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NO. 12

NAGOYA, JAPAN

13 DEC 44

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CONSOLIDATED MISSION REPORT

FIELD ORDER NUMBER 29  
MISSION NUMBER 12  
DATE OF MISSION  
13 DECEMBER 1944

HEADQUARTERS  
73RD BOMBARDMENT WING  
APO #237, % POSTMASTER  
SAN FRANCISCO, CALIFORNIA

S E C R E T

2-5239-94 M12

Headquarters  
73rd Bombardment Wing  
APO # 237, % Postmaster  
San Francisco, California

Field Order No. 29  
Mission No. 12  
Date of Mission  
13 December 1944

CONSOLIDATED MISSION REPORT

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Headquarters  
73rd Bombardment Wing  
APO #237, % Postmaster  
San Francisco, California

Field Order No. 29  
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13 December 1944

CONSOLIDATED MISSION REPORT

TACTICAL NARRATIVE

1. The Target

Field Order Number 29, dated 11 December 1944, of the 73rd Bombardment Wing, directed that each of its four Groups supply a maximum number of A/C to attack the Mitsubishi Aircraft Engine Works (Target 90.20-193) at Nagoya, Japan, or the city of Nagoya (90.20) as a secondary target, and any industrial city as a target of last resort.

2. Take-off

Ninety A/C were airborne. The first A/C took off at 122139Z and the last at 122321Z.

3. Bomb Loading

One Squadron of each Bomb Group was directed to carry 15 x E6R2 (M18) IB clusters set to open 5000 feet above the target. All other A/C carried 10 x 500-lb GP bombs, fuzeed with .1 sec nose and 1/40 sec tail.

A total of 490 GP bombs (122.5 tons) and 615 IB clusters (107.64 tons) was carried by all airborne aircraft.

4. Route Out

The Task Force was directed to fly in Squadron column. The nine airborne Squadrons left their assembly point by 122319Z, although restricted visibility prevented the first Squadron from completing its assembly as directed; this delay caused Squadron No. 2 to proceed to the IP ahead of Squadron No. 1.

The first Squadron arrived at the IP (35014'N-137°22'E) at 130442Z, and the last at 130626Z; altitudes varied from 27,400 to 31,900 feet.

5. Bombing Data

Of the 90 A/C which were airborne, 15 returned early because of mechanical malfunctions, 71 bombed the primary target, one went over the primary target but did not bomb owing to malfunction of bomb bay doors, two bombed the secondary target, and one bombed a target of last resort (Hamamatsu, Japan).

The first A/C dropped its bombs on the primary target at 130457Z and the last at 130638Z. Bombing altitudes varied from 26,450 to 32,300 feet. Bombing was done visually over the primary target, ten A/C sighting for range and deflection, three for range, and 58 dropping on the leader.

Three hundred and eighty 500-lb GP bombs (95 tons) and 490 x 350-lb IB clusters (85.76 tons), a total of 870 bombs (180.76 tons), were dropped on the primary target.

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Par 5 (Cont)

Two A/C bombed the secondary target, the city of Nagoya, at 130557Z from 31,500 and 31,600 feet. A total of 40 bombs (7.75 tons) was released over the target.

One A/C dropped 15 (2.62 tons) incendiary clusters on Hamamatsu at 130435Z from 26,970 feet.

Six A/C bombed targets of opportunity: one A/C released its bombs on Japan at 33°45'N-137°08'E, one A/C bombed an unidentified fishing village on the Okubi Peninsula, one A/C bombed Hamachi Jima, and three A/C bombed Pagan Island. A total of 55 bombs (12.63 tons) was dropped on all targets of opportunity.

There were 124 bombs (26.20 tons) jettisoned by planes returning early or malfunctioning over target; one bomb was returned.

6. Enemy Opposition

Approximately 100 enemy fighters, including those which made attacks, were seen in the target area.

ZEKES and TOJOS predominated, although TONYs and NICKS appeared in number. Four unidentified in-line T/E A/C, five unidentified T/E A/C, and 14 unidentified S/E A/C were reported in the Nagoya area.

7. Enemy Attack Data

A total of 106 attacks was reported.

Types of E/A making attack:

27 TOJO	3 OSCAR
23 ZEKE	2 IRVING
16 TONY	1 ZEKE (32)
11 NICK	23 Unidentified A/C

E/A fire was generally inaccurate. One ZEKE, on an approach from 3 o'clock, fired a projectile which left a trail of white smoke, but which did not explode; the reporting crew thought the projectile may have been a rocket.

The majority of attacks were made from the left quarter of the clock, 25 level, 4 from below, and 17 from above. The front quarter received nine level attacks, 17 from above and five from below. The right quarter received one level attack, four from above, and three from below, and the rear quarter, eight level, ten from below, and three from above.

The aggressiveness of these attacks varied considerably; most of them were broken off at between 400 and 500 yards from our A/C, a few as far as from 900 yards. One E/A is reported to have approached to within 200 feet before breaking away.

The greatest number of enemy attacks was made over the target, and immediately after bombs were dropped. There seemed to be little organization among the fighters making attacks.

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S E C R E T

Tactical Narrative, Mission Number 12, page 3

Par 7 (contd)

Only one attack was made on the first Squadron over the target, although enemy fighters were observed at altitudes of 27,500 to 30,000 feet. The next four Squadrons over the target received 86 attacks. Two Squadrons following went over the target at 30,500 to 32,300 feet, after a lapse of 18 minutes, and received only one attack. The last two Squadrons, following immediately behind at 28,000 to 29,200 feet, received 18 attacks.

Only one enemy fighter (TOJO) is reported to have made a second attack.

8. Antiaircraft Fire

Heavy, moderate to intense, and accurate to inaccurate flak was observed from the IP (35°14'N-137°22'E) to the beginning of the bomb run and from the target to the coast.

Flak encountered during the bomb run and over the target was heavy, intense, and accurate. Many crews reported that flak was accurate enough to rock their aircraft. Of the 72 A/C over the primary target, 26 received flak damage.

One A/C, the first in the second flight of the 8th Squadron, is presumed to be lost to flak. It was hit while flying at 28,350 feet at a time when no E/A were observed in the vicinity.

The use of "thistle" or range-reporting E/A was observed in the target area; several were seen flying parallel with the formation. It is believed they were reporting range and speed to ground defenses inasmuch as flak at this time was accurate.

9. Route Back

Return was made by individual A/C to base.

10. Damage Assessment

Strike photographs show 230 bomb bursts and 43 fires. Sixty of these bursts can be seen in the target area, 58 of which hit buildings. Nine bursts are visible in the large assembly building on the western edge of the target. Fourteen bursts can be seen on the first assembly building at the eastern edge of the older factory area. Seven bursts can be seen in the rectangular final assembly building adjacent to the older area. Eighteen bursts are visible in the open area of the warehouse. There are many other bursts on less important factory areas and in the residential and wooded sections adjacent to the target.

Forty-nine bursts can be seen within 1000 feet of the AP; this number represents 16% of all the GP bombs dropped on the primary target.

Bombing was done by visual sighting.

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11. Own Losses

One A/C was presumed lost to flak over the primary target. One A/C ditched, cause unknown, and one A/C was lost, cause unknown. One A/C ditched owing to fuel shortage, the result of navigation error caused by sextant failure. Total: four.

Twenty-three A/C were damaged by flak, three by fire from E/A, three by both flak and E/A fire, and two through accident.

Personnel losses are as follows: one man killed, a navigator-bombardier, the other a left gunner wounded who died shortly after landing at base. Thirty-four men are missing.

12. Claims

Four E/A are claimed as destroyed, one probably destroyed.

13. Weather

The front which lies south of the Japanese islands was encountered 150 miles farther south than had been anticipated. Three-tenths cloud cover (alto-cumulus) was met as had been forecast, over the target area. Wind direction and velocity over target at 30,000 feet were 265°, 120 knots.

Weather at the base on return was severe; there was swelling cumulus passing over Isely Field which gave widely varying conditions from CAVU to visibility of 500 feet.

14. Observations of Importance

A/C returning from last resort target of Hamamatsu (34°42'N-137°43'E) reported sighting large fires and four columns of gray smoke rising to 4000 feet. Observing A/C was on a heading of 340°, at 29,000 feet. Time: 130445Z.

Four of our A/C observed two airdromes about five miles apart at 35°15'N-137°05'E. Sixty S/E and T/E A/C were on the ground at one A/D, and 45 E/A on the other. Altitude and heading not recorded. Time: 130520Z and 130527Z.

One A/C observed an airdrome under construction at 34°40'N-138°15'E. No other data recorded.

One A/C observed possible submarine pens in an unnamed river, 3 miles from its mouth (34°50'N-137°07'E). No other data recorded. (River SSW of Okizaka?)

One A/C observed symmetrical building that looked like an ammunition dump. Coordinates: 34°40'N-137°33'E. Observation made from 28,800 feet. Time: 130536Z. No other data recorded.

A large parabolic reflector was seen in the center of a village near the control point (34°41'N-137°36'E). A possible radar position. No other data recorded

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15. Landing Data

The first effective A/C landed at Isely Field at 131020Z,  
the last at 131345Z.

*Kenneth P. Bergquist*  
KENNETH P. BERQUIST  
Colonel, Air Corps  
DC/S, Opns and Trng

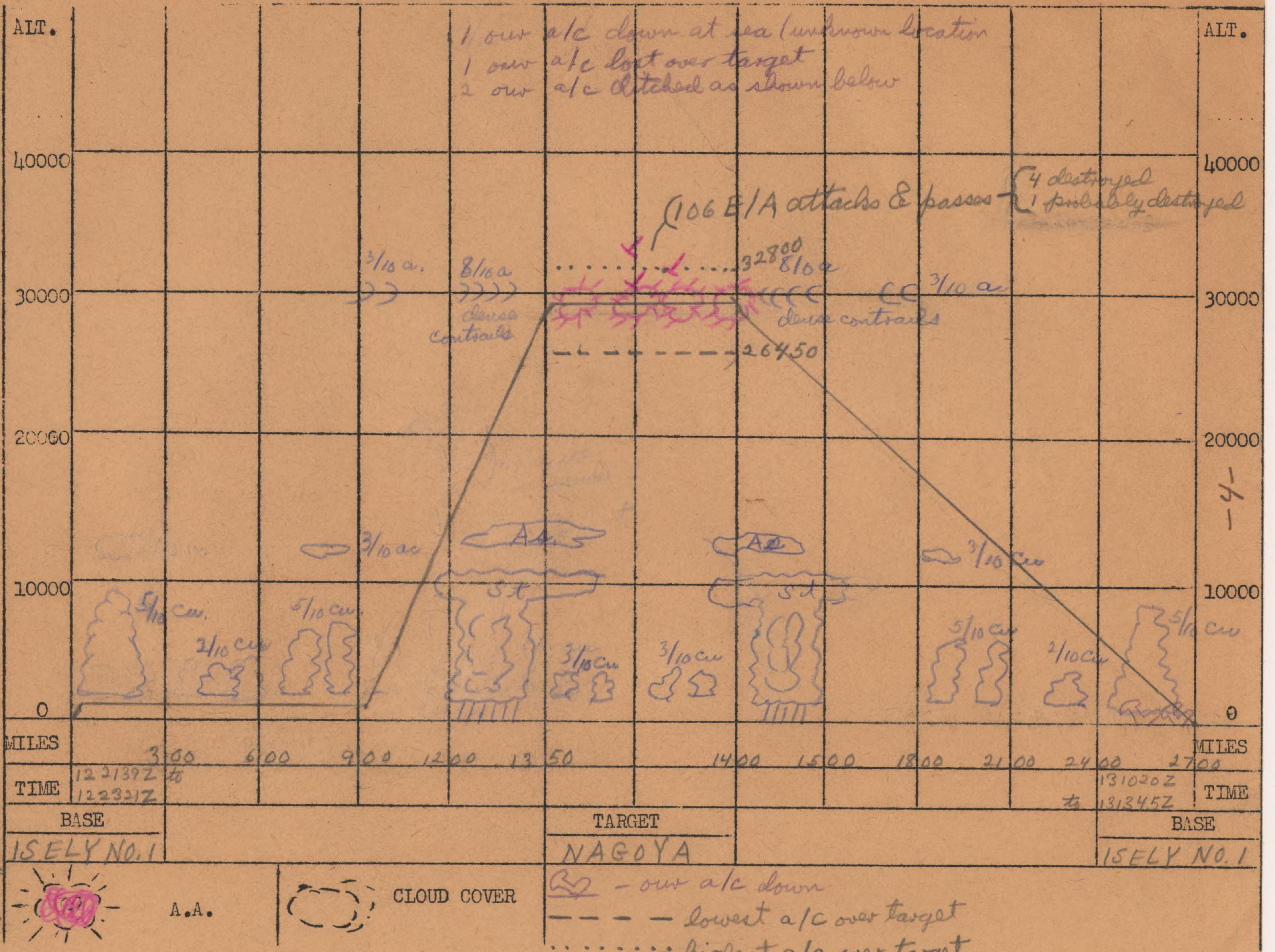
S E C R E T

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F.O. NO. 29  
 MISSION NO. 12  
 DATE OF MISSION 13 December 1944

CONSOLIDATED MISSION REPORT  
 VERTICAL CHART

73rd BOMB WING  
 DATE 27 December 1944  
 BY Capt. J.T. Davis

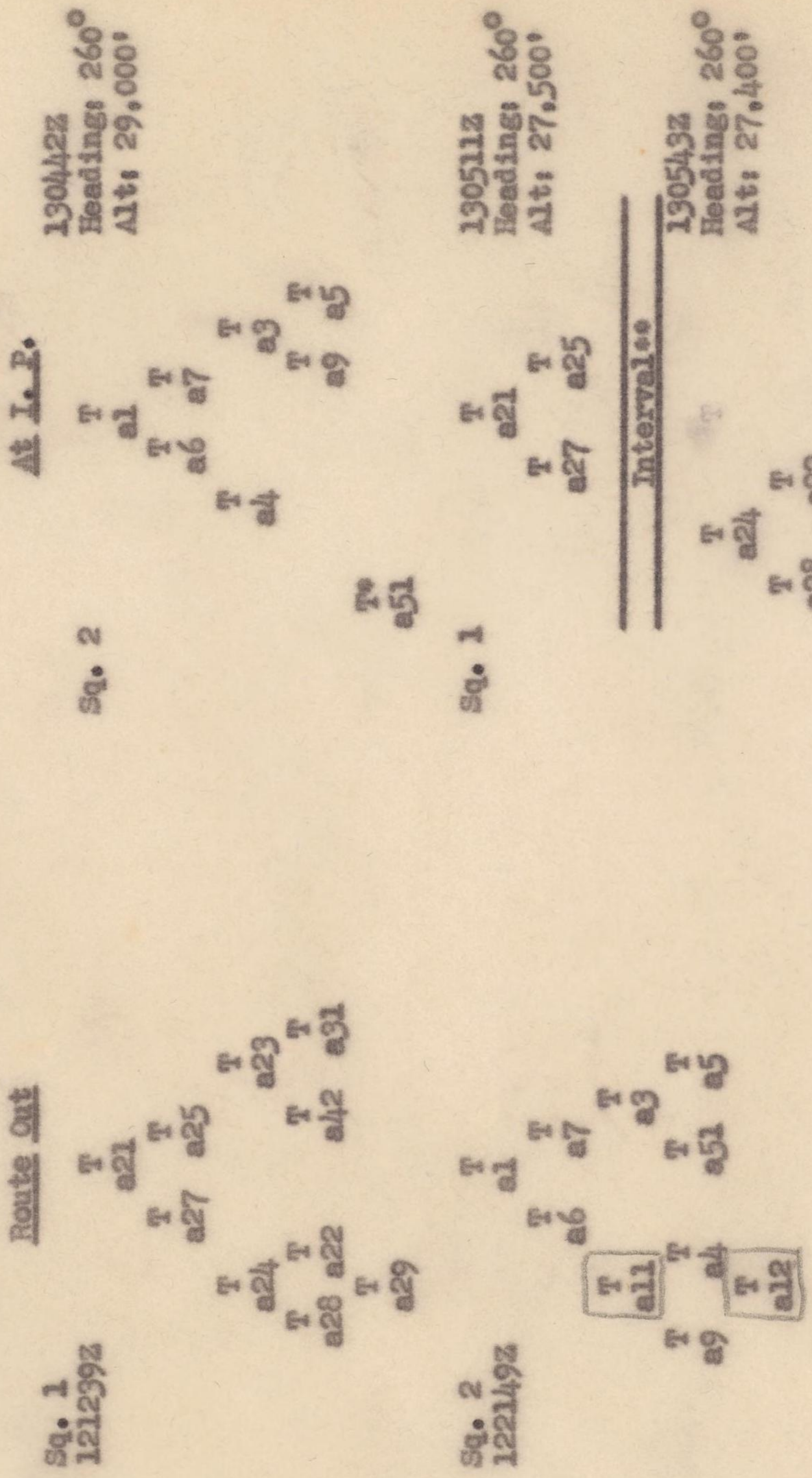


Headquarters  
73rd Bombardment Wing

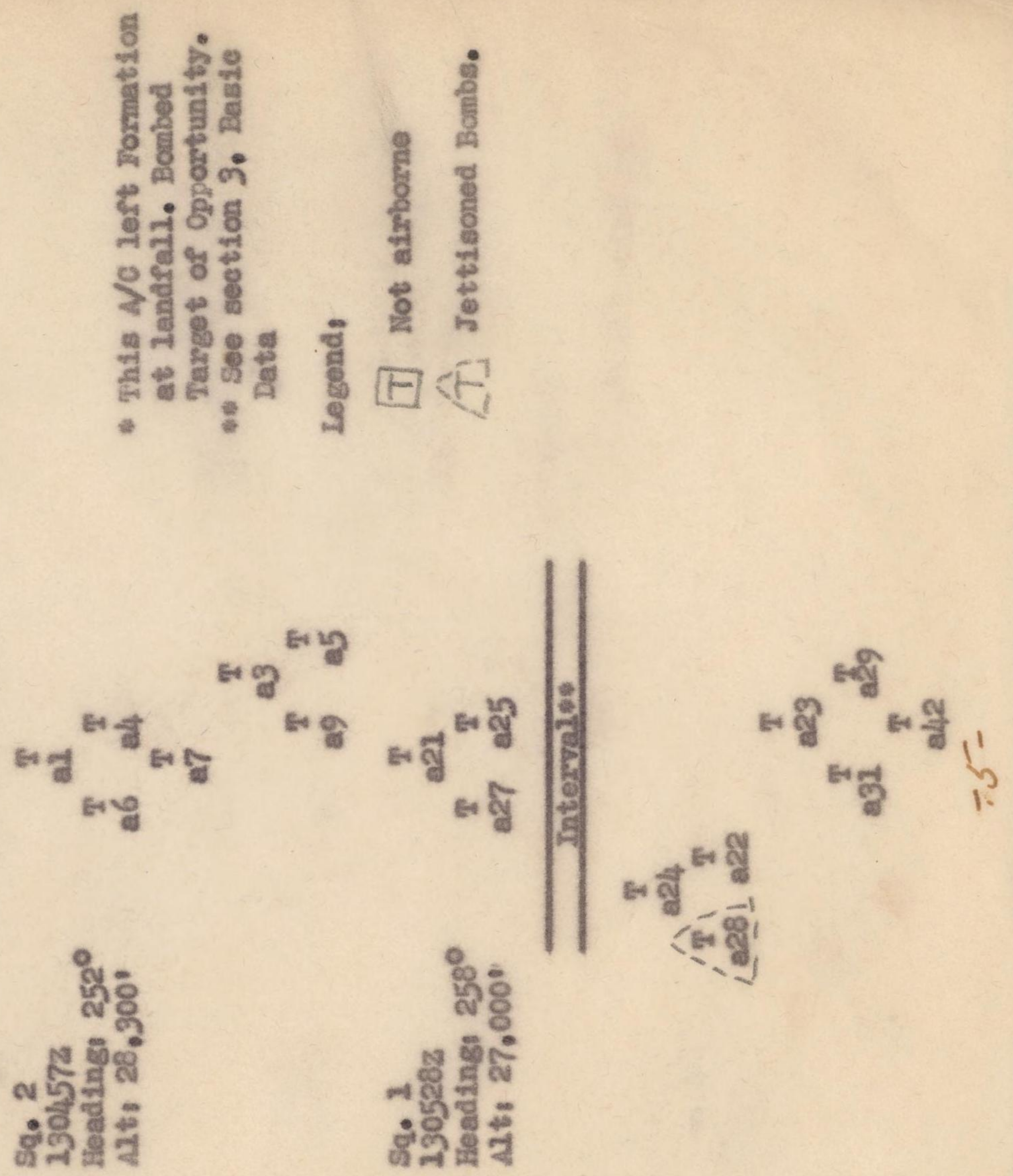
Field Order No. 29  
Mission No. 12  
13 December 1944

FORMATIONS

497th, Lead Group, Combat Squadrons 1 and 2



Over Primary Target



Headquarters  
73rd Bombardment Wing

Field Order 29  
Mission No. 12  
13 December 1944

498th Bomb Group, Combat Squadrons 3, 4, and 5

FORMATIONS

Route Out

Over I. P.

Sq. 3\*  
122202Z

T t6  
T t5 T t9 T t1 T t4  
T t7 T t3

Sq. 3

T t6  
T t5 T t9 T t1 T t4  
T t7 T t3

130525Z

Sq. 4  
122209Z

T t22  
T t21 T t23 T t25 T t31  
T t26 T t24 T t30  
T t27

Sq. 4

T t22  
T t26 T t25 T t23 T t24 T t27  
T t21 T t31

190527Z

Sq. 5  
122218Z

T t50  
T t48 T t46 T t45  
T t44 T t47  
T t42

Sq. 5

T t50  
T t45 T t46  
T t44 T t47  
T t42 T t47

190528Z

Headings: 260° to 288°  
Alt: 28,200' to 29,850'

Over the Primary Target

Sq. 3  
190545Z

T t6  
T t5 T t9 T t1 T t4  
T t7 T t3

A/C T1 ditched at approx.  
18°00' N, 144°00' E

Sq. 4  
190548Z

T t22  
T t26 T t25 T t23 T t31  
T t24 T t27

\* 2 A/C, T2 and T 43, took  
off late and joined  
500th Group.

Sq. 5  
190547Z

T t50  
T t45 T t46  
T t44 T t47  
T t42

Heading: 262° to 288°  
Alt: 28,200' to 29,500'

Legend:

△ A/C Returning Early.

