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MISSION #20

BANGKOK

"CAPACIOUS 3"

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XX BOMBER COMMAND



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Tactical Mission Report

No. 20

DATE 14 December 1944

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HEADQUARTERS
XX BOMBER COMMAND
APO 493

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TACTICAL MISSION
REPORT

Field Orders No. 20

Mission No. 20

TARGET: RAMA VI RAILROAD BRIDGE
Bangkok, Thailand

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Prepared by:

Intelligence Section
XX Bomber Command

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* XX Bomber Command *
* 26 Dec 44 I.S.S. *
* Date Initials *

HEADQUARTERS
XX BOMBER COMMAND
APO 493

26 December 1944

SUBJECT: Report of Operations, 14 December 1944.

TO : Commanding General, Twentieth Air Force, Washington, 25, D.C.

1. UNITS PARTICIPATING: The four Bombardment Groups of the XX Bomber Command were directed by Field Orders Number 20 to participate in a daylight attack on D-day against the Rama VI Railroad Bridge, Bangkok, Thailand. Groups, their locations, and their Commanding Officers were as follows:

<u>Group</u>	<u>Rear Base</u>	<u>Commanding Officer</u>
40th	Chakulia	Col. W.H. Blanchard
44th	Dadhkundi	Col. A.L. Harvey
462nd	Piardoba	Col. A.F. Kalberer
468th	Kharagpur	Lt. Col. J.V. Edmundson

2. IDENTIFICATION OF MISSION:

a. Attack No. 20.

b. Targets Specified:

- (1) Primary Target: Rama VI Railroad Bridge, Bangkok, Thailand (AAF Target No. 98.2-45).
- (2) Secondary Target: Central Station and Yards, Rangoon, Burma (XX Bomber Command Target No. 82.2D).
- (3) Last Resort Target: Railroad Yards and Warehouses, Bassein, Burma (XX Bomber Command Target No. 82.2F).

3. STRATEGY AND PLAN OF OPERATIONS:

a. Importance of Targets:

(1) Primary Target: Bangkok is now the principal control and supply center for troops and material being moved into the Burma theater of operations. With the mining of the Menam River water borne traffic has been restricted to small coasters and an occasional medium sized merchant vessel. In October of 1944 a 250' M/V observed at the new government docks was reported to be the first vessel of this size to enter the river since the previous May. Ocean going ships destined for Bangkok may anchor off the Koh Sichang Islands, 30 miles south of the mouth of the river, and tranship by lighters or unload at small ports along the east coast of the Malay peninsula and move their cargo to Bangkok by rail. Rail traffic has, therefore, become the critical factor in maintaining the Japanese war effort in the Burma-Thailand areas. There is one main line leading into Bangkok from French Indo-China from which point it branches in three directions. To North Thailand, to Burma and to the Malay peninsula and Singapore. Any interruption of rail traffic would be of utmost importance to the Japanese effort.

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(2) Secondary Target: Rail traffic from Thailand and Rangoon passes through this yard en route to Prome. As considerable activity has recently been observed on the Rangoon to Prome line, it would be desirable to delay the flow of enemy supplies along this route by destroying the Central Station and Yards at Rangoon. Any loss of locomotives and rolling stock caused by the bombing of this target will further decrease the capacity of the Japanese to supply their troops on the battlefronts in Burma.

(3) Last Resort Target: Although at present not an active center of Japanese activity, Bassein is strategically located in relation to areas of future military operations in Burma. Bombing of the rail yards and warehouses at Bassein will tend to discourage Japanese use of the town's facilities and hamper the movement of their supplies.

b. Details of Planning (See also Annex N, Field Orders):

(1) Operational Planning:

(a) In line with the Commanding General's policy of running training missions as often as possible from the India bases, Mission Number 20 was scheduled for the week after Mission Number 19 in order to allow sufficient time for the Groups to return from China and to put their equipment back in good operating condition.

(b) The target was selected, with General Stratemyer's concurrence, as being one of importance to the enemy, although not one against which B-29's would normally operate. However, strategic targets are becoming more and more scarce within medium range of the India bases, and any target is still a target for training purposes.

(c) One Group was dispatched an hour before the other three Groups, based on the assumption that the fighter defense in the Bangkok Area could be flushed as the first Group approached the target. This would make it possible for the other three Groups to have a bombing run void of fighter opposition in the event the Japanese fighter aircraft were on the ground being reloaded, after having taken off to intercept the first group.

(d) To prevent fighter aircraft from flying down the column of groups and firing at each formation in turn, two groups were ordered to break right and two groups were ordered to break left after bombs away.

(e) Because the primary target was so small it was anticipated that radar bombing of the primary target would not be accurate enough to inflict damage on it, therefore formation leaders were instructed to bomb the secondary target in case of a cloud cover over the primary target.

(2) Determination of Bomb Load:

(a) The target was a 5 span steel girder lattice type bridge of cantilever construction. The bridge is about 45 feet in width and 1456 feet in length, and in addition to the two shore abutments rests on four masonry piers each of which is formed by two round twin columns approximately 12 feet in diameter and 21 feet apart.

(b) The most vital section of the bridge is the 394

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foot central span which rests on the two central piers. Because the center span is of cantilever construction, its weight is largely supported by the two central stone piers, which are the most critical points in the structure. Somewhat less critical but greatly larger in vulnerable area is the superstructure of the center cantilevered span. Inasmuch as the probability, when bombing with a 12-plane formation, of obtaining hits within the vulnerable dimension of the superstructure is approximately five times as great as the probability of obtaining a hit on or adjacent to the piers of the bridge, it was decided that the attack should be directed against the superstructure of the bridge rather than the piers themselves or their foundations.

(c) Because of the distance of the bridge above the water (approximately 25 feet), the amount of surface structure capable of activating the fused bombs, and the vulnerability of both the cantilever construction of the center span and its supporting twin - columned piers, the bombs were fused instantaneous nose and non-delay tail. In this manner those bombs which strike the bridge would be detonated either within the superstructure or from zero to four feet below the superstructure.

(3) Bombing Data:

(a) Bomb loads were to be a minimum of 12 1000-pound (TNT or Amatol filled) bombs per aircraft equipped with center section wing tanks and a minimum of 8 bombs per aircraft not so equipped. Fusing was to be instantaneous nose and non delay tail.

(b) The method of bombing was to be by 12-plane formations from the following pressure altitudes: 40th Group - 20,000 feet, 44th Group - 19,000 feet, 462nd Group - 21,000 feet, and 468th Group - 18,000 feet. The axis of attack was 47 degrees magnetic and the aiming point the center of the Rama VI Bridge.

4. EXECUTION OF THE MISSION (See Annexes A and K):

a. Take-off (See Annex A, Part I):

(1) Times of take-off were planned for D-day minus 1 as follows: 40th - 2117Z, 44th - 2224Z, 462nd - 2230Z, and 468th - 2237Z.

(2) Take-off was accomplished as follows:

<u>Group</u>	<u>A/C Airborne</u>	<u>First A/C Off</u>	<u>Last A/C Off</u>
40th	12	2117Z	2139Z
44th	12	2225Z	2253Z
462nd	12	2230Z	2252Z
468th	12	2236Z	2322Z
Total	48	2117Z	2322Z

(3) The weather at time of take-off was clear with a visibility of 6 to 7 miles. The winds were 2 to 3 miles per hour from the north at 3 bases and 8 miles per hour from the west northwest at the fourth base.

b. Route Out (See Annex A, Parts II and III):

(1) The route out was from base to Diamond Island to separate assembly points for each group to the initial point at 13°32'N -

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99°50'E to the target at Bangkok.

(2) Deviations from the briefed route to the target were made by 15 aircraft. Eleven aircraft proceeded to the primary target as briefed but due to cloud cover they were diverted to the secondary target. Two aircraft bombed the last resort target, 1 jettisoned its bombs due to an engine failure, and 1 aircraft bombed a target of opportunity in the target area as a result of incorrect target identification. These deviations were divided among the Groups as follows: 40th - 12, 444th - 1, and 468th - 2.

c. Primary Target:

(1) Of the 48 aircraft airborne on the mission, 33 bombed the primary target at Bangkok. The first aircraft (a formation of 9 aircraft) released their bombs at 0339Z from 21,000 feet indicated on a heading of 72° magnetic. This formation was followed by 6 aircraft at 0415Z, 7 aircraft and 1 aircraft at 0417Z, and 10 aircraft at 0420Z. During this interval of 41 minutes these 33 aircraft dropped a total of 354 1000-pound demolition bombs and 4 500-pound demolition bombs.

(2) Bombing altitudes varied from approximately 17,500 feet indicated to 21,500 feet indicated and headings ranged from 65° to 230° magnetic.

(3) The diversion of the 40th Group aircraft to the secondary target and the large deviations from the briefed axis of attack may be attributed to a layer of 6/10 to 8/10 altocumulus clouds which covered the target area.

d. Secondary Target: The secondary target was bombed by a formation of 11 aircraft (40th) at 0444Z on a heading of 52° magnetic from an altitude of 21,000 feet true. This formation dropped 118 1000-pound demolition bombs and 64 500-pound demolition bombs.

e. Last Resort Target: Aircraft 415 (468th) due to mechanical difficulty bombed the last resort target at 0357Z. Twelve 1000-pound demolition bombs were dropped from an altitude of 18,200 feet indicated on a heading of 68° magnetic. Aircraft 859 (40th) due to an engine failure bombed the last resort target at 0148Z from an altitude of 19,000 feet indicated at a heading of 18° magnetic. Twelve 1000-pound and 6 500-pound demolition bombs were dropped.

f. Target of Opportunity: One aircraft of the 468th Group bombed the Phra Buddha Yodfa Bridge in the Bangkok area due to improper target identification. The 12 1000-pound demolition bombs were released from 18,000 feet indicated on a heading of 70° magnetic and hits were observed on the first and second spans.

g. Route Back:

(1) The 2 check points used on the return route were Tavoy Point (13°32'N - 98°08'E) and Diamond Island.

(2) Eight aircraft deviated from the planned return route. Four of these aircraft after bombing the secondary target landed at Chittagong and 3 of these returned to their home base by D-day plus 1; 2 aircraft after bombing the last resort target flew a direct route back to base; 1 aircraft landed at Cox's Bazaar and was damaged in running off the end of the runway; and 1 aircraft after jettisoning its bombs at 18°55'N - 92°00'E due to engine trouble returned directly to Dudhkundi.

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5. ENEMY ANTI-AIRCRAFT (See Annex B);

a. Meager and inaccurate to accurate (black and some white) heavy anti-aircraft bursts were encountered at Bangkok. Most of the flak was observed coming from the southwest section of the city. At altitudes varying from 18,000 to 21,000 feet and under conditions of almost 10/10 undercast, runs were made from approximately 0330Z to 0427Z. Of the 8 formations that were over Bangkok only 3 encountered heavy anti-aircraft fire. The type of fire was not determined and there is no doubt that the heavy undercast hampered the enemy's anti-aircraft defenses. Only one aircraft reported automatic weapons fire which was considered moderate with deviations 4,000 to 5,000 feet below the aircraft which was at 20,000 feet altitude.

b. Heavy anti-aircraft fire was also encountered at the following locations: Don Muang Airdrome (13°55'N - 100°35'E); in the vicinity of Nagorn Jaisri (13°42'N - 100°26'E), and Rangoon. Automatic weapons fire was reported at Don Muang Airdrome.

c. Intense and accurate black heavy anti-aircraft fire was encountered by one formation of 11 aircraft at 21,000 feet true at 0444Z over Rangoon under CAVU conditions. A predicted concentration type of fire was encountered a few seconds after bombs away. The fire was concentrated in a small area with deviations level, abreast and in line with the formation with some bursts below and to the left. This formation suffered extensive damage and loss at Rangoon but after a thorough investigation it is believed this was caused by a mid-air bomb explosion.

d. Since Bangkok and Rangoon have adequate warning nets it is believed the enemy had prior warning of the attacks.

e. Only one enemy aircraft was encountered on this mission and none were in the vicinity of the flak areas.

