

III a (18)

FUKUI

21



S E C R E T

MISSION RESUME

Mission Number 277

31 July 1945

1. Date: 19/20 July 1945
2. Target: Fukui Urban Area (90.13)
3. Participating Unit: 58th Bombardment Wing
4. Number A/C Airborne: 130
5. % A/C Bombing Primary: 97.69% (127 primary and 1 opportunity)
6. Type of Bombs and Fuzes: E46, 500 $\frac{1}{2}$  incendiary clusters set to open 5000 feet above target and AN-M47A2 100 incendiary bombs with instantaneous nose.
7. Tons of Bombs Dropped: 953.4 tons on primary and 8 tons on opportunity.
8. Time Over Primary: 200024K - 200145K
9. Altitude of Attack: 12,400 - 14,000
10. Weather Over Target: 0/10 - 3/10
11. Total A/C Lost: 0
12. Resume of Mission: Crews reported results as good to excellent. Large fires were observed in the center of the target with smoke to 15,000 feet. Fires N and S of river in an area estimated 1 to 3 sq. mi. Later reconnaissance revealed the city had been 84.8% destroyed (1.61 sq. mi). The target was visible to 114 A/C. Two A/C were non-effective. Flak was heavy, medium and light, meager and inaccurate. Extremely slight heavy and medium A/W reported. Two S/L's seen. Eight E/A sighted made no attacks. Two Wind-Run A/C used in addition to main force. Sixteen B-29's landed at Iwo Jima. Average bomb load: 15,829 pounds. Average fuel reserve: 752 gallons.

S E C R E T

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



XXI  
6246

XXI  
6245

**FUKUI AREA**  
TARGET NO. 90.15-URBAN  
36°04' N 136°14' E  
ELEVATION 28-443 FT. (APPROX)  
JULY 1945

A-2 SECTION  
XXI BOMBER COMMAND  
3D PHOTO RCN 90 PHOTOS  
21 JUNE 1945

2000 0 2000 4000 6000 8000  
APPROX SCALE FEET

MAG. DEC.  
8°20' W  
ANNUAL  
CHANGE  
INC.

PREPARED BY 949TH ENGR AVN TOPO CO



**FUKUI AREA**  
TARGET NO.90.15-URBAN  
36°04' N-136°14' E  
ELEVATION 28-443 FT. (APPROX)  
JULY 1945

A-2 SECTION  
XXI BOMBING COMMAND  
30 PHOTO RCN 50 PHOTOS  
21 JUNE 1945  
PREPARED BY 949TH ENGR AVN TOPO CO

APPROX SCALE  
2000 0 2000 4000 6000 8000 FEET

MAG. DEC.  
6-20' W  
ANNUAL  
CHANGE  
1" INC.

XXI  
6246

XXI  
6245

TARGET SUMMARY

NO. 90.15 NAME Fukui U/A  
 DATE 17 July 1945 COORDINATES 36/04N - 136/11E  
 LOCATION 45 miles N of Lake Bewa W coast of Honshu.  
 FUNCTION 95 industrial plants. A/C parts - munitions - Population 98,000.  
 TYPE STRUCTURE Small industry throughout the city.  
 TOTAL AREA 3.25 Sq. mi. BUILT UP AREA 1.76 sq. mi. %

PLANNING				EXECUTION				
Aim. Pt. <u>051 085</u>		RAD <u>4000</u> FT		DATE _____		MISSION _____		
BOMBING METHOD _____				FO _____		WING _____		
REF. <u>Fukui Area - Urban 90.15</u>				BOMBING METHOD _____				
IP <u>35/25/30N 136/09E</u>		ALT. <u>12,000</u> Ft.		FORCE _____		AXIS _____		
AXIS <u>04 1/2</u>		AIR SPEED <u>195 MPH</u>		ALT. _____		BOMBS/A/C _____		
A/C LOST _____				AS _____		IPPH _____		
BOLBS				BOLBS				
TYPE <u>M47</u>		ML7 or E48		TYPE _____		_____		
FUZE <u>I</u>		5000'		FUZE _____		_____		
IN. SET <u>75</u>		50'		IN. SET _____		_____		
TONS AB _____		_____		TONS AB _____		_____		
TONS BPT _____		_____		TONS BPT _____		_____		
30/N TAR CIRCLE _____		_____		30/N TAR CIRCLE _____		_____		
FORCE <u>33</u>		99		FORCE _____		_____		
WIND			DIRECTION			VELOCITY		
AT ALT. <u>267</u>			_____			AT ALT. _____		
SURFACE <u>202</u>			_____			SURFACE _____		
EXP'D DEN. _____			T/A EXP'D F _____ %			WEATHER OVER TARGET _____		
REMARKS <u>Up to 17,000 lbs load.</u>								
<u>Normal effort of one wing.</u>								
PHOTOS				PHOTOS				
MISSION	ROLL	PRINTS	DATE	MISSION	ROLL	PRINTS	DATE	