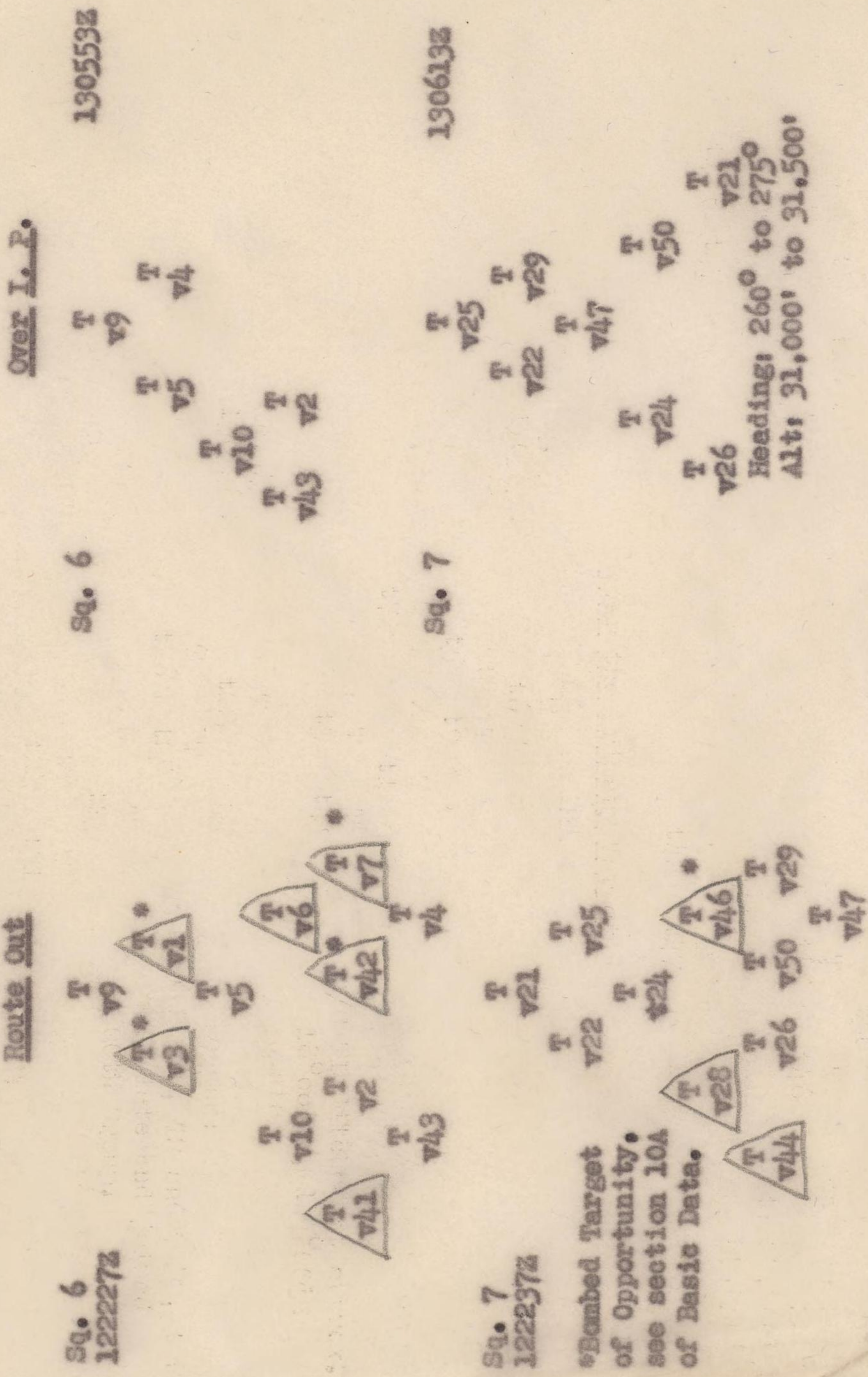
Headquarters  
73rd Bombardment Wing

Field Order No. 29  
Mission No. 12  
13 December 1944

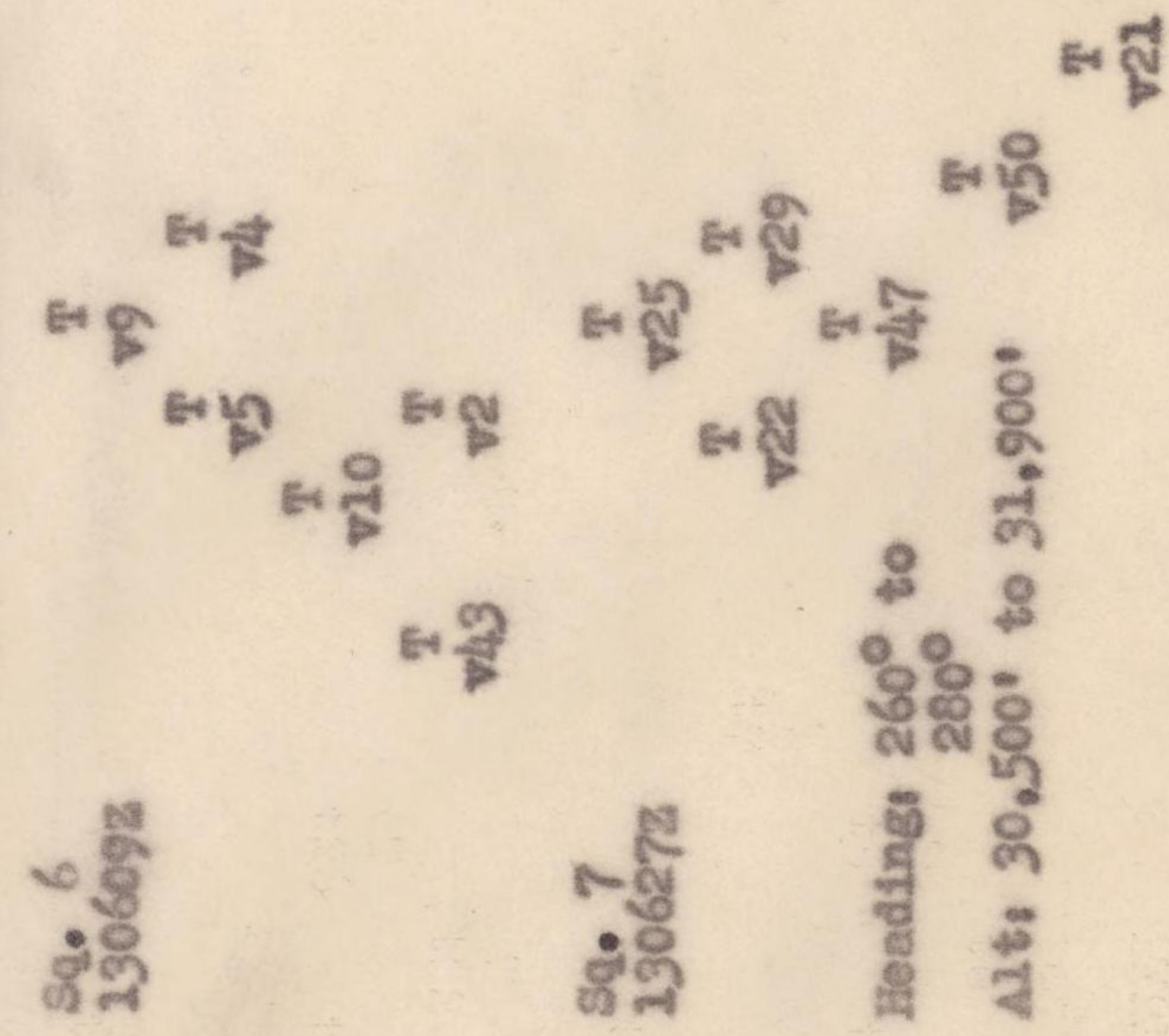
FORMATIONS

499th Group, Combat Squadrons 6 and 7

Route Out



Over Primary Target



Legend: A/C Returning Early.

Headquarters  
73rd Bombardment Wing

Field Order No. 29  
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13 December 1944

500th Group, Combat Squadrons 8 and 9

FORMATIONS

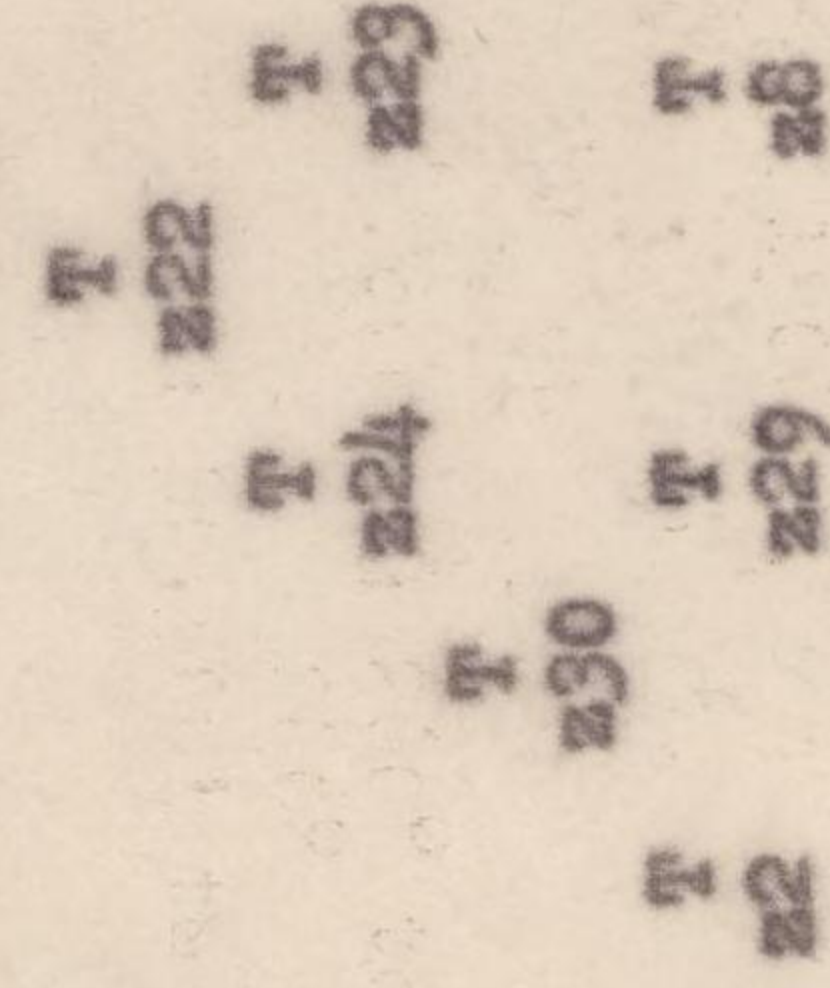
Route Out

Over I. P.

Sq. 8  
12251z

Sq. 8

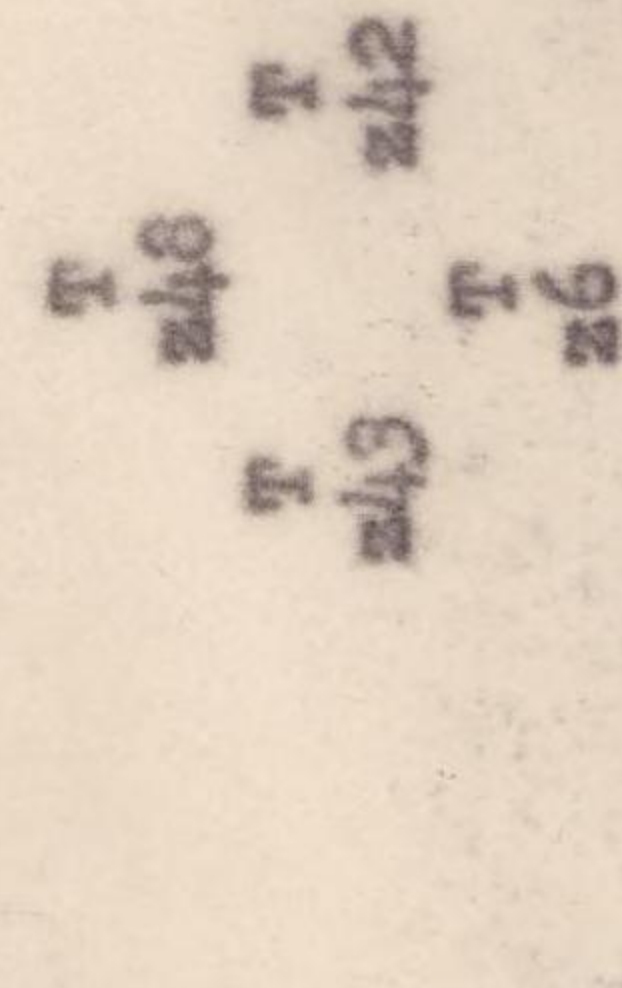
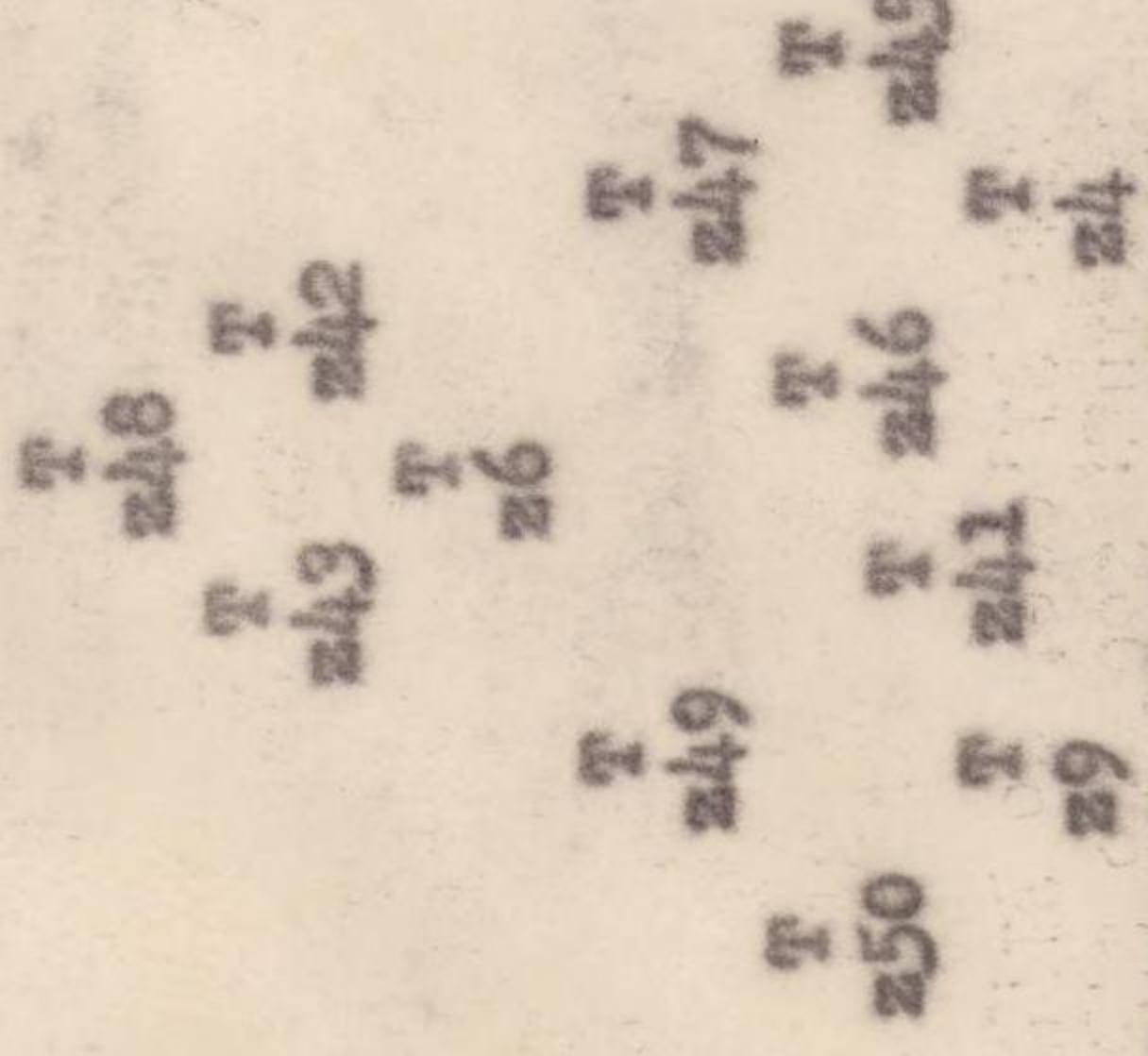
130619z



Sq. 9  
122302z

Sq. 9

130626z

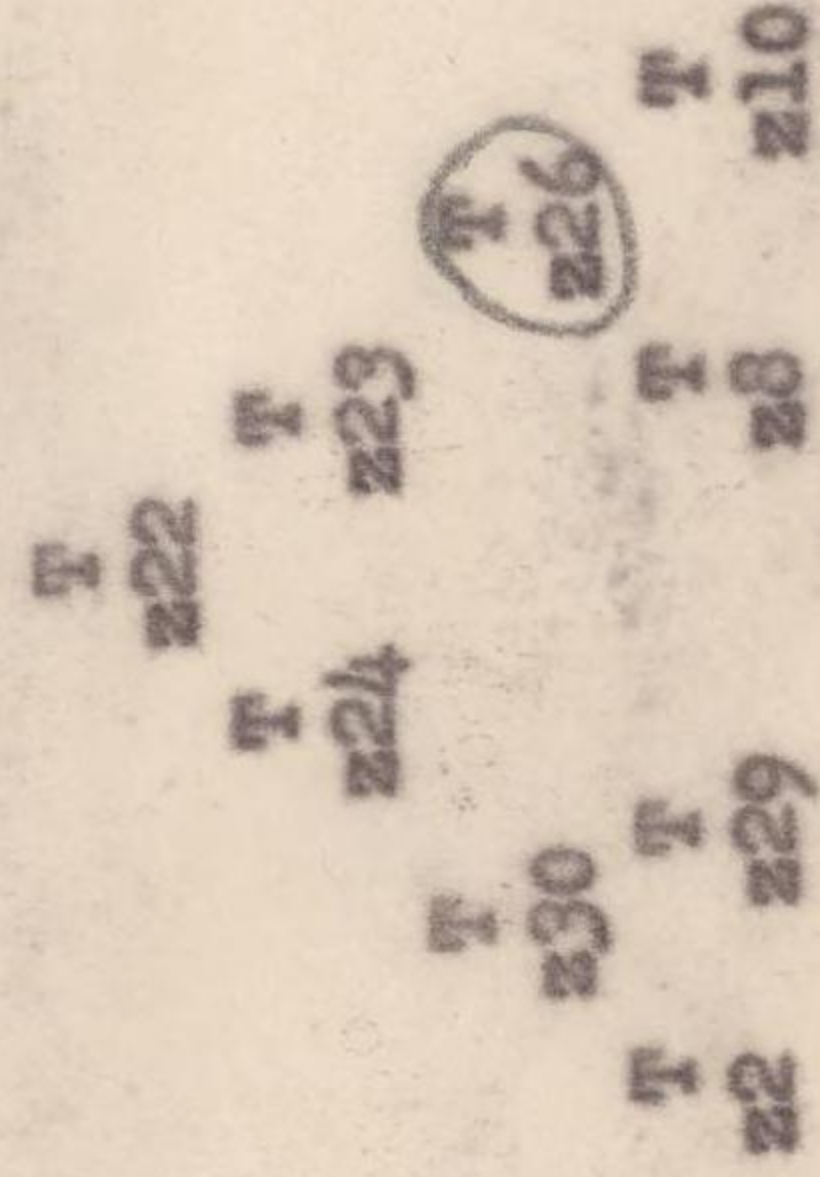


\*Bona fide Target of Opportunity.

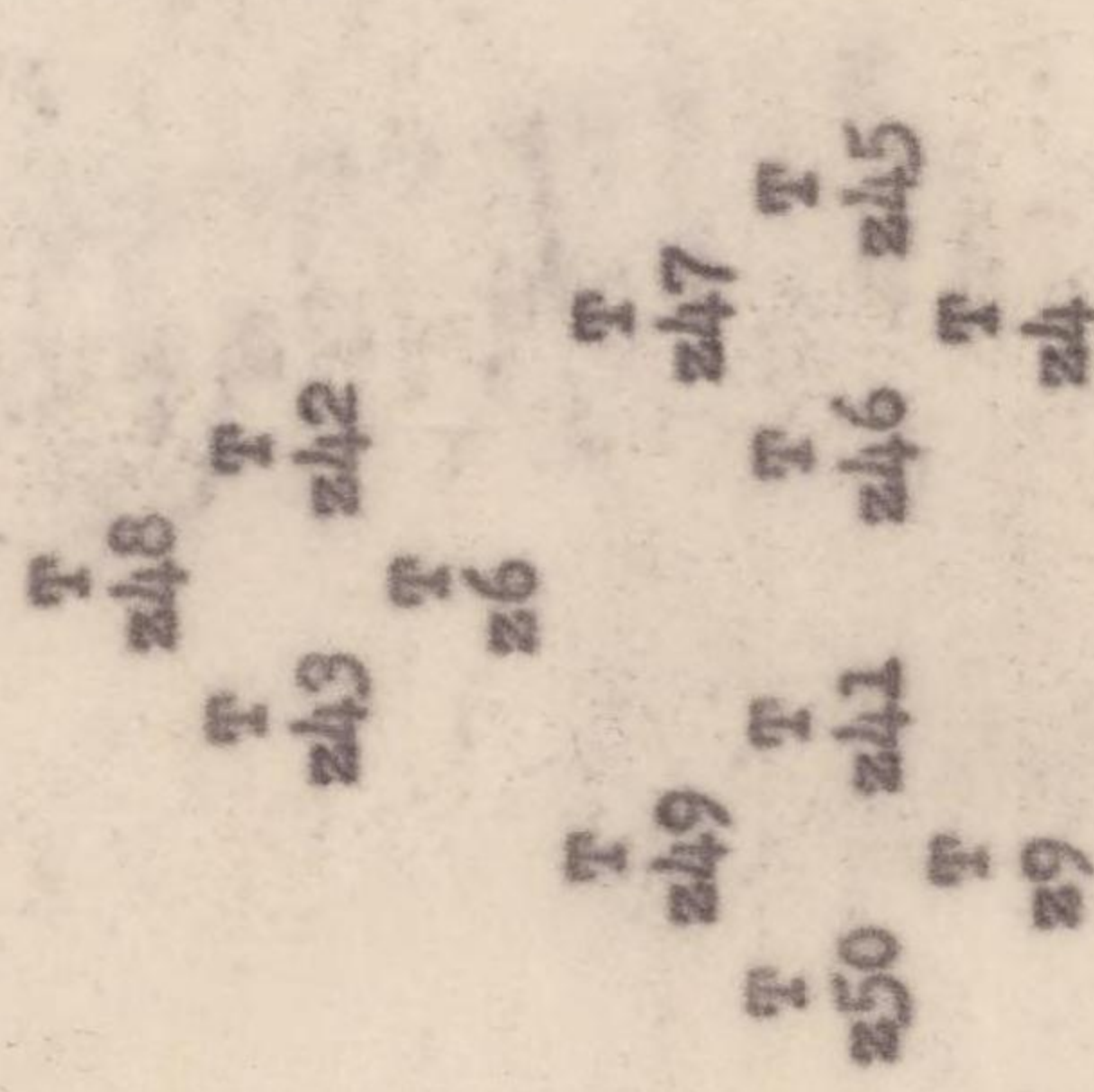
Heading: 260° to 269°  
Alt: 28,500' to 28,800'

Over Primary Target

Sq. 8  
130631z



Sq. 9  
130638z



Heading: 260° to 275°  
Alt: 28,000' to 29,200'

Legend: A/C Returning Early. A/C Lost.