6. ENEMY AIR OPPOSITION (See Annex C);

a. Only 1 enemy fighter attack was reported by the B-29's returning safely from the mission. This lone encounter occurring 20 miles northwest of Rangoon was with a Tojo which has been claimed as probably destroyed.

b. No B-29's were damaged or lost as a result of enemy air opposition.

c. Of the 28 fighters sighted, none of which attacked, 23 were in the Bangkok area and 5 in the Rangoon area.

7. WEATHER (See Annex D);

a. Weather was excellent for rendezvous and formation flying. Metro wind forecast was rated as good.

b. At 0400 IST, 14 December 1944, the officer in charge of operations was informed that late weather reconnaissance showed that expected cloud cover over the primary target below bombing altitude would be 5/10 to 7/10, instead of the forecast 2/10. For training purposes it was decided to run the mission as scheduled, as there was the possibility of large breaks in the alto type clouds expected. As it was not possible to disseminate the information to the groups in time no change was made in the original forecast.

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c. The first formation over the target found the aiming point covered, so it bombed the secondary target which was clear.

d. Subsequent formations made visual releases with the one exception that found it necessary to drop by radar.

8. COMMUNICATIONS (See Annex E):

a. With good weather and a comparatively short mission as contributing factors, communications were very satisfactory. One group experienced interference on a frequency from time of take-off to approximately 5 hours later at which time the channel became clear. All other frequencies were reported as being excellent.

b. One practice message was sent to the aircraft in flight.

c. There were no requests for D/F aid and the 4 aircraft that transmitted homing signals obtained excellent results.

d. No violations of cryptographic security were reported.

9. RADAR (See Annex F):

a. Radar equipment provided the usual navigational aids on this mission. Conditions of CAWU were reported along the route to the target, however, considerable cloud cover was encountered at the primary target necessitating the use of the radar-bombsight procedure on the start of the bombing run.

b. Scope photographic results were satisfactory. The quality of the pictures received were greatly improved, and a considerable number of usable pictures were received in proportion to the number of cameras installed.

c. Serviceability of the radar equipment was considered average on this mission. Eighty-six per cent of the AN/APQ-13 were reported operational over the target.

10. RCM (See Annex G):

a. Again, RCM activities were confined to searching. Although there were 6 aircraft with RCM equipment and observers, only 5 were effective as one observer substituted for a side gunner who had become ill during flight.

b. In the search for Early Warning radar and radar fire control equipment the following observations were made; the 70 mc. radar station located south of Rangoon was intercepted; a strong 80 mc. station located in the Rangoon area was in operation for 12 minutes; a MK1 Model 1 radar intercept was made from a site thought to be near Port Blair in the Andaman Islands; a M1 Model 2 was intercepted and believed to be the one previously reported at Mergui; another of the same type was received momentarily while halfway across the Malay peninsula en route home; at 14°53'N - 95°05'E while returning, strong signals from the Rangoon area were again intercepted.

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c. There were no radar intercepts in the target area. The 100 mc. radar previously reported in the area is thought to have been damaged by the XX Bomber Command attack of 27 November 1944.

d. No enemy countermeasures were experienced by radar or radio personnel.

11. CENTRAL STATION FIRE CONTROL AND GUNNERY (See Annex H);

a. One attack was made by a Tojo level at 1:30 o'clock and is claimed as probably destroyed. Although 28 planes were sighted no other attacks were made.

b. The functioning of the CSFC system was satisfactory.

c. Expenditure of 50 caliber ammunition amounted to 5500 rounds for test firing and 460 rounds for combat firing.

12. CAMERAS AND PHOTOGRAPHS (See Annex I);

a. Sixty-six cameras of the K-18, K-20, and K-22 types were installed in the aircraft which were airborne. Based on incomplete reports 39 of these cameras obtained 315 photographs. However, a heavy undercast over the primary target and a large mid-air explosion which scattered the formation over the secondary target limited the number of usable pictures.

b. Three cameras failed to obtain photographs for mechanical reasons and 14 for other reasons.

13. LOSSES AND DAMAGE (See Annexes J and M);

a. Known Battle Losses and Battle Damage: None.

b. Known Operational Losses and Damage: Five aircraft are known to have suffered damage as a result of the premature explosion of some of the bombs released over the secondary target. One of these aircraft in making an emergency landing at Cox's Bazaar over ran the runway and is considered a loss. The other four aircraft made successful emergency landings at Chittagong, one with its bomb bay doors destroyed and an antenna broken.

c. Missing Aircraft: Four aircraft are missing, and it is believed as a result of the premature explosion mentioned above. One aircraft is thought to have gone down over Rangoon; one was last seen in trouble in the Rangoon area; one ditched or the crew bailed out at a point estimated to be approximately 100 miles west of Rangoon; and there is no available information concerning the fourth aircraft.

14. FUNCTIONING OF EQUIPMENT (See Annexes K and M);

a. Each group furnished the required quota of 12 aircraft for this training mission making a total of 48 aircraft. All the aircraft were airborne, 3 failed to bomb the primary target for mechanical reasons, 11 because of weather, and 1 failed to identify the assigned target.

b. There were 78 malfunctions of equipment in flight (excluding

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four malfunctions that were related to failure to bomb the assigned primary target) as follows: power plant and accessory section - 8; propellers and governors - 5; oil system - 15; fuel system - 3; electrical system - 13; instruments - 27; miscellaneous - 7.

c. Over-all averages in fuel consumption were; average - 5040 gallons, maximum - 5450 gallons, minimum - 4550 gallons (for an average of 10 hours and 32 minutes of flight). Averages by groups were as follows; 40th - 5080 (maximum - 5400, minimum - 4775); 444th - 5205 (maximum - 5450, minimum - 4800); 462nd - 5025 (maximum - 5400, minimum - 4760); and 468th - 4886 (maximum - 5200, minimum 4550).

15. TARGET DAMAGE ASSESSMENT (See Annex L):

a. Primary Target:

(1) Assessment of damage was accomplished from excellent quality photography obtained by the 444th Group, XX Bomber Command, on 23 December 1944.

(2) No definite item of damage to the bridge was identified on this cover. A small section near the southern end appears to be slightly out of line and may be damaged. However the damage would appear to be slight and would probably not impair the use of the bridge.

(3) Hits and near misses were scored on both approaches but repairs are seen to have been effected by the time of this reconnaissance and it is believed that the bridge is being used.

(4) Bombs falling to the east and west of the bridge destroyed at least 35 small buildings and damaged 27 others as well as two small piers. Largest of the buildings affected was 120' x 35' with the majority averaging only about 40' x 40'.

b. Secondary Target:

(1) The secondary target was bombed by an 11-plane formation. Assessment of damage was derived from excellent quality photography obtained by the 444th Group on 16 December 1944.

(2) Excellent bombing was accomplished by this Group. A very compact pattern measuring only 1600' across was centered squarely on the yard. Damage resulting was heavy and included the virtual destruction of the station, 4 passenger loading platforms, and 5 receiving sheds as well as several small miscellaneous shops. Out of a total of 15 lines through the yard 11 were cut by one or more hits and the remaining were at least temporarily blocked by wreckage. Thirty-five rolling stock were either destroyed or damaged and 60 more were probably damaged. Bombs falling outside of the yard area destroyed 8 and damaged 15 buildings in a business/residential area south of the yard and destroyed 5 small buildings to the north of the station.

Curtis E. Lemay
CURTIS E. LEMAY
Major General, U. S. A.
Commanding

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ANNEX

A

EXECUTION OF THE MISSION

- I - Information on Take-offs
- II - Details of Routes
- III - Track and Vertical Flight Path*
- IV - Bombing Data**
- V - Bomb Loading
- VI - Disposition of Bombs
- VII - Formations Flown
- VIII - Navigation Report*
- IX - Information on Landings

* Prepared by Staff Navigator.

** Page A-IV-1 and A-IV-2 prepared by Staff Bombardier.

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I - INFORMATION ON TAKEOFFS

Mission No. 20

14 December 1944

Group	Scheduled First Takeoff	First A/C Off	Last A/C Off	Elapsed Time	No. of A/C Taking Off	Average Takeoff Interval
40th	132117Z	132117Z	132139Z	22 min	12	120 sec
444th	132224Z	132225Z	132253Z	28 min	12	153 sec
462nd	132230Z	132230Z	132252Z	22 min	12	120 sec
468th	132237Z	132236Z	132257Z	21 min	11 - a	126 sec
Overall		132117Z	132257Z	40 min	47 - a	51 sec

a. Does not include A/C 542, late take-off at 132322Z.

II - DETAILS OF ROUTES

A. Routes Planned

	40th	444th	462nd	468th
Base	Chakulia	Dudhkundi	Piardoba	Kharagpur
First check point	Diamond Island (15°52'N - 94°17'E)			
Assembly Point	Tavoy Point (13°32'N - 98°08'E)	North Tip Tavoy Island (13°04'N - 98°19'E)	South Tip Launglon Bok Is. (13°47'N - 97°54'E)	Cabusa Island (12°49'N - 97°53'E)
Initial Point	Mondhol Rajburi (13°32'N - 99°50'E)			
Target	Rama VI Bridge, Bangkok (13°48'30"N-130°31'00"E)			
First return check point	Tavoy Point (13°32'N - 98°08'E)			
Second return check point	Diamond Island			
Base	Chakulia	Dudhkundi	Piardoba	Kharagpur

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A-II-1

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B. Deviations from Planned Routes

1. 40th Group:

a. With the exception of A/C 859 all A/C proceeded to primary target as briefed. Cloud cover at primary target prevented visual bombing of assigned target, and after two bomb runs the formation proceeded to assigned IP for secondary target and thence to the secondary target which was bombed. A mid-air explosion directly after bombs away scattered the formation and only two A/C returned to home base on briefed route.

b. A/C 859 due to loss of #1 engine was forced to turn from the briefed course at 0043Z just past Diamond Island. A/C circled for 47 minutes for altitude then proceeded to Pureau Point which was used as the IP. Thence flying direct to the last resort target on a heading of $18^{\circ}T$, it bombed the last resort target and returned direct to Chakulia.

c. A/C 407 after bombing the secondary target proceeded to Chittagong due to battle damage.

d. A/C 587 after bombing the secondary target proceeded to $18^{\circ}05'N - 90^{\circ}28'E$, then to $18^{\circ}33'N - 93^{\circ}47'E$ then to $21^{\circ}28'N - 91^{\circ}51'E$, then to Cox's Bazaar, then to Chittagong. Here it made emergency repairs and then returned direct to Chakulia.

e. A/C 729 and A/C 589 after bombing the secondary target proceeded to Chittagong on same course as A/C 587, above. Here they made emergency repairs and then proceeded to Chakulia.

f. A/C 508 followed the same course as A/C 587 above but landed at Cox's Bazaar. This A/C ran off the end of the runway and stopped in swampy ground, seriously damaged.

2. 444th Group:

a. A/C 340 experienced engine trouble on course at 0040Z. At 0058Z when this A/C was at $18^{\circ}55'N - 92^{\circ}00'E$ the engine was feathered and the bombs jettisoned. It then returned to Dudhkundi on the briefed course.

3. 468th Group:

a. A/C 227 flew the briefed route to Diamond Island, then while at 18,000' to $13^{\circ}22'N - 98^{\circ}21'E$ at 0353Z then to the IP. From the IP this A/C proceeded singly to the primary target area where another bridge in the target area was bombed due to faulty identification of the assigned target. The return route to home base was flown as briefed.

b. A/C 415 flew the briefed route to $13^{\circ}50'N - 90^{\circ}30'E$, then to Pureau Point, then to the last resort target. Bombs were away at 0357Z while at 16,000 feet. This A/C then flew direct to its home base at Kharagpur. The deviation was caused when the waste gate of the supercharger on #4 engine became stuck.

