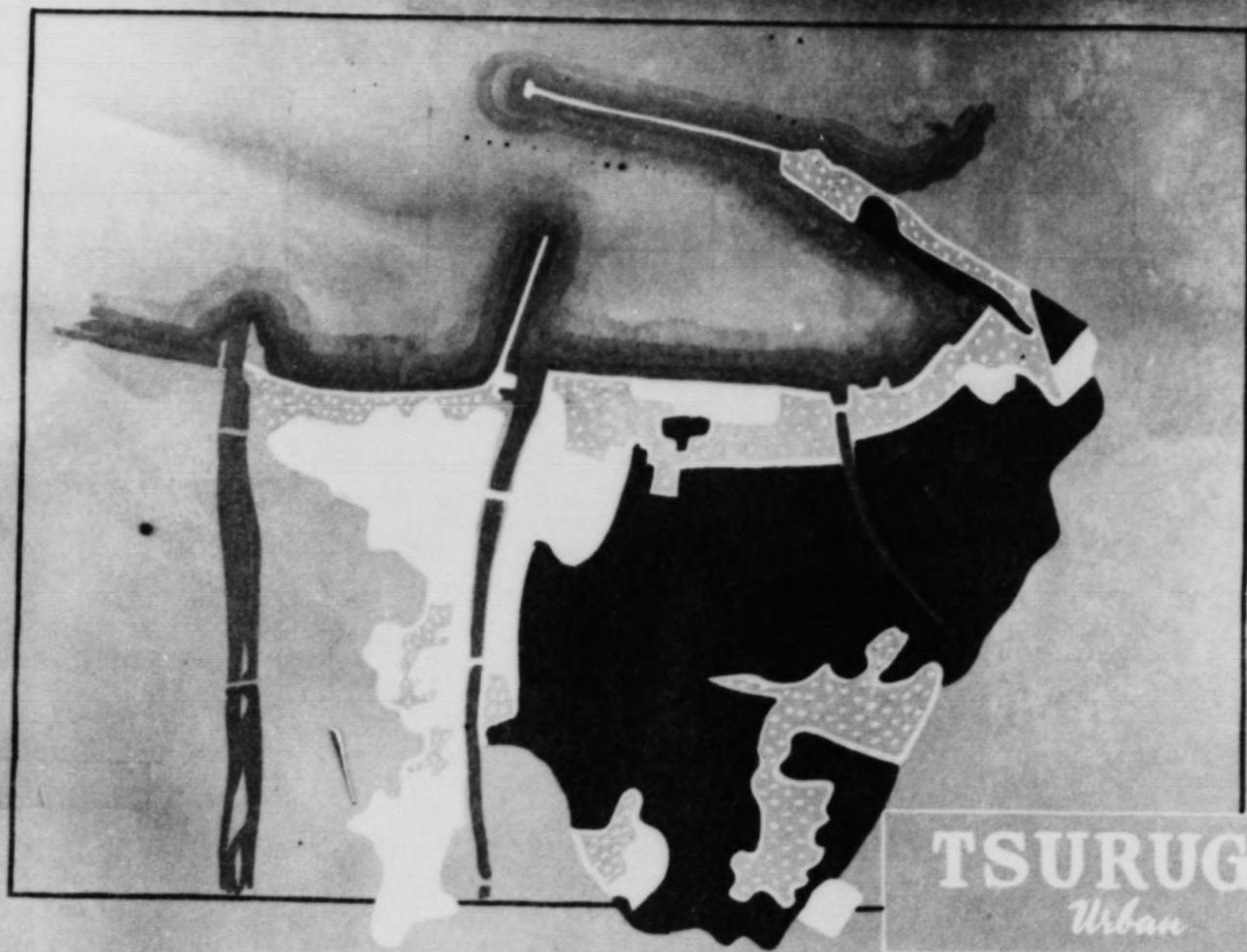


III a (18)