RESULTS

DENSITY _____	T/A _____	AREA DAMAGED _____	SQ. FT
FRACTION OF DAMAGE _____		STRUCTURAL _____	SQ. FT
REMARKS _____		SUPERFICIAL _____	SQ. FT
		TOTAL DAMAGE TO DATE _____	SQ. FT

*file Fukui*

*OAS*

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

29 July 1945

DAMAGE ASSESSMENT REPORT 151

FUKUI-90.15-URBAN  
36/04N - 136/14E

20 Air Force Mission 277, 19-20 July 1945 58th Wing

SUMMARY OF DAMAGE

Built-up area: Sq. Mi. total - 1.9; Sq.Mi. destroyed -1.61

Percent destroyed - 84.8

Planned target area: 1.7 sq.mi. Percent destroyed: 95.0

Total damage to date: 1.61 sq. mi. Percent of built-up area: 84.8

Targets damaged by strike: 1 numbered; no other.

REPORT

Damage within limits of built-up area:

<u>Area damage from current strike:</u>	<u>Sq.Mi.</u>	<u>Destroyed</u>	
		<u>Sq. Mi.</u>	<u>Percent</u>
Built-up area (Urban)	1.68	1.47	87.5
Built-up area (Industrial)	.22	.14	63.6
Built-up area (Total)	1.9	1.61	84.8

<u>Damage to targets:</u>	<u>New Damage</u>	<u>Total Damage</u>
90.15-XXI 6246 Unidentified Industry	75%	75%

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

Area damage from current strike:

Two areas NNW of the city sustained damage totalling .14 sq. mi.

Damage to targets: None

- References: A. Target Information Sheet, issued by Target Section, A-2, 20 AF  
 B. XXI Bom Com Litho-mosaic, Fukui Area, July 1945

Photos used: Pre-strike: 3PR5M284-2: 53-56 21 June 1945  
 Post-strike: 3PR5M359-2: 90-92 27 July 1945

- Inclosures: 1. Enlargement from XXI Bom Com Litho-mosaic, Fukui Area, annotated to show damage.  
 2. Post-strike print 3PR5M359-2: 91

Approved. *Hamilton D. Darby*  
 HAMILTON D. DARBY  
 MAJOR, AC


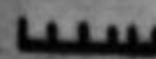



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DAMAGE TO FUKUI  
90.15-Urban  
Damage Assessment Report 151  
20 AF Mission 277, 19-20 July 1945  
C.I.U-20 AF



	Built-Up Area - Urban	1.68 Sq.Mi.
	Industrial Area	.22 Sq.Mi.
	Total Built-Up Area	1.9 Sq.Mi.
	Damaged (84.8%)	1.61 Sq.Mi.
	Sparsely Built Up	