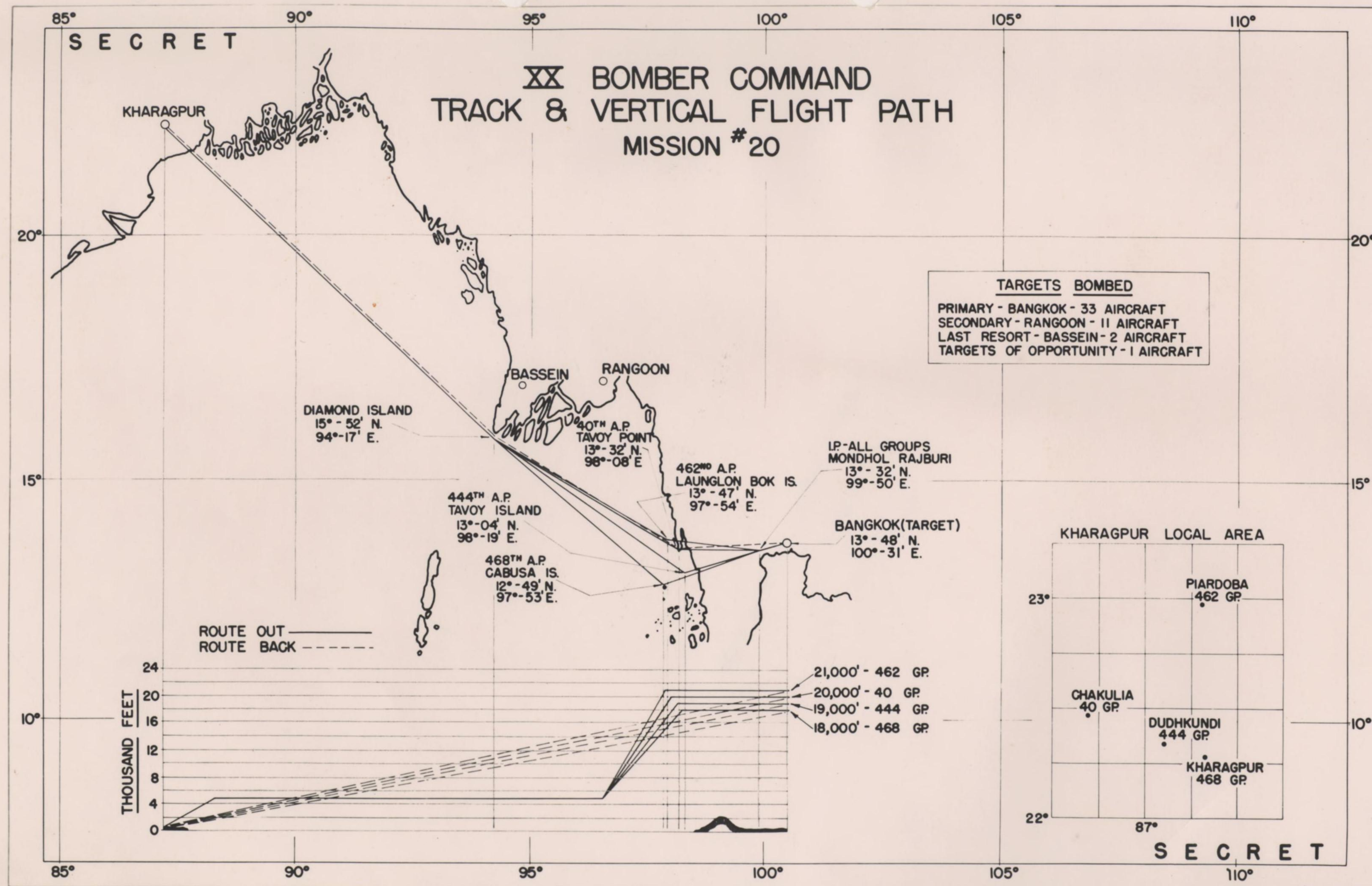
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Date 18 Dec 1944

CONSOLIDATED
SPECIALIST MISSION
REPORT OF
STAFF BOMBING OFFICER

Date Prepared: 17 Dec 44

Field Order Number 20
Date of Mission: 14 Dec 44

1. Weather over the PT was 6/10 to 8/10 undercast and all formations experienced difficulty in locating the target.

a. The 40th Group formation made two runs on the primary target in an attempt to bomb but were unable to make a visual run due to clouds. This formation bombed the secondary target.

b. Both formations of the 444th Group made second runs on the primary target due to clouds. In both cases bombs were released on the second run.

c. Clouds limited the sighting time of the lead bombardier of the 468th Group to fifteen seconds.

d. Bombs were released on the first run by the 462nd Group formation at the direction of the Command Pilot. In order to do this it was necessary to make a blind release.

2. One or more bombs exploded shortly after release from an airplane in the 40th Group formation. All returning airplanes of this formation were damaged, one was seen to go down burning and three others are unaccounted for. The size of the bomb pattern as shown on strike photos is approximately 1600 ft. wide by 1800 ft. long. This indicates that a tight formation was being flown at the time the explosion occurred. The pattern of this formation was centered very near the aiming point of the secondary target.

3. Malfunctions of bombing equipment were as follows:

a. 40th Group.

(1) Sixteen bombs failed to release from airplane #508 on first attempt to salvo. Cause - unknown.

b. 444th Group.

(1) Airplane #352 prematurely dropped one bomb upon opening bomb bay doors. Cause - electrical solenoid stuck and released that station when doors were fully opened and release lever placed in select.

(2) Two bombs failed to release thru intervalometer or by salvo. Bomb bay door light did not go on when doors were open. Bomb bay doors were closed and opened again after which the two

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bombs were successfully toggled out. Cause - Bomb bay door micro switch was not in proper adjustment as circuit was making and breaking contact intermittently. (This airplane is equipped with all electric release system).

c. 462nd Group.

- (1) Two bombs failed to release from airplane #711. Cause - Electrical salvo switch was not held in salvo position long enough.
- (2) Rear bomb bay doors on airplane #728 failed to close with retracting screws after bombs away. Screws were extended fully and doors were then successfully closed. Cause - emergency door releases apparently disengaged.
- (3) The right door of the forward bomb bay on airplane #472 did not open fully. When bombs were salvoed, door was hit by bombs and badly damaged. Neither forward or rear bomb bay doors could then be closed and the airplane returned to base with all bomb bay doors open. Cause - unknown.

d. 468th Group. (No malfunctions encountered).

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IV - Bombing Data (Continued)

A. Times of Bomb Release

1. Primary Target

Z Time	444th	462nd	468th	Total
0335 - 0339	-	9	-	9
0415 - 0419	11	3	-	14
0420 - 0424	-	-	10	10
Total	11	12	10	33

2. Secondary Target

Z Time	40th
0444	11
Total	11

B. Bombing Altitudes

1. Primary Target

Altitude	444th	462nd	468th	Total
17500 - 17999	-	-	2	2
18000 - 18499	1	-	8	9
18500 - 18999	2	-	-	2
19000 - 19499	4	-	-	4
19500 - 19999	4	2	-	6
20000 - 20499	-	1	-	1
20500 - 20999	-	-	-	-
21000 - 21499	-	7	-	7
21500 - 21999	-	2	-	2
Total	11	12	10	33
Briefed Altitudes (Pressures/Alt)	19000	21000	18000	

2. Secondary Target

Altitude	40th
19500 - 19999	4
21000	1
Unknown	6-a
Total	11

- a. 4 A/C missing;
2 A/C landing at other than home base.

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C. Axes of Attack

1. Primary Target

Axis of Attack - Degrees - Magnetic	444th	462nd	468th	Total
65 - 69	-	-	9	9
70 - 74	-	9	1	10
215 - 219	5	-	-	5
220 - 224	1	1	-	2
225 - 229	4	2	-	6
230 - 234	1	-	-	1
Total	11	13	10	33

Briefed Axis of attack - all groups: 68°M

2. Secondary Target

Axis of Attack - Degrees - Magnetic	40th
45 - 49	2
50 - 54	3
Unknown	6-a
Total	11

a. 4 A/C missing;
2 A/C landing at other
than home base.

Briefed axis of attack - 47°M

D. Indicated Air Speeds

1. Primary Target

IAS - (mph)	444th	462nd	468th	Total
185	1	1	-	2
186 - 190	4	0	2	6
191 - 195	5	6	8	19
196 - 200	1	3	-	4
201 - 205	-	2	-	2
Total	11	12	10	33

2. Secondary Target

IAS - (mph)	40th
192 - 195	5
Unknown	6-a
Total	11

a. 4 A/C missing;
2 A/C landing at other
than home base.

E. Aircraft Bombing other than Primary

Target	A/C	Group	Time of Release	Altitude	Axis of Attack	Bombs dropped		
						IAS 1000#	500#	
LRT	859	40	0148	19,000'I	18°M	195	12	6
LRT	415	468	0356	18,200'I	19°M	180	12	-
TO*	227	468	0427	17,850'I	70°M	195	12	-

* A bridge in the area of the primary target.

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V - BOMB LOADING

Mission No. 20

14 December 1944

Bomb Load per A/C		40th			444th			462nd			468th			Total			Avg. Load - Pounds	Total A/C Carrying
*	**	A/C	*	**	A/C	*	**	A/C	*	**	A/C	*	**	A/C	*	**		
12	6	11	132	66	-	-	-	-	-	-	-	-	-	11	132	66	15,000	11
8	10	1	8	10	-	-	-	-	-	-	-	-	-	1	8	10	13,000	1
12	-	-	-	-	10	120	11	132	7	84	-	-	-	28	336	-	12,000	28
8	-	-	-	-	2	16	1	8	-	-	-	-	-	3	24	-	8,000	4
6	4	-	-	-	-	-	-	-	1	6	4	1	6	4	4	8,000		
6	-	-	-	-	-	-	-	-	4	24	-	4	24	-	-	6,000		4
Total		12	140	76	12	136	12	140	12	114	4	48	530	80	11,875		48	

* 1000# G.P. bomb
** 500# G.P. bomb

VI - DISPOSITION OF BOMBS

Aircraft Bombing and Bombs dropped	40th			444th			462nd			468th			Total		
	A/C	*	**	A/C	*	**	A/C	*	**	A/C	*	**	A/C	*	**
Primary Target	-	-	-	11	126	12	138	10	90	4	33	354	4		
Secondary Target	11	118	64	-	-	-	-	-	-	-	-	-	11	118	64
Last Resort Target	1	12	6	-	-	-	-	1	12	-	2	24	6		
Targets of Opportunity	-	-	-	-	-	-	-	1	12	-	1	12	-		
A/C Bombing & bombs Dropped	12	130	70	11	126	12	138	12	114	4	47	508	74		
Jettisoned Bombs	a	10	6	1-b	10	c	2	-	-	-	1	22	6		
A/C Airborne & Bomb Load	12	140	76	12	136	12	140	12	114	4	48	530	80		

* 1000# G.P. bomb.
** 500# G.P. bomb

- a. A/C 508 dropped 2 1000# bombs on ST., jettisoned remainder.
- b. A/C 724 dropped 10 1000# bombs on PT., jettisoned remainder.
A/C 340 jettisoned its entire load of 8 1000# bombs.
- c. A/C 711 dropped 10 1000# bombs on PT., jettisoned remainder.

A-V-1
A-VI-1

S E C R E T

S E C R E T

VII - FORMATIONS FLOWN

Mission No. 20

14 December 1944

A. Formations Planned

The 12-plane formation as defined by the Command's Tactical Doctrine was the formation required by the Field Order.

B. Formations Over the Targets

1. All 33 aircraft which bombed the primary target did so from formations of from 6 to 10 aircraft. One aircraft over the primary target singly bombed a nearby target of opportunity through personnel error. One formation of 11 aircraft made 2 runs over the primary target but because of cloud cover proceeded as briefed to bomb the secondary target. One formation of 8 planes made 2 runs over the primary target because of cloud cover, dropping its bombs on the second run.

2. The diagrams below are intended to indicate relative position only. "W" represents an aircraft of the 40th Group, "X" the 444th Group, "Y" the 462nd Group, and "Z" the 468th Group.