14

TSURUGA



TSURUGA
Urban

MISSION NO	265			
DAMAGE	.77sq.mi. 68%			
WINGS	313			
DATE	12/13 JULY '45			
DAY/NIGHT	NIGHT			
BOMB TYPE	INCEND.			
AV. LOAD	15,567			
A/C AIRBORNE	98			
A/C BOMB. P.T.	92			
TONS ON P.T.	679.1			
ALTITUDE	12,200-13,400			
BOMB. METH.	RADAR			
CLAIMS	0			
LOSSES	0			

M47-11457 2297
E46-5000' ABOVE 4507

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NOT TO BE TAKEN
INTO THE AIR ON
COMBAT MISSIONS

TARGET: TSURUGA Urban
Industrial Area
OBJECTIVE AREA: 90.15 - TAKAYAMA

T A R G E T I N F O R M A T I O N S H E E T

TSURUGA URBAN INDUSTRIAL AREA

Latitude: 35° 39' N
Longitude: 136° 04' E
Elevation: 0-1700' (approximately)

1. SUMMARY COMMENT: TSURUGA is one of the three most important Japanese ports on the Japan Sea. Military personnel and supplies make up a steady stream westward through the port to KOREA and MANCHURIA. Toward the east into Japan's industrial centers flow iron ore concentrates and raw materials. The city is well equipped in terms of railway trans-shipment facilities. It is small but very compact.
2. LOCATION AND IDENTIFICATION: The port of TSURUGA is on the Japan Sea at about the center of the west coast of Honshu. It is 11 miles northwest of the most northern tip of Lake Biwa, 47 miles northeast of Kyoto. The city faces Tsuruga Wan, a prominent small bay on the east edge of the larger Wakasa Wan.

The city is a rail hub, with three railways servicing the port. One line comes north off the Tokaido Main Line at Maibara; a second, the Hokuriku Line, runs along the coast northeast to Kanazawa and Toyama. The Obama Line runs west to Maizuru. There is a main coastal highway paralleling the coast and running through Tsuruga.
3. TARGET DESCRIPTION: The city of Tsuruga has a population of 31,346. The majority of residents are concentrated within a built-up area of 1 square mile. This built-up area is split by a narrow river, the Kyushono Kawa, which is not considered an effective fire break. There are several fine landmarks immediately adjacent to the city. Kanega Saki, a sharp point just northeast of Tsuruga, projects into the bay. A larger river, the Shono Gawa, borders the city on the west. The Kinome Gawa flows along the southern extremity of the city. There are two breakwaters directly north of the city.

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4. IMPORTANCE: Tsuruga is one of three Japan Sea ports which had a pre-war capacity which was relatively low (the other two are Higashi-Iwase, north of Toyama, and Fushiki. The importance of all three has been substantially increased. The combination of good cross-island railways, a sea route shorter and safer than that on the Pacific Ocean side, and the necessity to supply troops in Korea and Manchuria has contributed to the significance of the ports. With our recent mining operations these ports must carry the chief burden of rail-to-ship transfer. Tsuruga is an excellent deep-water port capable of taking 10,000 ton vessels. The extension of railway facilities, wharfage, and warehousing facilities presents ample evidence that the Japanese are making full use of the port. Through this Japan Sea gateway flow personnel and military supplies to Korea and Manchuria. Traffic eastward consists of iron ore concentrates and raw materials for Japanese industry.

The following targets are located wholly or in part within the fire zone:

- 90.15-1950 - Tsuruga Harbor Facilities - The entire harbor complex which in turn is subdivided into (a) Tsuruga Minato (Port) Station, 500 yard quay, warehouses for rail to ship transfer; (b) Warehouses, east corner of waterfront, includes new warehouses of the Government Monopoly; (c) Tsuruga Shimminato Station ("New Tsuruga Station"), 5 large warehouses, customs, parallel rail spurs. The entire complex offers 3500' of deep water berthage.
- Unnumbered - Electric Substation - Located at the foot of Koyano Kawa, a small canal in the eastern section of the fire zone.