Note: A/C T2 and T43 (498th Group) flew and bombed with Sq. 9. Neither craft assumed a regular position in the formation.

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Headquarters  
3rd Bombardment Wing

Mission No. 12  
Field Order No. 29  
13 December 1944

CONSOLIDATED MISSION REPORT

BASIC DATA

1. TIME OF TAKE OFF:

Air Sq No	Gp No	Place	First A/C	Last A/C	Elapsed Time	No. A/C take-off	Ave take-off Int.
1	497	Saipan	122139Z	122148Z	9 min	10	54 sec.
2	Same	Same	122149Z	122157Z	8 min	8	60 sec.
3	498	Same	122202Z	122208Z	6 min	7*	51.4 sec.
4	Same	Saipan	122209Z	122217Z	8 min	9	53.3 sec.
5	Same	Saipan	122218Z	122225Z	8 min	7**	68.4 sec.
6	499	Same	122227Z	122237Z	10 min	12	50 sec.
7	Same	Same	122237Z	122250Z	13min	11	70.9 sec.
8	500	Same	122251Z	122301Z	10 min	12	50 sec.
9	Same	Same	122302Z	122315Z	13 min	12	65 sec.
Overall			122139Z	122321Z		90***	

\*Excludes 1 A/C of Sq 3 which took off at 122321Z.

\*\*Excludes 1 A/C of Sq 5 which took off at 122313Z.

\*\*\*Includes 2 A/C from Sq 3 and Sq 5 which took off late (see \* and \*\*).

2. TIME OF LANDING:

Air Sq No	Gp No	Place	First A/C	Last A/C	No. A/C
1	497	Isely #1, Saipan	131130Z	131207Z	10
2	497	Same	131020Z	131143Z	8*
3	498	Same	131134Z	131203Z	7
4	498	Same	131133Z	131203Z	7
5	498	Same	131150Z	131248Z	7
6	499	Same	131156Z	131255Z	6
7	499	Same	131107Z	131306Z	6
8	500	Same	131121Z	131345Z	9
9	500	Same	131245Z	131327Z	12
Overall			131020Z	131345Z	72

\*Includes 2 A/C which landed at Isely A/F #2, Saipan because of low visibility and the heavy traffic on Isely #1.

3. SQUADRON ASSEMBLY:

Air Sq No	Gp No	Place	Alt.	Time
1*	497		1,000'	
2	497	15°17'N, 145°47'E	1,000'	122206Z
3	498	15°30'N, 145°31'E	1,000'	122228Z
4	498	15°17'N, 145°31'E	1,000'	122229Z
5	498	15°20'N, 145°35'E	900'	122236Z
6	499	15°19'N, 145°50'E	1,000'	122243Z
7	499	15°17'N, 145°40'E	1,000'	122250Z
8	500	15°17'N, 145°50'E	1,000'	122312Z
9	500	15°20'N, 145°45'E	1,000'	122319Z

\*The first 3 A/C arrived at assembly point (15°17'N, 145°47'E), alt 1,000' at 122157Z. Because of restricted visibility and showers, they were unable to locate the 7 remaining A/C of the squadron. They made a 360° turn in the vicinity of the assembly point but never made contact with the other planes. The remaining 7 A/C assembled separately at 15°12'N, 145°45'E, alt 1,000', at 122158Z. This delay caused Sq #2 to proceed to the IP ahead of Sq #1 (See Formations).

4. GROUP ASSEMBLY:

None ordered.

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Basic Data, cont'd

5. WING ASSEMBLY:

None ordered.

6. AIRCRAFT RETURNING EARLY:

A/C No.	Air Sq No	Place	Time	Reason
T21 (4609)*	4	Saipan	130925Z	#3 engine trouble -- oil leak in #4 engine.
T30 (4654)*	4	Same	131010Z	Fuel transfer system became inoperative.
T48 (5211)*	5	Same	131230Z	#2 engine trouble.
V1 (4765)**	6	Same	131050Z	Low on fuel
V3 (4658)**	6	Same	130145Z	Carburetor malfunction
V6 (4683)*	6	Same	130813Z	Blown cylinder #2 engine
V7 (4684)**	6	Same	130649Z	Losing power #2 engine
V42 (4669)**	6	Same	130942Z	Fuel transfer system out
V41 (4651)*	6	Same	130022Z	Blown cylinder #2 engine
V28 (3465)*	7	Same	130755Z	Fuel transfer system out
V44 (4661)*	7	Same	130428Z	#4 engine out
V46 (4677)**	7	Same	131030Z	Engine running hot
Z25 (4686)*	8	Same	130033Z	Oil leak in #4 engine
Z28 (3436)*	8	Same	130937Z	Blown cylinder in #4 engine. Feathered

Total No. A/C returning early: 15

\*Bombs jettisoned.

\*\*Bombed targets of opportunity (See Section 10a.)

7. ROUTE OUT:

Route as Ordered	Time as Flown		Alt as Flown		CORR TEMP
	1st Sq	Last Sq	Lowest Sq	Hgt Sq	
From: Base	122139Z	122321Z	900'	1,000'	176 to 210
To : Assembly Point	122206Z*	122319Z	800'	1,600'	176 to 210
17°00'N, 144°00'E	122320Z	122400Z	800'	2,750'	177 to 210
24°00'N, 140°00'E	130410Z	130555Z	26,000'	30,000'	177 to 210
34°00'N, 137°47'E	130425Z	130610Z	26,500'	30,000'	176 to 205
(Control Point) 34°41'N, 137°36'E**	130442Z	130626Z	27,400'	31,900'	176 to 205
IP(35°14'N, 137°22'E	130457Z	130638Z	27,000'	31,900'	173 to 200
Target					

\*Time recorded by Air Sq. #2. Time of departure of Sq. #1 unknown. See note, Sect 3.

\*\*Air Squadron #8 made landfall about 50 miles to the left of the scheduled course. The squadron turned right and flew along the coast until the central point was reached where they resumed scheduled course.

Air Squadron #9 made landfall 15 to 25 miles right of the scheduled course. The squadron turned left to the control point where scheduled course was resumed.

8. ROUTE BACK\*\*:

Route as ordered	Time as Flown		Alt as Flown		CORR TEMP
	1st Sq	Last Sq	Lowest Sq	Hgt Sq	
From: Target	130457Z	130638Z	27,000'	31,900'	173 to 200
To : 28°00'N, 140°00'E	130729Z	130905Z	16,000'	22,500'	158 to 200
Base	131020Z	131345Z			

\*\*In general, return was made by individual A/C.

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Basic Data, cont'd.

9. INITIAL POINTS:

IF as Ordered	Time as Flown		Altitude as Flown	
	1st Sq	Last Sq	Lowest Sq	Highest Sq
35°14'N, 137°22'E	130442Z	130626Z	27,400'	31,900'

10. TARGETS ATTACK DATA:

a. No. A/C attacking targets:

Co No	Primary	Secondary	Last Resort	Opportunity
497	16	0	1*	0
498	22	0	0	0
499	12	2**	0	5***
500	21	0	0	1****
Total	71	2	1	6

\*1 A/C bombed Hamamatsu at 130435Z - 270° - 26,970'.

\*\*2 A/C lost formation.

\*\*\*1 A/C bombed Hachiiji Jima, 3 A/C bombed Pagan, 1 A/C bombed Japan at 33°45'N, 137°08'E

\*\*\*\*Bombed fishing village on Okubi Peninsula.

b. Times over Primary and Secondary Targets:

Times	497	498	499	500
130451 to 130460	7	0	0	0
130501 to 130510	0	0	0	0
130511 to 130520	0	0	0	0
130521 to 130530	3	0	0	0
130531 to 130540	1	0	0	0
130541 to 130550	5	19	0	0
130551 to 130600	6	9	2 (Sec)	0
130601 to 130610	0	0	6	0
130611 to 130620	0	0	0	0
130621 to 130630	0	0	6	0
130631 to 130640	0	2	0	20
Total	16	21*	14 (2 Sec)	20**

\*1 A/C ditched on return. Was seen to bomb primary target but no target data is known.

\*\*1 A/C lost over primary target. No target data is known.

c. Headings and altitudes from IF to primary target.

Unit	Heading (Degrees)	Altitude
497		
Sq 1, element 1	260	27,500'
Sq 1, elements 2 and 3	260	27,400'
Sq 2	260	29,000
498		
Sq 3, 4, and 5	266	28,500'
499		
Sq 6	260 to 280	31,900'
Sq 7	260	31,000'
500		
Sq 8	260	28,800'
Sq 9	269	28,500'

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Basic Data, par 10, cont'd.

d. (1) Altitudes over primary and secondary targets:

Altitudes	Totals	497	498	499	500
27,000 to 27,499	7	7	0	0	0
27,500 to 27,999	4	4	0	0	0
28,000 to 28,499	16	1	4	0	11
28,500 to 28,999	17	0	9	0	8
29,000 to 29,499	7	1	5	0	1
29,500 to 29,999	4	1	3	0	0
30,000 to 30,499	1	1	0	0	0
30,500 to 30,999	2	0	0	2	0
31,000 to 31,499	2	0	0	2	0
31,500 to 31,999	6	0	0	6 (2 Sec)	0
Totals	66	15*	21**	10 (2 Sec)***	20****

\*1 A/C bombed from 26,450'

\*\*1 A/C lost on return trip. No target data known.

\*\*\*2 A/C lost. No target data known. 2 other A/C bombed from 32,000' and 32,300'.

\*\*\*\*1 A/C lost over primary target. No target data known.

d. (2) Headings over primary and secondary targets:

Headings (Degrees)	Totals	497	498	499	500
260 to 264	24	5	5	4	10
265 to 269	10	0	4	1	5
270 to 274	20	8	6	3	3
275 to 279	11	3	5	1	2
280 to 284	1	0	0	1	0
285 to 290	1	0	1	0	0
Totals	67	16	21*	10**	20***

\*1 A/C ditched on return trip. No target data known.

\*\*2 A/C lost. No target data known. 2 A/C bombed secondary target on heading of 330°

\*\*\*1 A/C lost over primary target. No target data known.

e. Breakaway:

497 - Executed left turn evading flak and fighters and took up heading of 160°.

498 - Took heading of 168°.

499 - Turned left after bombing target.

500 - Took heading of 180°.

f. Rally Point:

None

g. Extra Runs over Target:

None

h. Reasons for Failure to Attack:

A/C A28 (3423) reached target but failed to drop because of broken bomb bomb bay door switch. Jettisoned bombs.

11. ESCORT DATA:

No escort ordered.

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Headquarters  
73rd Bombardment Wing

Mission No. 12  
Field Order No. 29  
13 December 1944

CONSOLIDATED MISSION REPORT

LOSS AND DAMAGE

12. CASUALTIES -- PERSONNEL:

See Consolidated Statistical Report, Table XI, Casualties.

13. AIRCRAFT LOST:

A/C TL(3430) - 498 - ditched at sea on return trip. Cause unknown.  
A/C V47(3439) - 499 - at 131245Z crash landed into ocean 1500' off  
Nafutan Point, Saipan. Cause unknown.

A/C V50(3447) - 499 - ditched approximately 90 miles WNW of Saipan  
at 131316Z. Crew rescued by DD 17 hours after ditching. The B-29 which  
was still afloat was sunk by navy gunfire.

A/C Z26(4687) - 500 - dropped out of formation after the turn from the  
target was made. A/C Z2 also dropped out of formation to fly protective  
cover for the damaged plane. It is presumed that A/C Z26 was hit by flak  
for #1 engine was seen to be windmilling and #3 engine was smoking sporadically.  
A/C Z26 gradually lost altitude as it headed out to sea closely  
followed by A/C Z2 to an altitude of 2,000'. From that point, Z26 descended  
through a layer of clouds very rapidly. Z2 circled the spot three times.  
Two gunners reported they saw the plane ditch but no further sight of plane  
or crew was reported.

14. AIRCRAFT MISSING:

See Section 13

15. TOTAL AIRCRAFT FAILING TO RETURN:

4 (See Section 13)

16. DAMAGE TO AIRCRAFT:

See Statistical Report of Battle Damage on following page.

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S-E-C-R-E-T

REPORT OF BATTLE DAMAGE

MISSION #12  
13 Dec 44

497TH BOMB GROUP:

<u>SERIAL NO.</u>	<u>TO BE READY FOR COMBAT WITHIN</u>	<u>DESCRIPTION OF DAMAGE</u>
42-24596	2 Days	Small hole in dorsal fin.
42-24598	2 "	Small hole in fuselage ahead of pilot.
42-24594	2 "	CFC dome cracked.
42-63463	1 "	Small hole in dorsal fin and also bombsight panel.
42-24623	2 "	Small hole in dorsal fin. Hole in left side of tail gun position. Small hole just aft and left of co-pilot's top window.
42-63412	3 "	Hole just forward of left blister, came out aft bottom part of radar room. Hole in flap assembly and hole in weld assembly lower right.
42-24627	Tentative 1 Week	Large hole in nose section destroying bombsight and other equipment. Exploding shells through left and right outboard wings. Holes in both ailerons. Holes in bombay doors. .50 cal. holes through fuselage and radar and CFC rooms. Holes in horizontal stabilizer and elevator also vertical fin. Flak holes in vertical stabilizer. Flak hole in pressurization tube of tail gunner. Shrapnel hole in left stabilizer. Windows cracked and chipped in tail gunner's compartment.

Total Damaged 497th Bomb Grp:

7 Aircraft  
(6 A/C to be ready within 3 days;  
1 A/C to be ready within 1 week)

498TH BOMB GROUP:

42-63468	Indefinite	Salvoed bombay tanks, bombay door damaged.
42-24629	"	Radar dome demolished by flak, flak holes in skin.
42-24663	2 Days	Nose window broken by bullets, bullet hole in nacelle.
42-63416	2 "	Bombardier's window cracked by flak.
42-24649	2 "	Small hole in left aileron.
42-65211	Indefinite.	#2 Prop knocked off, hit fuselage.
42-65210	3 days	Bullet & flak holes

Total Damaged 498th Bomb Grp:

7 Aircraft  
(4 A/C to be ready within 3 days  
3 A/C Indefinite)

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S-E-C-R-E-T

S-E-C-R-E-F

REPORT OF BATTLE DAMAGE

MISSION #12  
13 Dec 44

499TH BOMB GROUP:  
TO BE READY FOR  
COMBAT WITHIN

DESCRIPTION OF DAMAGE

SERIAL NO.			DESCRIPTION OF DAMAGE
42-24650	3 Days		Flak holes in vertical stabilizer.
42-63453	Over 7 "		Flak holes in left wing, bombbay doors damaged, bombbay tanks salvaged, interior stripped of flooring because of lack of gas: computers, and APC-13 Radar Set. 4 tire changes required and flak holes in lower forward center wing section.
42-24682	3 Days		Large flak holes in rudder.
42-63440	3 "		Flak holes in leading edge, right wing, left and right inboard deicer boots damaged.
42-24647	3 "		Flak hole through cowlings #3 engine; flak hole in left dorsal fin; holes at stations 856 and 746 in fuselage.
42-24673	3 "		Flak hole in fuselage at station 117; hole in cowlings at #18 cylinder, number 3 engine.

Total damaged 499th Bomb Gp:  
6 Aircraft  
(5 A/C to be ready within 3 days  
(1 A/C over 7 days

500TH BOMB GROUP:

42-24671	2 Days		Hole in #4 nacelle
42-24792	2 "		Flak damage #3 nacelle.
42-24672	2 "		Flak damage to fuselage.
42-24694	2 "		Flak damage to tail.
42-65219	2 "		Flak damage to fuselage, stabilizer, nose wheel door.
42-24676	2 "		Flak damage to upper left wing.
42-24653	2 "		Flak damage to upper rear turret, left elevator rudder, right front bombbay door.
42-24721	2 "		Flak damage vertical stabilizer.
42-24600	2 "		Flak damage #3 engine cowlings.
42-63429	2 "		Hole in #2 nacelle.
42-63441	2 "		Hole in #2 nacelle.

Total damaged 500th Bomb Gp:  
11 Aircraft  
(all to be ready within 2 days.)

TOTAL DAMAGED 73RD BOMB WING:

31 Aircraft  
(26 A/C to be ready within 3 days  
( 1 A/C within 1 week  
( 4 A/C indefinite

73rd BW Stat

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S E C R E T

Headquarters  
73rd Bombardment Wing  
APO #237, % Postmaster  
San Francisco, California

Field Order No. 29  
Mission No. 12  
Date of Mission  
13 December 1944

CONSOLIDATED MISSION REPORT

AA AND AIR-TO-AIR BOMBING

17. ENEMY ANTI-AIRCRAFT FIRE:

Primary target: Musashino Aircraft Engine Factory, Tokyo.  
Flak encountered during the bomb run and over the target was heavy, intense, and accurate. Altitudes of formations ranged from 26,000 to 32,500 feet. Many crews reported that the flak was accurate enough to rock their A/C and 26 A/C were damaged by flak. They are as follows:

<u>A/C No.</u>	<u>Altitude</u>	<u>Position in formation</u>
A-27	27,000	1st A/C, 1st Flight, 1st Squadron
A-4	28,000	2nd A/C, 1st Flight, 2nd Squadron
A-6	28,000	3rd A/C, 1st Flight, 2nd Squadron
A-5	30,000	2nd A/C, 2nd Flight, 2nd Squadron
A-9	29,700	3rd A/C, 2nd Flight, 2nd Squadron
T-9	28,000	2nd A/C, 1st Flight, 3rd Squadron
T-46	29,000	2nd A/C, 1st Flight, 5th Squadron
T-44	28,700	1st A/C, 3rd Flight, 5th Squadron
T-47	30,000	2nd A/C, 3rd Flight, 5th Squadron
T-43	30,500	Flew with 9th Sq. No definite position.
V-4	31,500	2nd A/C, 1st Flight, 6th Squadron
V-5	32,000	3rd A/C, 1st Flight, 6th Squadron
V-10	31,500	1st A/C, 3rd Flight, 6th Squadron
V-2	31,500	2nd A/C, 3rd Flight, 6th Squadron
V-43	31,500	3rd A/C, 3rd Flight, 6th Squadron
V-22	30,800	3rd A/C, 3rd Flight, 7th Squadron
Z-22	28,000	1st A/C, 1st Flight, 8th Squadron
Z-10	28,500	2nd A/C, 1st Flight, 8th Squadron
Z-24	28,000	3rd A/C, 1st Flight, 8th Squadron
Z-2	28,100	3rd A/C, 3rd Flight, 8th Squadron
Z-42	28,400	2nd A/C, 1st Flight, 9th Squadron
Z-43	28,500	3rd A/C, 1st Flight, 9th Squadron
Z-6	28,500	4th A/C, 1st Flight, 9th Squadron
Z-47	28,500	1st A/C, 2nd Flight, 9th Squadron
Z-46	28,500	3rd A/C, 2nd Flight, 9th Squadron
Z-4	28,750	4th A/C, 2nd Flight, 9th Squadron
Z-49	28,400	1st A/C, 3rd Flight, 9th Squadron

One A/C, Z-46, 1st A/C, 2nd Flight, 8th Squadron, is presumed to be lost to flak. It was hit while flying at about 28,350 feet. At the time the A/C was damaged no E/A were observed.

Seventy-one A/C bombed the primary target.

Heavy, moderate to intense, and accurate to inaccurate flak was also observed, both from the IP to beginning of the bomb run and from the target until formations left the coast.

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S E C R E T

Par 17 (contd)

The majority of bursts were level and leading, with equal distribution to the right and left. Most flak was continuously-pointed, although some predicted concentrations and several barrages were noted. E/A were observed flying along with the formation in several instances, and it is believed these E/A were reporting range and speed to ground defenses as most flak at this time was accurate.

About 90 percent of bursts were black. The other 10 percent were white. Some white phosphorus bombs were reported. One burst right over the target about 2,000 feet above and to the right of the formation. Five or six others were noted about 3,000 yards to the left of the formation. These bursts were observed when no E/A were in view and it is believed that these bursts were fired from ground defenses.

No flak was encountered by A/C attacking targets other than the primary.

This was a daylight mission.

Comments:

All A/C damaged on this mission were hit at altitudes of 28,000 feet and above with one exception, the A/C hit at 27,000 feet.

No definite information as to calibers of guns in Japan is available at the present time. However, it is very probable, in view of the altitudes at which A/C were hit by flak, and the accuracy of flak on the bomb run and over the target, that the majority of guns defending the targets attacked by A/C of this command are at least 120-mm.

The use of thistle A/C by the enemy at the same speed and altitude as our A/C is an old favorite of the Japanese. Its continued use over targets attacked by our A/C will probably result in increased accuracy of enemy flak.

18. OUR TACTICS VERSUS AA:

S-turns and loss of altitude before and after bombing run.

19. AIR-TO-AIR BOMBING AND ROCKETS:

Only one air-to-air phosphorus bomb attack was reported. This was over the target. A TOJO made a pass from 12 o'clock high, came in to about 500 yards, then went into a loop. Immediately after this, a phosphorus bomb burst appeared in front of and above the lead ship of the formation.