Primary Target

Time ; 0339Z Y-457
Altitude ; 21000'I
Heading ; 72° M Y-505 Y-479
No. of A/C ; 9
Bombs dropped: 106 1000# GP Y-475 Y-728
Y-711 Y-472 Y-386 Y-463

Time : 0415Z X-732
Altitude : 19000'I
Heading : 192° M X-507 X-451
No. of A/C : 6
Bombs dropped: 68 1000# GP X-378
X-352 X-462

Time : 0417Z X-724
Altitude : 19700'I
Heading : 228° M X-422 X-485
No. of A/C : 8
Bombs dropped: 90 1000# GP X-202 Y-581
X-226 Y-338
Y-393

Note: This formation made two runs over the primary target because clouds obscured the target on the first run. On the second run, A/C 393 was approximately 1/4 mile behind the formation, so made an individual drop (19500'I, 224°M)

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Time : 0420Z Z-354
Altitude : 18300'I
Heading : 69°M Z-525 Z-469
No. of A/C : 10
Bombs dropped: 90 1000# GP. Z-471 Z-411 Z-272
4 500# GP. Z-353 Z-409 Z-542 Z-445

Secondary Target

W-225
W-685 W-407
W-587 W-457 W-574
W-589 W-729 W-508 W-726 W-831

Time : 0444Z
Heading : 52°M
Altitude : 21,000'T
No. of A/C : 11
Bombs dropped on secondary target by this formation: 64 500# demolition bombs; 118 1000# demolition bombs.

Note; This formation made 2 runs over the primary target but because of cloud cover proceeded to the secondary target.

Target of Opportunity

A/C 227 (468th) bombed the Bangkok Highway Bridge instead of the assigned PT.
Time : 0427Z
Altitude : 17850'
Heading : 70°
No. bombs dropped: 12 1000# GP.

Last Resort Target

A/C 415 (468th)
Time: 0357Z
Altitude: 18,200'
Heading: 68°
No. bombs dropped - 12 1000# GP.

A/C 859 (40th)
Time: 0148Z
Altitude: 19,000'I
Heading: 18 M
No. bombs dropped: 12 1000# GP
6 500# GP

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XX BOMBER COMMAND
APO 493

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Auth: CG XX BC
Initials: S 871
Date: 18 Dec 44

CONSOLIDATED
SPECIALIST MISSION
REPORT OF
XX BOMBER COMMAND NAVIGATION OFFICER

Date Prepared: 17 December 1944

Field Order Number 20
Date of Mission: 14 Dec 44

1. This was essentially a simple navigation mission which was accomplished very well for the most part. There were several examples of airplanes joining the wrong formation. Constant attention should be given to the problem of forming as briefed. Getting to a given assembly point at the proper time is the navigator's problem.

a. Average navigation times out and back;

<u>40</u>		<u>NAV TIME OUT</u>	<u>NAV TIME BACK</u>
40th*	-	7h 16m	4h 04m
444th	-	5h 22m	4h 48m
462nd	-	5h 03m	4h 54m
468th	-	5h 20m	4h 50m

*Spent time over primary target and then proceeded to secondary target.

b. Winds forecast was very reasonable. Forecast winds were reported to be better for the return trip. Computed winds varied considerably. One reason for this was the difficulty of getting drift over an exceptionally smooth sea. Computed winds and altitudes over the target areas are as follows:

40th	-	20000'
		316° 13K (Rangoon)
444th	-	19000'
		80° 15K
462nd	-	Metro
468th	-	18000'
		40° 11K

c. The following statistical information is presented as an indication of the extent to which aids are being used by the various groups:

		<u>CEL</u>	<u>CEL</u>	<u>RADIO</u>	<u>RADIO</u>
		<u>LOP'S</u>	<u>FIXES</u>	<u>FIXES</u>	<u>LOP'S</u>
40th*	-	13	10	1	0
444th	-	57	8	0	0
462nd	-	46	8	0	7
468th	-	74	11	2	0

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*Information incomplete because of many 40th group airplanes' landing at other than their own field.

2. Comments by Groups:

a. 40th Group. The bombardier and radar operator of A/c #225 are to be commended for the excellent job they did of bringing their airplane home after the navigator was killed.

b. 444th Group.

(1) Only the XX Bomber Command Navigator's Flight Log will be used.

(2) Bangkok is situated on both sides of the river. The largest portion of the city is on the East bank.

c. 462nd Group. None.

d. 468th Group. None.

S E C R E T

IX - INFORMATION ON LANDINGS

Mission No. 20

14 December 1944

A. Landed at Home Bases

1. Aircraft bombing assigned targets:

<u>Target Bombed</u>		<u>40th</u>	<u>444th</u>	<u>462nd</u>	<u>468th</u>	<u>Total</u>
PT. (Bangkok)	First A/C down	0906Z	0906Z	0884Z	0909Z	0908Z
	Last A/C down	-	0922Z	0935Z	0927Z	0935Z
ST. (Rangoon)	First A/C down	0818Z	-	-	-	0818Z
	Last A/C down	0833Z	-	-	-	0833Z
LRT. (Bassein)	First A/C down	0506Z	-	-	0716Z	0506Z
	Last A/C down	0506Z	-	-	0716Z	0716Z

2. Aircraft failing to bomb any assigned target:

a. 40th Group:

None.

b. 444th Group:

A/C 340 - 140318Z - jettisoned bombs.

c. 462nd Group:

None.

d. 468th Group:

A/C 227 - 140920Z - bombed target of opportunity.

B. Landed at other than Home Bases

1. 40th Group:

a. A/C 508 landed at Cox's Bazaar (time unknown) where it ran off the end of the runway, over a small stream and bogged down in swampy land. This A/C was forced to jettison all but two of its bombs north of the secondary target due to the fact that just as the bombardier was releasing the bombs a mid-air explosion occurred and knocked him back. When he recovered the A/C had passed the target.

b.* A/C 589 landed at Chittagong at 0710Z having bombed the secondary target and returned to its home base at 1122Z.

c.* A/C 587 landed at Chittagong at 0723Z having bombed the secondary target and returned to its home base at 1038Z.

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d.* A/C 729 landed at Chittagong at 0732Z having bombed the secondary target and returned to its home base at 1224Z.

e.* A/C 407 landed at Chittagong (time unknown) having bombed the secondary target.

* All of these A/C suffered damage due to a mid-air explosion a few seconds after "bombs away" which was at approximately 0444Z.

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ANNEX

B

ENEMY ANTI-AIRCRAFT

* Prepared by: *
* Flak Officer *
* XX BOMBER COMMAND *

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.....
: S E C R E T :
:By Auth of the C. G.:
:XX Bomber Command :
:20 Dec 44 *J* :
:Date Initials: :
.....

HEADQUARTERS
XX BOMBER COMMAND
Intelligence Section
APO 493

20 December 1944

P R E L I M I N A R Y R E P O R T

ANTI-AIRCRAFT OPPOSITION

MISSION NUMBER 20, (DAYLIGHT), 14 DECEMBER 1944

Primary Target - BANGKOK, Secondary Target - RANGOON
Target of Last Resort - BASSEIN

A. ANTI-AIRCRAFT FIRE ENCOUNTERED

1. BANGKOK (13°46'N - 100°30'E)

Meager and inaccurate to accurate black and some white heavy antiaircraft fire was encountered for 25 percent of the aircraft-runs over the area. Runs were made from approximately 0330Z to 0427Z at altitudes varying from 18,000 to 21,000 feet. The following table shows aircraft over the area (in chronological order) in relation to time and fire encountered.

Formation	Number of A/C	HAA Fire Encountered	Altitude in feet	Time	Undercast	Remarks
1	11	None	20,000	?	10/10	did not bomb
1*	11	None	20,000	?	10/10	did not bomb
2	9	None	21,000	0339Z	5/10	bombed
3**	6	Meager and inaccurate	18,500- 19,700	0415Z	4-8/10	bombed
4	8	None	20,000	?	5/10	did not bomb
4***	8	None	20,000	0417Z	5/10	bombed
5	10	Meager and inaccurate to accurate	18,000	0420Z	6/10	bombed
6	1	Meager and inaccurate	18,000	0427Z	8/10	bombed

* After completing two runs this formation of 11 aircraft proceeded to RANGOON because of the 10/10's undercast at BANGKOK.

*** This formation made two runs as clouds obscured the target on the first run. Heading used on the second and bombing run was 228°M which was different from the briefed heading of 67°45'M.

** This formation made two runs on the target, flak was encountered on neither run but was observed to the left (heading approximately 250°) over the southwest section of the city when getting into position for the second bomb run.

The following table lists the accuracy and deviations of heavy antiaircraft fire encountered. The numbers indicate aircraft reporting in the affirmative.

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Formations*	Rocked	Missed	Above	Level	Below	Ahead	Abreast	Behind	Left	In Line	Right	Remarks
3 (6-6)	-	6	1	5	3	3	3	-	5	-	-	*5 (10-9) indicates Formation #5 consisting of 10 a/c of which 9 reported HAA fire.
5 (10-9)	1	8	5	3	3	1	1	2	1	2	8	
6 (1-1)	-	1	-	1	-	-	1	1	-	-	-	
TOT (17-16)	1	15	6	9	6	4	5	3	6	2	8	

The fire which was encountered was generally accurate as far as the center of the burst volume is considered, but from the table above it can be seen that deviations were reported in all directions.

The number of bursts reported varied from 6 to 9 and the type of fire encountered could not be determined. As burst patterns were reported as widely separated with bursts occurring for periods of 1/2 to one minute it is possible that either a poor Continuously Pointed or Barrage type of fire was attempted. No enemy aircraft were reported on the same course and altitude.

Correlating fire encountered with reports of undercast it can be seen that the 5/10 to 10/10 undercast definitely hampered the enemy's antiaircraft defense. It would also indicate that he is not supplied with gun-laying radar at his BANGKOK sites, and in confirmation R.C.M. observers intercepted no gun-laying radar signals in this area.

The bombardier of aircraft #457 (462nd Group) of formation #4 consisting of eight aircraft reported ground flashes on the east bank of the CHAO PHRAYA River just southeast of the railroad bridge at 0417Z. As no bursts were observed in the air, it is assumed that fire originated from automatic weapons. No antiaircraft site, either AW or HAA, is identified at this location from "PQ" Reports, C.P.I.C., or from strike photography.

Moderate automatic weapons fire was reported from a point 3/4 miles due south of the target and on the railroad at 0419Z by one aircraft out of Formation #4 which consisted of eight aircraft. Bursts were black and described as "very small". Deviations were approximately 4,000 to 5,000 feet below the aircraft which was at 20,000 feet altitude. This fire is believed to have originated from approximately 4 light guns as flashes were seen on the ground. The undercast was 5/10.

2. DON MUANG AIRDROME (13°55'N - 100°35'E)

Meager and inaccurate black heavy antiaircraft fire was reported by 2 aircraft out of a formation of eight at 0359Z at an altitude of 19,500 feet through a 5/10 undercast. Deviations were generally below, abreast and to the right although bursts were reported in all directions from the aircraft.

No enemy aircraft were reported on the same course and altitude and fire is believed to have been Continuously Pointed. Gun flashes were observed on the perimeter of DON MUANG AIRDROME apparently from a 3 to 4 gun site.

3. Vicinity of NAGORN JAISRI (13°48'N - 100°26'E)

Meager and inaccurate black and white heavy antiaircraft fire was reported by 2 aircraft of a formation of eight at 0420Z at an altitude of 19,500 feet through a 5/10's undercast.

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Deviations were reported as generally below, behind and to the left, although some bursts were also reported as above and level, ahead and to the right.

The type of fire could not be determined and no enemy aircraft were reported on the same course and altitude. The number of bursts observed varied from 2 to 10.

4. RANGOON (16°46'N - 96°11'E)

Intense and accurate black heavy antiaircraft was encountered by the one formation of 11 aircraft bombing RANGOON at 0444Z from 21,000 feet true on heading into the target of 52°M, under CAVU conditions.

One group of approximately 50 bursts was encountered at 0444:30Z just a few seconds after bombs away. The majority of the crew members reported the bursts to occur at practically the same instant and to be concentrated in a small area, definitely indicating a Predicted Concentration type of fire. Deviations were reported as level, abreast and in line with the formation although a few bursts were observed both below and somewhat to the left.

No sightings of enemy aircraft were made prior to bombs away or the Predicted Concentration encountered at approximately 0444Z.

