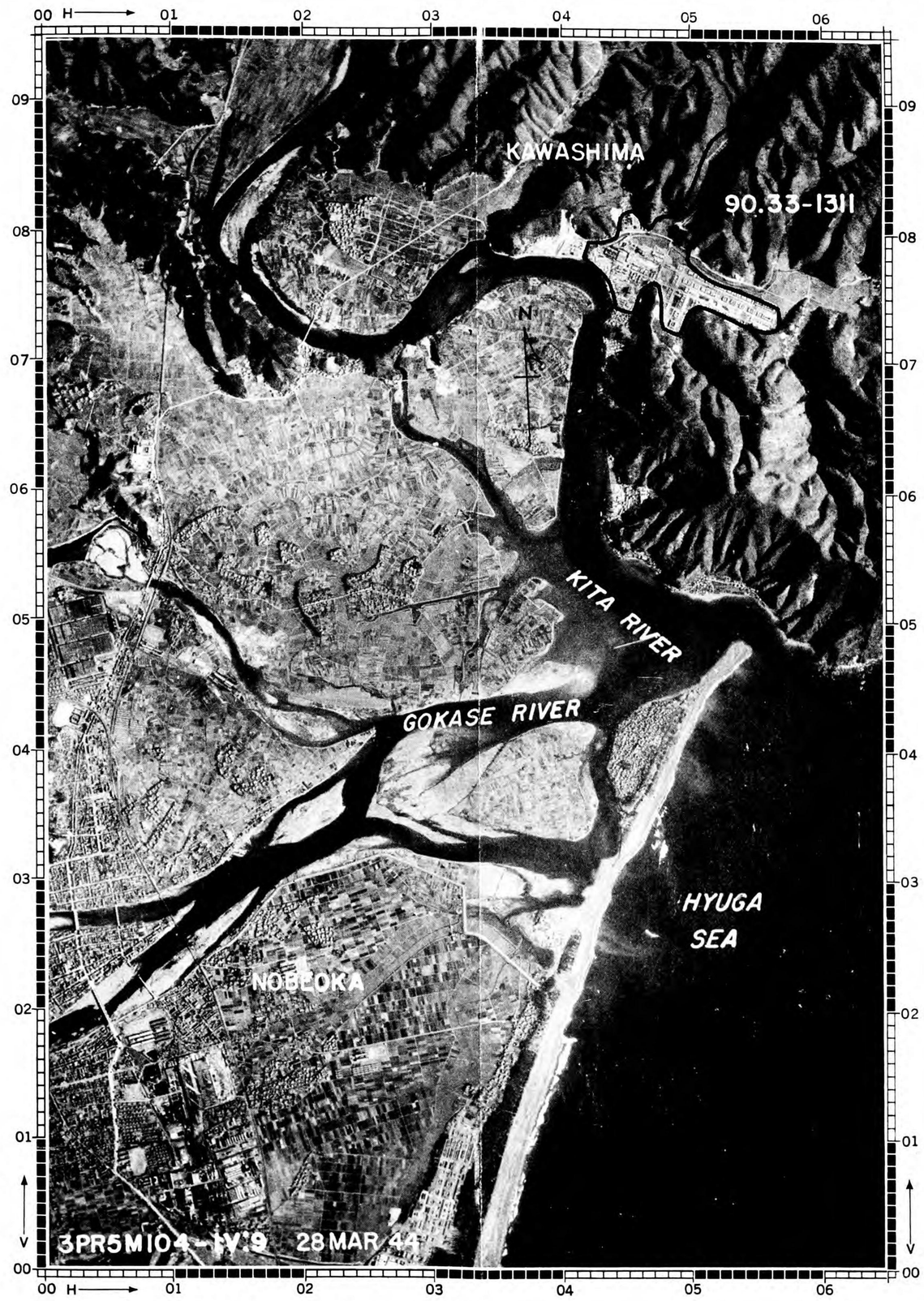
SHEET . . . . . 90:33-1311—TL
DATE . . . . . 14 May 1945
TARGET 90:33-1311
CATEGORY . . . . . End Prdt. Ind.—ARMAMENT
COORDINATES . . . . 32°37'N 131°43'E
ALTITUDE . . . . . 70 feet

SIGNIFICANCE:

Target is one of two plants in this area belonging to Nippon Nitrogen Explosives Co. This is a medium sized plant believed to be devoted primarily to the manufacture and storage of double base propellant powder (nitroglycerine and nitrocellulose).



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:15,000



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:30,000

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REPRINT

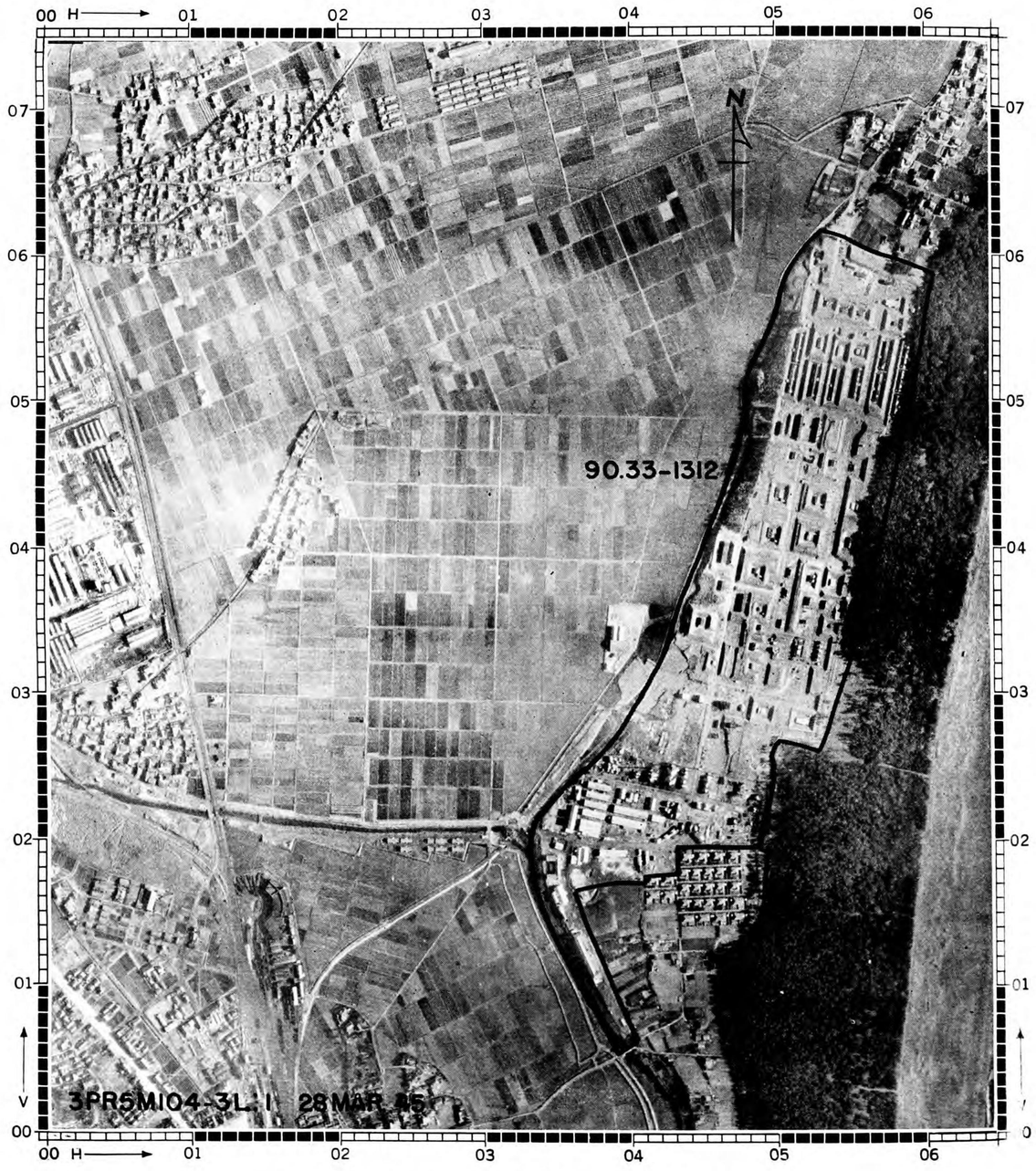
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

RAI KAN PLANT OF NIPPON NITRO EN EXPLOSIVES COMPANY NOBEC KA JAPAN

SHEET 90:33-1312–TL
DATE . . . . . 14 May 1945
TARGET 90:33-1312
CATEGORY . . . . . End Prdt. Ind.–ARMAMENT
COORDINATES . . . . 32°34'N 131°41'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

Target is one of two plants in this area belonging to Nippon Nitrogen Explosives Co. This is a medium sized plant which is believed to be primarily devoted to the manufacture and loading of initiators.