On an approach from 3 o'clock, in the target area, a ZEKE fired an unidentified projectile which left a trail of white smoke and which was not seen to explode. The reporting crew believed this may have been a rocket.

S E C R E T

Headquarters  
73rd Bombardment Wing

S E C R E T

Field Order No. 29  
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CONSOLIDATED MISSION REPORT

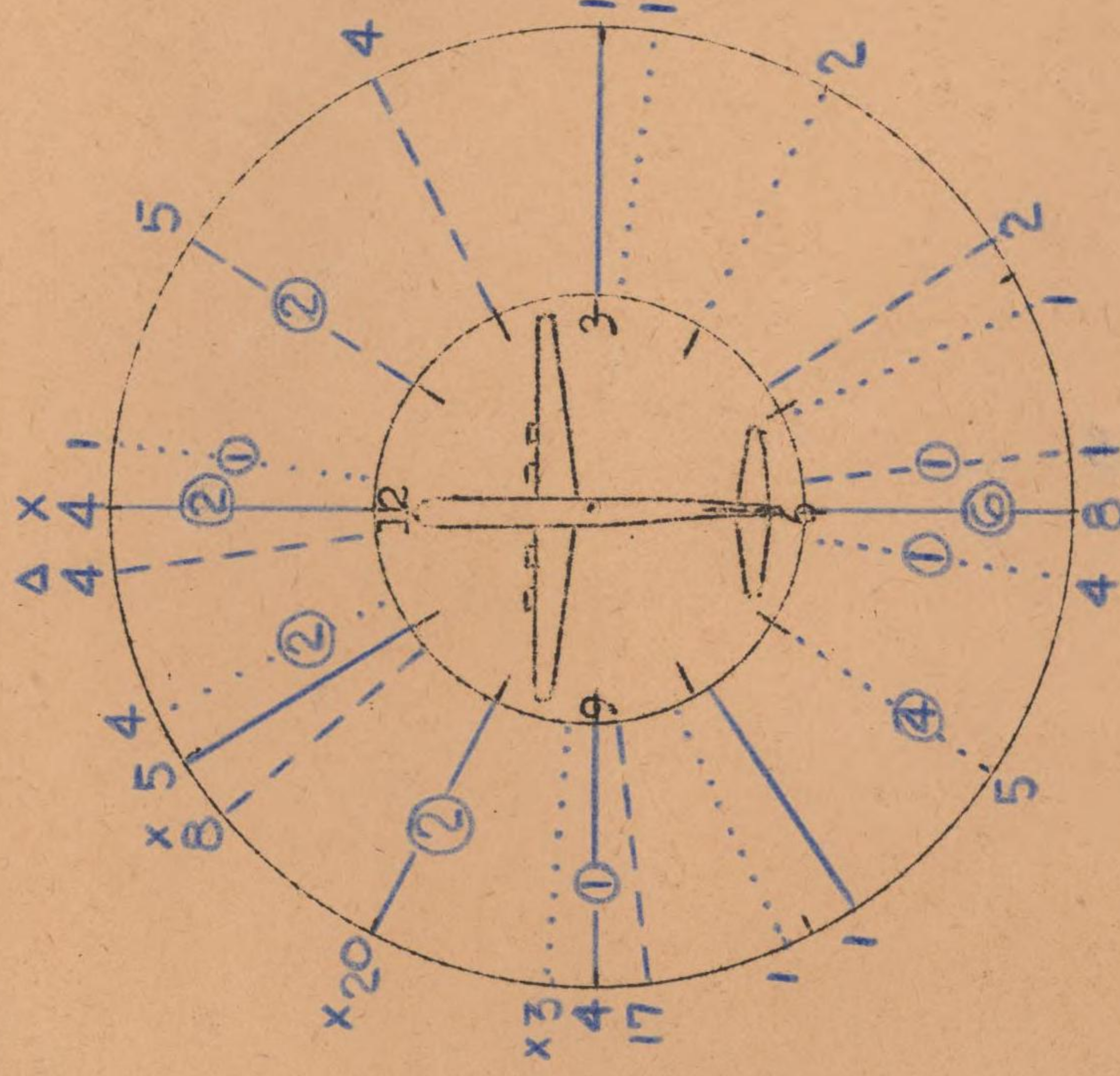
COMBAT DATA

20. ANALYSIS OF ATTACKS BY ENEMY A/C:

LEGEND

ATTACKS  
Level ———  
From Above — — —  
From Below ······

ENEMY A/C  
Destr'd x  
Prob Δ  
Dest'd □  
Damaged □



<u>TOTALS</u>	106
<u>ATTACKS</u>	
Level	43
From Above	41
High From	22
Below	
Low	
<u>E/A</u>	
Destr'd	4
E/A Prob	1
Dest'd	
E/A	0
Damaged	0

Note: The number of E/A attacking is shown at the outside end of each line. Attacks made by twin-engine enemy aircraft are indicated by "o" interruption in attack line, and when more than one T/E attack is made, the total is shown inside the "o".

21. YARDS AT WHICH E/A OPENED FIRE:

Yds	100	200	300	400	500	600	700	800	900	1000 or more
No. A/C Firing	1	2	---	13	5	26	3	19	7	26 (1000) 2 (1500) 1 (2000)

Comments:

(See following page)



S E C R E T

Par 21 (contd)

Comments:

Following are the average yards at which E/A are estimated to have opened fire from directions and angles of attack indicated:

Frontal quarter, from above, 900 yards  
Frontal quarter, level, 1000 yards  
Frontal quarter, from below, 800 yards  
Right quarter, from above, 900 yards  
Right quarter, level, 900 yards  
Right quarter, from below, 800 yards  
Rear quarter, from above, 1200 yards  
Rear quarter, level, 800 yards  
Rear quarter, from below, 800 yards  
Left quarter, from above, 1100 yards  
Left quarter, level, 800 yards  
Left quarter, from below, 600 yards

22. TYPES OF ENEMY AIRCRAFT ATTACKING:

The total of 106 attacks was reported as having been made by the following types of enemy aircraft:

11 NICK	1 ZEKE (32)
16 TONY	3 OSCAR
23 ZEKE	4 Unidentified T/E (inline)
2 IRVING	5 Unidentified T/E
27 TOJO	14 Unidentified S/E

The unidentified twin-inline-engine aircraft mentioned above is the same type airplane reported by the same crews on missions No. 7 and No. 10 over Tokyo. Further comment by the gunners about this aircraft is that the wings seemed very small "to hold up the engines". Also, the cockpit is said to resemble that on a P-38. (Note description of another T/E aircraft in section 22A below.)

22A. TYPES OF E/A SIGHTED -- NOT ATTACKING:

It is not possible to state the number of airborne enemy aircraft in the target areas during the hour-and-a-half elapsed time the B-29s were over the targets, although it is estimated that there were approximately 100 separate fighters including those which attacked.

There were no types sighted other than those mentioned in the preceding section (22), except as follows:

a. Two crews reported two T/E A/C at about 26,000' in the target area at a distance of about 2500 yards and headed in the opposite direction. They believed these E/A were about the size of a B-26, with thin fuselages which were swept-up and extended beyond the vertical stabilizers. The very high rudders were generally triangular with tips squared off and trailing edges tapered. The mid-wing was located well forward. There was no greenhouse on top, and it was not possible to see if the noses were glazed. Details of the engine cowlings and nacelles were not observed. Vapor trails followed the fuselages and wing tips.

<sup>18</sup>  
S E C R E T

S E C R E T

Par 22A (contd)

b. Two unidentified T/E A/C, believed to be medium bombers, were observed to be at about 6,000' along the coast on way in to target.

The majority of the enemy aircraft were alone or with one other airplane in the target areas; however, the following special sightings were reported:

a. Seventeen TONYs, 320° course at 32,000' between the IP and target. No noticeable formation.

b. Crews of the 2nd Squadron over the target reported sighting, at 0510Z, approximately 100 A/C on and taking off from airfield at 34°45'N-137°07'E.

c. Crews of the last Squadrons sighted:

Two unidentified T/E and one unidentified S/E A/C coming up to altitude from airfield at 34°45'N-137°42'E. This was between 0558Z and 0602Z.

At 0610Z, one IRVING coming up to altitude from an airfield at Hamamatsu.

23. TYPE AND ACCURACY OF ENEMY FIRE AND TYPE PROJECTILE:

Enemy fire is reported to have been limited to 7.7-mm machine gun, 12.7-mm machine gun and 20-mm cannon projectiles, except as noted in paragraph number 19.

Although enemy fire was regarded generally as inaccurate, it ranged from very accurate to very inaccurate.

In the same way, there was no consistency in aggressiveness, with attacks being broken off from 900 yards down to 200 feet and the average at about 400-500 yards.

24. ENEMY AIRCRAFT MARKINGS:

No A/C were reported as having insignia other than the red roundels or the "rising sun". On some airplanes these insignia were a dull red and in others a bright reddish orange.

Other than for differences in basic colorings, the following specific markings were observed:

Silvery grey with red spinner: 1 ZEKE  
Black with yellow fuselage behind wings: 1 TOJO  
Grey with two white stripes under wings: 1 TOJO  
Grey with white rings around insignia: 17 TONYs (did not attack)  
Olive drab with yellow band around fuselage behind wings: 1 ZEKE

Basic colorings were reported as follows:

Brown (in various shades):

4 NICKS                    1 ZEKE  
1 TOJOS                    1 Unidentified T/E

S E C R E T

24. (contd)

S E C R E T

Black

2 TOJOs  
3 NICKS  
1 TONY  
2 Unidentified T/E  
2 Unidentified T/E (inline)

Silver

2 TONYs  
1 TOJO  
2 NICKS  
1 IRVING  
3 Unidentified T/E  
2 Unidentified T/E (inline)

Olive Drab

1 TONY  
3 TOJOs  
3 Unidentified S/E

25. ENEMY TACTICS:

There appeared to be little organization among the enemy fighters which made most of their attacks over the targets and immediately after bombs were dropped. The remaining attempts at interception were made on the run from target.

The first Squadron, which bombed at 27,500-30,000', received only one attack, although enemy fighters were observed at their altitude. The next four Squadrons, bombing from 26,450-29,500' and following closely behind, accumulated 86 attacks. The next two Squadrons to bomb went over the target at 30,500-32,300' after a lapse of approximately 18 minutes and received only one attack. The last two Squadrons, following immediately behind at 28,000-29,200' were the objects of 18 attacks.

The bomb run was into the sun but only against the 2nd Squadron did the fighters appear to make any effort to come out of the sun.

Although there were some almost simultaneous attacks, the bomber crews seemed to feel that these were not planned coordinated attacks.

Again, the fighter pilots seemed to represent a wide range of skill, training, and aggressiveness.

Only one case was reported of a repeat attack. This was by a TOJO coming in from 9 o'clock low toward the tail, rolling out and away at 6 o'clock then turning right and coming in at 8 o'clock for a sweep at the tail and breaking with a Split-S. On both of these attacks, fire was opened at about 600 yards and closed at about 400 yards.

Most frontal attacks, regardless of angle of approach, broke off with a turn right or left beneath the formation. For the other attacks, the Split-S was the favored breakaway although there were some cases of turns beneath and away from the bomber formation.

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S E C R E T

26. ENEMY FORMATIONS:

There appeared to be a definite lack of any recognizable fighter formations. A few enemy aircraft moved in "bunches". The only specific cases of formation flying were: six unidentified S/E A/C flying line-astern out of range, and one NICK, after making a pass at a B-29, was joined by a TOJO, with the two A/C departing line abreast.

27. OUR TACTICS AND FIREPOWER VS ENEMY A/C:

There were no reports of evasive maneuvers being taken to avoid fighters. In the large majority of cases, the B-29 gunners opened fire at 1,000 to 1,200 yards and many fighters failed to come in or were not aggressive against such fire.

28. RESULTS OF HITS ON E/A:

Results of hits on E/A are allocated as follows:

Exploded	1 TONY (497th Group)
Smoking and Flaming	2 TONYs (498th Group) 1 TONY (497th Group)
Crashed	1 NICK (497th Group)
Pilot bail-out	1 TOJO (497th Group)
Smoking	5 NICKs (497th Group) 1 TOJO (497th Group) 1 IRVING (498th Group) 1 TOJO (500th Group)

Apparently Un-  
controllable  
Spin

1 IRVING (500th Group)  
1 ZEKE (498th Group)

28A. CLAIMS BY A/C AND BY GUN POSITION:

<u>B-29 Serial No.</u>	<u>Gun Position</u>	<u>Type E/A</u>	<u>Claim</u>
42-24623	RSG	TONY	Destroyed
42-24627	TG	NICK	Destroyed
42-63423	Bombardier	TOJO	Destroyed
42-24614	Bombardier	TONY	Destroyed
42-24608	Bombardier	TONY	Probably Destroyed

S E C R E T

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Headquarters  
73rd Bombardment Wing

Mission No. 12  
Field Order No. 29  
13 December 1944

CONSOLIDATED MISSION REPORT

OBSERVATIONS AND CREW COMMENTS

29. EXPENDITURE OF AMMUNITION:

See Consolidated Statistical Report, Table XIII, Ammunition Consumption Data.

30. OUR OBSERVED LOSSES BY E/A:

See last sentence, Section 31.

31. OUR OBSERVED LOSSES BY A/A:

A/C 226(4687) - 500 - (See Section 13) is presumed to have become disabled from enemy flak although no one actually saw a burst strike the ship. The flak was heavy, moderate, and quite accurate at the time this squadron went over the target. The plane held altitude and place in formation until just after bombs away at which point flak was bursting at its greatest intensity. Another A/C reported seeing a ZEXE (32) make a pass at A/C 26 immediately after the breakaway but no one saw actual damage result.

32. OBSERVATIONS:

Observation	Time	Place	Altitude
1. Large fires with 4 columns of gray smoke to 4,000'	130445Z	Hanabatsu	29,000'
2. Fighter field with app. 100 S/E A/C on ground or taking off.	130510Z	34°35'N, 137°07'E	29,000'
3. Large factory with intense flak. AA seen coming up from E side of this area.	130559Z	Eastern Edge of Ise Bay	28,000'
4. A/C observed two A/D about 5 mi. apart. App 60 S/E & T/E A/C were on ground on one A/D and 45 S/E A/C on ground on other field. One A/D may have been located on island in Nagoya Bay.	130520Z 130527Z	35°15'N, 137°05'E	not recorded
5. 1 A/C observed an A/D under construction.	not recorded	34°40'N, 138°15'E	not recorded
6. 1 A/C observed possible submarine pens in the river 3 mi. from mouth.	130536Z	34°50'N, 137°07'E	28,800'
7. 1 A/C observed symmetrical buildings that looked like a dump	130554Z	34°40'N, 137°33'E	not recorded
8. At landfall, one bombardier reported seeing a large red ball floating upward toward the formation but well below it.	Heading 340°, speed 195.	Heading and speed of other observations not recorded.	
9. A large parabolic reflector was seen in the center of a village near the control point (34°41'N, 137°36'E). Possible radar position.			
10. An airfield was seen on Cu Island in the Okubi Bay. It appeared to be a well developed, operational A/F. Another field was seen on an island in a bay SW of Toyohashi. It had 3 long runways and several hangers.			

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Observations and Crew Comments, cont'd

33. COMMENTS ON MAPS, CHARTS, AND PHOTOS USED:

None

34. CREW SUGGESTIONS:

- a. Gunners need more information on enemy fighters at their specialized briefing.
- b. Need better ditching and air-sea rescue briefing.
- c. New formation assembly reported no good in bad weather.
- d. Bomb run should be made down wind with sun behind A/C.
- e. Classes should be held to familiarize crews with targets of opportunity other than those located in the largest Japanese cities.

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Headquarters  
73rd Bombardment Wing

Mission No. 12  
Field Order No. 29  
13 December 1944

CONSOLIDATED MISSION REPORT

GENERAL TECHNICAL DATA

35. FUNCTIONING OF OXYGEN SYSTEM:

Satisfactory

36. FUNCTIONING OF CLOTHING AND PERSONAL EQUIPMENT:

Satisfactory

37. CAMERAS:

See report of Photographic Officer.

38. TECHNICAL FAILURES:

See engineering report.

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DECLASSIFIED

Authority

NND 760008

By MNA/PA Date 8/30/05

Headquarters  
73rd Bombardment Wing

SECRET

Field Order No. 29  
Mission No. 12  
13 December 1944

CONSOLIDATED MISSION REPORT

BOMBING DATA

39. Bombing Data: See Consolidated Statistical Report, Table I.
40. Target Attack Data: See Consolidated Statistical Report, Table IV.
41. Conditions over target; the weather was CAVU. The target was easily seen and the camouflage was ineffective. Wind was about 150 knots from the West. The AA was moderate to heavy and accurate. Fighter attacks were light to moderate.
42. I.P. and A.P.: It was not possible to identify the I.P. on the ground and the turn was made at the coordinates. On an upwind run the I.P. should be closer to the target. The A.P. was satisfactory.
43. Reasons for failure to bomb: One aircraft failed to bomb due to a broken bomb bay door safety switch. One aircraft was hit by flak and salvaged bombs and tanks over Nagoya. 2 A/C retained 2 bombs each (later jettisoned) and one A/C retained 1 bomb due to faulty releases.
44. Results of bombing observed: The results of bombing were fair as photographs show approximately 50% destruction of the plant.
45. Possible sources of error in Bombing: In one lead A/C, IV531, trouble was encountered in the last few seconds of the run. Because of the accurate AA fire, the A/C was put into evasive action which made sighting very difficult and the formation missed the target. The O-1 autopilot was not employed. Bombs were dropped through the formation led by A/C No. 24V531 a moment before bombs away, making it necessary to toggle immediately. This formation did an excellent job in spite of this fact. In lead A/C 24V531, the bombsight was found to process excessively on a check made after landing. Bombing was accomplished with a caged gyro but due to the fact that the A/C was on O-1 autopilot the results were good anyway. One Squadron out short of the I.P. which resulted in this Squadron arriving at the bomb release line with the previous Squadron below it.
46. Use of radar and efficiency: Not used for bombing.
47. Comments and Suggestions: Disciplinary action should be taken against any airplane Commander that fails to turn the formation over to the deputy when the O-1 autopilot fails in the lead aircraft. Bombing runs should be planned downward when possible, when the run is necessarily planned upward it should not exceed five minutes. All aircraft Commanders should ascertain that friendly aircraft are not below them on the bombing run. Aircraft Commanders must be impressed with the absolute necessity of following the briefed plan and I.P. whenever it is at all possible to do so.



SECRET

Headquarters  
73rd Bombardment Wing

Mission No. 12  
Field Order No. 29  
13 December 1944

CONSOLIDATED MISSION REPORT

BOMB IMPACT DATA

See paragraphs 48 through 51

No. A/C over target : 71 bombed primary; 2 bombed Nagoya City, and 1 bombed Hamamatsu.  
Bomb Load : Of the 71 planes bombing primary target, 38 dropped 10 x 500-lb GPs, and 33 dropped 15 x M-18 IB.  
Direction of Attack : 252 - 230°. 1 plane bombed individually with 330° heading.  
AP : Center of the two final-assembly buildings in the old section of the plant.

Photographic Coverage and Quality :

Almost complete coverage of the target and adjacent area by second, third, and fourth squadrons over target. Only partial coverage by later squadrons. No photographs were taken of Nagoya or the village near Hamamatsu.

SUMMARY

Approximately 230 bomb bursts and 43 fires are visible on the photographs of these approximately 60 bursts can be seen in the target area, 58 having hit the buildings. 13 of these are along the narrow strip of small buildings located north of the two assembly buildings of the old plant. 9 bursts can be seen in the large assembly building at the western edge of the target. These caused large holes in the roof at the north eastern corner and one large hole in the south east corner of the building. There are 7 bursts showing on the small buildings and on the open ground between the two major assembly buildings. 14 bursts can be seen on the first assembly building at the eastern edge of the older area. The roof of this building has a gabled appearance in the north west and south east corners as well as in the center of the western side. In the newer section of the plant the large rectangular final assembly building adjacent to the old area has 7 bursts. The somewhat larger assembly building to the northeast has 6 bursts. 8 bursts are visible in the warehouse area of the new addition. 18 bursts can be seen in the open area of the warehouse.

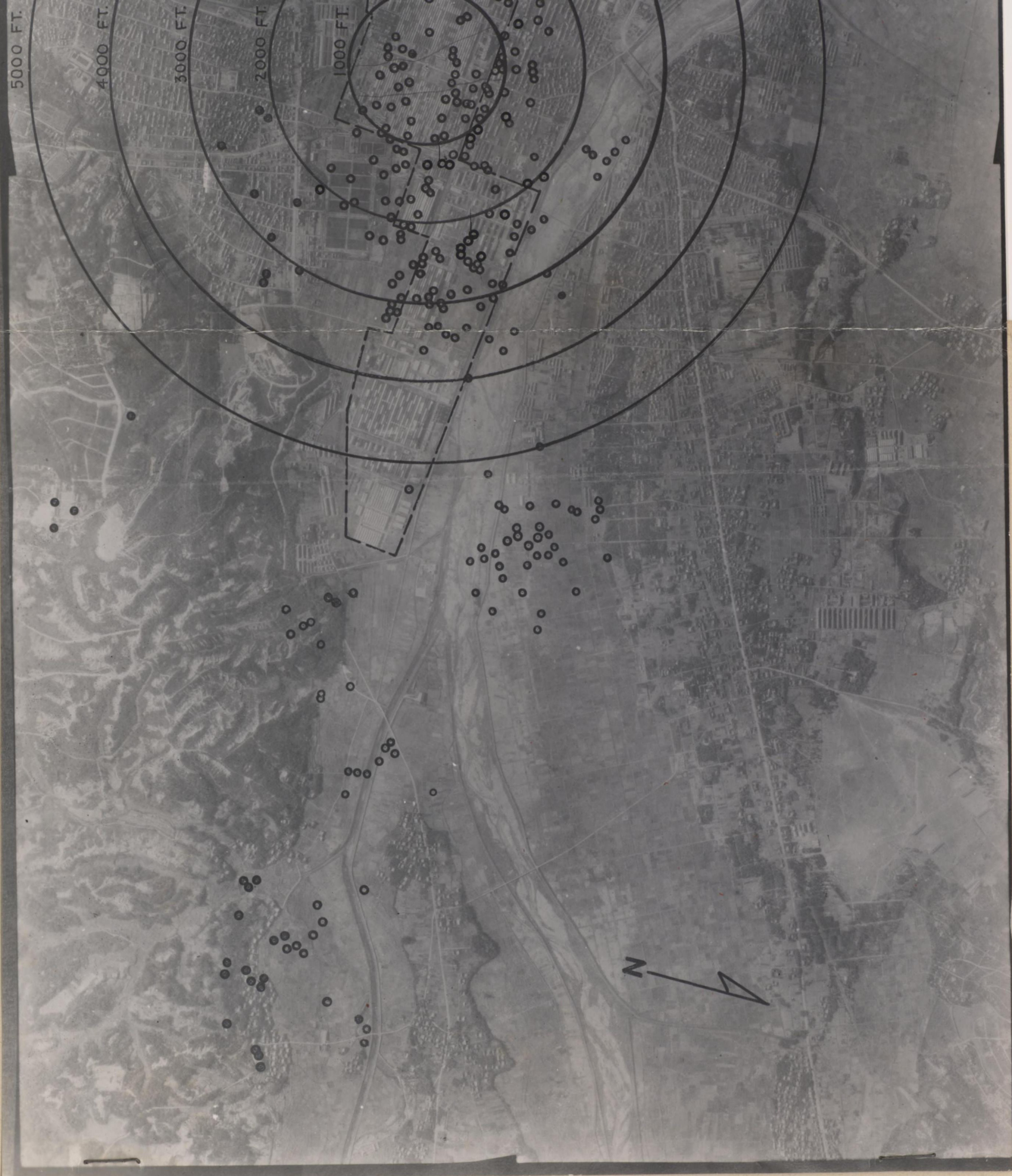
Outside the target 32 bursts can be seen in the residential area north of the old area. 17 bursts are visible in the river bed north of the target and 36 bursts can be seen across the river approximately 6400 feet from AP. Approximately 9600 feet to the east of the AP, 21 bursts can be seen and 15 fires in the houses to the south. 9 fires can be seen south and southeast of the purification ponds in the residential area. 3 scattered fires can be seen in the wooded section south of the eastern edge of the target. 26 bursts are visible in and near the purification ponds south of the new area. Approximately 15 fires are located approximately 15000 feet east of the AP in a small residential area. These fires are not shown on bomb plot.