This formation suffered extensive damage and loss at RANGOON but the cause has not been determined as yet. The Antiaircraft Officer of the 40th Group reports: "Preliminary impression is that every plane in the formation was hit, but by what cannot be definitely stated. Four aircraft are missing. One was seen to go down over the target and another was abandoned some distance west of RANGOON. Two aircraft landed at alternate bases, both damaged.

"Five aircraft of the formation have returned and all are damaged, in most instances severely. Holes are large, on some aircraft as much as one foot long and six inches wide.

"Theory has been advanced by the formation commander that the damage was inflicted by one or two of our bombs exploding just at or after bomb release." Further theory has "reasoned that the bomb may have received a direct hit from an antiaircraft projectile."

"It is the opinion of the bombardier of one of the aircraft in the formation that two bombs exploded beneath the plane. No smoke was seen but a large orange explosion was observed. A flak burst was also seen at the same instant. Another crew reported that no flak was observed before the concussion was felt."

The cause of damage and loss is still under investigation and a complete report will be made when further information is available.

B. GROUND-TO-AIR ROCKETS, BARRAGE AND HIGH-ALTITUDE BALLOONS, AND SMOKESCREENS

None reported.

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C. DAMAGE FROM HEAVY ANTI-AIRCRAFT FIRE

No report is made until further investigation concerning the causes of the damage and loss sustained at RANGOON is completed. No aircraft suffered damage from heavy anti-aircraft fire at BANGKOK.

D. WARNING NETS

It is believed that the enemy had prior warning of the attacks against RANGOON and BANGKOK because of the existence of an adequate warning net in this area.

Frank L. Scott, Jr.
FRANK L. SCOTT, JR.,
Lt. Col., Air Corps,
Chief, Intelligence Section

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LINE 1

C

ENEMY AIR OPPOSITION

* * * * *
*
* Prepared By: *
* *
* OPERATIONAL INTELLIGENCE UNIT *
* *
* XX BOMBER COMMAND *
* *
* * * * *

S E C R E T

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JAPANESE FIGHTER TACTICS - MISSION NO. 20

TARGETS: Rangoon and Bangkok.

Day Mission

14 December 1944

1. Only 1 enemy fighter attack was reported by the B-29's returning safely from the mission, this being an encounter with a TOJO in the Rangoon area. A total of 28 enemy aircraft was sighted, none of which attempted to attack. So far as is known, none of the B-29's lost on the mission was lost because of fighter opposition.

2. The TOJO which made the only reported attack against the mission is claimed as probably destroyed. The encounter occurred at 0502Z on the route back from the target 20 miles NW of Rangoon at 17,000 feet altitude. TOJO approached at 1 o'clock level on the No. 3 B-29 in a 3 plane formation. The enemy fighter opened fire at 1500 yards closed to 1000 yards at which point he was hit by the bombardier of the No. 3 plane. TOJO went into a steep uncontrolled dive.

3. 28 enemy aircraft were sighted at distances of 1000 yards to 5 miles, none of these attempting to wage actual attacks. Definite identification of types was impossible in most cases, 21 being reported as S/E's, 1 as a T/E plus 3 OSCARS, 2 TONYs and 1 TOJO. 23 sightings were made in the Bangkok area, and 5 in the Rangoon area. Details are shown in the following table.

Enemy Aircraft Sightings - Mission No. 20

<u>Number & Type E/A</u>	<u>Location</u>	<u>Altitude of E/A</u>	<u>Time</u>	<u>Distance</u>
1 TOJO	NW of Rangoon	20,000	0530Z	1000 yds.
1 S/E(O.D.)	Rangoon	15,000	0505Z	2 miles
1 S/E(silver)	Rangoon	15,000	0510Z	2 miles
2 TONY	15 mi. N of Rangoon	20,000	0500Z	2 miles
3 OSCAR	Don Maung Airfield	5,000	0412Z	-----
1 T/E	Bangkok	-----	0415Z	-----
1 S/E	20 mi. E of Bangkok	18,000	0411Z	-----
1 S/E	E of Bangkok	20,000	0417Z	1500 yds.
1 S/E	1 mi. S of Bangkok	10,000	0420Z	-----
7 S/E(silver)	50 mi. W of Bangkok	20,000	0502Z	5 miles
1 S/E	Bangkok area	12,000	0415Z	1 mile
8 S/E	Bangkok area	taking off	0422Z	4 miles
<u>TOTALS</u>				
21 S/E	23 in Bangkok area		0302Z	1000 yds.
3 OSCAR	5 in Rangoon area		to	to
2 TONY			0530Z	5 miles
1 TOJO				
1 T/E				

- 1 -

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ANNEX

D

WEATHER INFORMATION

- I - Weather Information
- II - Chart - Weather as Forecast and Encountered
- III - Synoptic Map

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I - WEATHER INFORMATION

Mission No. 20

14 December 1944

	As Forecast	As Encountered
Base (Take-off)	<p><u>KHARAGPUR</u>: Clear. Visibility 4 miles in haze. Wind calm.</p> <p><u>PIARDOBA</u>: Clear to scattered cirrus above 20,000'. Visibility 7 miles. Wind NW 8 mph.</p> <p><u>CHAKULIA</u>: Clear. Visibility 5 miles in haze. Wind calm.</p> <p><u>DUDHKUNDI</u>: High scattered cirrus. Visibility 6 miles. Wind calm.</p>	<p><u>KHARAGPUR</u>: Clear. Visibility 6 miles. Wind N 3 mph.</p> <p><u>DUDHKUNDI</u>: Clear. Visibility 7 miles. Wind N 3 mph.</p> <p><u>CHAKULIA</u>: Clear. Visibility 7 miles. Wind N 2 mph.</p> <p><u>PIARDOBA</u>: Clear. Visibility 6 miles in haze. Wind WNW 8 mph.</p>
Route Out	<p><u>BASE TO 20° N LAT</u>: Clear. Light fog along coast. Light haze over northern Bay of Bengal.</p> <p><u>20° N TO ASSEMBLY POINT TO TARGET</u>: 3-4/10 cirrus at 30-35,000'. 4/10 small cumulus, base 2500' tops 4500', over Gulf of Martabin, decreasing to 2/10 coverage over land.</p>	<p><u>BASE TO 20° N</u>: Clear to 20° N.</p> <p><u>20° N TO ASSEMBLY POINT</u>: Scattered stratus or stratocumulus with tops 4000' increasing to 8-9/10 in vicinity of 18° N and decreasing to 4/10 from Diamond Is. to Assembly Point. Scattered cirrus above 22,000'.</p> <p><u>ASSEMBLY POINT TO TARGET</u>: 6/10 thin patch altostratus and scattered cirrus above 22,000'.</p>
Target Area	<p><u>PRIMARY TARGET</u>: 6/10 cirrostratus at 29-30,000'. 2/10 or less small cumulus, tops 4500'. Visibility 7 miles or more in haze. Sea level pressures: 29.88 inches.</p> <p><u>SECONDARY TARGET</u>: 2/10 cirrus at 35,000'. 2/10 or less small cumulus, tops 4500'. Sea level pressure: 29.91 in.</p> <p><u>TERTIARY TARGET</u>: 2/10 cirrus at 35,000'. 2/10 or less small cumulus tops at 4500'. Sea level pressure: 29.91 in.</p>	<p><u>PRIMARY TARGET</u>: 6/10-8/10 thin patchy altocumulus drifting over target area. Visibility unlimited</p> <p><u>SECONDARY TARGET</u>: Clear with 1/10 to 2/10 small cumulus on the horizon. Visibility 20 miles.</p> <p><u>TERTIARY TARGET</u>: 1/10 cumulus tops at 3000'. Visibility 25 miles.</p>
Route Back	<p>No significant change from outgoing.</p>	<p>The altostratus deck became scattered a short distance north west of the primary target and dissipated entirely by the time the coast was reached. Only 1/10 lower stratocumulus remained over the Gulf of Martabin, and North of Diamond Island there were no clouds at all. A haze layer extended to 15,000' over the Bay of Bengal.</p>

D-I-1

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	Ag Forecast	As Encountered
Base on Return	KHARAGPUR: Clear. Visibility 7 miles. Wind W 5 mph. PIARDOBA: Scattered cirrus above 20,000'. Visibility 15 miles. Wind NW 6 mph. CHAKULIA: Clear. Visibility 7 miles. Wind NW 5 mph. DUDHKUNDI: Clear. Visibility 7 miles. Wind NW 5 mph.	KHARAGPUR: Clear. Visibility 10 miles. Wind W 3 mph. CHAKULIA: Clear. Visibility 6 miles. Wind NW 6 mph. PIARDOBA: Clear. Visibility 6 miles. Wind NW 9 mph. DUDHKUNDI: Clear. Visibility 10 miles. Wind W 3 mph.

A. Winds Aloft - Forecast

Altitude	Base to 19 Deg N	19 Deg to 16 Deg N	16 Deg N to Target T
1,000'	360 Deg - 07K	70 Deg - 05K	80 Deg - 07K
5,000'	280 Deg - 10K	160 Deg - 07K	90 Deg - 10K
10,000'	270 Deg - 10K	250 Deg - 10K	100 Deg - 10K
15,000'	270 Deg - 17K	260 Deg - 13K	90 Deg - 13K
20,000'	270 Deg - 20K	260 Deg - 15K	90 Deg - 15K
25,000'	270 Deg - 25K	260 Deg - 17K	90 Deg - 17K

B. Winds Aloft - Encountered

Altitude	Midway	Primary Target	Secondary Target	Tertiary Target
5,000'	300 Deg - 11K			
10,000'	280 Deg - 13K			
18,000'		90 Deg - 12K		274 Deg - 08K
20,000'		80 Deg - 20K	270 Deg - 10K	

C. Target Temperatures

As Forecast

Altitude	Primary	Secondary	Tertiary
Surface	29 Deg C.	29 Deg C.	29 Deg C.
1,000'	25 Deg C.	24 Deg C.	24 Deg C.
5,000'	19 Deg C.	20 Deg C.	20 Deg C.
10,000'	12 Deg C.	12 Deg C.	12 Deg C.
15,000'	2 Deg C.	5 Deg C.	5 Deg C.
20,000'	-6 Deg C.	-4 Deg C.	-4 Deg C.
25,000'	-16 Deg C.	-11 Deg C.	-11 Deg C.

As Encountered

Altitude	Primary	Secondary
18,000'	-2 Deg C.	-
20,000'	-4 Deg C.	-3 Deg C.
21,000'	-7 Deg C.	