2644 C 35PTU 31 JUL 45

APPROX ONE MILE



91

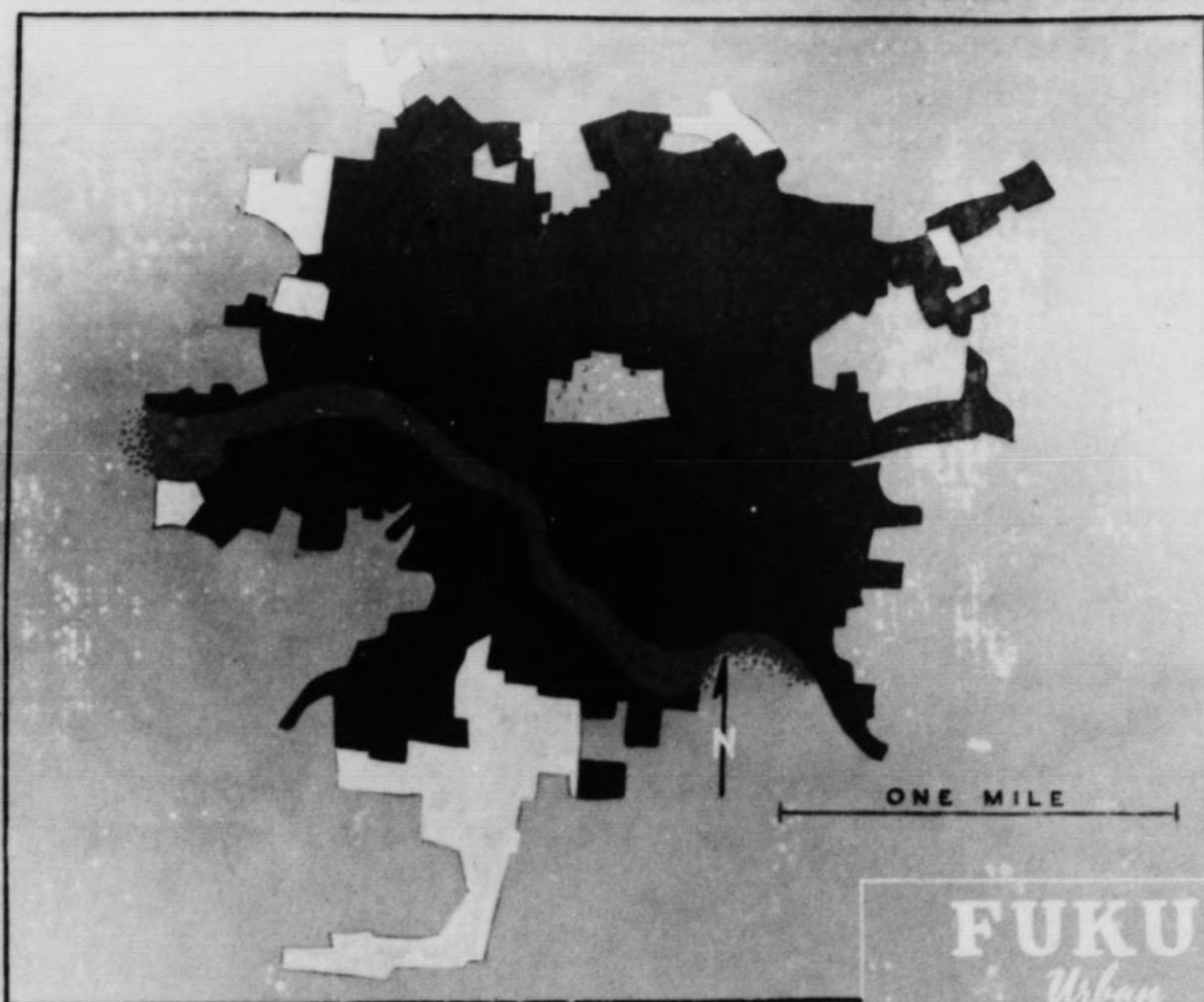
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↑

POST STRIKE

FUKUI90.15 URBAN  
DAMAGE ASSESSMENT REPORT 151  
20AF MISSION 277 19,20 JULY 45  
C.I.U. 20AIR FORCE

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MISSION NO	277			
DAMAGE	1.61sq.mi 84.8%			
WINGS	58 <sup>th</sup>			
DATE	19/20 July			
DAY/NIGHT	NIGHT			
BOMB TYPE	INCEN.			
AV. LOAD				
A/C AIRBORNE	130			
A/C BOMB P.T.	126			
TONS ON P.T.	937			
ALTITUDE	12,800			
BOMB METHOD	112V-14R			
CLAIMS.	0			
LOSSES	0			

E46 - 5000' ABOVE 237T  
 M47 - INST 700 T

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NOT TO BE TAKEN  
INTO THE AIR ON  
COMBAT MISSIONS

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

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

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FUKUI URBAN INDUSTRIAL AREA

Latitude: 36° 04' N  
Longitude: 136° 14' E  
Elevation: 28-443 ft. (Approx.)