LARGE SCALE ILLUSTRATION–SCALE APPROX.: 1:9,000

SMALL SCALE ILLUSTRATION–SCALE APPROX.: 1:30,000

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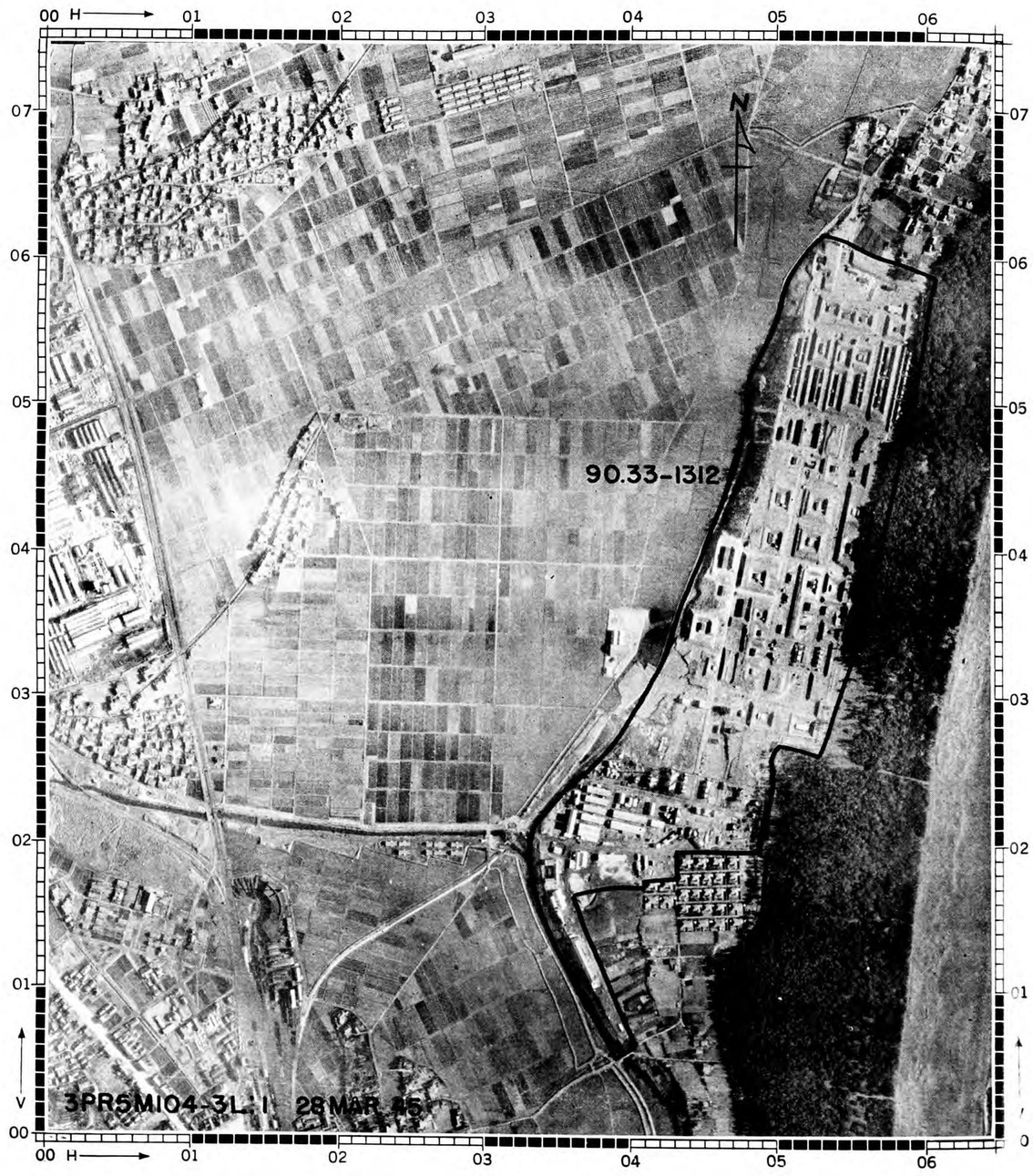
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

RAI KAN PLANT OF NIPPON NITRO EN EXPLOSIVES COMPANY NOBEC KA JAPAN

SHEET . . . . . 90:33-1312—TL
DATE . . . . . 14 May 1945
TARGET 90:33-1312
CATEGORY . . . . . End Prdt. Ind.—ARMAMENT
COORDINATES . . . . 32°34'N 131°41'E
ALTITUDE . . . . . 10 feet

SIGNIFICANCE:

Target is one of two plants in this area belonging to Nippon Nitrogen Explosives Co. This is a medium sized plant which is believed to be primarily devoted to the manufacture and loading of initiators.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:9,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:30,000

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

ASAHI BEMBERG CUPRAMMONIUM PLANT

NOBEOKA JAPAN

SHEET . . . . . 90:33-1314—TL
DATE . . . . . 5 June 1945
TARGET 90:33-1314
CATEGORY . Bsc. Proc. Ind.—CHEMICALS
COORDINATES . . . . . 32°34'N 131°40'E
ALTITUDE . . . . . 30 feet

SIGNIFICANCE:

Very large chemical works producing chemicals used by the three explosives plants in and near Nobeoka. Key plant in Nobeoka region. Basic chemicals produced in large quantities include ammonia, nitric acid, sulphuric acid, chlorine and caustic soda. Former celluloid plant now converted to nitrocellulose gunpowder.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:16,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:67,000