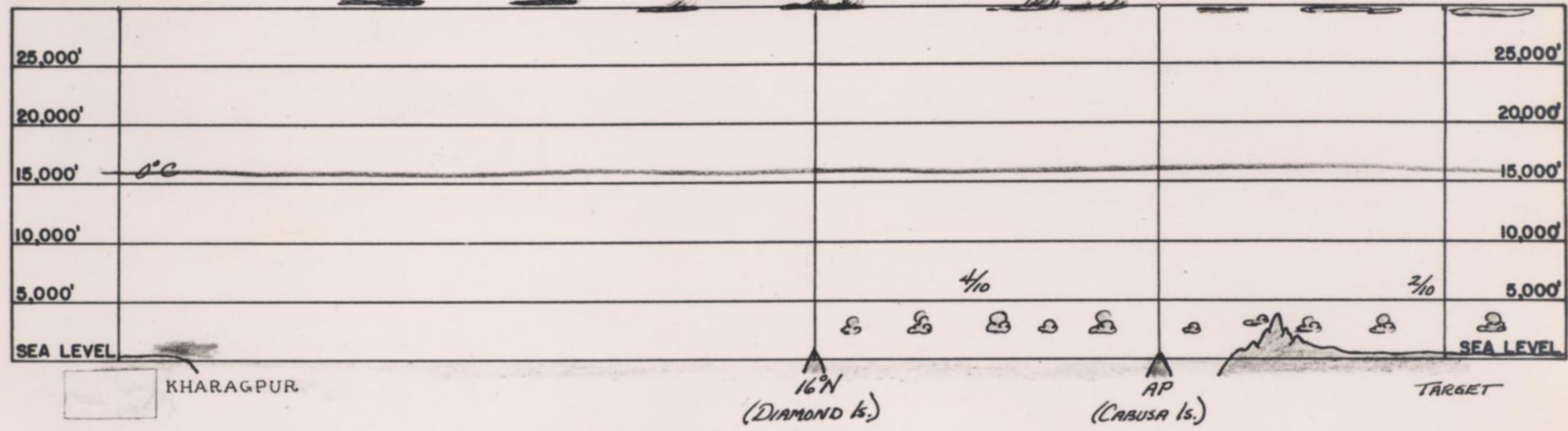
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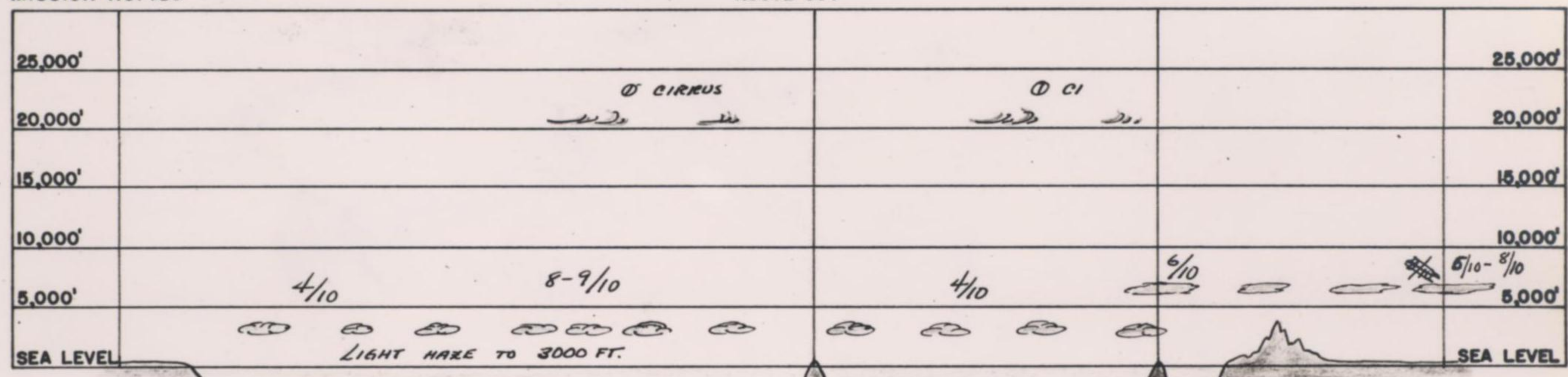
XX BOMBER COMMAND
WEATHER AS FORECAST

MISSION NO. 20



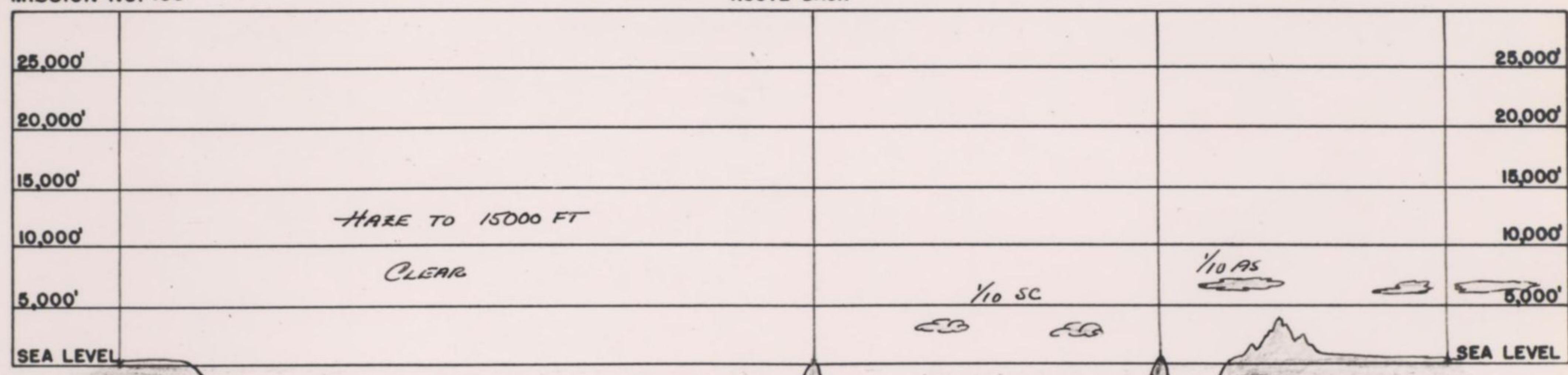
WEATHER AS ENCOUNTERED
ROUTE OUT

MISSION NO. 20



WEATHER AS ENCOUNTERED
ROUTE BACK

MISSION NO. 20



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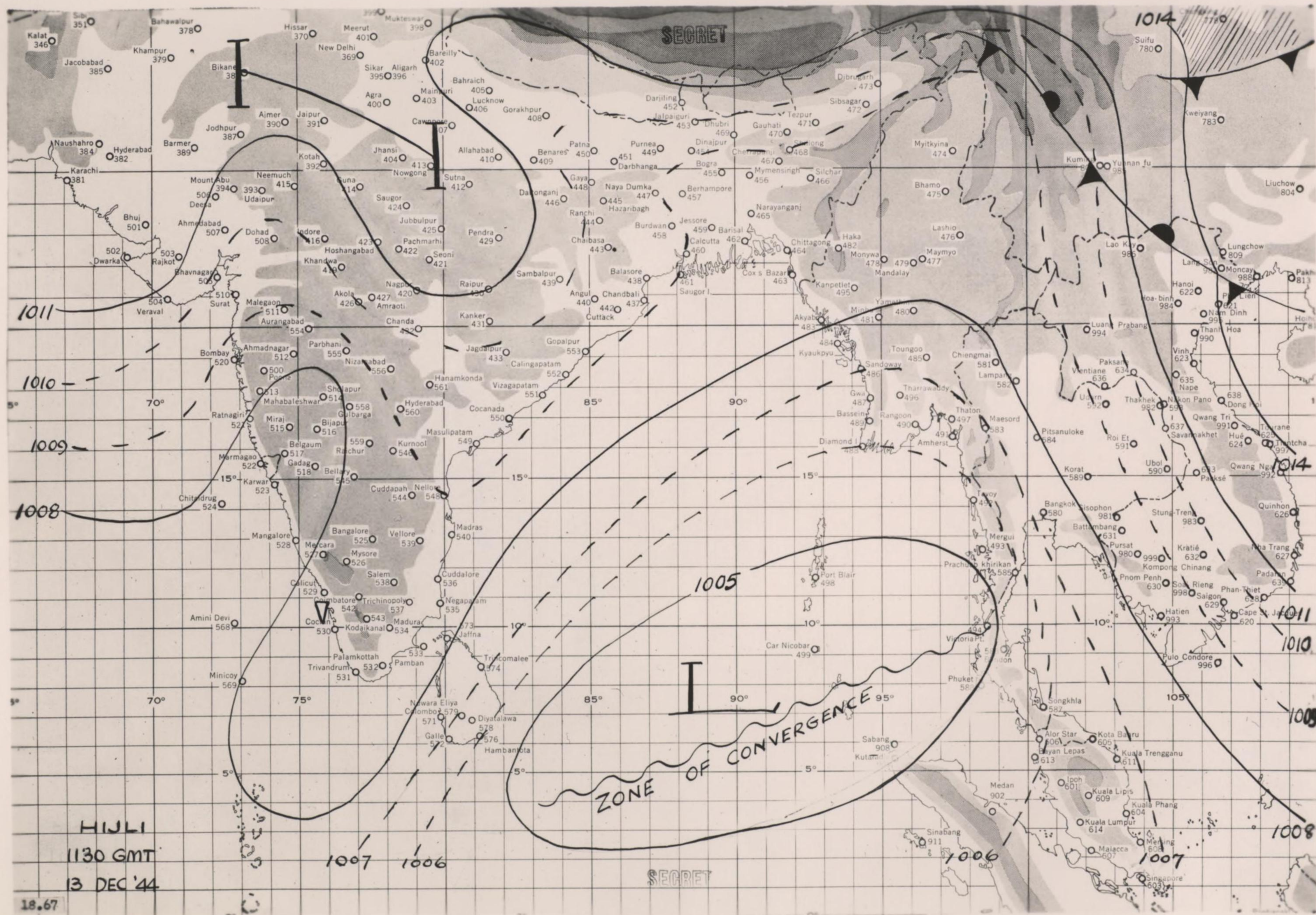
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Authority 760063

By SG NARA Date 11/8/05

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Authority

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By

SC-NARA

Date

11/8/05

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ANEX

E

COMMUNICATIONS INFORMATION

* * * * *

* Prepared by: *

* * * * *

* Communications Section *

* * * * *

* KA Bomber Command *

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E.O. 11652, Sec. 3(E) and 5(D) or (F)

MND 740120

By *Co/mt* NARS, Date *OCT 21* 1975

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By *SG* NARA Date *11/8/05*

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: Date: 18 Dec 44 :
: Initials: JAJ :
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HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date prepared: 17 December 1944.

Field Orders No: 20.

Date of Mission: 14 December 1944.

1. Communications for mission number twenty (20) were very satisfactory. Good weather conditions and the comparatively short distance flown are the main contributing factors.

2. A practice message was sent from the Command Post for the purpose of acquainting communications personnel with the procedures involved in handling a Target Change message which might be passed from the Command Post to the Aircraft. A time study of the handling of this message is contained as Annex One (1) to this report.

3. All required traffic was handled satisfactorily and compliance with the provisions of Tactical Doctrine by both aircraft and ground stations was excellent. A compilation of the number of messages handled is as follows:

	<u>40th Gp</u>	<u>444th Gp</u>	<u>462nd Gp</u>	<u>468th Gp</u>
a. Aborts:	0	1	0	0
b. Bombs Away:	3	2	2	3
c. Position:	2	3	3	2

4. There were no reports of aircraft or ground stations failing to comply with the provisions of the Tactical Doctrine.

5. A comparative study of the readability, signal strength and noise level of the frequencies in use, divided into two (2) hour periods is as follows. Time indicated is GMT:

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GROUND STATION TO AIRCRAFT

<u>Frequency</u>	<u>2300-0100</u>	<u>0100-0300</u>	<u>0300-0500</u>
2055 kcs	S3 R3 W2	S2 R2 W3	Off Air
2807.5 kcs	S4 R4 W3	S5 R5 W1	S4 R4 W1
2900 kcs	S3 R4 W2	Off Air	
2955 kcs	S5 R5 W1	Off Air	
4785 kcs	S4 R4 W2	S3 R3 W3	S3 R2 W4
4825 kcs	-- -- --	S4 R4 W1	S3 R4 W2
4995 kcs	-- -- --	S4 R5 W3	S3 R4 W3
8260 kcs	S5 R5 W1	S5 R5 W1	S4 R4 W2
8310 kcs	S3 R3 W2	S4 R5 W2	S4 R5 W4
8495 kcs	S4 R3 W2	S4 R4 W2	S2 R4 W2
8545 kcs	-- -- --	S2 R2 W2	S3 R3 W2
12215 kcs	-- -- --	-- -- --	S1 R1 W3
12285 kcs	-- -- --	S3 R2 W2	S3 R2 W2

<u>Frequency</u>	<u>0500-0700</u>	<u>0700-0900</u>	<u>0900-1100</u>
2055 kcs	Off Air		
2807.5 kcs	S4 R4 W2	S5 R5 W1	-- -- --
2900 kcs	Off Air		
2955 kcs	Off Air		
4785 kcs	S2 R2 W3	S3 R3 W2	S3 R3 W2
4825 kcs	S4 R3 W2	S5 R4 W1	S4 R4 W1
4995 kcs	S4 R5 W2	S5 R4 W1	S4 R4 W1
8260 kcs	S5 R5 W1	S5 R5 W1	-- -- --
8310 kcs	S5 R5 W3	S5 R5 W3	-- -- --
8495 kcs	S4 R3 W2	S5 R4 W1	S5 R5 W1
8545 kcs	S4 R4 W2	S4 R4 W2	S5 R5 W1
12215 kcs	S2 R2 W2	S2 R2 W3	S1 R1 W2
12285 kcs	S3 R3 W1	S4 R4 W1	-- -- --