CONCLUSION

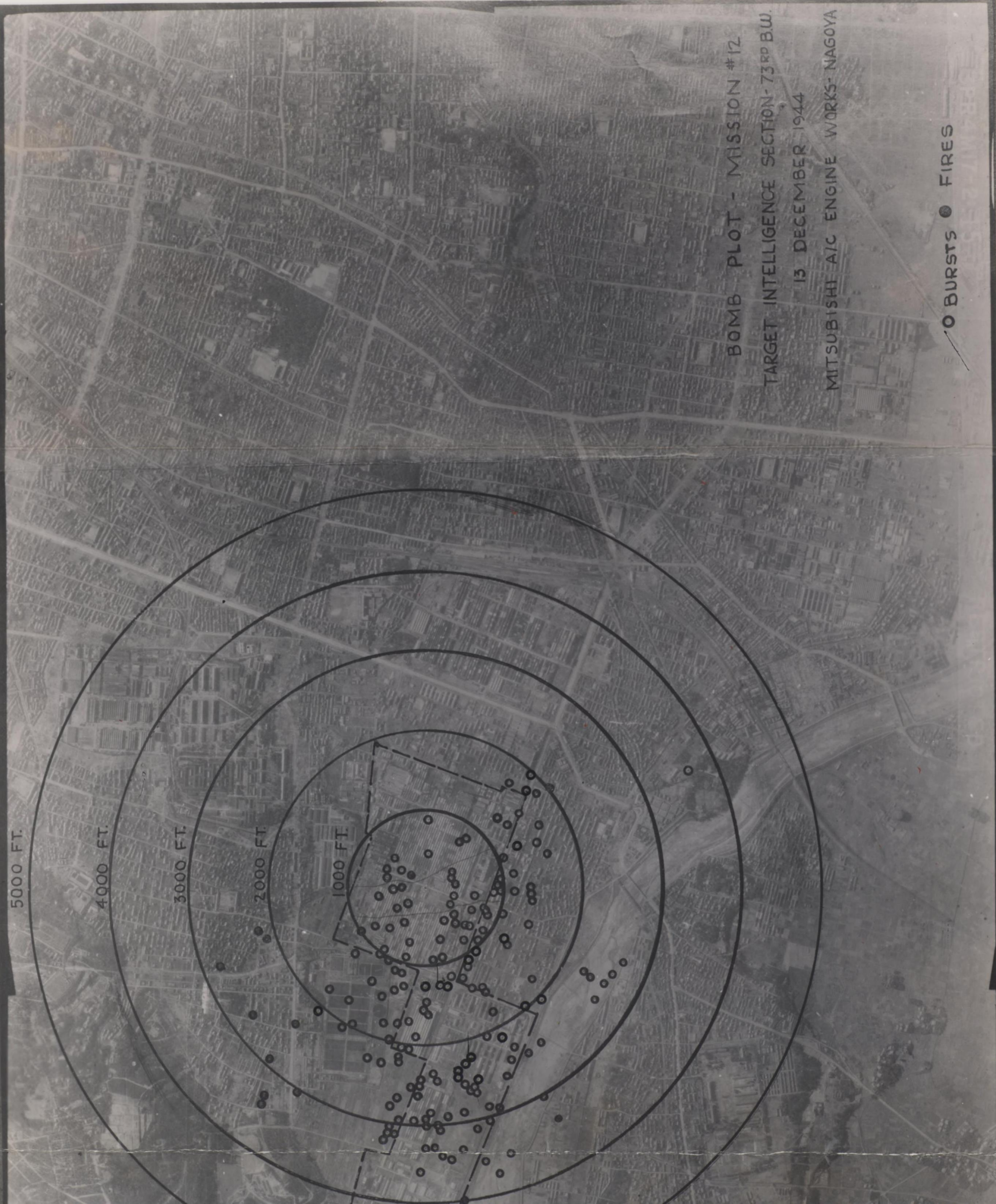
Using only the number of GPs released, as the IB clusters were impossible to distinguish in most cases, a total of 49 bombs burst within 1000 feet of the AP. The results of the bombing are considered to be poor as only 16 % of the total GPs dropped fell within 1000' of target.

SECRET

- 24 -



-25-



BOMB PLOT - MISSION #12  
TARGET INTELLIGENCE SECTION - 73<sup>RD</sup> BW.  
13 DECEMBER 1944  
MITSUBISHI A/C ENGINE WORKS - NAGOYA

○ BURSTS ● FIRES

(157L 970854619A64M13)(1V1)(12:13:1550)(12:26450)(35°11'N 136°57'E)(MITSUBISHI AC PLANT, NAGOYA)  
CONFIDENTIAL

42

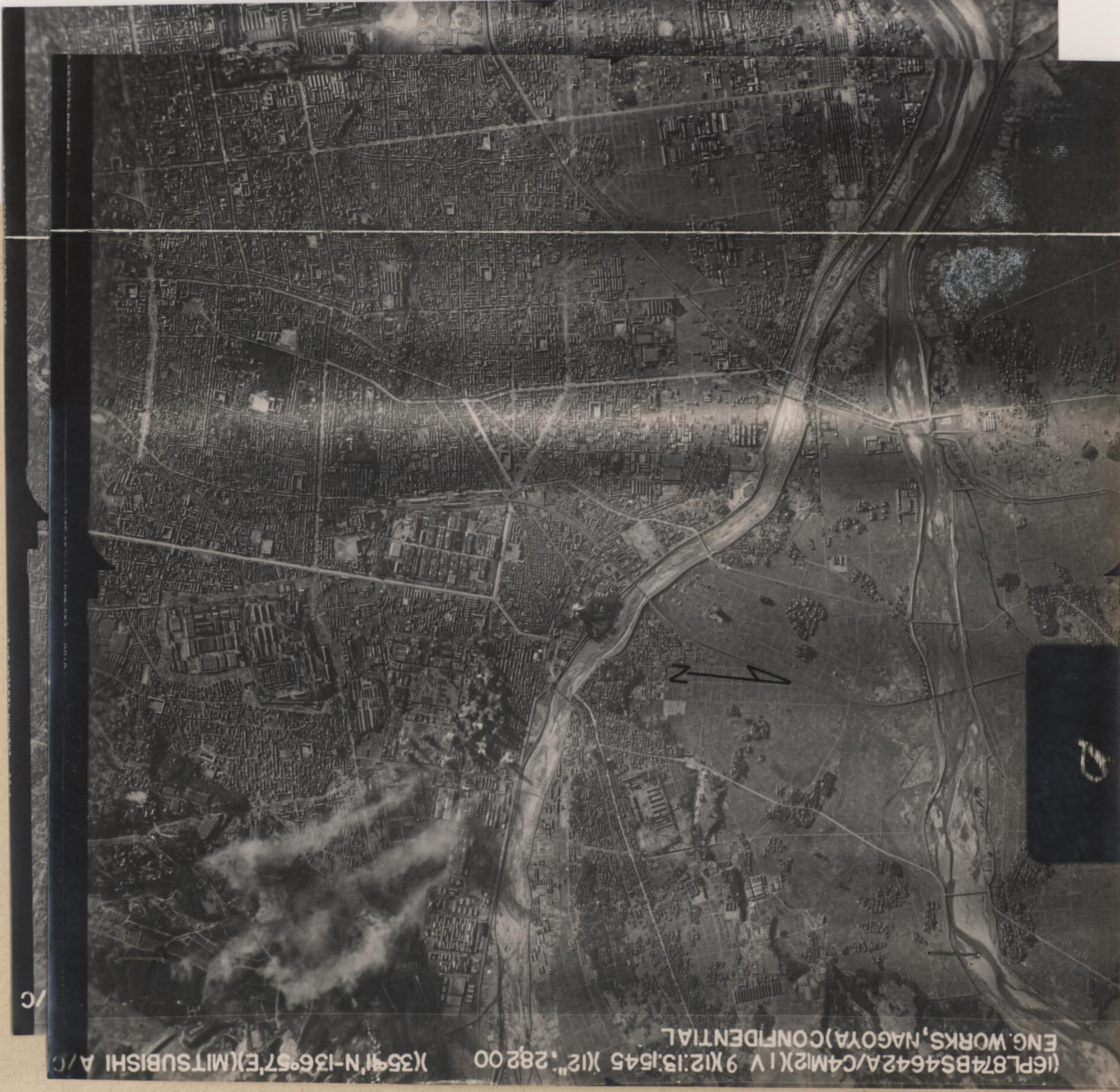
2695 EASTMAN TOPOGRAPHIC SAFETY

2706 EASTMAN TOPOGRAPHIC SAFETY



-26-

DECLASSIFIED  
Authority NND 168008  
By MNA/PA Date 11/30/05

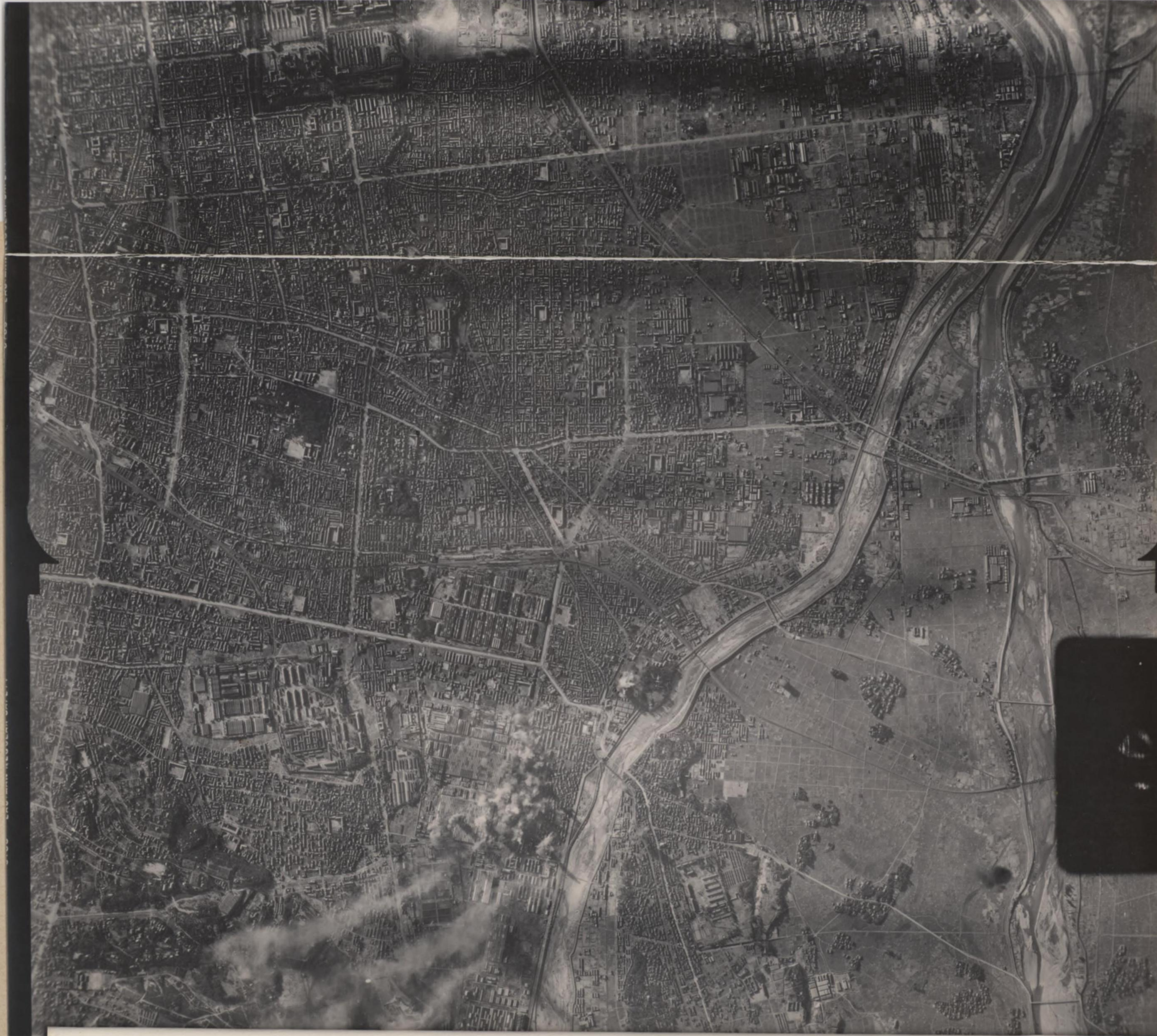


(16PL874BS4642A/C4M12) (V 9) (12:13:1545) (12":28200  
(3591'N-136957'E)(MITSUBISHI A/C  
ENG. WORKS, NAGOYA) CONFIDENTIAL

2

162

DECLASSIFIED  
Authority *NND 16868*  
By *MNARA* Date *8/3/05*



3/

127-

DECLASSIFIED  
Authority *NND 16468*  
By *MMN/PA* Date *11/30/05*



(18RL 882BS 2766A/C4M6)(M 1 1)(1213115211)(40:28:000)(35:11:36.57'E)  
(MITSUBISHI AIRCRAFT FT. (CONF.))

N

+

1017 EASTMAN REGULAR SAFETY

-28-

DECLASSIFIED  
Authority NND 760008  
By MNA/PA Date 8/3/05

188RL 082BS4766A/C 4 M6) (M16) (12:13:1521) (40:28,000) (35 (M 36 57 E)  
(MIT SUBISHI AIRCRAFT F.) (CONF.)



X +

-29-



(8PL883BS4660A/C4M6) (2V 7) (12.13.1535) (40:28,500) (35 11/11/88 7E)  
(MITSUBISHI AIRCRAFT PLANT) (CONF.)



AF4256206  
+

-30-

DECLASSIFIED  
Authority NND 168008  
By MNA/PA Date 8/3/05

**SECRET**

73rd Bomb Wing

Field Order 29

20 December 1944

Mission No. 12

NAVIGATORS CONSOLIDATED MISSION REPORT

1. Long range navigation for this wing is definitely improving with every mission. There was no large deviation in course except at the IP.
2. The navigators are still weak doing the precision navigation which is required over the target area. The bombing run was made directly up wind to avoid gross errors caused by drift. Some navigators failed to hit the initial point, as a result, they were on the bombing run for twenty three minutes.
3. Navigating in winds that range from 100 to 180 knots is a new experience to every one. Many still do not realize what drift correction is necessary to stay on course, and reach the initial point.
4. Loran was put in operation for the first time and could be used for this mission on the return trip. No loran charts were available, consequently they had to be made at this headquarters.
5. Maintenance of equipment, and an adequate supply of maps and charts are still one of our major problems in navigation.

**SECRET**

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SECRET

Headquarters  
73rd Bombardment Wing

Field Order No. 29  
Mission No. 12  
19 December 1944

CONSOLIDATED MISSION REPORT

RECAPITULATE

See per. 39 through 47.

*[Faint, illegible purple ink markings and bleed-through from the reverse side of the page.]*

SECRET

HEADQUARTERS 73rd BOMBARDMENT WING  
CONSOLIDATED MISSION REPORT

23 Dec 1944.  
JGH  
ATTACHE SUITAK.

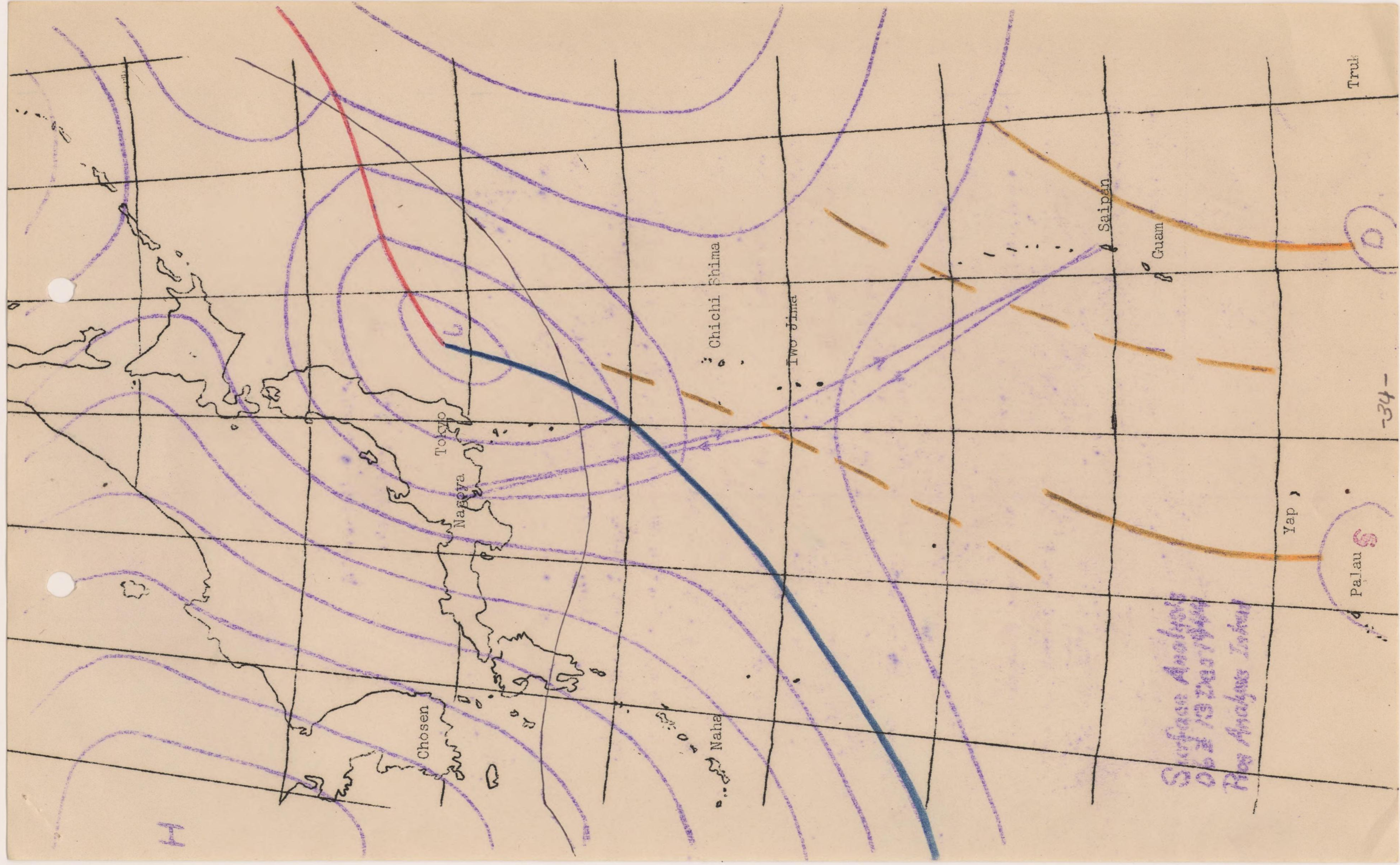
IO # 29  
Mission # 12  
13 Dec 1944.

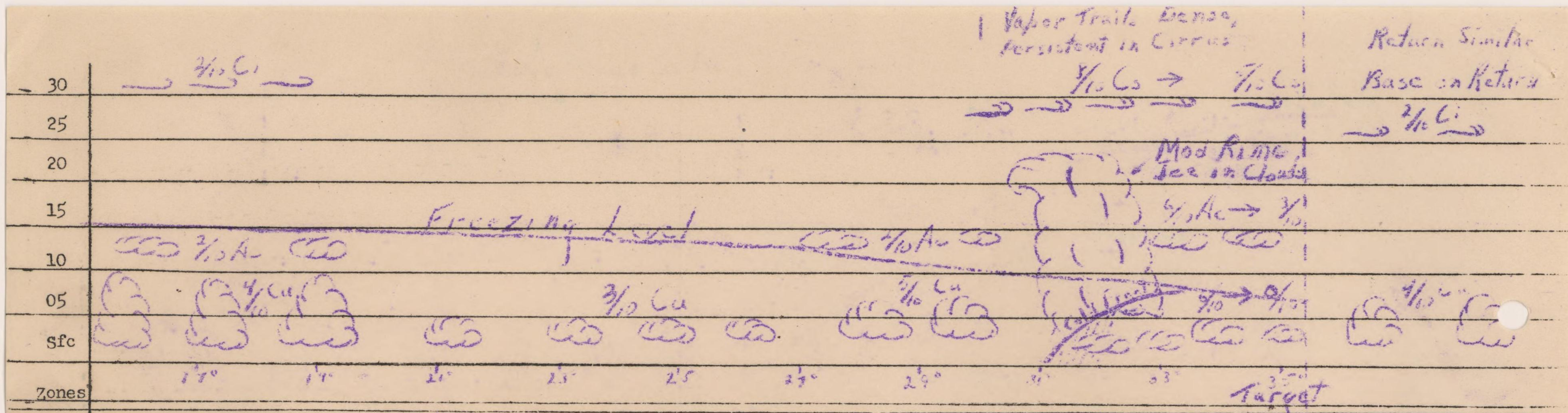
The frontal system lying off to the south of the Empire was not strong enough to cause any difficulty with the route weather but made the target forecast a rather touchy one. The prog frontal position was found to be quite inaccurate due to the low centers developing much farther east than anticipated.