1. SUMMARY COMMENT: FUKUI is one of the most important industrial cities on the Japan Sea side of the main island of Honshu. Its pre-war importance was primarily associated with textile manufacturing, trade, agriculture and government. (FUKUI city is the capitol of FUKUI Prefecture). Today the city of FUKUI is important because of the war goods produced in its industrial plants. These war commodities include aircraft parts, electrical equipment, machine tools, iron and other metal products, rubber goods, chemicals and textiles. In addition to war production, FUKUI is important as a rail center on the HAKARIKU Main Railroad line.

2. LOCATION AND IDENTIFICATION: FUKUI is situated in West Central Honshu 20 miles inland from the Japan Sea and 45 miles southwest of Kanazawa on a narrow plain of the Noto lowlands.

This plain is known as the FUKUI Plain and occupies the southwestern part of the Noto Lowlands which fringe the northern edge of the Nagara Mountains and Hida mountains. The Noto Lowlands have roughly the shape of an inverted "T" the horizontal arms being represented by the narrow coastal lowlands, while the vertical stem is the Noto-hanto (peninsula) which extends out into the Japan Sea some 50 miles.

Three large plains make up the greater part of the lowland. These are, from west to east, FUKUI Plain, KANAZAWA Plain, and TOYAMA Plain. FUKUI Plain is unlike the other two in that it extends inland from the coast for several miles, being flanked all the way by rolling mountains, which become more rugged further south.

3. TARGET DESCRIPTION: FUKUI is roughly rectangular in shape although new built up areas stretch along the many roads which fan out from the city. The ASUHA river, which runs through the southern part of the city in a northwesterly direction constitutes the most effective fire break. The moated castle park in the center of the city will also act as an effective fire break as will a small stream in the southeastern section of the city. Many man-made firebreaks have been cut through the city in the form of wide avenues. A foothill spur pushes into the city from the southwest. Eight bridges, two very wide, span the ASUHA river in the target area. Three RR lines enter the city from the north and two more RR lines come in from the South. The overall

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dimensions of the city are 3 miles N-S and 2 miles E-W. About 3½ sq. miles of the area is built up of which 2 sq. miles is highly congested. The water system of FUKUI is sufficient to supply 3,860,000 gallons of water per day.

The population of FUKUI (Shi) city is 97,967, and density of population varies from 30,000 to 50,000 persons per sq. mile.

4. IMPORTANCE: FUKUI is a highly industrialized city of approximately 100,000 people. Since the beginning of the war there has been no appreciable movement of workers from FUKUI to large industrial cities, such as NAGOYA or OSAKA, which in itself is good indication of conversion of peacetime industry to war production. Furthermore the importance of FUKUI is indicated by the fact that from 1930 to 1940 its population jumped about 21 percent.

Served by several electrified railroads, FUKUI is a key rail center on the HOKURIKU Main Line which runs south to the important city of TSURUGA and north to KANAZAWA. The HOKURIKU NATIONAL Highway is an additional transportation artery for goods moving either north or south.

FUKUI is an outstanding example of the many small industrial cities in Japan which have converted this peacetime industry to war production. Principal products are aircraft parts, electrical equipment, machine tools, chemicals, rubber goods, auto parts, iron and other metals and textiles.

Seventy nine of about 100 known plants at FUKUI have been located. They fall within the following categories:

Textile (some converted to A/C parts)	17
Iron & other metal	31
Chemical	1
Electrical Equipment	2
Rubber	1
Machine Tools	1
Auto Parts	2
Fiber	1
Salt	1
Unidentified	22
T O T A L	<u>79</u>

Two other factories and the railroad yard have been assigned XXI Bom Com numbers. These are:

XXI 6245	FUKUI RR Yards
XXI 6246	Unidentified industry (pre-war textile - believed converted)
XXI 6247	Unidentified industry (pre-war textile - believed converted)