AIRCRAFT TO GROUND STATION

<u>Frequency</u>	<u>2300-0100</u>	<u>0100-0300</u>	<u>0300-0500</u>
2055 kcs	S3 R2 W4	S2 R1 W3	Off Air
2807.5 kcs	S3 R3 W0	S3 R3 W0	-- -- --
2900 kcs	S3 R5 W1	Off Air	
2955 kcs	-- -- --	Off Air	
4785 kcs	S3 R3 W3	S2 R2 W3	S1 R1 W3
4825 kcs	Off Air		
4995 kcs	-- -- --	-- -- --	S3 R4 W0
8260 kcs	S5 R5 W1	S5 R5 W1	S5 R5 W0
8310 kcs	S4 R5 W1	S5 R5 W0	S3 R5 W0
8495 kcs	-- -- --	S5 R5 W2	S5 R5 W0
8545 kcs	-- -- --	S2 R2 W3	S3 R3 W2
12215 kcs	-- -- --	-- -- --	S2 R2 W3
12285 kcs	-- -- --	-- -- --	S3 R2 W1

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<u>Frequency</u>	<u>0500-0700</u>	<u>0700-0900</u>	<u>0900-1100</u>
2055 kcs	Off Air		
2807.5 kcs	-- -- --	-- -- --	-- -- --
2900 kcs	Off Air		
2955 kcs	Off Air		
4785 kcs	Off Air		
4825 kcs	S2 R2 W1	W3 R3 W1	S5 R5 W1
4995 kcs	S4 R4 W0	S4 R4 W0	-- -- --
8260 kcs	W5 R5 W1	S5 R5 W1	-- -- --
8310 kcs	S4 R5 W0	S5 R5 W0	-- -- --
8495 kcs	S5 R5 W0	S5 R5 W1	S5 R5 W1
8545 kcs	S4 R4 W2	S4 R4 W2	S4 R4 W1
12215 kcs	S2 R3 W2	S2 R2 W3	S1 R1 W2
12285 kcs	-- -- --	S3 R2 W1	-- -- --

6. The following statistical data was compiled regarding the use of aids to air-navigation; all distances in statute miles:

a. Radio Homing Beacons:

<u>Location</u>	<u>No. of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extrem Initial Contact</u>	<u>Average Track</u>
Kharagpur (GK)	16	285	478	316°
Dudhkundi (FN)	3	65	85	317°
Chakulia (AF)	7	275	363	315°
Chittagong (NR)	3	170	175	25°
Syhlet (FU)	1	350	350	138°
Calcutta (CM)	2	84	90	315°
Piardoba (ML)	11	334	585	---
Amarda Road (GF)	1	150	150	335°

b. Radio Ranges:

Dum Dum (CM)	3	456	575	---
--------------	---	-----	-----	-----

c. It was not necessary for any aircraft to use D/F facilities.

d. Air-to-air homing was attempted by all groups, with results as indicated below:

40th Group - A/C 5225 transmitted homing signals on 1250 kcs for approximately 15 minutes at the rendezvous point. Six A/C picked up homing signals and accomplished rendezvous at an average distance of 27 miles with an extreme distance of 61 miles.

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- 444th Group - A/C 732 transmitted its ETA and altitude at assembly point, on 1280 kcs at 0145Z and then transmitted homing signals at assembly point from 0246Z to 0317Z. Eight A/C picked up homing signals at an average distance of 50 miles with an extreme distance of 60 miles.
- 462nd Group - A/C 457 transmitted homing signals prior to and upon arrival at assembly point. Six A/C picked up homing signals and accomplished rendezvous at an average distance of 54 miles and an extreme distance of 100 miles.
- 468th Group - A/C 354 transmitted homing signals at assembly point for approximately 25 minutes. Seven A/C accomplished rendezvous at an average distance of 60 miles.

7. The 444th Group experienced interference on 4825 kcs from takeoff until 0430Z at which time the channel became clear. All other frequencies were reported as being excellent as will be noted in paragraph 5 above.

8. No violations of cryptographic security were reported.

a. 40th Bomb Group:

No malfunctions were reported in group Communication Specialists Report.

b. 444th Bomb Group:

- (1) A/C 202 excessive noise in #2 command receiver.
- (2) A/C 462 compass sense antenna broke. Used whip antenna.
- (3) A/C 724 compass sense antenna broke.

c. 462nd Bomb Group:

- (1) A/C 4728 bad co-pilots' microphone switch. Replaced in flight. Compass flat top antenna broke. Used command antenna.
- (2) A/C 4581 compass flat top antenna broke.
- (3) A/C 393 compass flat top antenna broke. Number 2 transmitter out in command set.
- (4) A/C 463 interphone out. Unable to repair in flight.

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d. 468th Bomb Group:

- (1) A/C 354 tail gunners' microphone shorted out. Replaced in flight.
- (2) A/C 6409 tail gunners' microphone shorted out. Replaced in flight. Liaison antenna shot off during practice firing.
- (3) A/C 525 liaison receiver out.

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: Auth: CG XX BC :
: Date: 18 Dec 44 :
: Initials: _____ :
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HEADQUARTERS
XX BOMBER COMMAND
APO 493

ANNEX NO. 1

TO

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date prepared: 17 December 1944.

Field Orders No: 20

Date of Mission: 14 December 1944.

1. The following is a time study involving message handling time on the practice messages sent on Mission Number Twenty (20).

2. The first message consisting of eight (8) groups was filed for transmission at 140215Z and was transmitted via teletype to the 40th Bomb Group being received for at 140216Z

a. The message was encoded at the Command Post and transmitted to the 40th Group ready for transmission to the aircraft. A time study showing time of receipt, means by which message was received and number of aircraft receiving message is as follows:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time of Receipt</u>	<u>Remarks</u>
4589	Direct	0225Z	
831	"	0227Z	
3407	"	0228Z	
508	"	0229Z	
685	"	0230Z	
859	"	0231Z	
5225	"	0225Z	
729	"	0225Z	

Time of first transmission: 0221Z

Time of receipt by 1st A/C: 0225Z

Time of receipt by last A/C: 0231Z

Average Group Time: 6.5 minutes.

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3. The second message consisting of seven (7) groups was filed for transmission at 140315Z and was transmitted via teletype to the three remaining groups being receipted for by all groups at 0318Z.

a. The message was encoded at the Command Post and was transmitted to the 444th, 462nd and 468th Groups ready for transmission to the aircraft. A time study showing time of receipt, means by which message was received, and number of A/C receiving message is as follows:

(1) 444th Bomb Group:

Message was receipted for by lead A/C 732 at 0327Z and was relayed to all other A/C in formation, the last A/C having received message by 0333Z. Average group time was 7.5 minutes.

(2) 462nd Bomb Group:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time of Receipt</u>	<u>Remarks</u>
457	Direct	0325Z	
6338	"	0340Z	
4581	"	0328Z	
475	"	0327Z	
711	"	0325Z	
463	"	0325Z	
4728	"	0327Z	
472	"	0330Z	
505	"	0325Z	
3386	"	0323Z	
479	"	0335Z	
393	"	0320Z	

Time of first transmission: 0320Z
Time of receipt by 1st A/C: 0320Z
Time of receipt by last A/C: 0340Z
Average Group time: 7.83 minutes.

(3) 468th Bomb Group:

<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time of Receipt</u>	<u>Remarks</u>
3354	Direct	0335Z	
425	"	0318Z	
469	"	0333Z	
4542	"	0322Z	
445	"	----	- Operator claims
272	"	0337Z	receipt but did
3353	"	0319Z	not log.

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<u>A/C Call Sign</u>	<u>How Received</u>	<u>Time of Receipt</u>	<u>Remarks</u>
525	Direct	0340Z	
4471	"	0318Z	
6411	"	0320Z	
6409	Not received	----	- Liaison antenna
227	Direct	0336Z	shot in two. Both command and lia- ison antenna ground out on fuselage.

Time of first transmission: 0318Z
Time of receipt by 1st A/C: 0318Z
Time of receipt by last A/C: 0340Z
Average Group time: 9.8 minutes.

b. Average time for these groups to receive message was 8.38 minutes.

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By SG NARA Date 11/8/05

S E C R E T

ANNEX

F

RADAR

I - Radar Information

- Section A - Navigation and Bombing
- Section B - Scope Photography
- Section C - Serviceability

II - Radar Tables

- Table A - Bombing Data
- Table B - Photographic Results
- Table C - Navigational Ranges
- Table D - Serviceability
- Table E - Malfunctions .

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* * * * *
* Prepared by; *
* Radar Section *
* XX Bomber Command *
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Auth: CG XX BC
Initials YJH
Date 21 Dec 44

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND RADAR OFFICER

Date Prepared 21 December 1944 Field Orders Number 20
Date of Mission 14 December 1944

I - Radar Information

A - Navigation and Bombing

1. This mission was scheduled primarily as a training mission, especially for new combat crews. Considering this condition, the mission was satisfactory from a radar viewpoint. A few radar operator errors were reported. However, this was anticipated due to the number of new operators participating.

2. Navigation was aided by radar, although weather conditions along the route to the target was reported as CAVU. Range tables have been prepared under section II, summarizing the sighting ranges of various radar points on the route.

3. On the approach to the target area, considerable cloud cover was reported. The radar operator, therefore, aided in making the preliminary approach to the target. One (1) radar operator reported sighting the primary target, Rama VI Railroad Bridge, Bangkok, Siam; however, this was not expected.

4. The axis of attack of sixty-eight (68°) degrees magnetic was considered as giving the best approach both from the visual and radar viewpoint. It was not anticipated that the bridge would appear on the radar scope, for on past missions from several different angles of attack, identification of the bridge was unreported by the radar operators. The axis of attack was selected as reported on the last mission as being a much better approach to the river. The offset aiming point, bend in the Chao Phraya River, was reported readily identifiable.

5. A total of eight (8) aircraft bombed the primary target by radar. The secondary target, Rangoon, was considered as the primary radar target and aircraft were briefed to attack this target in case of weather conditions over the primary target. One (1) formation attacking the primary target found cloud cover and visual bombing unsatisfactory and therefore attacked the secondary target. Conditions over the secondary target permitted visual bombing.

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S E C R E T

B - Scope Photography

1. Radar scope photography was considerably improved considering the number of cameras installed and the number of useable pictures returned. Quality of the pictures was also improved greatly. A number of sets provide excellent material for plotting and reproduction for future radar mission folders. This process is being completed for this mission.

2. Fourteen (14) radar scope cameras were installed for this mission. Eleven (11) of the installed fourteen (14) completed the mission, while a total of eight (8) sets were returned. Seven (7) sets of pictures were useable and five (5) bomb runs could be traced.

C - Serviceability

1. Radar serviceability was about average on this mission, with eighty-six per cent (86%) of the reported sets in an operating condition over the target. Malfunctions were of the usual type, such as pressurization, low range, overheating, and spoking effect. It should be noted how many inverters are being changed after take-off on recent missions. A system of alternate inverters would greatly facilitate operation in the air.

2. Thirteen (13) operators or thirty-one per cent (31%) of those bombing, reported interference, varying from light to intense. Interference was of the two types, spirals and spots (confetti) over the radar scope, with the spots (confetti) being the most intense. Seven (7) of these operators noticed the interference particularly between the IP and the target. A report from one of the Groups (40th) on this subject indicates that a single plane flying over water may notice more interference than any one of a twelve-plane formation flying over land. Further studies are being made along this line.