Three tenths cloud cover (altocum) was forecast for the target on the basis of the anticipated development of the warm front to the southwest. The forecasted cloud cover was observed at the target but the front was encountered 150 miles farther south than expected. This lead to the fact that the overrunning along the frontal surface plus the disturbing effect of the mountains gave the same result.

The weather at the base on return was more severe than forecast. The easterly wave associated with the depression well to the south was much more intense than forecast. Scattered cumulonimbus with swelling cumulus passing over the base gave widely varying conditions from CAUV to 500' and  $\frac{1}{2}$  miles. This gave difficulty in landing the planes back from the mission.

The target wind and the winds at higher levels were accurate but due to the error in placing the front the surface wind shear is varied somewhat from those forecast.

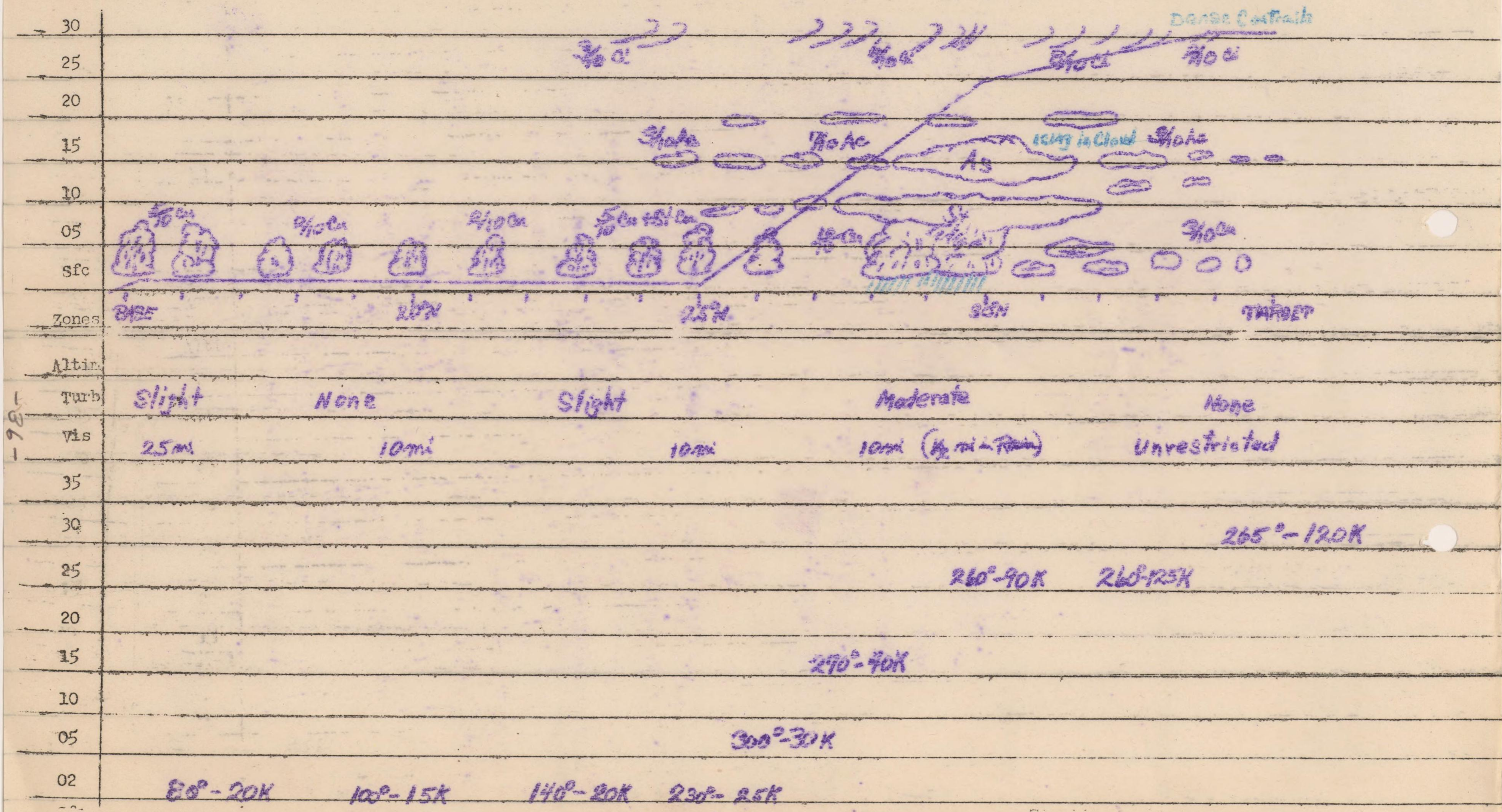




Altim	29.72			30.09"	29.71
Turb	Slight	Nil		Slight	Nil
Vis	15 mi < 2 in Shaws	25 mi.		20 mi	15 mi
35	290° - 30K -45°C	270° - 75 - 50		270 - 100 - 52	260 - 120 - 53
30	290° - 20 - 32°	270° - 60 - 37		270 - 90 - 42	260 - 110 - 47
25	300 - 15 - 21	270 - 50 - 25		270 - 75 - 29	260 - 90 - 37
20	320 - 15 - 11	270 - 40 - 14		270 - 55 - 19	260 - 70 - 26
15	340 - 20 - 1	280 - 30 - 4		260 - 40 - 9	250 - 55 - 15
10	30 - 25 - 8	290 - 20 - 4		250 - 25 - 1	240 - 40 - 6
05	60 - 25 - 16	360 - 12 - 11		200 - 20 - 7	200 - 25 - 0
02	70 - 20 - 22	90 - 12 - 16		150 - 12 - 12	140 - 20 - 3

Cold Front oriented East-West about 31N, wave formation West of track

Observed Cross Section 13 Dec 1944



Altitude					
Turb	Slight	None	Slight	Moderate	None
Vis	25mi	10mi	10mi	10mi (1/2 mi in rain)	Unrestricted
35					
30	265°-120K				
25			260°-90K	260°-125K	
20					
15				270°-70K	
10					
05					300°-30K
02	80°-20K	100°-15K	140°-20K	230°-25K	

SECRET

Headquarters  
72nd Bombardment Wing

Field Order No. 29  
Mission No. 12  
13 December 1944

CONSOLIDATED MISSION REPORT

ARC CANNONS

1. The Central Station Fire Control Equipment operation was very satisfactory the following lists the operational efficiency:

a. % of used systems (no complete failure) operative	100%
b. % of used individual turrets operative	97.6%
c. % of used Cal. 50 machine guns operative	97.4%
d. % of used 20 mm cannon operative	92.5%

2. The results as listed above were with the expenditure of the following ammunition.

a. 60,712 rds Cal. 50 ammunition, all types.  
b. 1,245 rds 20 mm ammunition, all types.

3. Gunners and interrogators comments are as follows:

a. Many crew members are urging closer harmonization checks. Due to the crowded conditions at this base and lack of sufficient power units harmonization has been checked by movable targets (as per method devised at Harrington AAB) and distant targets such as Hill tops. This has been highly unsatisfactory and on or about 1 Jan. 1945, two complete harmonization yards will be available. This will serve as an aid; however, instruments to conduct prism harmonization are urgently required by this wing.

b. Formations as directed by XXI Bomber Command Tactical Doctrine require that wing airplanes in each element, fly at the same level. Gunners believe that the wing airplanes should stack above and below the lead airplane in the same respective position as the high and low side of the entire formation. This is being investigated for more complete recommendation.

4. Of the report malfunctions of ARC equipment and weapons, 80% have been caused by personnel failure and 10% by equipment failure. The cause of the remaining 10% are unknown.



SECRET

Headquarters  
73rd Bombardment Wing

Field Order No. 29  
Mission No. 12  
13 December 1944

CONSOLIDATED MISSION REPORT

COMPILED BY GROUP FLIGHT ENGINEER AND ENGINEERING OFFICER

1. Refer to table I consolidated statistical summary.
2. Refer to table II consolidated statistical summary.
3. Refer to paragraph 6 below.
4. Refer to paragraph 16 of consolidated mission report.
5. Cruise control analysis:

- a. Fuel aboard at take off 8000 gallons.
- b. Average bomb load 5250 lbs.
- c. Average Gross Wt at take off 137,500 lbs.
- d. After assembly cruise was made at an average altitude of 1000' with a CAS of 200 MPH for approximately 4 hrs and 15 min. Then climb was made to 18,000' with leaders maintaining 2350 RPM and 41" M.P. There was a variation of time in level flight at 18,000' from 15 to 30 min. Then climb was made to bombing altitude. Return to base was made at varying altitudes due to varying winds aloft.
- e. For fuel consumption data refer to table XII under consolidated statistical summary. It will be noted that the average fuel consumed was higher in the 499th Group. The following was found to be the contributing factors:

1. The assembly plan was not properly executed by the leader.  
2. The air speed of the lead A/C varied from 200 to 210 MPH during low altitude cruise.  
3. The group was at bombing altitude 30 min longer than any other group, due to a navigational error.

1. The assembly plan was not properly executed by the leader.
2. The air speed of the lead A/C varied from 200 to 210 MPH during low altitude cruise.
3. The group was at bombing altitude 30 min longer than any other group, due to a navigational error.

6. Individual aircraft mechanical difficulties:  
497th Group

- A-4 #1 engine blown collector ring - #3 cowl flap switch broken.  
#4 cht gage out. #2 & #3 oil cooler inoperative in auto.  
A-5 #2 cht gage out. #2 & #4 pilots tach out.  
A-6 #3 & #4 oil temperature gage out. #1 & #3 oil coolers out in auto.  
#2 cooler sticks in auto. Bombardiers and Navigators airspeed out CFC buster cracked. #2 cht gage out.  
A-7 #2 engine blew cyl. Prop lost - burned self off when it couldn't be feathered. #3 cyl. hd. temp. out. #2 cht out. Burned out feathering pump.  
A-9 IFF out. Interphone out. - 2 panels in nose broken by flak - Bad oxygen leak  
A-21 Radar selsyn out - Fwd upper turret out due to battle damage.  
A-22 Defroster out.  
A-23 #1 prop stuck at 2150 - Radar malfunction - #4 turbo erratic #4 engine burned out exhaust stack.  
A-24 Fuel gages inaccurate.  
A-27 Inter com out - severe battle damages.  
A-28 Pressure regulator out - oxygen system leak.  
A-29 #1 turbo surge #2 engine rough - fuel gage out - Voltmeter inop. #3 oil cooler out in auto. #2 & #3 C.A.T. gages out.  
A-31 #1 prop gov. stuck at 2300 RPM Feathered - Generators out. - #3 regulator out. #2 & #3 nose oil pressure fluctuating. #4 fuel pressure ditto. CFC malfunctions.  
A-42 Radar antenna inop. - #2 engine would not run in A.I. #. nose oil pressure gage out.  
A-51 #2 prop could not be lowered below 2500 RPM #4 RPM - continuously increased - #1 RPM fluctuated 500 RPM.  
A-28 Bomb bay door safety switch broken.

-38-  
SECRET  
#1

- T-46----- Excessive ice on front glass at 20,000' unpressurized or pressurized. Generator cannot be paralleled. Rudder torn at trailing edge. Bomb bay tanks salvaged exporperly due to improper installation of fuel fittings. Radar dome destroyed by flak. Cabin over-pr surizes. Tail turret guns inoperative. No. 2 oil temperature regulator cut in automatic. Bomb intermalometer circuit out, necessitating salvo.
- T-46----- Wing flap indicator works in jerks. Left air cabin duct in tunnel leaks excessively. No. 1 cylinder head temperature out intermittently. No. 4 rear oil pressure reads 45 psi 29m. No. 2 and No. 3 tachometer oscillates excessively.
- T-44----- No. 3 cylinder head temperature excessively and hot. (270° at take off). No. 1 engine backfires at low altitude and low power setting. No. 1 cylinder head temperature out. (0°-100° reading).
- T-43----- Oxygen bottle filler CFC compartment leaks.
- T-50----- Emergency breaks weak. No. 2 engine runs hot. Induction fire in No. 1 engine. A.P.I. cut. No. 2 fuel gauge out. Battery overheating. Hose oil leak in No. 3 engine. No. 4 C.B. generator regulator cut.
- T-48----- No. 2 engine lost C.R.F. started to smoke and threw oil. (lost oil pressure and unable to feather), cut off fuel and ignition at pilot's order. Propeller went to flat pitch. Passed rpm 6000rpm, oil pressure to C.F and R. MP went to 29, propeller wind-milled. Engine nose caught afire, lost prop. Induction leak in No. 1 engine. Hydraulic system out. Bomb did not salvo.
- T-45----- Pilot's left gunner's and tail gunner's microphone switches stick. Radio compass inoperative. No. 1 engine runs 30° to 30° better than other engines, in spite of cowl flap position.
- T-46----- Shortage of green flares. Short circuit in the cabin head rheostat. Flux gate compass doesn't age properly. No. 2 engine began to leak oil slowly, then began to smoke a little, back-fired as throttle was pulled out. Vals leaks through on interphone. (oxygen system leaks, possible leak near bombardier. Elevation servo went out over target. Two of the running lights on left wing out.
- T-47----- Bomb rack malfunction. Remaining bombs and tanks had to be salvaged.
- T-44----- Cabin air valve No. 3 engine sticks. Rear oil pressure No. 1 engine dropped 45/ at 29,000 ft. returned to normal at lower altitude. Low fuel pressure on No. 2 at altitude, boost didn't effect (age reading). Right cabin pressure regulator valve chatters and engine's pressure to fluctuate 3000' to 4000'.
- T-42----- Upper blister blown at 30'00'-No. 3 rear oil 40/ over target but normal at 20000'. Small flak holes in No. 3 nacelle. Ingr. No. 3 engine RPM out-Co-pilot's airspeed 14 MPH slow- all air-speed indicators need recalibrating Co-pilot's mike button causes noise and starts out (3rd report). Wing flaps would only go to 2° but normal on landing. Two scoutmarker bombs exploded when blister blew. No. 1 2456 No. center wing section gas cup loos-. No. 3 automatic oil cooler inoperative. Need for engr. to have parallel control of prop switch. Need for fuel gages in cabin for bomb bay and center wing tanks.
- T-47----- Tail gunner's interphone cut. No.1 fuel pressure varies 10° to 25° at 30000'. No. 4 cowl flap indicator cut. CFC oxygen bottle broken. Bombardier's free air temperature broken. Tail gunner's oxygen regulator leaks. Flux gate compass does not age properly.
- T-40----- No. 3 and No. 4 tach reversed; Radar bracket broken; No 1 engine oscillates at altitude at low power setting; No. 2 make valve on controllable; No. 1 rear oil pressure 10 psi low.
- T-50----- Fuel transfer system out. Top blister out. Loss of power on No. 2 engine. Bombardier's altimeter 1000' high. No. 1 full gauge out. Warning horns keep blowing. No. 2 tach out. No. 1 and No. 4 oil temperature below 50° C. Fuel transfer system is being repaired so aircraft was not serviced.
- T-21----- No. 3 engine nose leaking oil-throttle started kicking back. Engine started smoking so bad right gunner could not see it. Feathered engine when propeller started to run away (3000) oil pressure normal. oil temperature 85-30° C cylinder head temperature 245° - 150 cool flows. No. 2 nose and rear oil pressure gages oscillates. No. 3 fuel pressure 19/ psi. No 4 boost temperature-keeps dropping even if worked okay for few minutes after changing amplifier. A.P.I. inoperative.
- T-24----- No air flow Pb'D through left main air duct. Windows frosted over at altitude Main hydraulic gages fluctuates. Co-pilot's hydraulic warning light flashes on and off. No 3 cylinder head temperature high, reaches 275 during climb.
- T-21----- No. 1 Governor stuck at 2250 RPM. Both lower turrets inoperative. No. 4 fuel pressure dropped to zero at 20,000'. Co-pilot's flight indicator inoperative. Oil leak in No. 1 engine.

7-26----- No. 3 cylinder head temperature out. No. 1 RPM oscillator 200rpm and HP 8°.  
 Left fuel pump out after leaving target. A.C. power to tail out. On landing  
 flak in battery junction box, box burned out.  
 7-25----- No. 1 out board voltage regulator burned out. Bombardiers, Radars and  
 Engineer's altimeter erratic when pressurized. Engineers and Tail gunner's  
 mike button sticks. Trouble light at left blister out. Pilot's trouble  
 light out.  
 7-27----- Altimeter inoperative. Oil leak No. 3 engine. A.P.I. inoperative No. 4 fuel  
 gage fluctuating. No. 1 cylinder head reading low. C2 leak in CFC station.  
 No. 1 manifold pressure fluctuates at alt. Oil leak No. 4 engine. Clock inop-  
 erative Co-pilot's panel. Both radar inverters burned out. Wing flap indio-  
 ator inoperative. No. 2 fuel pressure high.  
 7-28----- No. 3 oil pressure to low. Radar out. C-1 sluggish.  
 7-29----- No. 2 fuel gage out. Radar inverter inoperative. Loran set out.  
 7-30----- Normal inverter voltage low. All VHF transmitters turn on when any one is  
 operating. Pilot's, Co-pilot's and left gunner's mike switches stick. No.  
 2 rpm creeps in direction which last placed (50 rpm in 6 minutes). A.P.I.  
 out. Radar stuck.

422th Group

43V533---- Mild turbo surge with throttle jockeying.  
 9V533 ---- #4 & #2 RPM would not reduce after leaving target. #4 did reduce 1 hour  
 later. #2 never did reduce from 2500. #1 fuel qty gage read full scale  
 throughout mission.  
 5V533 ---- #2 liquidometer stuck between 900 & 1100. #3 liquidometer fluctuated  
 between 200 and 1000 gal. #4 oil qty gage stuck. #1 HP fell to 75° at  
 2100 RPM at 30000'. Barging encountered that could not be corrected.  
 2V533 ---- AFI inoperative.  
 10V533---- #2 turbo amplifier had to be changed. #1's 1,2, and 4 feed up and out out  
 with intercoms closed at 30000', 1800 RPM.  
 6V533 ---- #3 oil temp red. out in auto. #2 generator showed voltage but no amperage.  
 24V533---- No. 2 fuel qty gage flickers constantly. #4 oil qty gage read 25 gal at  
 30000' and 50 gal at 20000'. Emergency power bus relay stuck closed.  
 Portable rotor was burned out.  
 26V533---- Turbo surge with reduced HP at 2400 RPM.  
 21V533---- Fuel transfer lights blinked and went out at 30000'. Suction gage read  
 10° at 30000'.  
 20V533---- #4 nose oil press gage out. #4 fuel press. low with low boost. Required  
 high boost to hold 16 PSI at 18000'.

500th Group

42-24792--- Oxygen regulator, engineer's panel out.  
 42-24672--- #4 Manifold pressure out at 30000'. #2 and #4 Manifold pressure high.  
 42-24694--- Vacuum pressure low. #2 oil cooler out in auto. #4 Fuel gage out.  
 42-24743--- Radar out.  
 42-24689--- #2 Carburetor air temperature out. #1 Nose oil pressure low.  
 42-24652--- #4 Starter burned out.  
 42-24766--- Radar compass hunts excessively. Short in landing light.  
 42-24664--- Ship drifts to left continuously on AFCE. #2 Cylinder head temp.  
 oscillates. Radio compass revolves on any heading. #3 Propeller  
 Governor would not change pitch.  
 42-24676--- Main inverter light stays on.  
 42-69436--- (Aborted) Valve failure. #18 cylinder, #4 engine.  
 42-69429--- Left blister cracked. #1 carbair temperature out. Radio compass out on  
 auto. Loran out.  
 42-24700--- Loran out. #2 carbair temperature out. C-1 inoperative. Radar out. Bomb  
 bay door indicator lights out.  
 42-24686--- Excessive oil leak. #4 prop. governor line  
 42-24675--- C-1 inoperative Amplifier overheats. No volume on liaison receiver.  
 42-24659--- Cabin pressure regulation unstable. Navigator's radar scope out. VHF  
 very noisy. Tail gunners foot mike switchout. #4 carbair temp. out.  
 42-69441--- Cabin heater out. #2 collector ring blown. #1 and #4 boost pumps weak.  
 #2 prop windmills backwards.

42-24657---- Left blaster blown. /2 oil temp. regulator inoperative in auto. Co-  
pilot's directional gyro out. #1 and #4 turbos oscillate excessively  
at high altitudes. #4 carbair temp. out.  
42-24721---- Voltage regulators not holding voltage constant.  
42-24660---- #4 carbair temp. out. /4 fuel gage out. A.P.I. inoperative. Pilots mike  
switch out. /2 mixture control linkage inoperative.  
42-24660---- #4 oil cooler inoperative in auto. Interphone out, dynamotor burned out.  
Radar dome blown off.  
42-24671---- Defective cammen plug in radar inverter.  
42-24696---- VHF out.

Group 7324  
 Date 20 Dec 1944  
 By Wing photo O.