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

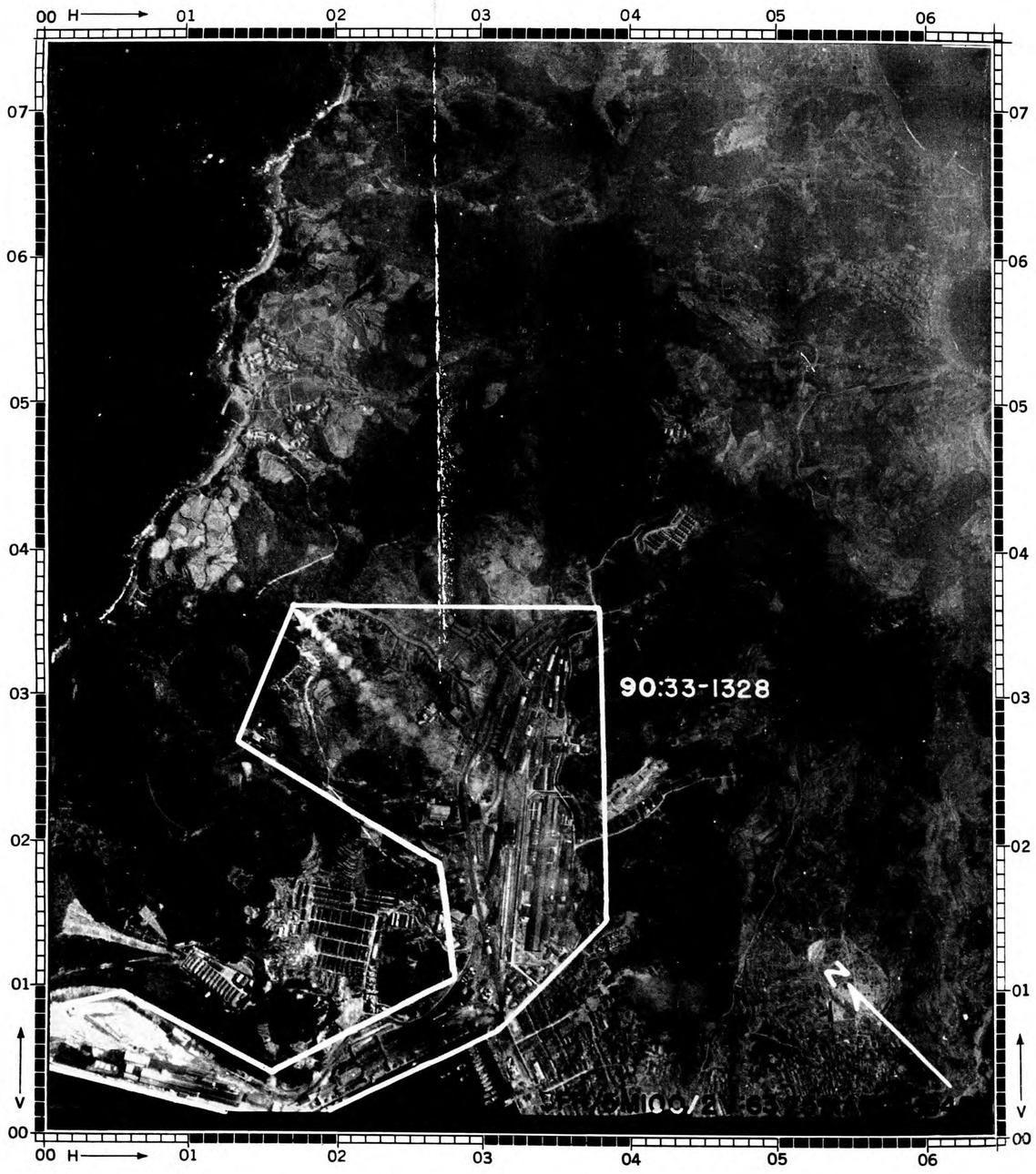
SAGANOSEKI COPPER WORKS

SAGANOSEKI JAPAN

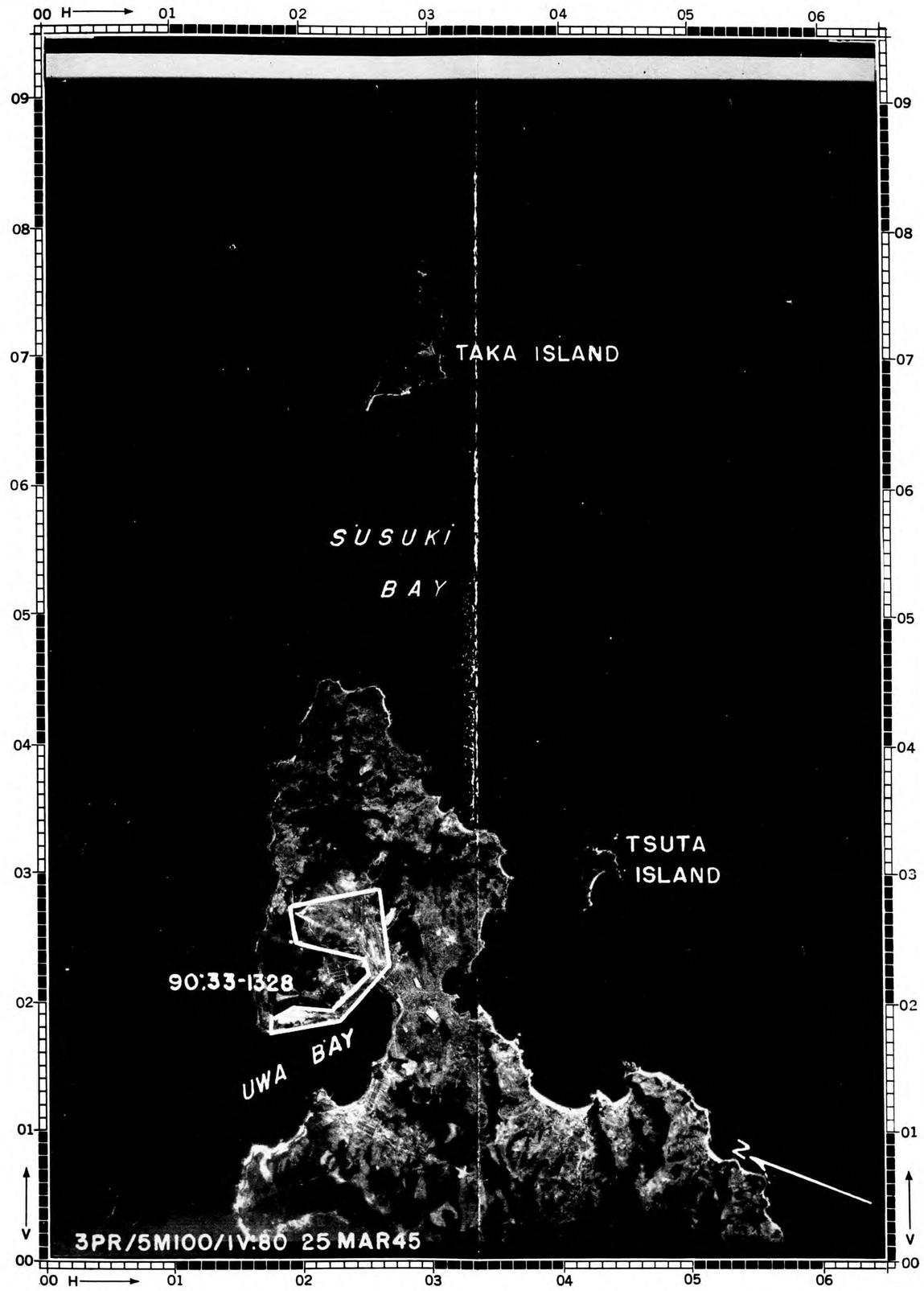
SHEET No. 90:33-1328–TL
DATE.....25 May 1945
TARGET No. 90:33-1328
CATEGORY.....Bsc. Proc. Ind.–Non-Ferrous Metals
COORDINATES ....33°15'N 131°53'E
ALTITUDE .....50 feet

SIGNIFICANCE:

One of the largest Japanese smelters and refineries. Copper, lead, and zinc are the principal products, with less important output of gold, silver, and sulfuric acid. Lead and zinc concentrates believed to be imported from Korea. Most copper ore believed to be from local mines.



LARGE SCALE ILLUSTRATION–SCALE APPROX.: 1:14,000



SMALL SCALE ILLUSTRATION–SCALE APPROX.: 1:56,000

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File No. 702,328.1

JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

OITA RR YARD
OITA JAPAN

SHEET No. . . . . 90:33-1329—TL
DATE. . . . . 25 May 1945
TARGET No. 90:33-1329
CATEGORY. . . . . Bsc. Serv. & Utly.—Road and Rail Transpt.
COORDINATES . . . . 33°14'N 131°37'E
ALTITUDE . . . . . 20 feet

SIGNIFICANCE:

Important yard on Nippo Line serving also Daito Line, running W to Kurume, and Hohi Line, running W to Kumamato. Also handles rail-ship traffic through the port. Roundhouse included. Dimensions, 2600' x 380'. Area, 19 acres.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:17,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:68,000

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File No. 702,329.1

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET....90:33-2080—TI
DATE.....9 June 1945
PAGE.....1

TARGET.....90:33-2080
OBJ. AREA.....90:33
OBJ. FOLDER. New Target
CATEGORY End Prdt. Ind.—AIRCRAFT

LAT.....33°14'N
LONG.....131°39'E
ALT.....13 feet

OITA NAVAL AIR DEPOT
ENGINE SECTION

OITA **JAPAN**

ALL PREVIOUS SHEETS CANCELLED

NOTE: This Target Information Sheet is issued to show the status and importance of the target following serious damage by air attack. Previously issued information on construction and vulnerability and weapon recommendations has not been revised and should be considered in the light of damage reported.

SIGNIFICANCE

Prior to attack by both B29's and carrier-based aircraft, this plant was an important section of the 12th (Oita) Naval Air Depot. Engaged primarily in engine repair and overhaul, new engines could have been manufactured on a limited scale. Many tunnel entrances in the surrounding hills suggest that the plant may have been more important than indicated by the visible buildings whose combined floorspace was relatively small. Repeatedly attacked during April and May, strike photography of 11 May indicates that the plant has suffered severe damage. More than half of the visible floorspace of productive buildings has been completely destroyed. It is possible that some tunnel entrances have been temporarily blocked or slightly damaged.

The severe damage sustained by this plant makes it appear unlikely that extensive repairs and re-building will be undertaken. The usable building area, however, will probably be utilized and unless additional damage has been inflicted since 11 May the plant will probably be capable of operating at about 50 percent of its pre-attack rate by July. Until that time the plant has little target value.

LOCATION

(Refer to Illustration No. 90.33-2080—P2.) Situated in NE Kyushu near the S entrance to the Inland Sea, about 1 mile S from Beppu Bay on the S edge of the coastal plain between the Oita and Ono River mouths. The airframe section of the Oita Naval Air Depot (Target 90:33-2081) now almost completely destroyed is about 1 mile W, the Oita Naval Air Station (Target 90:33-1308) also largely destroyed is about 4000 feet NW, and Nippon Dye Works at Tsurusaki (Target 90:33-1317) is about 2 miles E. The plant is bounded on the N by the Nippo Mainline Railroad and on the S by a precipice where a high hill has been cut into.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:33-2080—P3.) The section of the plant E of Building 10 has been almost completely destroyed. This includes the 3 shops (13, 16, and 18) and Building 19. In the W half of the plant, Building 8, believed to have been engaged in engine tear-down and re-assembly has probably been destroyed as have part of Building 2 (administration) and all of building 3 (probably storage).

PRIMARY OBJECTIVES

Engine tear-down and re-assembly buildings (4, 5, and 7). Shop building 10 is of secondary importance.

CONSTRUCTION AND VULNERABILITY

Process buildings are predominantly one-story, short and medium span, sawtooth roof buildings most probably of wood frame construction sheathed, both roof and walls, with corrugated asbestos. Other buildings are of pitched roof, short span, wood frame construction. Firewalls are visible in most of the buildings.

WEAPON RECOMMENDATIONS

Instructions with regard to weapons will usually be given in Field or Operational Orders, but in the absence of such instructions and to assist Planners in formulating such orders the following information is given:

An attack primarily with incendiary bombs, with a minimum of high explosive bombs (not to exceed 10 to 20 percent of the total load), is recommended against this target. A preliminary structural and occupancy analysis of the plant (excluding possible underground installations) indicates that weapons should be selected as follows:

	High Explosive	Fuzing	Incendiary
Preferred	500-lb GP or 1000-lb GP or 2000-lb GP	0.01 N/ND T 0.01 N/ND T 0.01 N/ND T	AN-M50 4-lb or AN-M69 6-lb (in aimable clusters for high altitude attack)
Alternative:	250-lb GP	0.025 N/ND T	AN-M47 70-lb AN-M76 500-lb Fire bombs

Not recommended: Other GP bombs
SAP or AP bombs
Depth bombs

Notes: (a) Fire bombs (droppable gasoline tanks, napalm filled) should be used in low level attacks only.
(b) Use 0.1 N fuzes if 0.01 N or 0.025 N fuzes are not available, and 0.01 T fuzes if ND T fuzes are not available. ND tail fuzing is recommended since all buildings have light roof material and are best destroyed by blast effects.
(c) The above recommendations are on a weight for weight basis, and apply to surface installations only.