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

18 July 1945.

S E C R E T

MISSION RESUME

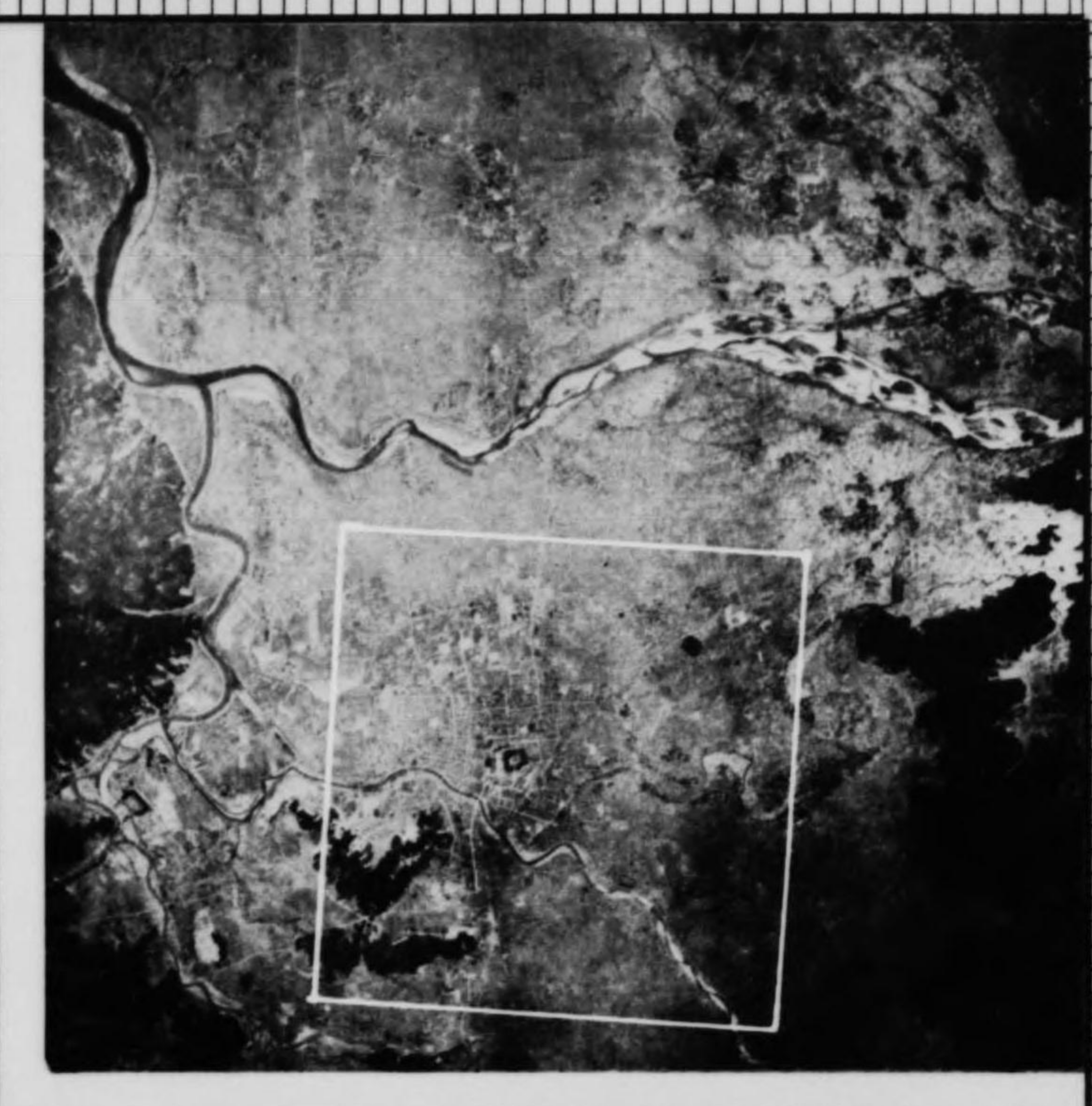
Mission Number 277

31 July 1945

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3. Participating Unit: 58th Bombardment Wing
4. Number A/C Airborne: 130
5. % A/C Bombing Primary: 97.69% (127 primary and 1 opportunity)
6. Type of Bombs and Fuzes: E46, 500# incendiary clusters set to open 5000 feet above target and AN-M47A2 100 incendiary bombs with instantaneous nose.
7. Tons of Bombs Dropped: 953.4 tons on primary and 8 tons on opportunity.
8. Time Over Primary: 200024K - 200145K
9. Altitude of Attack: 12,400 - 14,000
10. Weather Over Target: 0/10 - 3/10
11. Total A/C Lost: 0
12. Resume of Mission: Crews reported results as good to excellent.. Large fires were observed in the center of the target with smoke to 15,000 feet. Fires N and S of river in an area estimated 1 to 3 sq. mi. Later reconnaissance revealed the city had been 84.8% destroyed (1.61 sq. mi). The target was visible to 114 A/C. Two A/C were non-effective. Flak