C O N F I D E N T I A L  
 CONSOLIDATED MISSION REPORT  
 PHOTOGRAPHIC

F. O. No. 29  
 Mission No. 12  
 Date of Mission 19 Dec 1944

	K-18	K-19	K-20	K-22	K-24	K-25	Total
a. Cameras installed	2	0	9	21	6	29	60
b. Cameras in aborting A/C	2	0	0	2	1	2	7
c. Cameras in lost A/C	0	0	0	2	0	0	2
d. Camera in A/C not lost but not returning.	0	0	0	0	0	0	0
e. Cameras with malfunctions	1	0	0	2	0	0	3
f. Cameras in operating condition not taking photos	0	0	9	6	5	9	29
g. Camera taking photos	0	0	0	9	0	12	21

2. Breakdown of cameras taking photos by A/C Number:

A/C No.	f. stop	Vertical camera shutter interval	camera altitude	Number of photos taken				
				K-18	K-19	K-20	K-22	K-24
4619	8	5	26050				1	
4642	5	7	28000				11	
4624	8	7					6	
2410	5.6	5	22900				38	
2429	8	7	28000				2	17
4623	8	7	27300				85	25
4699	6.3	5	22900				11	15
2429	8	7	28100				100	5
2416	8	7	28500				6	6
4592							11	11
4591							20	20
2412							6	6
4629							4	4
4667							9	9
4647							20	20
4754							15	15
4664								

Incl 8

C O N F I D E N T I A L

CONFIDENTIAL

3. Breakdown of cameras not taking photos by cause:

Cause	No. of Cameras	Explanation
a. Mechanical failure	2	Defective camera parts
b. Installation error		
c. Processing error	3	
d. Camera doors not open		
e. M/Switch not on		
f. Vacuum failure	1	Radar power out
g. Power failure	3	A/C Radar shot out through overboard
h. Light failure (Target)	1	No time to take photos
i. Enemy action	15	Photos taken but of no intelligence value; no bomb strikes shown
j. Others	6	Lens found to be cracked upon return
k.		
l.		
m.		
n.		
c. Total	32	

4. Remarks and suggestions:

5. Instructions for preparing this form:

a. This report will be prepared by Photo Lab Commander and certified by Group S-3:

b. Items:

1a, b, c, d, are self explanatory.

1e - The number of malfunctions due to installation or processing.

1f - Number of non-effective cameras due to camera m/switch not turned on, failure of vacuum to the extent of rendering pictures void, Intervalometer or camera fuze blown, tampering with intervalometer or camera, light conditions over target, enemy action, etc.

1g. f is equal to a minus b, c, d, e, and f.

Item 2 - The f. stop, shutter speed, interval between exposures, altitude will be given for only the vertical cameras by A/C number.

Item 3 - Give a definite explanation of the reason for any malfunction.

Certified by \_\_\_\_\_

Group S-3

Rank \_\_\_\_\_

Prepared by \_\_\_\_\_

Photo Lab Commander

Rank \_\_\_\_\_

CONFIDENTIAL

73d Bomb Wing  
13 Dec 1944

NO #29

COMMUNICATIONS

1. Strike Reports: Ground Station received primary and amplified strike reports without any difficulty. One aircraft failed to adhere to SOP by adding a message heading to his amplified strike report. Correct procedure was discussed with Group Communication Officers, and corrective action has been taken with this particular radio operator.
2. Fox-Type Transmissions: Weather was transmitted by the Ground Station hourly in UCOPAC. Time ticks were sent hourly when operational traffic permitted. One encoded message concerning additional rescue facilities was transmitted after the receipt of all primary strike reports.
3. Frequencies: The majority of traffic was carried out on 3145 KCS. However, the majority of strike reports was received on 11160 KCS. Signal strength of 11160 KCS over the target was reported good by aerial radio operators.
4. Net Discipline and Security: Net discipline was good with the exception of the last two hours of operation on 3145 KCS. This was due to the numerous requests for bearings and the fact that the aerial radio operators were not listening before transmitting. Anxiety, due to heavy rain storms and dwindling gas supplies, probably gave rise to more "URGENT" messages than would normally be expected and increased the tendency to transmit before listening. Net security was good with one exception: one aircraft broke radio silence on the way to the target by sending a message in clear text concerning Inoperative IFF. Investigation of the breach of security has been initiated.
5. Navigation Aids: Through interrogation, it was found that some Groups made extensive use of Saipan Range and Honor while other Groups made moderate use of these facilities. During return leg of mission, aircraft requested fifty-two (52) bearings. Of this number, two (2) bearings were not given, one request being cancelled by aircraft, the other was due to the inability of the D/F receiver to pick up the aircraft signals on 11160 KCS.
6. Enemy Interference: Unidentified interference was picked up on 7310 KCS and 7275 KCS. One unidentified voice station was picked up on 7275 at 0600Z. On 3145 KCS, a practice net, using call signs AB1 and AB, caused slight interference. The location of these signals is unknown. Slight

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E.O. 11652, Sec. 3(E) and 5(D) of (E)  
NND 240120  
By *SP4 I NARS*, Date OCT 21 1975

interference was noticed on 11160.

7. Distress: Ground Station received nine (9) URGENT requests for bearings. All bearings were obtained. One SOS ditching message was received. Two bearings were shot on this aircraft, bearings and distance from Field were obtained from ADCO by taking plots on his emergency IFF. This information was transmitted to aircraft before ditching. This crew was subsequently rescued by the Navy.

8. Equipment Malfunctions:

SET	MALFUNCTION	497	498	499	500
AN/ARR-7	Inoperative Unable to tune on antenna Excessive hunting	1	1	1	
AN/ART-13	Poor output No output One dynamotor outsl out No plate current Noisy dynamotor	1			1
SCR-274	No modulation	1			
BC-348	Excessive noise Inoperative Arcing brushes on dynamotor	1	1	1	
SCR-522	Transmitter Channel "C" inoperative Weak output Inoperative		1		1 1
RS-36	3 foot switches stuck mike switches stuck		1	1	

9. At a meeting of all Group and Squadron Communication Officers, preventive maintenance and improved preflight of equipment was discussed in an attempt to eliminate outstanding malfunctions of equipment.



SECRET

Headquarters  
73rd Bombardment Wing

Field Order No. 29  
Mission No. 12  
13 December 1944

RADAR EMPLOYMENT AND RADAR EQUIPMENT PERFORMANCE

1. RADAR EMPLOYMENT.

a. AN/APQ-13 (Blend Bombing)  
All bombs were dropped visually. The radar equipment was used for accurate wind determination on landfall in the target area. Winds experienced at bombing altitudes generally produce drift in excess of the maximum measurable with the drift meter but not outside the limits of radar wind measurement. Since the visual IP was poor, a radar fix on the coastline was used to determine the point to begin the turn onto the bomb run.

b. SCR - 718 (Altimeter)  
Employment was normal.

c. SCR - 695 (IFF)  
Employment was normal.

2. Radar equipment performance.

a. AN/APQ-13 (Blend bombing)  
of 84 A/C reporting.  
(1) 6 reported excellent performance.  
(2) 62 reported satisfactory performance.  
(3) 16 reported unsatisfactory performance.  
(4) 81% of the radar sets were operational over the target

b. SCR - 718 (Radar Altimeter)  
2 SCR - 718 altimeter failures were reported.

c. SCR - 695 (IFF)  
1 IFF failure was reported, due apparently to personnel failure rather than equipment failure.

SECRET

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HEADQUARTERS  
73RD BOMBARDMENT WING

FO NUMBER 29  
MISSION NUMBER 12  
13 December 1944

CONSOLIDATED ECM REPORT

1. Number of Radar Observers participating 4
2. Number of Radar Observers completed mission 3
3. Equipment employed:

<u>TYPE</u>	<u>AV HOURS ON</u>	<u>REMARKS</u>
AV/APM4 3	4 Hr 12 min	None
AV/APM5A 1	2 Hr 46 min	None
AV/APM5 1	4 Hr 40 min	None
AV/APACK 3	4 Hr 12 min	PIF inaccurate
AV/ANQ 2	2 Hr 46 min	

4. Signals logged:

<u>BAND</u>	<u>NUMBER</u>	<u>RF RANGE</u>	<u>PULSE WIDTH RANGE</u>
A-60-85	25	350-700	30-50
B-85-120	50	250-1000	25-70
C-120-170	18	350-1500	8-17
D-170-220	23	800-2000	10-17
E-220-300	1	?	?
F-300-1000			

Above, Specify Frequency

5. Track overlay; Annotated map showing:
  - a. Track made good.
  - b. Position in hourly intervals (2 Time).
  - c. Approximate position at intercept of signals. (Letters A-F are incircled to show location of A/C when signals in the band specified were heard).

6. Remarks.

a. Volume indicated relative use of 10-100 dB and 10-20 dB in decibels for

As ranging and S/N.

b. All intercepts in the center - 46 -

HEADQUARTERS  
73RD BOMBARDMENT WING

FO NUMBER 29  
MISSION NUMBER 12  
13 December 1944

CONSOLIDATED ECM REPORT

1. Number of Radar Observers participating 4
2. Number of Radar Observers completed mission 3
3. Equipment employed:

<u>TYPE</u>	<u>AV HOURS ON</u>	<u>FUNCTIONS</u>
AN/APN4 3	4 Hr 12 min	None
AN/APR5A 1	2 Hr 46 min	None
AN/APR5 1	4 Hr 40 min	None
AN/APACK 3	4 Hr 12 min	PTF inaccurate
AN/AHQ 2	2 Hr 46 min	

4. Signals logged:

<u>BAND</u>	<u>NUMBER</u>	<u>RF RANGE</u>	<u>PULSE WIDTH RANGE</u>
A-60-85	25	350-700	30-50
D-85-120	50	250-1000	25-90
G-120-170	18	350-1500	8-17
D-170-220	23	300-2000	10-17
E-220-300	1	?	?
F-300-1000			

Above, Specify Frequency

5. Track overlay: Annotated map showing:
  - a. Track made good.
  - b. Position in hourly intervals (Z Time).
  - c. Approximate position at intercept of signals. (Letters A-F are incircled to show location of A/C when signals in the band specified were heard).
6. Remarks:
  - a. Evidence indicated extensive use of 140-170 Mc and 190-210 Mc channels for AA ranging and G.C.I.
  - b. No intercepts in the centimeter band.

-DP-

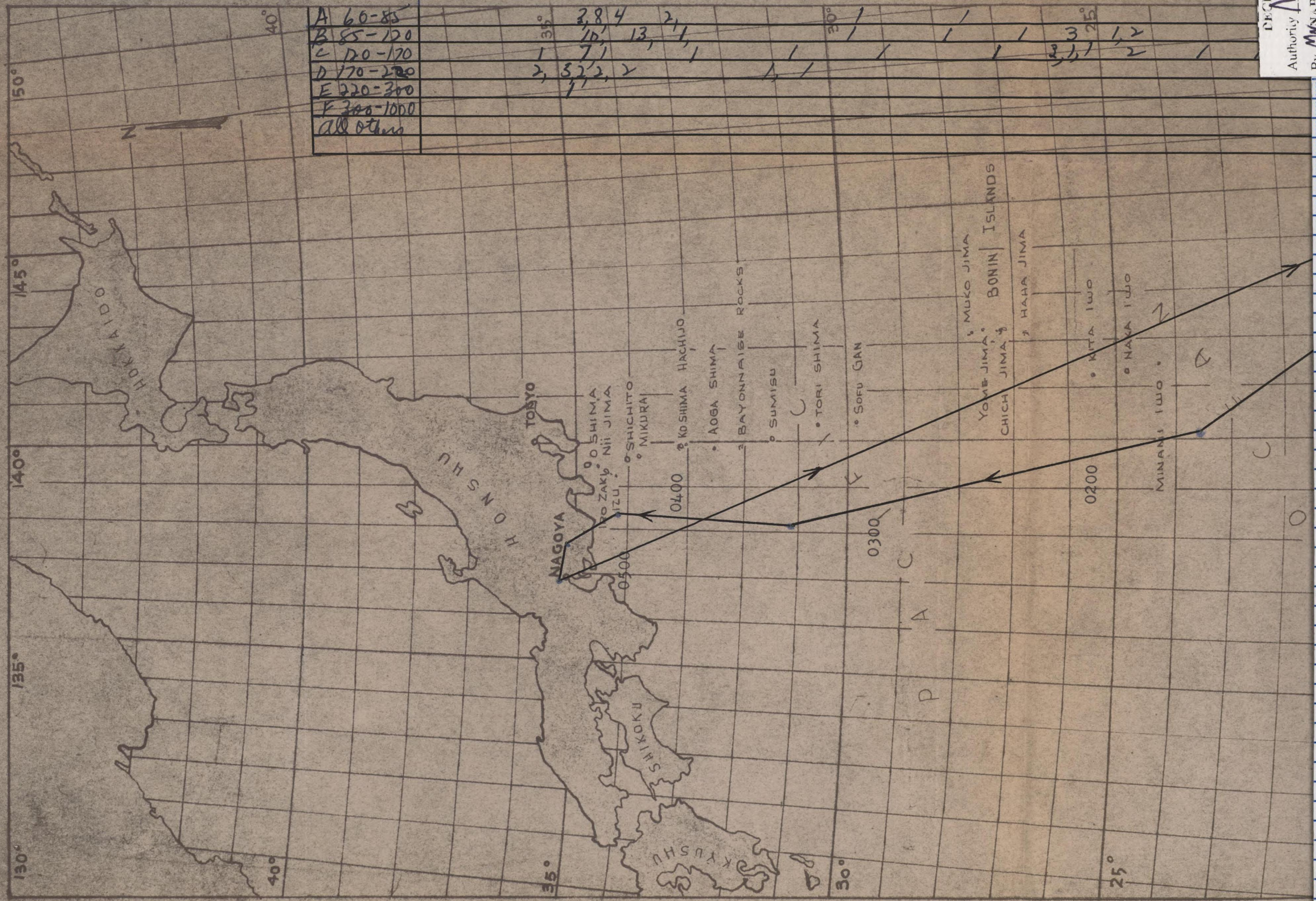
Raven Overly  
Mission 12  
Take off 2230F  
Land 0920F

4 Radar Observers  
1 Abort  
13 December 1944

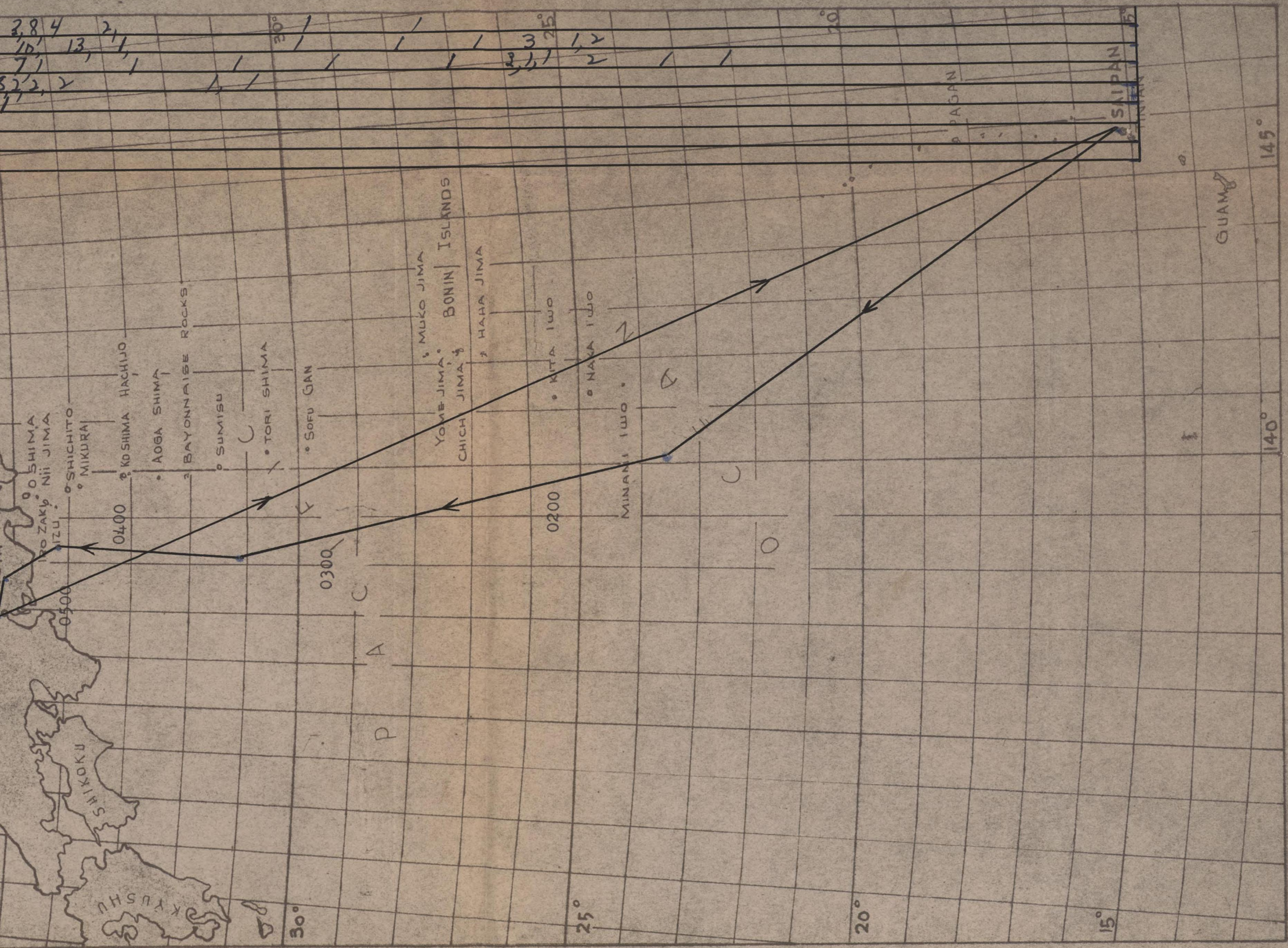
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Raven Overly  
Mission 12  
Take off 2230F  
Land 0920F

4 Radar Observers  
1 Abort  
13 December 1944



2, 8, 4  
10, 13, 21  
7, 1, 1  
3, 2, 2, 2  
1, 1



73RD BOMB WING

S-E-C-R-E-T

FIELD ORDER NO. 29

MISSION NO. 12

13 Dec 44

## Consolidated Statistical Summary

Primary Target MITSUBISHI A/C ENGINE FACTORY, NAGOYA, JAPAN

Table I Aircraft Participating

	NUMBER OF AIRCRAFT				
	TOTAL WING	497	498	1,99	500
A/C Scheduled to Take-off	94	20	25	24	25
A/C Failing to Take-off	4	2 a	0	1 c	1 e
A/C Airborne	90	18	25	23	24
A/C Airborne Failing to Bomb Designated Targets	15	1	3	9	2
% of Airborne A/C Failing to Bomb Designated Targets	17%	6%	12%	39%	8%
A/C Bombing Primary Target	71	16	22	12	21
% of Airborne A/C Bombing Primary Target	79%	89%	88%	52%	88%
A/C Failing to Return to Home Base	4	0	1 b	2 d	1 f
Time of Take-off:	12 Dec	12 Dec	12 Dec	12 Dec	12 Dec
Earliest	2139 Z	2139Z	2202Z	2227Z	2251Z
Latest	2321 Z	2157Z	2321Z	2250Z	2315Z
Time of Return:	13 Dec	13 Dec	13 Dec	13 Dec	13 Dec
Earliest	1020 Z	1020Z	1133Z	1107Z	1121Z
Latest	1345 Z	1207Z	1218Z	1306Z	1345Z

a. A/C 741 #4 ENGINE ROUGH

A/C 485 4 GENERATORS BURNED OUT. #1 CYLINDER HEAD TEMPERATURE INOPERATIVE, #2 THROTTLE LINKAGE OUT OF ADJUSTMENT.

b. A/C 430 DITCHED - CAUSE UNKNOWN.

c. A/C 754 COULD NOT GET TAKE OFF POWER ON #4 ENGINE, FAULTY PROP GOVERNOR

d. A/C 447 DITCHED DUE TO LACK OF FUEL. NAVIGATION ERROR CAUSED BY SEXTANT FAILURE.

A/C 439 MISSING. CAUSE UNKNOWN. BELIEVED TO HAVE CRASHED OFF NAUFUTAN PT. SAIPAN.

e. A/C 652 STARTER BURNED OUT #4 ENGINE.

f. A/C 687 DITCHED. BELIEVED TO HAVE BEEN DAMAGED BY FLAK.

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73RD BOMB WING

S E C R E T

FIELD ORDER NO. 29

MISSION NO. 12

13 Dec 44

## Consolidated Statistical Summary

Table II Breakdown of Non-Effective Aircraft by Cause

A/C FAILING TO BOMB DESIGNATED TARGETS

CAUSE	NUMBER OF AIRCRAFT				
	TOTAL WING	497	498	499	500
Mechanical Failure	14	1 a	3 b	8 c	2 e
Personnel Failure					
Flight Conditions					
Enemy Action					
Unknown					
Other	1			1 d	
Total	15	1	3	9	2

- a. A/C 423 BOMB BAY DOOR SAFETY SWITCH BROKEN
- b. A/C 609 #3 ENGINE BLEW 2 CYLINDERS  
 A/C 654 #1 ENGINE FUEL BOOSTER PUMP MOTORS BURNED OUT CAUSING ENGINE TO QUIT AT HIGH ALTITUDES; CFC BLISTER BLOWN; FUEL TRANSFER PUMPS FAILED.  
 A/C 211 #2 ENGINE - RUNAWAY PROP WOULD NOT FEATHER, ENGINE FROZE, PROP CAME OFF.  
 c. A/C 658 CAREURETOR MALFUNCTION #1 ENGINE. BOMBED PAGAN.  
 A/C 651 #14 CYLINDER #2 ENGINE BLOWN.  
 A/C 683 CYLINDER BLOWN #2 ENGINE  
 A/C 684 PROP GOVERNOR FAILURE #2 ENGINE. BOMBED PAGAN  
 A/C 465 FUEL TRANSFER PUMP INCORPORATIVE; CARBON PILE BLADES BROKEN.  
 A/C 661 #14 CYLINDER #4 ENGINE BLOWN  
 A/C 669 FUEL TRANSFER SYSTEM FAILURE. BOMBED PAGAN  
 A/C 677 CYLINDER HEAD TEMP TOO HIGH TO GO TO ALTITUDE. BOMBED UNIDENTIFIED ISLANDS OFF JAPANESE COAST.  
 d. A/C 765 FUEL SHORTAGE. BOMBED HACHIJO JIMA  
 e. A/C 686 LEAK IN GOVERNOR OIL LINE, GOVERNOR HEAD BURNED OUT, PROP STUCK AT 2250 RPM #4 ENGINE  
 A/C 436 #18 CYLINDER #4 ENGINE BLOWN.

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13 December 1944

## Consolidated Statistical Summary

Table III Breakdown of Aircraft Failing to Bomb Primary Target

**A/C Bombing Secondary and Lest Resort Targets**

C A U S E	NUMBER OF AIRCRAFT				
	TOTAL WING	497	498	499	500
Mechanical Failure	2	1a			1c
Personnel Failure					
Flight Conditions					
Enemy Action					
Unknown					
Other	2			2b	
Total	4	1		2	1

a -- A/C 231 #2 Prop RPM could not be reduced below 2500, #4 RPM Continuous increase, #1 RPM Fluctuating -- BOMBED HAMATSU

b -- Aborts on runway prevented 2 A/C from catching up with formation, AP Commanders Bombed secondary targets because they believed vulnerable 2 A/C Formation would be safer avoiding concentrated fighter attacks over primary targets.

c -- A/C 668 #18 cylinder #4 Engine swallowed exhaust valve.