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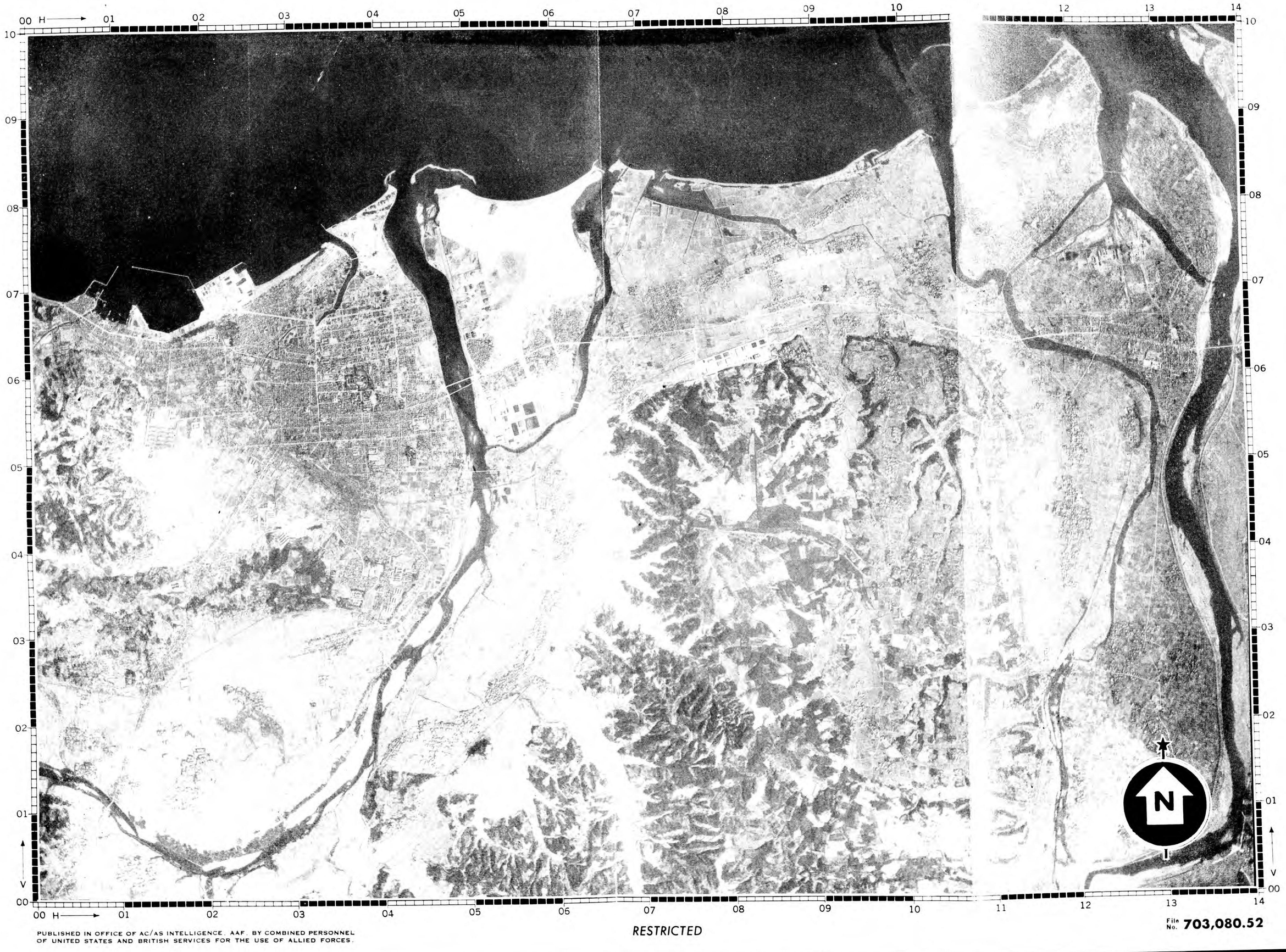
OITA NAVAL AIR DEPOT, ENGINE SECTION

OITA **JAPAN**

0 2000 4000 6000 FEET
0 ½ 1 MILE
1:32 000 APPROX.

RESTRICTED

ILLUSTRATION **90:33-2080 P1**
DATE . . . . . **18 May 1945**
TARGET **90:33-2080**
COORDINATES . . **33°14'N 131°39'E**
PHOTOGRAPHED . . . **1 January 1945**



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File No. **703,080.52**

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JOINT TARGET GROUP
WASHINGTON, D. C.

OITA NAVAL AIR DEPOT, ENGINE SECTION

OITA **JAPAN**

0 2000 4000 6000 FEET
0 ½ 1 MILE
1:32 000 APPROX.

ILLUSTRATION	90:33-2080 P2
DATE	18 May 1945
TARGET	90:33-2080
COORDINATES	33°14'N 131°39'E
PHOTOGRAPHED	1 January 1945

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File No. 703,080.54

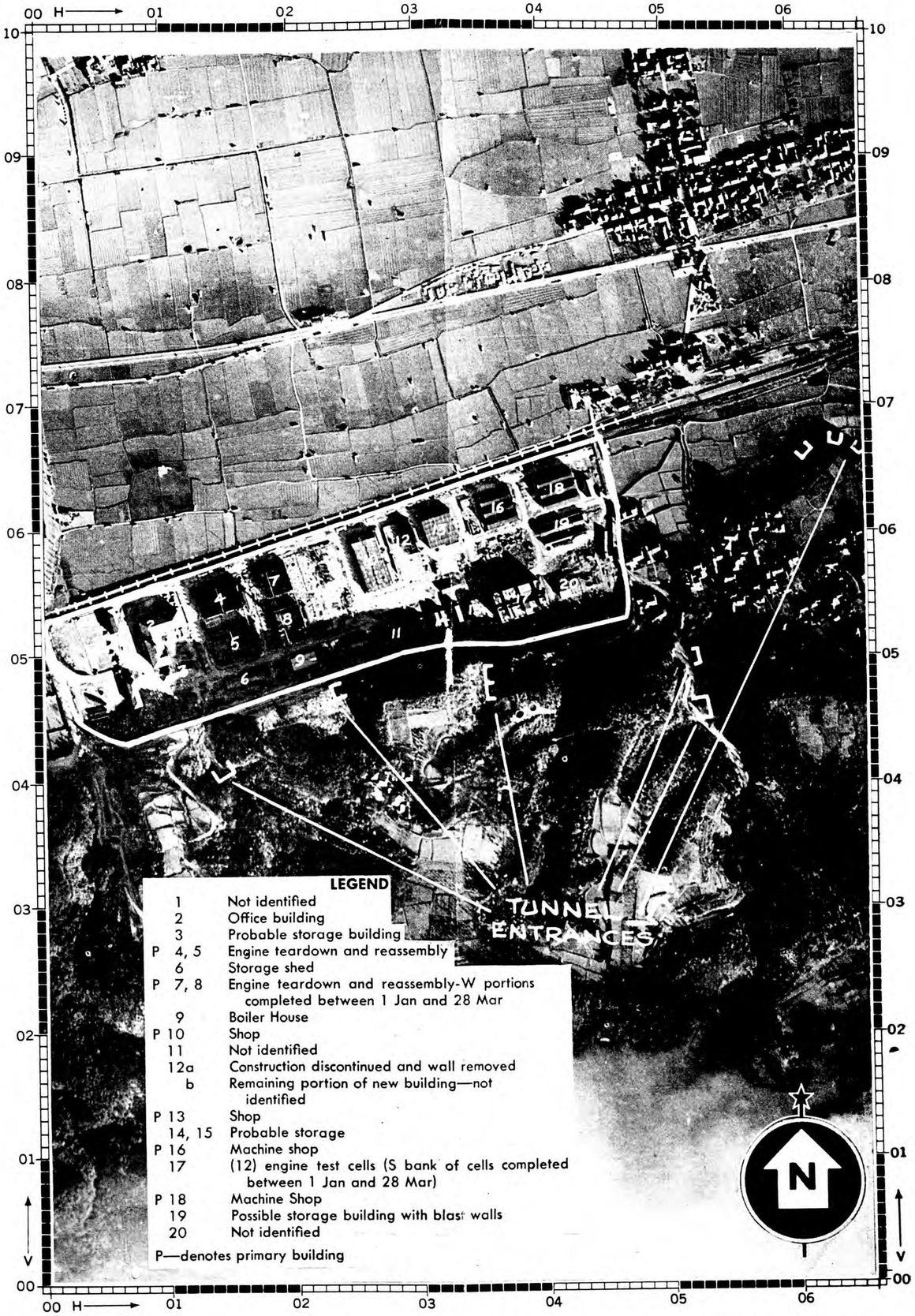
JOINT TARGET GROUP
WASHINGTON, D. C.

OITA NAVAL AIR DEPOT, ENGINE SECTION

OITA **JAPAN**

0 2000 4000 6000 FEET
0 ½ 1 MILE
1:32 000 APPROX.