was heavy, medium and light, meager and inaccurate. Extremely slight heavy and medium A/W reported. Two S/L's seen. Eight E/A sighted made no attacks. Two Wind-Run A/C used in addition to main force. Sixteen B-29's landed at Iwo Jima. Average bomb load: 15,829 pounds. Average fuel reserve: 752 gallons.

S E C R E T

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



XXI  
6246

XXI  
6245

**FUKUI AREA**  
TARGET NO.90.15-URBAN  
36°04' N-136°14' E  
ELEVATION 28-443 FT. (APPROX)  
JULY 1945

MAG. DEC.  
8°20' W  
ANNUAL  
CHANGE  
1/100

A-2 SECTION  
XXI BOMBER COMMAND  
3D PHOTO RCN SO PHOTOS  
21 JUNE 1945

APPROX SCALE  
2000 0 2000 4000 6000 8000 FEET

PREPARED BY 949TH ENGR AVN TOPO CO



**FUKUI AREA**  
TARGET NO.90.15-URBAN  
36°04' N-136°14' E  
ELEVATION 28-443 FT. (APPROX)  
JULY 1945

A-2 SECTION  
XXI BOMBER COMMAND  
3D PHOTO RCN 50 PHOTOS  
21 JUNE 1945  
PREPARED BY 949TH ENGR AVN TOPO CO

APPROX SCALE  
2000 0 2000 4000 6000 8000 FEET

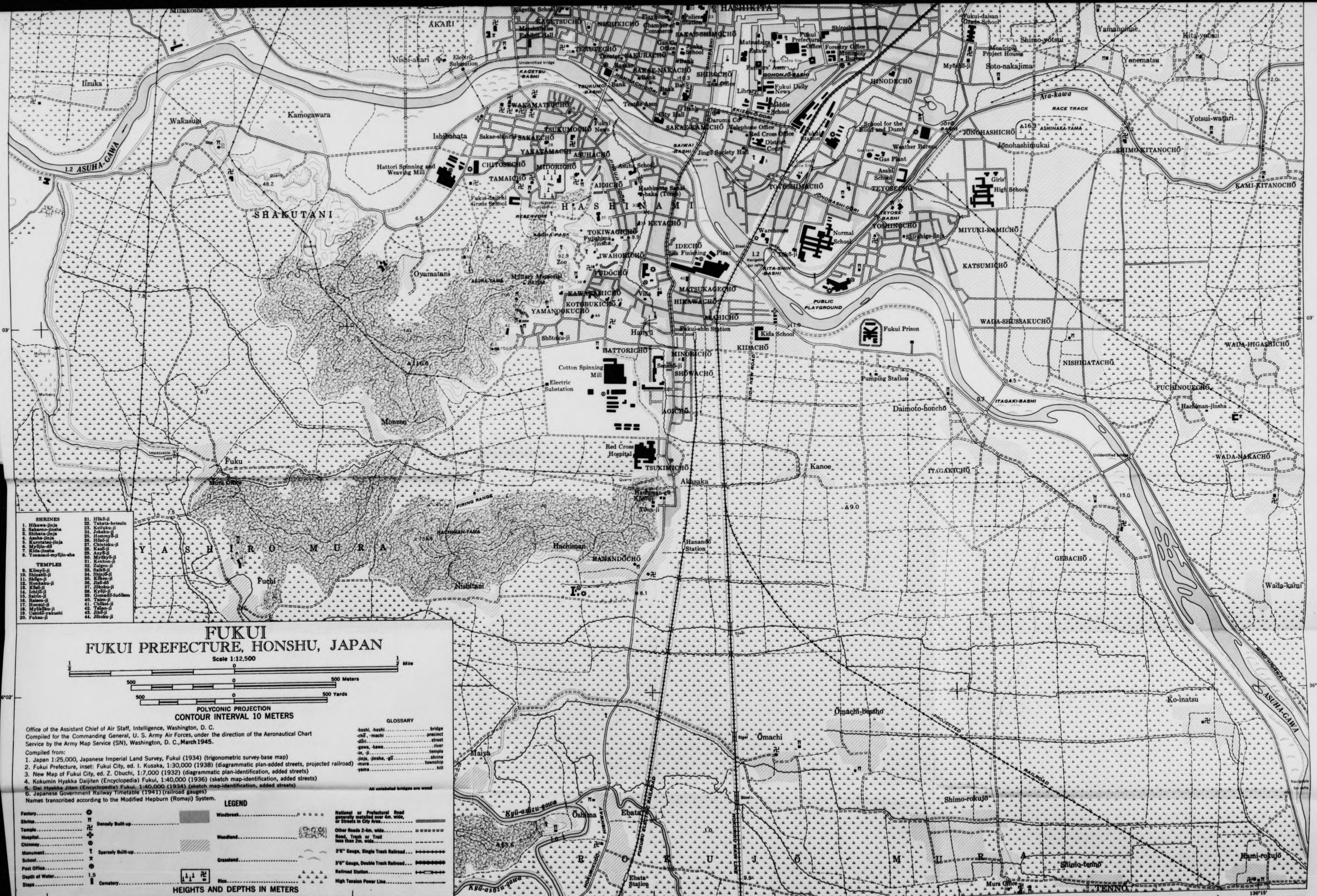
MAG. DEC.  
8°20' W  
ANNUAL  
CHANGE  
1" INC.