The following targets are on the edge are just outside the fire zone:

- 90.15 - 1676 - Tsuruga Railway Yards, Shops, Round House - freight sorting yards about 1 mile southeast of Tsuruga at junction with Hokuriku Line; round house with over 15 stall capacity; secondary repair facilities.
- 90.15 - 6126 - Chemical or Metallurgical Plant - located just south of the fire zone; covers 3,570,000 square feet; 4 major buildings occupying approx. 1,000,000 sq.ft.

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Unnumbered - Cement Plant - located at Fukuura, just northeast of Tsuruga.
Army Brigade and Regimental Hq. - 19th Infantry Regiment Replacement Unit: barracks, powder magazines, drill grounds, located about 2 miles southwest of city.

Damage to the port of Tsuruga would cut one more remaining sea life line of the already shrunken Japanese merchant marine. Interruption of rail facilities in the area would slow up supplies and personnel moving to the mainland. Skilled workers from the chemical plant adjacent to the city would be denied housing and services.

5. AIMING POINTS: Aiming points will be specified in the Field Order.

8 July 1945

Target Section, A-2
XXI Bomber Command

CONFIDENTIAL

S E C R E T

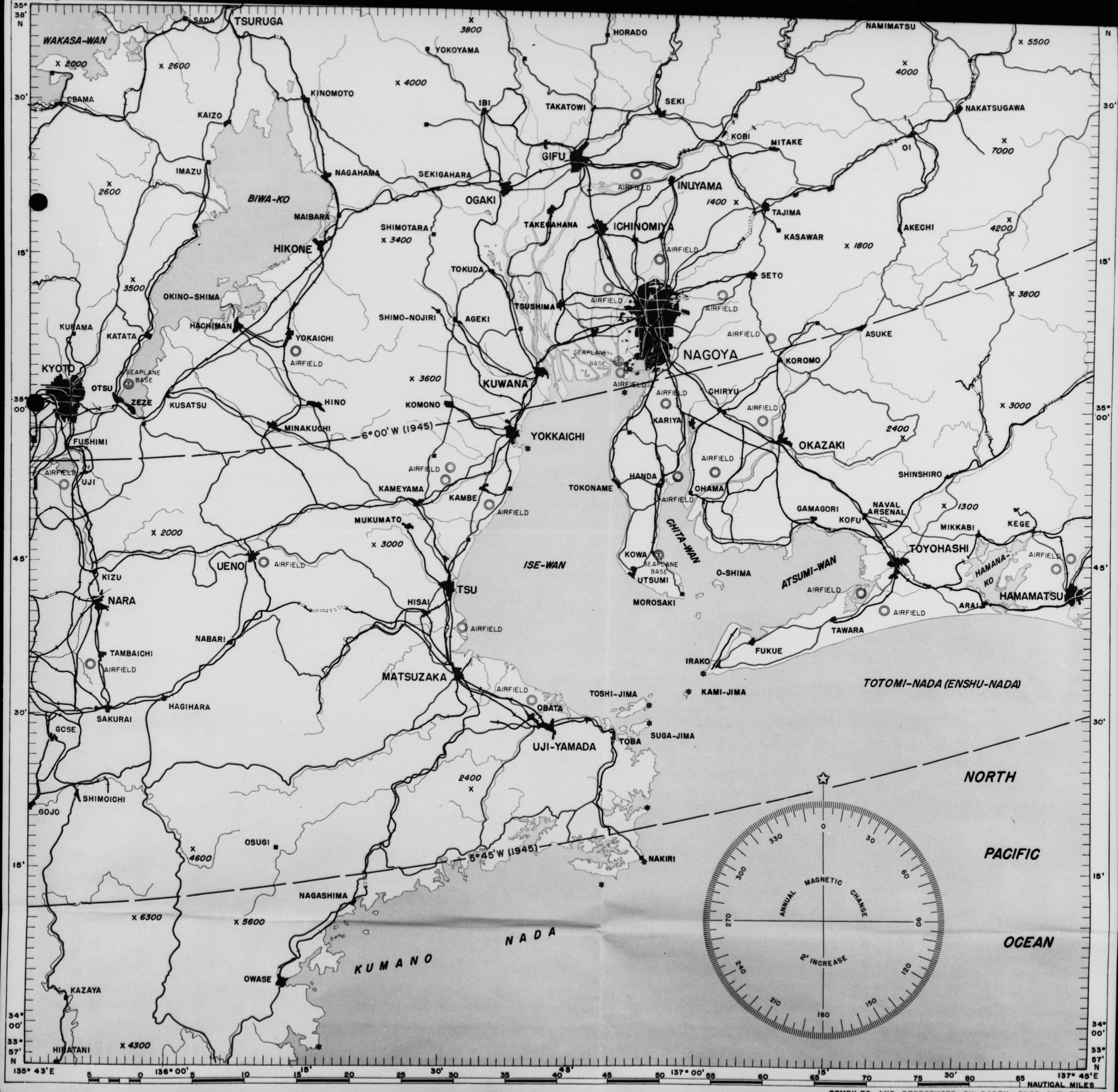
MISSION SUMMARY

Mission Number 265

22 July 1945

1. Date: 12/13 July 1945
2. Target: Tsuruga Urban Area
3. Participating Unit: 313th Bombardment Wing
4. Number A/C Airborne: 98