ILLUSTRATION 90:33-2080 P3
DATE . . . . . 18 May 1945
TARGET 90:33-2080
COORDINATES . . 33°14'N 131°39'E
PHOTOGRAPHED . . . 1 January 1945



LEGEND

1	Not identified
2	Office building
3	Probable storage building
P 4, 5	Engine teardown and reassembly
6	Storage shed
P 7, 8	Engine teardown and reassembly-W portions completed between 1 Jan and 28 Mar
9	Boiler House
P 10	Shop
11	Not identified
12a	Construction discontinued and wall removed
b	Remaining portion of new building—not identified
P 13	Shop
14, 15	Probable storage
P 16	Machine shop
17	(12) engine test cells (S bank of cells completed between 1 Jan and 28 Mar)
P 18	Machine Shop
19	Possible storage building with blast walls
20	Not identified

P—denotes primary building

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File No. 703,080.56

JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET INFORMATION SHEET

SHEET....90:33-2081—TI
DATE.....9 June 1945
PAGE.....1

TARGET.....90:33-2081
OBJ. AREA.....90:33
OBJ. FOLDER. New Target
CATEGORY End Prdt. Ind.—AIRCRAFT

LAT.....33°14'N
LONG.....131°38'E
ALT.....13 feet

ALL PREVIOUS SHEETS CANCELLED

OITA NAVAL AIR DEPOT AIRFRAME SECTION

OITA JAPAN

NOTE: This Target Information Sheet is issued to show the status and importance of the target following serious damage by air attack.

SIGNIFICANCE

Prior to attacks by both B-29's and carrier-based aircraft, this plant was an important section of the 12th (Oita) Naval Air Depot. It was engaged in extensive repair and modification of naval aircraft and may possibly have been manufacturing new aircraft on a limited scale, though the latter is unlikely. The plant sustained bomb damage between 1 January and 28 March 1945 but such damage probably interfered only slightly with its normal activity. Repeatedly attacked during April and May, strike photography of 11 May reveals that the plant is almost completely destroyed and no longer has significance as a repair, modification, or production center. There is little likelihood that it will be repaired or restored.

LOCATION

(Refer to Illustration No. 90:33-2081—P2.) Situated in NE Kyushu near the S entrance to the Inland Sea about 1.1 miles S of Beppu Bay on the S end of an island in the mouth of the Oita River. The city of Oita lies across the river to the W. Oita Naval Air Station (TARGET 90:33-1308) also now almost completely destroyed is on the same island connected by a road and taxiways. The engine section of the Oita Naval Air Depot (TARGET 90:33-2082) also severely damaged is about 1 mile E.

DESCRIPTION AND LAYOUT

(Refer to Illustration No. 90:33-2081—P4.) Building 27, airframe repair and post-assembly, is the only major building which was not severely damaged or completely destroyed by 11 May.

PRIMARY OBJECTIVES

None.

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File No. 703,081.1

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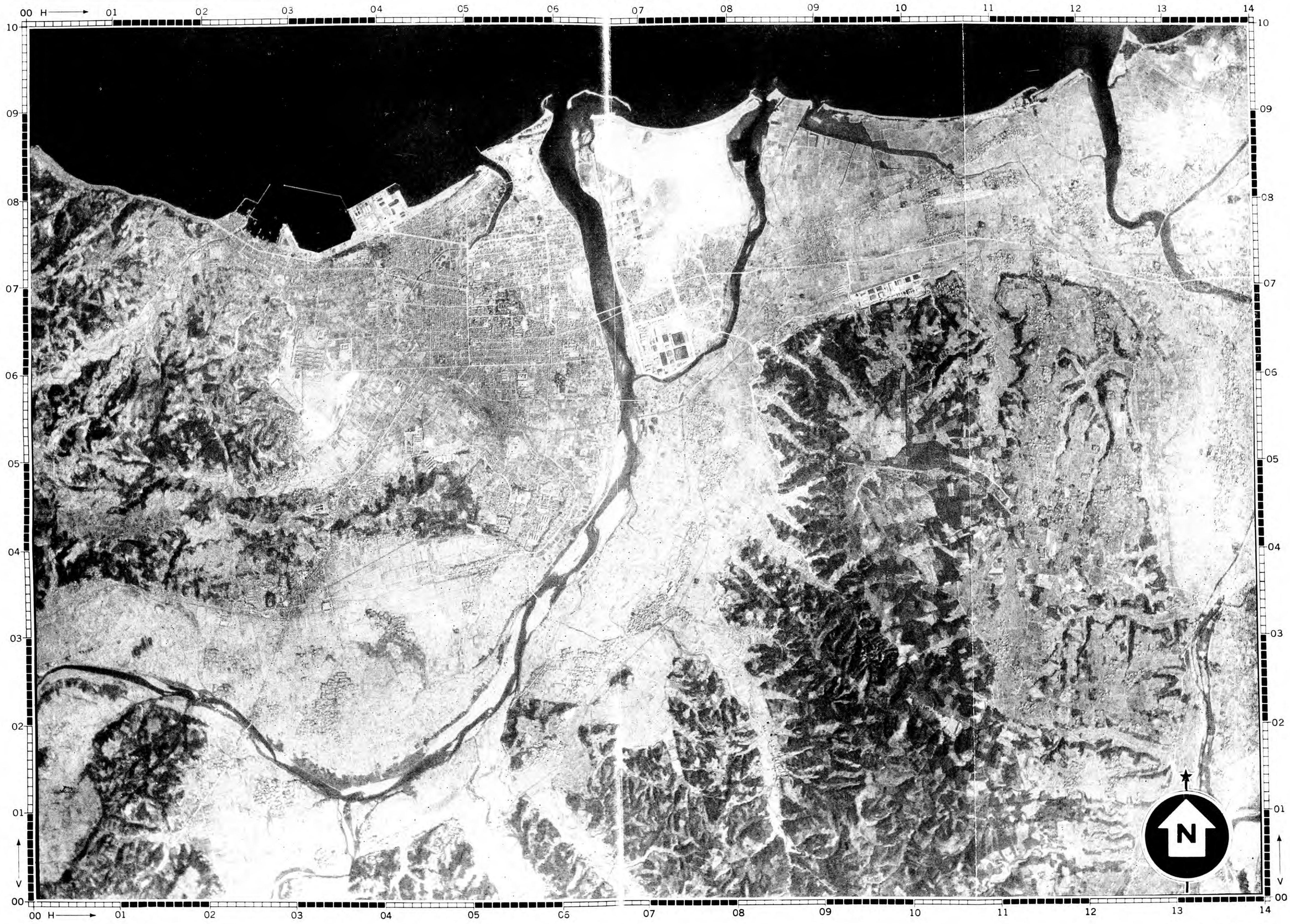
JOINT TARGET GROUP
WASHINGTON, D. C.

OITA NAVAL AIR DEPOT, AIRFRAME SECTION

OITA **JAPAN**

0 2000 4000 6000 FEET
0 1 MILE
1:32)00 APPROX.

SHEET	90:33-2081 P1
DATE	19 May 1945
TARGET	90:33-2081
COORDINATES	33°14'N 131°38'E
PHOTOGRAPHED	1 January 1945



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File No. 703,081.52

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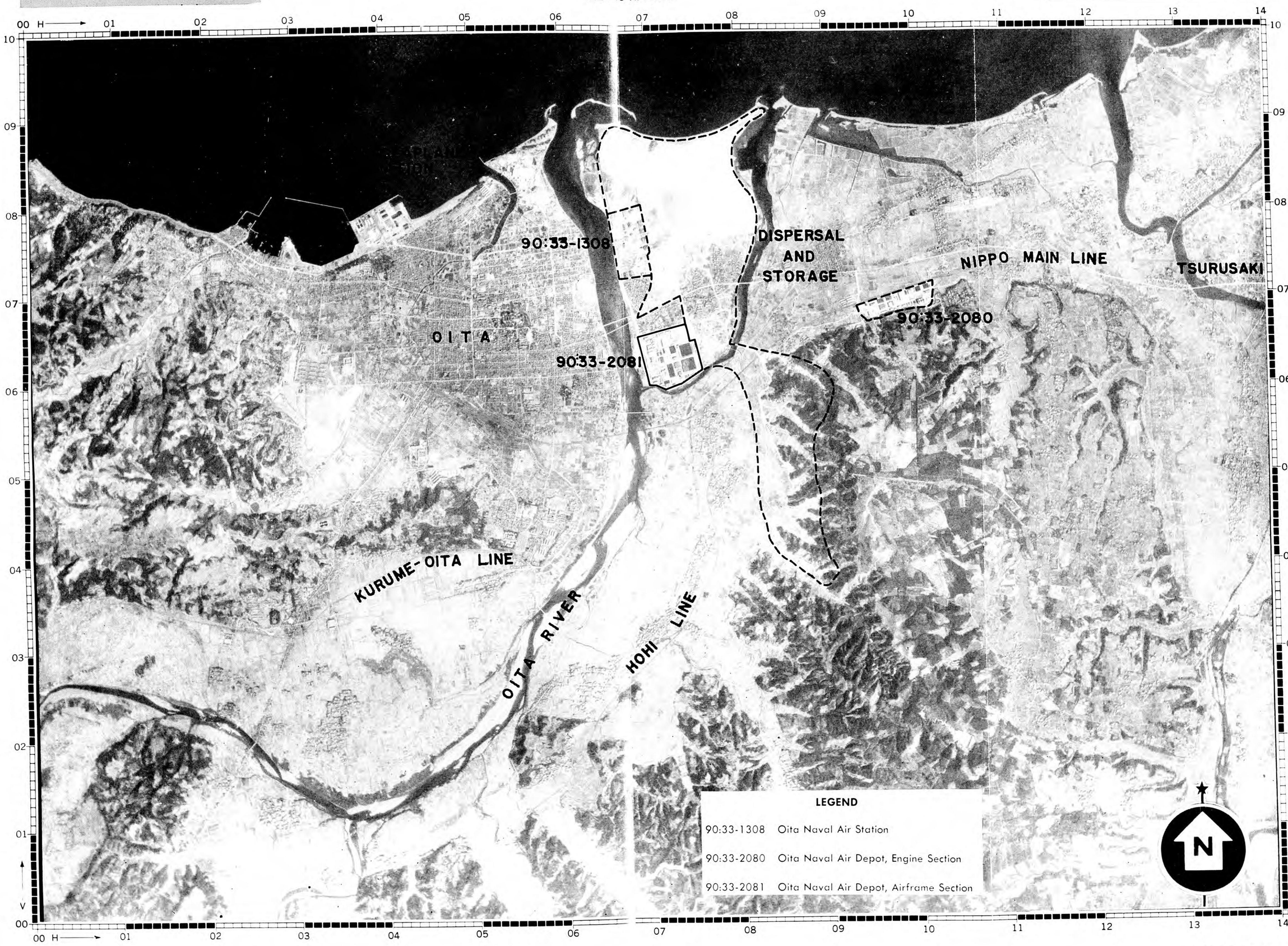
JOINT TARGET GROUP
WASHINGTON, D. C.