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73RD BOMB WING

Consolidated Statistical Summary

FIELD ORDER NO. 19

13 Dec 44

Table IV Bombing Run

MISSION NO. 12

GROUP	TARGET NUMBER	NO. A/C REACHING TARGET	A/C DROPPING BOMBS			TIME OF RELEASE		ALTITUDE OF RELEASE		VISUAL BOMBING A/C SIGHTING FOR:			RADAR BOMBING		A/C OPERATED BY:	
			IN FORMATION	INDIVIDUAL	TOTAL	EARLIEST	LATEST	LOWEST	HIGHEST	R & D	RANGE	DROP ON LEADER	A/C SIGHTING	A/C DROPPING ON LEADER	C-1	MANUAL
497	1	17	16		16	0457 Z	0550Z	26450	30000	3		13			2	14
	3	1		1	1	0435 Z		26,970		1					1	
498	1	22	22		22	0543 Z	0548Z*	28200	29850	3		19			3	19
499	1	12	12		12	0608 Z	0627Z	30500	32300	2		10			2	10
	2	2	2		2	0557 Z	0557Z	31500	31600	1		1				2
	4	3		3	3	0040Z	0630Z	8420	16700	3					2	1
	5	1		1	1	0521 Z		29,900				1			1	
	6	1		1	1	0500 Z		27,200		1					1	
500	1	21	21		21	0631 Z	0638Z	28000	29200	2	3	16			2	19
	7	1		1	1	0555 Z		28,500		1					1	
WING	1	72	71		71	0457 Z	0638Z	26450	32300	10	3	50			9	62

TARGET NUMBERS: 1 - Mitsubishi A/C Engine Factory; NAGOYA, JAPAN

- 2 - Nagoya, Japan
- 3 - Hamanatsu, Japan
- 4 - Pagan

- 5 - Hachijo Jima
- 6 - Unidentified island off coast of Japan
- 7 - Unidentified Japanese Coastal Town

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\* Excludes 2 A/C Bombing with 500 GP at 0637Z & 0638Z

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73RD BOMB WING

Consolidated Statistical Summary

FIELD ORDER NO. 29

13 Dec 44

Table V Loading & Disposal of Bombs

MISSION NO. 12

GROUP	TYPE & WEIGHT OF BOMBS	FUSE SETTING		L O A D E D				RELEASED ON TARGET						JETTISONED		UNKNOWN		RETURNED		PER CENT * OF BOMBS RELEASED ON TARGET	
		NOSE	TAIL	ON ALL AIRCRAFT		ON AIRBORNE AIRCRAFT		MITSUBISHI FACTORY NAGOYA		SECONDARY AND LAST RESORT		TARGETS OF OPPORTUNITY		No.	Tons	No.	Tons	No.	Tons		
				No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons								
497	500 lb GP AN-M64 350 lb Incend. Cluster M18	.10	.025	100	25	100	25	90	22.5					10	2.5					90%	
		40- 43.2	none	150	26.25	120	21	105	18.38	15	2.62										100%
498	500 lb GP AN-M64 350 lb Incend. Cluster M18	.10	.025	170	42.5	160	40	150	37.5					10	2.5					94%	
		42.9	none	135	23.63	135	23.63	105	18.38					30	5.25						78%
499	500 lb GP AN-M64 350 lb Incend. Cluster M18	.10	.025	120	30	120	30	60	15			40	10	20	5					50%	
		44.7	none	180	31.5	165	28.88	90	15.75	30	5.25	15	2.63	30	5.25						73%
500	500 lb GP AN-M64 350 lb Incend. Cluster M18	.10	.025	130	32.5	110	27.5	80	20	10	2.5			20	5					82%	
		44.5	none	195	34.13	195	34.13	190	33.25					4	.7			1	.18		97%
WING	500 lb GP AN-M64 350 lb Incend. Cluster M18	.10	.025	520	130	490	122.5	380	95	10	2.5	40	10	60	15						
		40- 44.7	none	660	115.51	615	107.64	490	85.76	45	7.87	15	2.63	64	11.20			1	.18		
	TOTAL			1180	245.51	1105	230.14	870	180.76	55	10.37	55	12.63	124	26.20			1	.18		83%

\* EXCLUDES BOMBS RELEASED ON TARGETS OF OPPORTUNITY.

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73RD BOMB WING

FIELD ORDER NO. 29

MISSION NO. 22

13 December 1944

Consolidated Statistical Summary

Table VI Bombing Accuracy

Target MITSUBISHI A/C ENGINE FACTORY  
NAGOYA, JAPAN

G R O U P	Bombs Released On Target		Number of Hits and Distance from Target									
			0-500'		500-1000'		1000-2000'		2000-3000'		TOTAL	
			No.	%	No.	%	No.	%	No.	%	No.	%
497	195	40.88	14	7%	19	10%	21	11%	18	9%	72	37%
498	255	55.88	2	1%	8	3%	15	6%	12	5%	37	15%
499	150	30.75	NO HITS WITHIN 3000 FEET									
500	270	53.25	2	1%	4	1%	7	3%	9	3%	22	8%
WING	870	180.76	18	2%	31	4%	43	5%	39	4%	131	15%

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73RD BOMB WING

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FIELD ORDER NO. 29

MISSION NO. 12

13 December 1944

## Consolidated Statistical Summary

Table VII Attacks &amp; Passes by Enemy Aircraft

DIRECTION	ALTITUDE														Total Wing	
	HIGH			LEVEL				LOW			TOTAL					
	497	498	499	497	498	499	500	497	498	499	500	497	498	499		500
0100		4	1											4	1	5
0200	2	2										2	2			4
0300					1					1					2	2
0400									2				2			2
0500									1				1			1
0600	2	1		8				2	2			12	3			15
0700								4				1	4		1	5
0800									1				1			2
0900	10	3	2	1	3	1		2	1			2	11	4	7	22
1000	2			20	8								22	8		22
1100	2	2	1	4				1	3			1	5	6	3	14
1200	3	3	3	1	3				1				5	6	1	12
TOTAL	21	15	14	19	16	8	11	5	6	51	36	1	18	106		

Table VII Enemy Aircraft Destroyed &amp; Damaged

GROUP	DESTROYED	PROBABLY DESTROYED	DAMAGED
497	3	0	0
498	1	1	0
499	0	0	0
500	0	0	0
TOTAL WING	4	1	0

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73RD BOMB WING

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MISSION NO. 12

13 December 1944

## Consolidated Statistical Summary

Table IX Aircraft Lost and Damaged

CAUSE	AIRCRAFT LOST				AIRCRAFT DAMAGED					
	TOTAL WING	497	498	499	500	TOTAL WING	497	498	499	500
ENEMY A/C						3	2	1		
ENEMY FLAK	1				1 <sup>d</sup>	23	4	2	6	11
ENEMY A/C & FLAK						3	1	2		
ACCIDENT						2		2 <sup>e</sup>		
SELF-INFLICTED										
UNKNOWN	2		1 <sup>a</sup>	1 <sup>b</sup>						
OTHER	1			1 <sup>c</sup>						
TOTAL	4		1	2	1	31	7	7	6	11

a A/C 430 Ditched, cause unknown

b A/C 439 <sup>lost</sup> Missing, cause unknown

c A/C 447 Ditched due to fuel shortage. Navigation error caused by sextant failure.

d A/C 687 Ditched. Believed to have been damaged by flak.

e A/C 211 #2 prop came off hitting and damaging fuselage

A/C 468 Salvaged bomb bay tanks, ~~door~~ bay doors damaged.

Table X Repair of Damaged Aircraft

AIRCRAFT TO BE REPAIRED BY:	497	498	499	500	TOTAL
TACTICAL GROUP	5	6	6	11	28
SERVICE GROUP	2	1	0	0	3
DEPOT GROUP	0	0	0	0	0
TOTAL	7	7	6	11	31
NOT REPARABLE	0	0	0	0	0

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Authority

NND 1600000

By

MNA/PA Date 8/3/05

73RD BOMB WING

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FIELD ORDER NO. 29

MISSION NO. 12

13 December 1944

Consolidated Statistical Summary

TABLE XI Casualties

	Total	P	CP	NB	BN	FE	ROM	RO	CFC	LG	BG	TG	Other
<b>Killed:</b>													
497th	2			1						1*			
498th													
499th													
500th													
Total Wing	2			1						1			
<b>Missing:</b>													
497th	11	1	1	1	1	1	1	1	1	1	1	1	1
498th	11	1	1	1	1	1	1	1	1	1	1	1	1
499th	12	1	1	1	1	1	1	1	1	2	1	1	1
500th	34	3	3	3	3	3	3	3	3	4	3	3	3
Total Wing													
<b>Seriously Injured:</b>													
497th													
498th													
499th													
500th													
Total Wing													
<b>Slightly Injured:</b>													
497th	1												1
498th													
499th													
500th													1
Total Wing	1												1
<b>Total Casualties:</b>													
497th	3	1	1	1	1	1	1	1	1	1	1	1	1
498th	11	1	1	1	1	1	1	1	1	1	1	1	1
499th	11	1	1	1	1	1	1	1	1	1	2	1	1
500th	12	1	1	1	1	1	1	1	1	2	1	1	1
Total Wing	37	3	3	3	3	3	3	3	3	5	3	3	4
<b>No. Participating</b>													
497th	203	18	18	18	18	18	18	18	18	18	18	18	5
498th	282	25	25	25	25	25	25	25	24	25	25	24	9
499th	262	23	23	23	23	23	23	23	23	23	23	23	9
500th	271	24	24	24	24	24	24	24	24	24	24	24	7
Total Wing	1018	90	90	90	90	90	90	90	89	90	90	89	30

\* Died shortly after landing at Saipan.

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13 December 1944

## Consolidated Statistical Summary

Table XII Fuel Consumption Data

	TOTAL WING	GROUP			
		497 <sup>a</sup>	498 <sup>b</sup>	499 <sup>c</sup>	500 <sup>d</sup>
Average Fuel Aboard	8000	7980	8000	8030	8000
Average Flying Time	13:50	13:50	13:48	14:00	13:52
Average Distance - Nautical Air Miles	2916	2900	2904	2775	3008
Fuel Used:					
Average	7217	7130	7203	7428	7275
Median	7211	7000	7095	7500	7250
Maximum	7874	7695	7437	7800	7874
Minimum	6400	6400	6550	7000	6925
Fuel Remaining:					
Average	783	850	897	591	707
Median	796	910	915	540	735
Maximum	1450	1310	1450	1050	1075
Minimum	200	449	563	200	126
Av Gallons per Hour	522	515	519	531	523
Av Gallons per Mile	2.48	2.46	2.46	2.68	2.42
Total Gasoline Con- sumed & Lost	602,509	128,270	176,400	144,685	153,154

A Based on 18 A/C  
 b Based on 21 A/C  
 c Based on 12 A/C  
 d Based on 24 A/C

Approximate gross weight at take-off 137,500 pounds

Times at Various Altitudes

497 1000 ft 4:10 28000 ft 1:20  
 498 1000 ft 4:05 29000 ft 1:30  
 499 1000 ft 4:30 30000 ft 2:00  
 500 1000 ft 4:14 18000 ft :18 29500 ft 1:20



73RD BOMB WING

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MISSION NO. 12

13 Dec 44

## Consolidated Statistical Summary

Table XIII Ammunition Consumption Data

AMMUNITION EXPENDED PER GROUP					
	497th	498th	499th	500th	TOTAL
20 MM.					
Fired	331	440	84	390	1245
On Lost A/C	0	110	240	120	470
Total	331	550	324	510	1715
.50 Cal.					
Fired	27197	9890	11480	10145	60712
On Lost A/C	0	6000	12000	6000	24000
Total	27197	15890	23480	16145	84712

AMMUNITION EXPENDED PER PLANE					
	497th	498th	499th *	500th	TOTAL WING
Upper front	243	268	313	143	242
Lower front	297	102	179	101	170
Upper rear	407	176	179	61	206
Lower rear	188	91	206	62	137
.50 Cal. Tail	246	68	160	116	147
Total .50 Cal.	1381	705	1039	483	902
20 MM Tail	19	25	14	19	19

\* MOST OF AMMUNITION EXPENDED IN TEST FIRING &amp; IN LIGHTENING WEIGHT OF THE A/C.

S\_E\_C\_R\_E\_T.

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S E C R E T

S E C R E T  
By Auth of CG 73d BWInitials            Date 11 Dec 4473 D BOMB WG  
SAIPAN1100Z 11 Dec 44  
2200Z 8 Dec 44

FO 29 (MEMPHIS ONE) ( This Field Order revokes FO 28 dd 2200Z 8 Dec 44 )

Maps: Long Range Navigational Chart JAPAN 1:3,000,000. Long Range Navigational Chart CAROLINE ISLANDS 1:3,000,000.

1. a. (1) Hv moderate accurate AAA in vicinity of target and over NAGOYA CITY 78 guns, 120 mm probably radar-controlled are disposed at northern end of NAGOYA BAY throughout the city and in the near vicinity of the target. Major enemy fighter airfields are at OSAKA (34° 36'N - 135° 35'E) ITAMI (34° 47'N - 135° 25'E) SUZUKA (34° 55'N - 136° 39'E) and NAGOYA.
- (2) More than two hundred enemy fighters are based within operating range of NAGOYA. Twenty fighters may be based at IWO JIMA.
- b. (1) Four lifeguard submarines will be located at the following points.
  - (a) (34° 00'N - 137° 18'E)
  - (b) (32° 00'N - 138° 00'E)
  - (c) (29° 00'N - 139° 00'E)
  - (d) (26° 00'N - 140° 00'E)
- (2) A rescue destroyer will be located in the vicinity of (20° 00'N - 142° 45'E) Enemy minefields make it impossible to approach within a twenty mi radius of INUBIO SAKI (35° 43'N - 140° 23'E)
- (2) Com Air Forward will provide air defence of the operating base. One Dumbo A/C will arrive at (21° 30'N - 141° 25'E) 30 min prior to the ETA of the strike force on the route out and patrol in the vicinity to the limit of fuel endurance. Additional Dumbos will be available on call during the return of the strike force.

2. 73d Wg Atps targets NAGOYA area on D day with maximum force.

Primary target: 90.20 - 193 Area within Grid coordinates (3PR 4M 17-2-15) V4.8 - H7.3 V3.6 - H6.9 V3.2 - H8.7 V4.3 - H9.0

Secondary target: City of NAGOYA (90.20)

Last resort target: Any industrial city.

Formation: Sq column. Minimum interval between Sqs.

S E C R E T

SECRET

FO 29 (MEMPHIS ONE) contd.

Method of bombing: Sq pattern. Primary - visual: Secondary - complete radar approach with final adjustment visual if possible.

Aiming point: Primary target - Center of target.  
Secondary target - Radar: Center of City at 90.20.  
Visual: Center of target 90.20 - 197

Route out: Base  
Marpi Point Assemble  
(17° 00'N - 144° 00'E)  
(24° 00'N - 140° 00'E)  
Step in climb 15 min at 18,000 ft  
(34° 00'N - 137° 47'E) Reach altitude  
Two min dog leg

Control point: (34° 41'N - 137° 36'E)

IP: Town at (35° 14'N - 137° 22'E)  
(Start turn at 30 mi Slant Range on course 340° from Control Point)

Axis of atk: 260° T

Maneuver after atk: Left turn after bombing.

Route back: (26° 00'N - 140° 00'E)  
Base

3. a. 497th Bomb Gp Max No A/C takes off Zero Hr climbs to 29,000 ft. Bombs at 28,000 ft.
- b. 498th Bomb Gp Max No A/C climbs to 30,000 ft. Bombs at 29,000 ft.
- c. 499th Bomb Gp Max No A/C climbs to 31,000 ft. Bombs at 30,000 ft.
- d. 500th Bomb Gp Max No A/C climbs to 30,000 ft. Bombs at 29,000 ft.
- x. (1) Zero Hr: "D" day and Zero Hr to follow.  
(2) Gasoline load: 8,000 gal.
- (3) One Sq each Bomb Gp 15 x B6R2 (M18) IB clusters set to open 5,000 ft above target. All other A/C 10 x 500 lb GP fuze .1 sec nose 1/10 sec tail.
- (4) Intervalometer setting: GP's - 150 ft  
IB's - 250 ft
- (5) Ammunition: 6000 Rds .50 cal 120 Rds 20 mm.

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FO 29 (MEMPHIS ONE) contd

S E C R E T

- (6) Each Gp coordinates take off time with preceding Gp.
  - (7) Vertical cameras will be started at IP.
4. Each Gp will furnish this Hqs at Zero Hr minus 90 min schedule of A/C numbers, call signs and Pilot's names in order of take off.
5. a. (1) Annex 1 (Comm)  
(2) SOP Communications XXI BOM COM  
(3) See Tac SOP 30-3 73d Bomb Wg dd 8 Dec 44
- b. Command posts:
- (1) Air - Sq Leader
  - (2) Ground - Hqs 73d Bomb Wg.

By command of Brigadier General O'DONNELL:

BERGQUIST  
DC/S, O & T

OFFICIAL:

*Walker*  
WALKER  
Asst A-3

Annex 1 - Communications  
Annex 2 - ROM

S E C R E T

ANNEX 1 TO FO #2973BW

COMMUNICATIONS  
(See TAC SOP 30-3)

1. Codes-Encoding and Authentication:

a. Current edition CSP 1270 ( )

2. Radio Buoys: None.

3. Rescue Facilities:

a. Stations and Frequencies.

<u>TYPE</u>	<u>STATION</u>	<u>REF. PT.</u>	<u>FREQ. GUARDED</u>
Sub.	34-00N 137-18E	Daio Saki Light	4475; 500kc and 140.58mc
Sub.	32-00N 138-00E	Hachijo Shima	4475; 500kc and 140.58mc
Sub.	29-00N 139-00E	Hachijo Shima	4475; 500kc and 140.58mc
Sub.	26-00N 140-00E	Iwo Jima	4475; 500kc and 140.58mc
Dumbo.	21-30N 141-25E	Iwo Jima	4475, 500kc and 140.58mc also 7310kc
Dest.	20-00N 142-45E	Iwo Jima	4475, 500kc and 140.58mc

b. Call Signs.

(1) Voice - current call for reference point extracted from letter, CINCPAC, dated 19 Oct. 44, subject: "Air-Sea Rescue Reference Point and Code Words."

(2) CW - Dumbo only - 24V213.

4. IFF:

a. Turn on at take off. Turn off 300 miles from Base. Enroute home turn on again when 100 miles out from enemy coast line.

b. If IFF is inoperative at a distance of 500 miles or less from the Base, the pilot will have radio operator contact Wing Ground Station on CW, transmitting the following information, encoded in CSP 1270 ( ), until receipted for:

(1) IFF inoperative  
(2) Course  
(3) ETA

c. When 150 miles from the Base, the pilot will establish voice contact with Condor Base on Channel "C", SCR-522, and state that his Bojangles is inoperative, course and ETA.

5. Aircraft Call Signs: All planes including Squadron Leaders will use the Group call prefixed by plane tail number.


6. Frequencies:

- a. See letter, this Hqs., dtd 11 December 1944, subject, "Change of Number Two Strike Frequency."

By Command of Brigadier General O'DONNELL:

BERGQUIST  
DC/S, O & T

OFFICIAL:

 HOTCHKISS  
Comm.

S E C R E T

ANNEX NO 2 TO FO 2-9 (MEMPHIS ONE) 73D BOMB WG

RADAR COUNTER MEASURES

1. Each Gp will equip one (1) A/C with search receivers and will provide one (1) Radar Observer (7888) to operate the equipment.
2. Enroute to and from the target EW Radar will be observed. Particular attention will be paid to evidence of tracking, the time during which enemy radar signals lock on the formation being accurately recorded.
3. In the target area (radius of 100 mi) frequencies from 100 Mc to 250 Mc will be scanned. Where equipment is available the P.R.F. and P.W. of possible A.I. or G.C.I. radar will be carefully measured. Radar signals between either 1400 Mc and 1600 Mc or 2800 Mc and 3300 Mc have been reported over the mainland. Every effort will be made to secure further data on this part of the spectrum.

By command of Brigadier General O'DONNELL:

BERGQUIST  
DC/S, O & T

OFFICIAL:

JOHNSON  
Wg Radar O

S E C R E T

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NO 9

SECRET

SECRET  
By auth of CG 73d BW

MB                      12 Dec 44  
Initials                      Date

73D BOMB WG  
SAITAN  
0600Z 12 Dec 44

Amendment No 1 to FO 29 73d Bomb Wg

1. Change Par 3. a. to read:
3. a. 497th Bomb Gp Max No A/C takes off Zero Hr minus 65 min (0740K).  
Leaves departure point (17° 00'N - 144° 00'E) at Zero Hr.  
Climbs to 28,000 ft. Bombs at 27,000 ft.
2. Change Par 3. b. to read:
3. b. 498th Bomb Gp Max No A/C climbs to 29,000 ft. Bombs at 28,000 ft.
3. Change Par 3. c. to read:
3. c. 499th Bomb Gp Max No A/C climbs to 30,000 ft. Bombs at 29,000 ft.
4. Change Par 3. d. to read:
3. d. 500th Bomb Gp Max No A/C climbs to 29,000 ft. Bombs at 28,000 ft.
5. Change Par 3. x. (1) to read:
3. x. (1) Zero Hr: 0845K 13 Dec 44. (Departure of first Sq from  
(17° 00'N - 144° 00'E))
6. Add to Annex 1 FO 29 Par 3. a. as follows:

3. a.	Type	Station	Ref. Pt.	Freq.	Guarded
		*	*	*	*
	Sub	(34° 15'N - 138° 21'E)	Daio Saki Lt	4475, 500 KC & 140.58	

7. Change Par 3. a. to Annex 1 FO 29 as follows:  
Station for Dumbo will read: (17° 50'N - 144° 25'E)

By command of Brigadier General O'DONNELL:

OFFICIAL:

*Bright*  
BEIGHTOL  
A-3

DECLASSIFIED  
E.O. 11652, Sec. 3(E) and 5(D) of (B)  
BY MB 740120  
NARS, Date 10/21 1975

BERGQUIST  
DC/S, O & T

SECRET

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