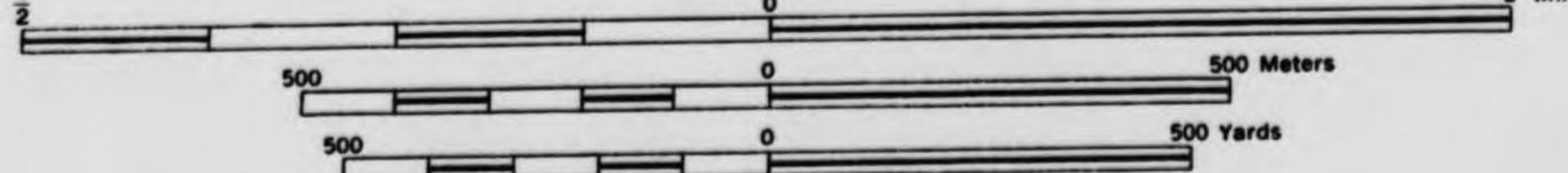
SHRINES	
1. Hatake-jinja	21. Hatake-jinja
2. Sakawa-jinja	22. Akita-betsuin
3. Shikata-jinja	23. Kaitoku-ji
4. Asahi-jinja	24. Jikoku-ji
5. Kurokawa-jinja	25. Hommy-ji
6. Myōjin-ji	26. Hōjō-ji
	27. Chitose-ji





**FUKUI**  
**FUKUI PREFECTURE, HONSHU, JAPAN**

Scale 1:12,500



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 (SN), Washington, D. C., March 1945.

- Compiled from:
1. Japan 1:25,000, Japanese Imperial Land Survey, Fukui (1934) (trigonometric survey-base map)
  2. Fukui Prefecture, inset: Fukui City, ed. I. Kusaka, 1:30,000 (1938) (diagrammatic plan-added streets, projected railroad)
  3. New Map of Fukui City, ed. Z. Obuchi, 1:7,000 (1932) (diagrammatic plan-identification, added streets)
  4. Kokumin Hyakka Daijiten (Encyclopedia) Fukui, 1:40,000 (1936) (sketch map-identification, added streets)
  5. Dai Hyakka Jiten (Encyclopedia) Fukui, 1:40,000 (1934) (sketch map-identification, added streets)
  6. Japanese Government Railway Timetable (1941) (railroad gauges)
- Names transcribed according to the Modified Hepburn (Romaji) System.