OITA NAVAL AIR DEPOT, AIRFRAME SECTION

OITA **JAPAN**

0 2000 4000 6000 FEET
0 ½ 1 MILE
1:32 000 APPROX.

SHEET 90:33-2081 P2
DATE . . . . . 19 May 1945
TARGET 90:33-2081
COORDINATES . . . 33°14'N 131°38'E
PHOTOGRAPHED . . . 1 January 1945



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File No. 703,081.54

JOINT TARGET GROUP
WASHINGTON, D. C.

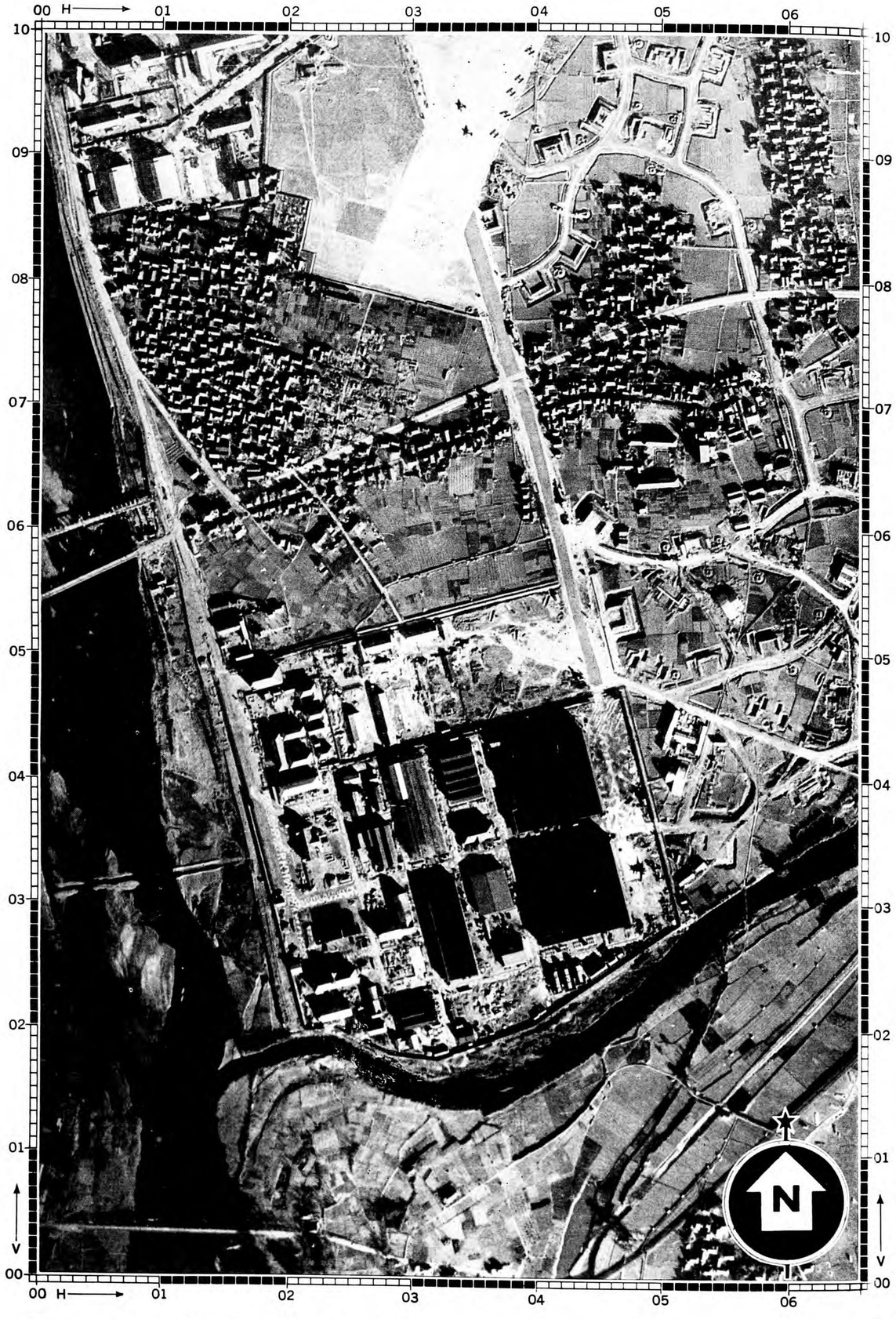
OITA NAVAL AIR DEPOT, AIRFRAME SECTION

OITA — JAPAN

0 500 1000 1500 2000 2500 3000 FEET
0 1/4 1:6000 APPROX. 1/2 MILE

CONFIDENTIAL

SHEET	90:33-2081 P3
DATE	19 May 1945
TARGET	90:33-2081
COORDINATES	33°14'N 131°38'E
PHOTOGRAPHED	1 January 1945



LEGEND

1	Probable garage or receiving shed
2-5	Probable storage or construction sheds
6-9	Probable engineering section
10	Administrative offices
11	Boiler house
12	Small parts shop
13	Shop
14	Not identified
15	Probable storage
16	Not identified (approx. 7 possible components E. of building)
17	Shop
18	Not identified
19	Unidentified group of small buildings with blast walls
20	Machine shop and parts erection
21-22	Probable parts storage and preparation
P 23a	Probable modification and repair
P b	Reassembly and post assembly
24	Probable shop under construction (Now removed except NW corner)
25	Machine shop
26	Probable parts storage
P 27a	Probable modification and repair
P b	Reassembly and post assembly