5. % A/C Bombing Primary: 93.87% (92 primary and 2 opportunity)
6. Type of Bombs and Fuzes: AN-M47A2, 100# incendiary bombs with instantaneous nose and E-46 500# incendiary clusters with tail set to open 5000 feet above target.
7. Tons of Bombs Dropped: 679.1 tons primary and 16 tons opportunity.
8. Time Over Primary: 130000K - 130207K
9. Altitude of Attack: 12,200 - 13,400 feet.
10. Weather Over Target: 10/10
11. Total A/C Lost: 0
12. Resume of Mission: Crews reported unobserved to excellent results. A glow from the target area could be seen through the clouds by A/C over target in latter stages of attack. Four A/C were non-effective. The target was not seen by any aircraft. Light, meager and inaccurate flak was encountered at primary target. Two E/A sighted made no attacks. Two B-29's landed at Iwo Jima. Average bomb load; 15,567 lbs. Average fuel reserve: 820 gallons.

S E C R E T



00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15



1950

1676

XXI 6126

MAG DEC
6° 11' W
ANNUAL
CHANGE
1' INC



TSURUGA AREA

TARGET NO. 90.22-URBAN

35°39'N - 136°04'E

ELEVATION 0-1700FT. (APPROX.)

JULY 1945

A-2 SECTION

XXI BOMBER COMMAND

3D PHOTO RCN SQ PHOTOS

21 JUNE 1945

PREPARED BY 949TH ENGR AVN TOPO CO

APPROX SCALE

0 2000 4000 6000 8000 FEET

15
14
13
12
11
10
09
08
07
06
05
04
03
02
01
00



1950

1676

XXI 6126

MAG DEC
6° 11' W
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CHANGE
1" INC