LEGEND	
Factory	Windbreak
Shrine	Densely Built-up
Temple	Woodland
Hospital	Grassland
Chimney	Other Roads 2-4m. wide
Monument	Road, Track or Trail less than 2m. wide
School	3'6" Gauge, Single Track Railroad
Post Office	3'6" Gauge, Double Track Railroad
Depth of Water	Railroad Station
Slaps	Cemetery
	High Tension Power Line

GLOSSARY	
-bashi, -hashi	bridge
-chō, -machi	precinct
-dōri	street
-gawa, -kawa	river
-ji, -jima, -jinja, -gū	temple
-mura	township
-yama	hill

All unlabeled bridges are wood

HEIGHTS AND DEPTHS IN METERS

**RESTRICTED**

FOR USE WITH AAF AIR OBJECTIVE FOLDER TAKAYAMA 90.15

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. 34050  
 3-45 MARCH 1945

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

29 July 1945

DAMAGE ASSESSMENT REPORT 151

FUKUI-90.15-URBAN  
36/04N - 136/14E

20 Air Force Mission 277, 19-20 July 1945 58th Wing

SUMMARY OF DAMAGE

Built-up area: Sq. Mi. total - 1.9; Sq.Mi. destroyed -1.61

Percent destroyed - 84.8

Planned target area: 1.7 sq.mi. Percent destroyed: 95.0

Total damage to date: 1.61 sq. mi. Percent of built-up area: 84.8

Targets damaged by strike: 1 numbered; no other.

REPORT

Damage within limits of built-up area:

<u>Area damage from current strike:</u>	<u>Sq.Mi.</u>	<u>Destroyed</u>	
		<u>Sq. Mi.</u>	<u>Percent</u>
Built-up area (Urban)	1.68	1.47	87.5
Built-up area (Industrial)	.22	.14	63.6
Built-up area (Total)	1.9	1.61	84.8

<u>Damage to targets:</u>	<u>New Damage</u>	<u>Total Damage</u>
90.15-XXI 6246 Unidentified Industry	75%	75%

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

Area damage from current strike:

Two areas NNW of the city sustained damage  
totalling .14 sq. mi.

Damage to targets: None

References: A. Target Information Sheet, issued by Target Section, A-2, 20 AF  
B. XXI Bom Com Litho-mosaic, Fukui Area, July 1945

Photos used: Pre-strike: 3PR5M284-2: 53-56 21 June 1945  
Post-strike: 3PR5M359-2: 90-92 27 July 1945

Inclosures: 1. Enlargement from XXI Bom Com Litho-mosaic, Fukui Area,  
annotated to show damage.  
2. Post-strike print 3PR5M359-2: 91

Approved.....*Hamilton D. Darby*  
HAMILTON D. DARBY  
MAJOR, AC

DISTRIBUTION: "B"


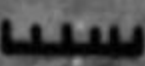



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**DAMAGE TO FUKUI**  
 90.15-Urban  
 Damage Assessment Report 151  
 20 AF Mission 277, 19-20 July 1945  
 C.I.U-20 AF



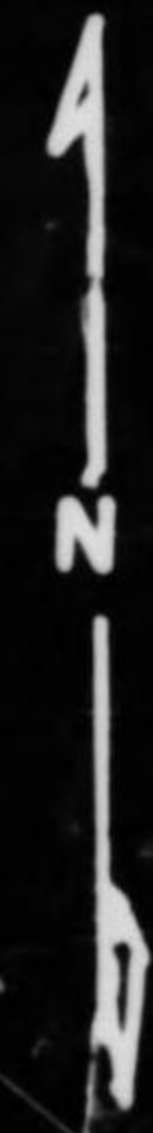
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	Industrial Area	.22 Sq.Mi.
	Total Built-Up Area	1.9 Sq.Mi.
	Damaged (84.8%)	1.61 Sq.Mi.
	Sparsely Built Up	

2644 C 35PTU 31 JUL 45

APPROX. ONE MILE

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POST STRIKE

FUKUI90.15 URBAN  
DAMAGE ASSESSMENT REPORT 151  
20AF MISSION 277 19 20 JULY 45  
C.I.U. 20AIR FORCE

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POST STRIKE

FUKUI 90.15 URBAN  
DAMAGE ASSESSMENT REPORT 151  
20AF MISSION 277 1920 JULY 45  
C.I.U. 20AIR FORCE

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