P—denotes primary buildings

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

SAKANOI[illegible] II BRANCH OF TOKYO NO. 2 ARSENAL

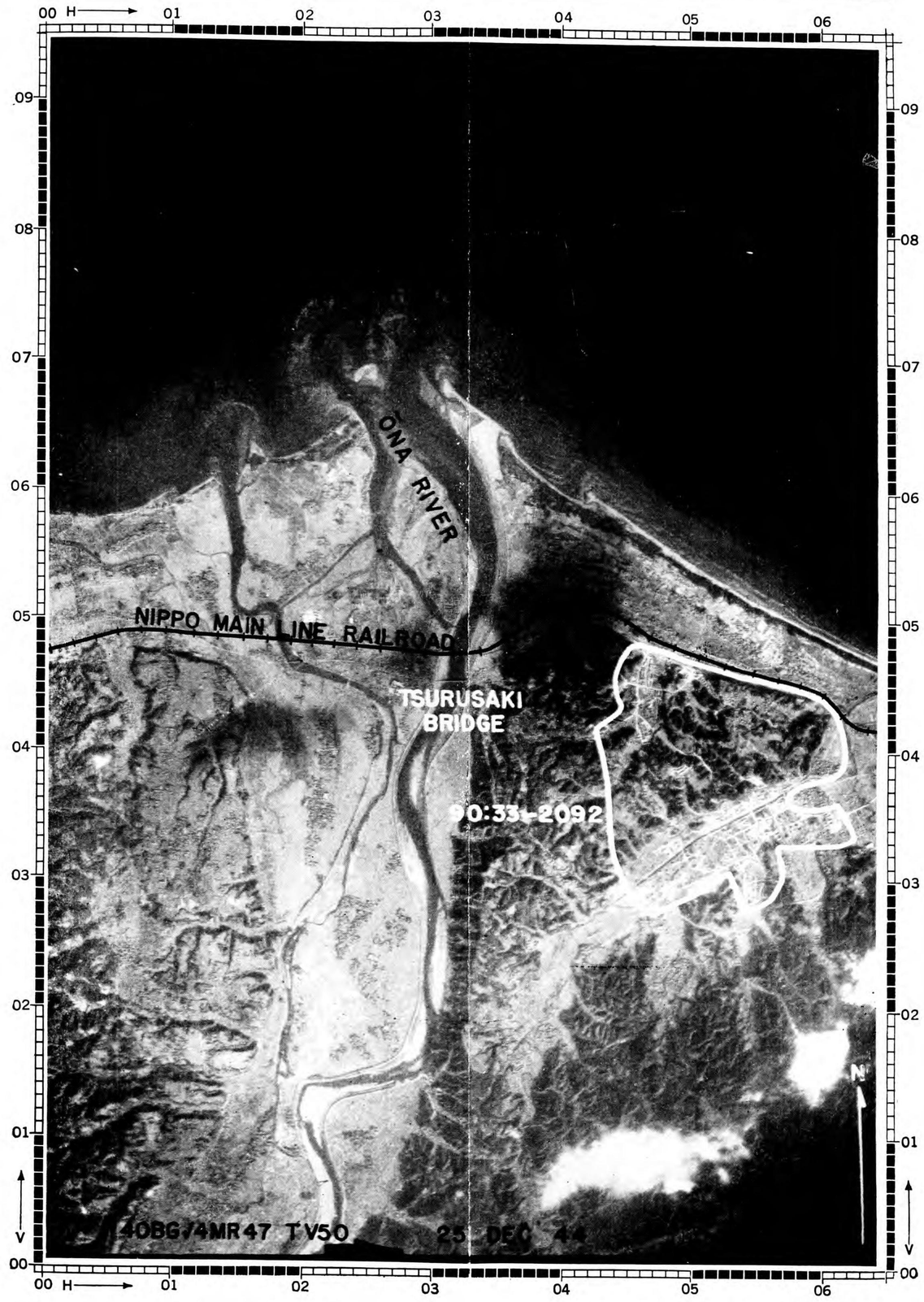
SAKANOI[illegible] II — JAPAN

SHEET . . . . . 90:33-2092—TL
DATE . . . . . 4 June 1945
TARGET 90:33-2092
CATEGORY . End Prdt. Ind.—ARMAMENT
COORDINATES . . . . . 33°14′N 131°43′E
ALTITUDE . . . . . 146 feet

SIGNIFICANCE:

A large area believed to be devoted primarily to the loading of ammunition, ammunition components, and possibly including bombs and other high explosive end products.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:17,900



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:58,000

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JOINT TARGET GROUP, WASHINGTON, D. C.

TARGET LOCATION SHEET

GOKASE-GAWA RR BRIDGE (NIPPO LINE)

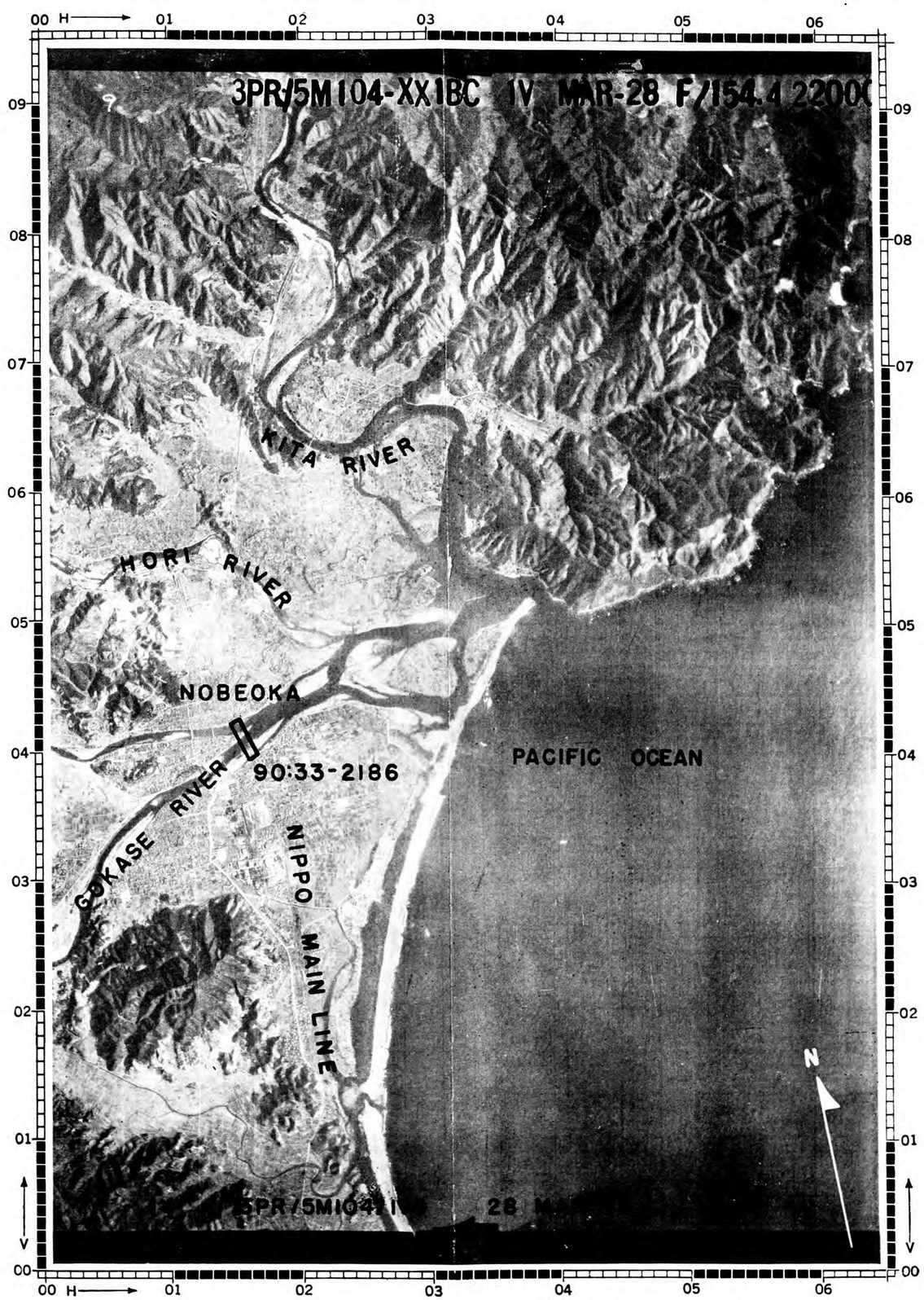
NOBEOKA — JAPAN

SHEET . . . . . 90:33-2186—TL
DATE . . . . . 8 June 1945
TARGET 90:33-2186
CATEGORY . . . . . Bsc. Serv. & Utly.—ROAD & RAIL TRNSPT.
COORDINATES . . . . . 32°35'N 131°41'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

This bridge carries the Nippo Line which serves the Kyushu east coast and provides an alternate rail route (single tracked) from Shimonoseki Straits area to Kagoshima across Gokase-gawa at Nobeoka. The latter is an important explosives and chemical manufacturing center. Simultaneous cutting of the Nippo Line S of Oita Junction, and the Kagoshima Line between Kumamoto and Yatsushiro, would stop through rail traffic to southern Kyushu. The Gokase-gawa bridge is one of the best targets available for this purpose. It is of the plate girder type, 1200 feet long, with twenty 60′ spans.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:12,000



SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:44,000

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File No. 703,186.1

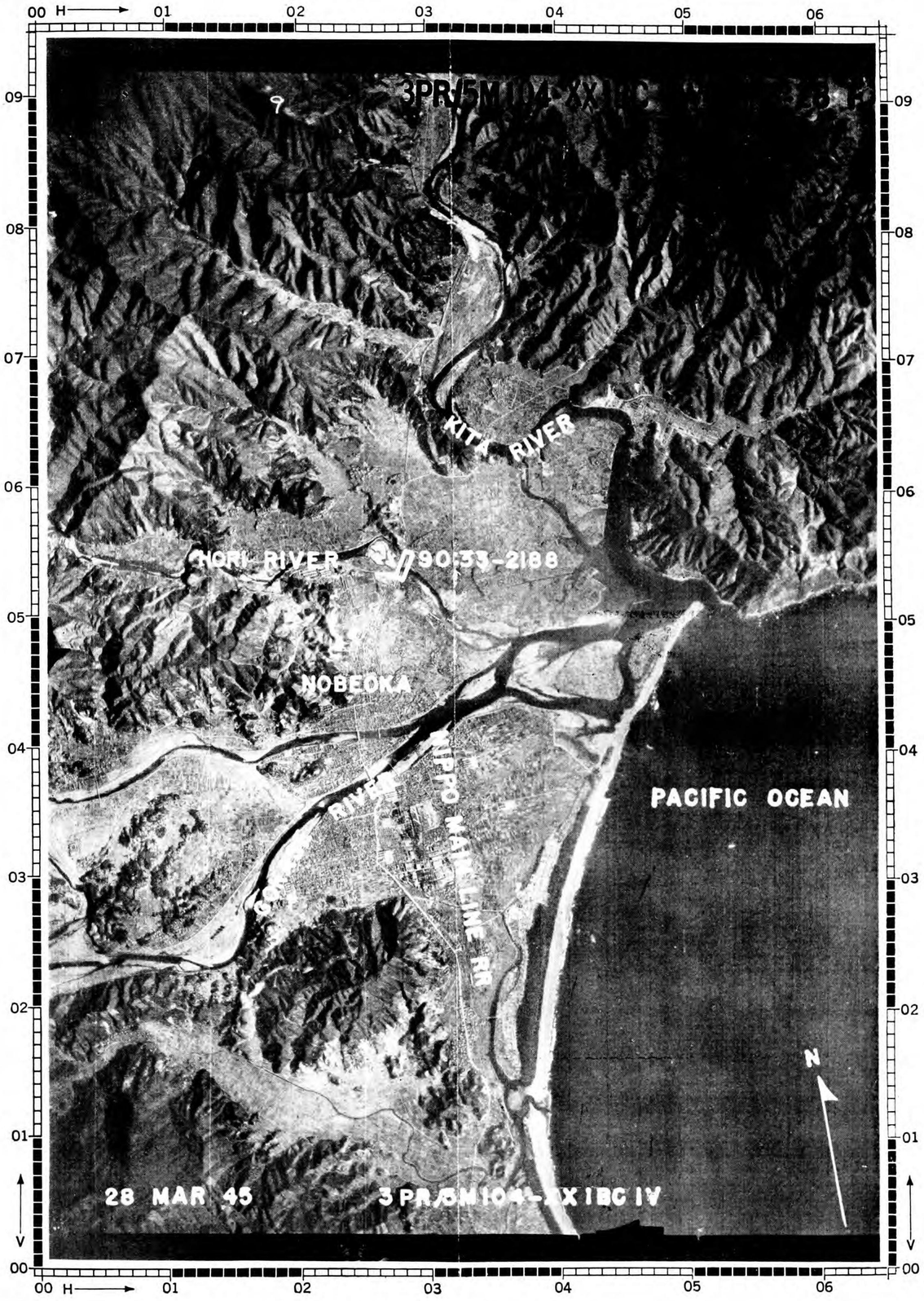
JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

HORI-GAWA RR BRIDGE (Nippo Line)
NOBEOKA JAPAN

SHEET . . . . . 90:33-2188—TL
DATE . . . . . 8 June 1945
TARGET 90:33-2188
CATEGORY . . Bsc. Serv. and Utly.—RRT
COORDINATES . . . . . 32°36'N 131°41'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

This bridge is on the NIPPO Line, which serves the east coast of Kyushu and provides an alternate to the Kagoshima Line for traffic to the southern third of Kyushu. NOBEOKA is an important explosives and chemical manufacturing center. Destruction of this bridge would cut the NIPPO Line and would delay repair of the longer bridge 5000 feet SSW over the GOKASE-GAWA, if the latter were attacked simultaneously. The bridge is of the plate girder type, overall length 300 feet with six 50-foot spans, three of which are over water.



LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:12,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:44,000

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JOINT TARGET GROUP, WASHINGTON, D. C.
TARGET LOCATION SHEET

NOBEOKA SOUTH RR YARDS
NOBEOKA JAPAN

SHEET . . . . . 90:33-2213—TL
DATE . . . . . 11 June 1945
TARGET 90:33-2213
CATEGORY . . . . . Bsc. Serv. and Utly.—
ROAD AND RAIL TRANSPT.
COORDINATES . . . . . 32°33'N 131°41'E
ALTITUDE . . . . . 15 feet

SIGNIFICANCE:

On the Nippo Line at Nobeoka, an important explosives and chemical manufacturing center. This yard is supplemented by a smaller yard 8000 feet to the N and has a roundhouse with adjacent shops. Extreme dimensions 1400′ x 300′. Area about 235,000 square feet. If the Gokase-gawa bridge were destroyed and the enemy attempted to by-pass the cut by highway or ferry, this yard would be a logical reloading point for southbound traffic.

LARGE SCALE ILLUSTRATION—SCALE APPROX.: 1:12,000

SMALL SCALE ILLUSTRATION—SCALE APPROX.: 1:44,000

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File No. 703,213.1

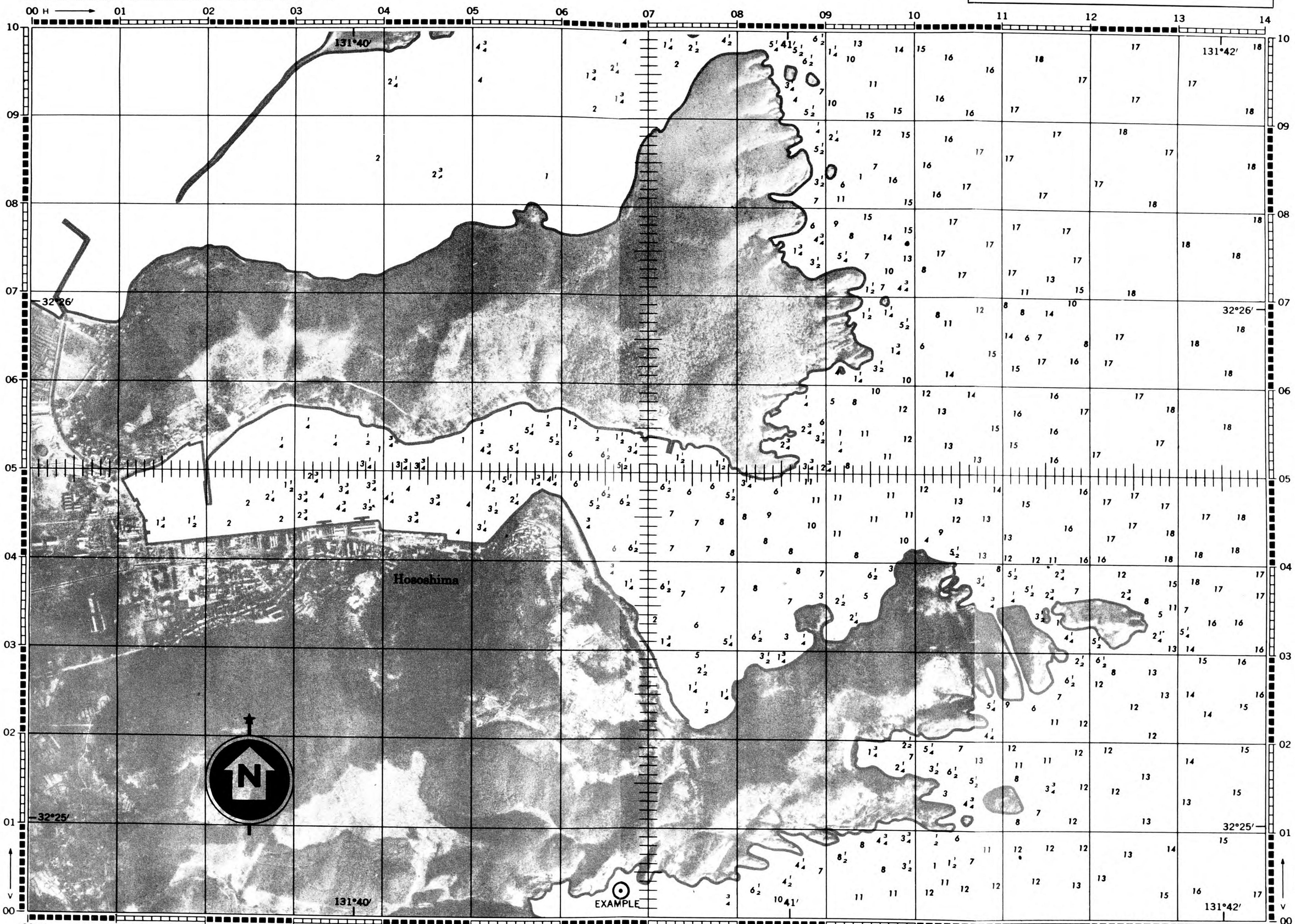
JOINT TARGET GROUP, WASHINGTON, D. C.
PORT SHIPPING PLOT

HOSOSHIMA, JAPAN

Scale 1:12,500

RESTRICTED

ILLUSTRATION ..... 90:33-3445 PSP
DATE ..... 7 June 1945



⊙ EXAMPLE Grid Reading:
Hososhima (or 90:33-3445) PSP H067 V003
Always use three digits preceded by H & V

Prepared under the direction of the Aeronautical Chart Service by Aero Service Corp., Phila., Pa. 1945. Aerial photographs flown by U.S.A.A.F. (Sortie): 4MR-48 25 Dec. '44. USHO Chart 5541 '29 cor. to '44.

1/2 Statute Miles 0 Miles 1/2
1/2 Nautical Miles 0 1/2

500 0 500 1000 Yards
1"= 1041.7 Ft 0 1000 2000 3000 Feet

DEPTH IN FATHOMS AT NEARLY LOWEST LOW WATER

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90:33-3445 PSP

RESTRICTED

File No. 704,445.66