TSURUGA AREA

TARGET NO. 90.22-URBAN

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JULY 1945

A-2 SECTION

XXI BOMBER COMMAND

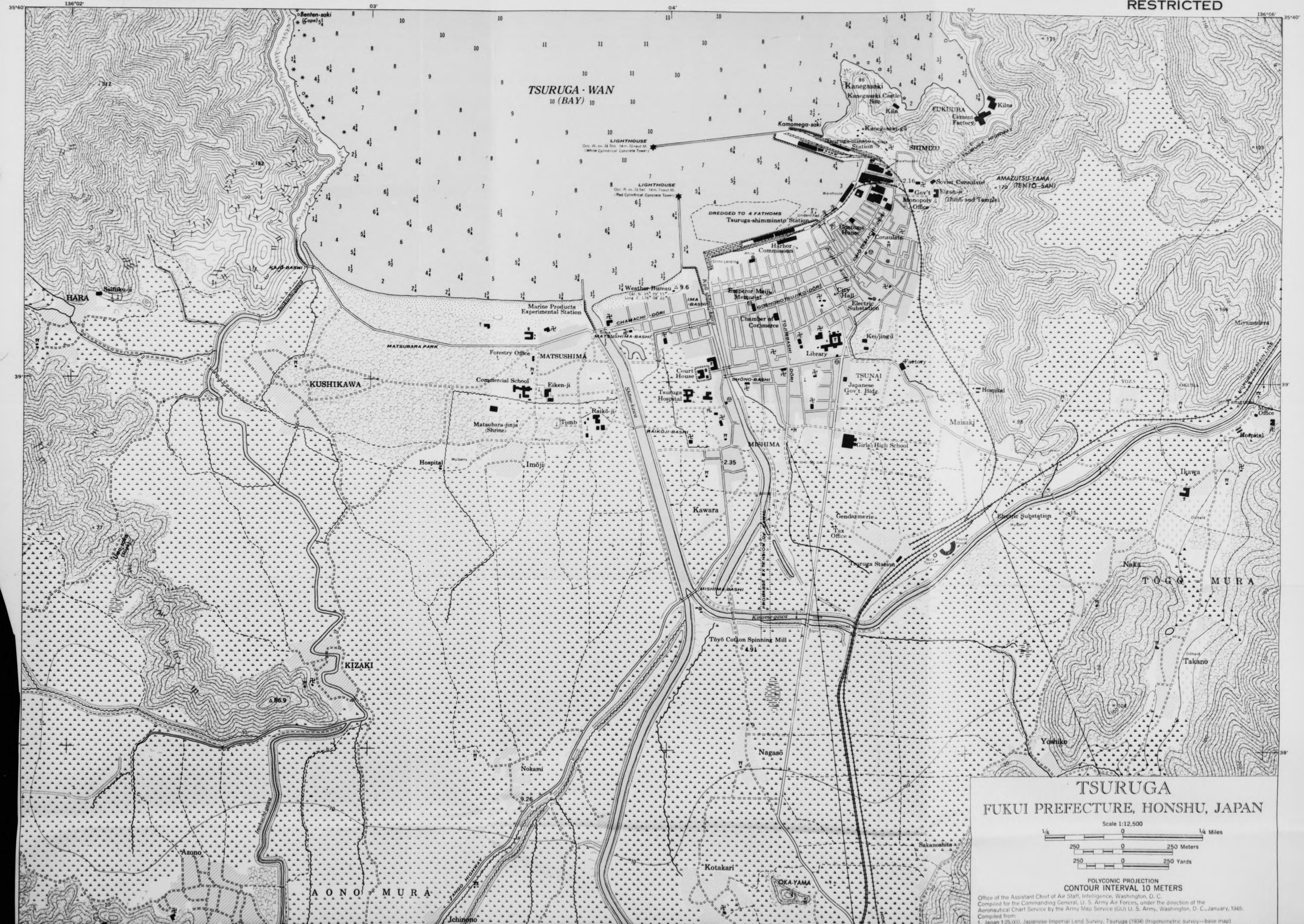
3D PHOTO RCN SQ PHOTOS

21 JUNE 1945

PREPARED BY 949TH ENGR AVN TOPO CO

APPROX SCALE





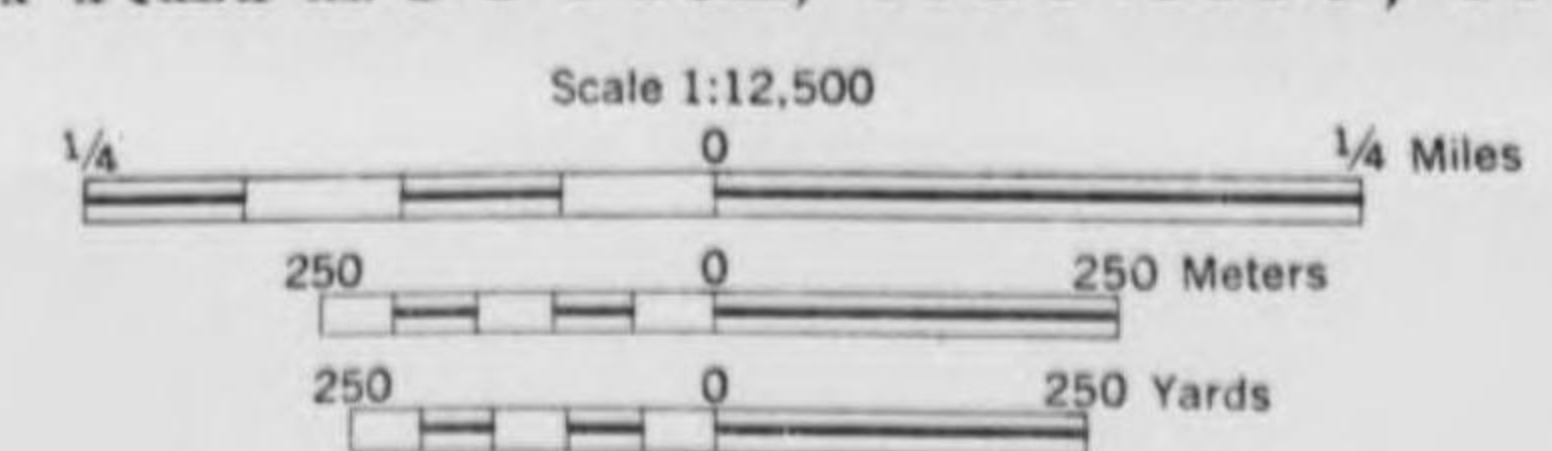
TSURUGA-WAN
10 (BAY)

LIGHTHOUSE
Oct. H. 33 Sec. 14m. Tsuruga M.
(White Cylindrical Concrete Tower)

LIGHTHOUSE
Oct. H. 33 Sec. 14m. Tsuruga M.
(Red Cylindrical Concrete Tower)

DREDGED TO 4 FATHOMS
Tsuruga-shimminato Station

TSURUGA
FUKUI PREFECTURE, HONSHU, JAPAN



POLYCONIC PROJECTION
CONTOUR INTERVAL 10 METERS

Office of the Assistant Chief of Air Staff, Intelligence, Washington, D. C.
Compiled for the Commanding General, U. S. Army Air Forces, under the direction of the
Aeronautical Chart Service by the Army Map Service (GU) U. S. Army, Washington, D. C., January, 1945.
Compiled from:
1. Japan 1:25,000, Japanese Imperial Land Survey, Tsuruga (1934) (trigonometric survey—base map)



TSURUGA FUKUI PREFECTURE, HONSHU, JAPAN

Scale 1:12,500

1/4 Miles

250 0 250 Meters

250 0 250 Yards

POLYCONIC PROJECTION
CONTOUR INTERVAL 10 METERS

Office of the Assistant Chief of Air Staff, Intelligence, Washington, D. C.
Compiled for the Commanding General, U. S. Army Air Forces, under the direction of the
Aeronautical Chart Service by the Army Map Service (GU) U. S. Army, Washington, D. C., January, 1945.

Compiled from:

1. Japan 1:25,000, Japanese Imperial Land Survey, Tsuruga (1934) (trigonometric survey—base map)
2. Japanese Hydrographic Chart 160, 1:15,000 (1927 cor'42) (trigonometric survey—coast, depths, harbor detail)
3. Harbor Construction Plan, Journal of Japanese Civil Engineering Society, 1:10,000 (1935) (planimetric drawing—piers, railroad spurs, harbor detail)
4. Kokumin Hyakka Daijiten (Encyclopedia), Tsuruga, 1:20,000 (1938) (sketch map—roads, identifications, buildings, canal extension)
5. Oblique photograph, Journal of Japanese Civil Engineering Society (1935) (warehouses)
6. Japanese Government Railroad Timetable (1941) (railroad gauge)
7. U.S.H.O. List of Lights (1944) (lighthouses)

Names transcribed according to the Modified Hepburn (Romaji) System.

Shrine	⊕	National or Prefectural Road	—+—+—+—	bridge	—+—+—+—
Temple	⊙	generally metalled over 4m. wide	—+—+—+—	street	—+—+—+—
Chimney	⊖	or Streets in City Area	—+—+—+—	gawa, kawa	—+—+—+—
Monument	⊕	Other Roads 2-4m. wide	—+—+—+—	pu, jingu	—+—+—+—
School	⊕	Road, Track or Trail	—+—+—+—	shrine	—+—+—+—
Water Mill	⊕	less than 2m. wide	—+—+—+—	temple	—+—+—+—
Post Office	⊕	3½' Gauge, Single Track Railroad	—+—+—+—	township	—+—+—+—
Depth of Water	3	3½' Gauge, Double Track Railroad	—+—+—+—	yama, san	—+—+—+—
Cemetery	⊕	Railroad Station	—+—+—+—	hill	—+—+—+—
Densely Built-up	⊕	High Tension Power Line	—+—+—+—		
Sparsely Built-up	⊕				
Rice	⊕				
Marsh	⊕				
		Woodland	—+—+—+—		
		Grassland	—+—+—+—		
		Bamboo	—+—+—+—		

HEIGHTS IN METERS, DEPTHS IN FATHOMS AT NEARLY LOWEST LOW WATER

INDEX TO SOURCES

RESTRICTED

FOR USE WITH AAF AIR OBJECTIVE FOLDER MAIZURU 90.22

NOTE: Officers using this chart will mark hereon corrections and additions which come to their attention and mail direct to "AERONAUTICAL CHART SERVICE, HEADQUARTERS ARMY AIR FORCES, WASHINGTON, D. C."

ARMY MAP SERVICE, U.S. ARMY, WASHINGTON, D. C. 340569
2-45 JANUARY 1945

CONFIDENTIAL

C. I. U.
TWENTY-SECOND AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

3 August 1945

DAMAGE ASSESSMENT REPORT NO. 162

TSURUGA-90.15-URBAN
35/39N - 136/04E

XXI Bom Com Mission 265, 12-13 July 1945 313th Wing

SUMMARY OF DAMAGE

Built-up area: Sq.mi. total - 1.13; Sq.mi. destroyed - .77
Percent destroyed - 68

Planned target area: .8 sq. mi. Percent destroyed: 96

Total damage to date: .77 sq.mi. Percent of built-up area: 68

Targets damaged by current strike: 2 numbered; 1 other

Damage within limits of built-up area: (no previous damage)

Area Damage:

	Sq.Mi.	Destroyed	
		Sq.Mi.	Percent
Built-up area (Urban)	1.13	.77	68
Built-up area (Total)	1.13	.77	68

Damage to targets:

1950 Tsuruga Harbor Facilities 30% destroyed
Electric Sub-station (no number) 100% destroyed

Damage outside built-up area (within 5 mile radius
of center of city)

Area damage:

One small area just S of the city and 3 small areas in the vicinity of
Target 1676 destroyed - total of .062 sq. mi.

Damage to targets:

1676 Tsuruga RR Yards, Shops, Roundhouse 9 warehouses destroyed
6126 Chemical or Metallurgical Plant No damage
Cement Plant (no number) No damage
Army Brigade and Regimental Hq. No damage

Photos used: Pro-strike: 3PR5M264-2: 45-47 21 June 1945
Post-strike: 3PR5M359-2: 58-60 27 July 1945

Inclosures: 1. Mosaic annotated to show damage
2. Post-strike print 3PR5M359-2: 59

DISTRIBUTION: "B"

Approved: *E. W. Webster* 1st Lt. AC
HAMILTON D. DAREY
MAJOR, AC

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Damage Assessment Report 162
Yokosuka
MO.22-Urban
XXI B.C.-Mission 265
2-13 July 1945
XXI Bom. Com.

KEY
— Urban Built Up Area
▤ Sparsely Built Up Area
▨ Damage



XXI-6126

15 SEPT 4 AUG 45

One Mile

3PREM359-2:59

CONFIDENTIAL



POST STRIKE

DAMAGE ASSESSMENT RPT. 162

TSURUGA 90.22 - URBAN