3. Auxilliary radar sets provided no malfunctions.

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S E C R E T

II - RADAR TABLES

A - BOMBING DATA

Total A/C Bombing	-	47
Total A/C Bombing Bangkok (Visually)	-	24
Total A/C Bombing Bangkok (Radar)	-	8
Total A/C Bombing Rangoon (Visually)	-	11
Total A/C Bombing Bassein (Visually)	-	2
Total A/C Bombing T. of Opportunity	-	1
Total A/C Bombing Blind	-	1
Total Radar Bombing	-	8
Percentage Radar Bombing	-	17

B - PHOTOGRAPHIC RESULTS

DATA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
No. Cameras Installed	3	-	4	-	4	-	3	-	14	-
C-3 Cameras	0	-	0	-	1	-	0	-	1	-
K-35 Cameras	1	-	0	-	1	-	2	-	4	-
K-24 Cameras	2	-	4	-	1	-	1	-	8	-
H2X Cameras	0	-	0	-	1	-	0	-	1	-
No. Cameras in Abort, Early Ret, & Missing A/C*	3	100	0	0	0	0	0	0	3	21
No. Cameras Completing Mission*	0	0	4	100	4	100	3	100	11	79
No. Cameras in Radar & Camera Malfunction A/C#	0	0	0	0	1	25	0	0	1	9
Sets Pic Returned#	0	0	4	100	2-a	50	2-b	75	8	73
No. Negatives Ret	0	-	100	-	52	-	31	-	183	-
Sets Pic Useable**	0	0	3	75	2	100	2	100	7	88
Sets Pic Tracing Bomb Run**	0	0	2	50	2	100	1	50	5	62

* Percentage based on cameras installed.

Percentage based on cameras completing mission.

** Percentage based on sets of pictures returned.

a - A/C 393 (462nd) failed to take pictures, cause unknown.

b - A/C 542 (468th) had K-24 camera installed but no operator, no pictures taken.

S E C R E T

C - NAVIGATIONAL RANGES

NAME OF CHECK POINT	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range	Total Number Reporting	Weighted Average Range
Mapping Range	7	37.0	10	46.5	12	48.1	11	40.0	40	43.5
Bangkok (T)	2	32.5	8	28.0	8	23.3	9	23.3	27	25.4
Rangoon (T)	5	20.0	-	-	-	-	-	-	5	20.0
Mouth of Meklohung River (I.P.)	-	-	7	21.0	8	24.0	8	20.6	23	21.9
Kaingthaung (I.P.)	4	26.3	-	-	-	-	-	-	4	26.3
Sabusa Island (R.P.)	-	-	-	-	-	-	6	49.0	6	49.0
Pavoy Island (R.P.)	-	-	8	38.0	2	27.5	3	42.0	13	37.3
Burma Coast	5	23.0	3	45.0	-	-	5	64.0	13	43.8
Diamond Island	4	30.0	6	31.0	11	36.3	8	42.0	29	35.9
Launglon Bok Island	5	40.0	-	-	-	-	-	-	5	40.0
Pagoda Pt.	-	-	3	43.0	1	10.0	2	23.0	6	30.8
Puritan Pt.	-	-	-	-	3	15.0	2	20.0	5	17.0
Pavoy Pt.	-	-	7	38.0	4	48.6	4	63.0	15	47.5
Rond Pt.	-	-	-	-	1	80.0	-	-	1	80.0

S E C R E T

D - SERVICEABILITY

D.TA	40th Gp		444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
A/C Airborne	12a	-	12	-	12	-	12	-	48	-
A/C Reporting	7	-	12	-	12	-	12	-	43	-
AN/APQ-13 Operative Just After T.O. *	7	100	11	92	12	100	11	92	41	95
A/C Bombing	12a	-	11	-	12	-	12	-	47	-
A/C Reporting Bombing *	7	100	11	92	12	100	12	100	42	98
AN/APQ-13 Operative Over Target #	6	86	10	91	10	83	10	83	36	86
AN/APQ-13 Unrepair- able Failures #										
Completely Inop.	2	28	2	18	4	33	3	25	11	26
Partially Inop.	1	14	4	36	3	25	1	8	9	21
Total	3	42	6	55	7	58	4	33	20	47
AN/APQ-13 Repaired in Flight	0	0	1	9	3	25	0	0	4	10
ECR-729 Failures*	0	0	0	0	0	0	0	0	0	0
ECR-695 Failures*	0	0	0	0	0	0	0	0	0	0

- a - Includes 5 A/C landing at other bases.
- * - Percentage based on A/C reporting.
- # - Percentage based on A/C reporting bombing.

S E C R E T

E - MALFUNCTION

DATA	40th Gp	444th Gp	462nd Gp	468th Gp	Total
Malfunctions just after take-off:					
Completely Inoperative:					
Xmtr would not hold on	0	1	0	0	1
Flickering trace	0	0	0	1	1
Total Comp. Inoperative	0	1	0	1	2
Malfunctions between take-off and target:					
Completely Inoperative:					
Pressure bad	1-a	0	1-c	0	2
No trace	1-a	1	0	1-e	3
Xmtr would not go on	0	0	1-c	1-e	2
Very low range	0	0	1-d	0	1
Partially but Operative:					
Pressure bad	1	1-b	1	0	3
Sct overheated badly	0	1	0	0	1
Two bomb release pips at first	0	1	0	0	1
Spoking	0	1	0	0	1
Range poor	0	0	1	1	2
Unstable gain	0	0	1	0	1
Total Comp. Inoperative	2	1	3	2	8
Total Partially but Op.	1	4	3	1	9
Total malfunctions between take-off & target	3	5	6	3	17
Malfunctions between target and landing:					
Completely inoperative:					
No xmtr current	0	0	1	0	1
Malfunctions repaired in flight:					
Changed inverters	0	1	1-d	0	2
No sweep; adjusted reg. rect.	0	0	1	0	1
No sweep; replaced F1105	0	0	1	0	1
Total	0	1	3	0	4

SECRET

MAJFUNCTIONS (Cont'd).

	40th Gp	444th Gp	462nd Gp	468th Gp	Total
N/APQ-13 Malfunctions:					
Completely inoperative	2	2	4	3	11
Partially but Operative	1	4	3	1	9
Repaired in flight	0	1	3	0	4
Total Malfunctions	3	7	10	4	24
Malfunctions of auxiliary equipment:					
SCR-729	0	0	0	0	0
SCR-695'	0	0	0	0	0

a,b,c,d,e - One set had two reported malfunctions; tabulated as two malfunctions.

S E C R E T

ANNEX

G

RCM INFORMATION

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* * * * *  
* Prepared by: *  
* RCM Section *  
* XX Bomber Command *  
* * * * *
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S E C R E T

S E C R E T

SECRET
Auth: CG, XX BC
Initials: WCP
Date: 20 Dec. 44.

HEADQUARTERS
XX BOMBER COMMAND
APO 493

20 December 1944

SUBJECT: RCM Report - Combat Mission No. 20, Bangkok,
14 December 44 - Daylight.

TO : Commanding General, Twentieth Air Force,
Washington 25, D.C.

A. General

RCM activities on this mission were confined to searching. Six RCM equipped aircraft, each with one RCM Observer, searched for Early Warning Radar to and from the target, and for Radar Fire Control Equipment in the target area. In one RCM equipped aircraft, the side gunner became ill during the mission and the RCM Observer took his position.

B. Results

Radar intercepts on this mission were similar to the intercepts made on Mission No. 18. It is regrettable that no D/F cuts were possible but due to unforeseen circumstances and malfunctions, no D/F cuts were obtained.

1. As the formations approached the Pagoda Point Area, the 70 mc. radar station located South of Rangoon was intercepted. One RCM Observer monitored this station, from an altitude of 19,000 ft., to the longitude of 97°41', latitude 13°28'N.

2. Enroute to the target, only one observer reported the strong 80 mc. station located in the Rangoon area. While monitoring 80 mc.'s, the station suddenly came on, was strong, and was not rotating. After 12 minutes of operation, the station went off the air.

3. Several RCM Observers intercepted a Mk 1 Model 1 radar about half way between Pagoda Point and Mergui. The characteristics of this intercept suggests the possibility of this signal coming from the radar site near Port Blair in the Andaman Islands.

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By SG NARA Date 11/8/05

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4. A Mk 1 Model 2 radar type was intercepted strong and occasionally searching. This radar is believed to be the radar site previously reported at Mergui.

5. Enroute home, halfway across the Malay Peninsula, another Mk 1 Model 2 type radar was received strong, though just momentary.

6. Enroute home, at the Longitude of 95°05'E latitude 14°50'N, the 80 mc. station located in the Rangoon area was again intercepted, strong and steady. This time the station remained on and was monitored past Pagoda Point and was last heard at the longitude 95°51'E latitude 17°04'N.

7. A Mk 1 Model 1, 103 Mc. was weakly intercepted at longitude 98°15'E, latitude 17°46'N. No radar sites, possessing such characteristics, are known to exist in Burma, but the intercept was made at 19,400 feet and therefore may have been from the Andaman Island area.

8. There were no radar intercepts in the target area. The absence of the 100 mc. signal in the Bangkok area, may indicate that the radar station was damaged, as suspected, due to mission No. 18.

C. Resume of Intercepts

Freq (Mc)	PRF	PW	Remarks & Locations
70	520	35	Radar location South of Rangoon. Steady. First intercept made. Listed as 69 mc. on Mission 18 report.
80	490	40	Radar location in the Rangoon area. Strong & steady.
97	850	12	Strong and rotating. Strongest at 14°32'N, 95°51'E. Possibly located near Port Blair.
192	1050	12	Radar believed located in the Mergui area.
195	1100	15	On momentarily. 14°12'N 98°21'E.
103	500	24	98°15'E 17°46'N. Weak. Possibly located in Andaman Island area.

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D. Enemy Countermeasures

There were no enemy countermeasures experienced by radar or radio personnel.

E. Equipment Malfunctions

1. One PE-218 Inverter failed due to a violent concussion experienced over the target.
2. The bracket supporting the "Auto-Sweep" switch on the D/F antenna bent and grounded out the switch contacts, making further D/F'ing impossible.
3. One 4N/4PA-6 operated intermittently. Cause is as yet undetermined.

For the Commanding General:

Leo I. Herman

LEO I. HERMAN
Colonel, Air Corps
Actg. Adjutant General

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By SF NARA Date 11/8/05

S E C R E T

APPENDIX

E

CENTRAL STATION FIRE CONTROL AND GUNNERY

* * * * *
* Prepared by: *
* Staff Gunnery Officer *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

S E C R E T

SECRET

SECRET

Auth: JC XX B

Initials: JWA

Date: 18 Dec 44

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION REPORT OF
STAFF GUNNERY OFFICER

Date Prepared: 18 December 1944

Field Order Number 20
Date of Mission 14 Dec 44

1. On the mission directed by Field Order No. 20 only one enemy aircraft made an interception on our formations of B-29's. This lone attack was made by a Tojo level at one-thirty o'clock position, on a formation of the 40th Group and is claimed as probable destroyed. There were approximately seven enemy aircraft sighted in the vicinity of the target but no other attacks were made. There was no damage to our airplanes by enemy fighters.

The following statistical data is submitted:

	40th	444th	462nd	468th
Ammunition used test firing	1130	1085	2160	1125
Ammunition used in combat	260	0	200	0
Malfunctions of C.F.C. System	0	0	1	0
Total turrets on mission	40	55	60	60
Malfunctions of cal. 50 M.G.'s	0	0	5	0
Total cal. 50 M.G. on mission	80	110	120	120
Total aircraft (included in report)	8	11	12	12
Total percent malfunctions all groups C.F.C. 1/2 of 1% cal. 50 M. G. 1%.				

Claims by our gunners:

Destroyed	Probably Destroyed	Damaged
0	1	0

-1-

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By SG NARA Date 11/8/05

S E C R E T

ANNEX

I

CAMERAS AND PHOTOGRAPHS

S E C R E T

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By SG NARA Date 11/8/05

SECRET

I - CAMERAS AND PHOTOGRAPHS

Mission No. 20

14 December 1944

A. 40th Group

	K-18	K-20	K-22	Total
No. cameras airborne	3	12	6	21
No. in missing and non-reporting A/C	1	6	3	10
No. completing mission	2-a	6	3	11
No. photographing targets	2	1-a	2	5-a
Failure to photograph - mechanical	0	0	0	0-a
Failure to photograph - other reasons	0	5-c	1-b	6
No. usable negatives	39-a	8-a	95-a	142-a

a. Not complete. b. No reasons available. c. Not used

B. 444th Group

	K-18	K-20	K-22	Total
No. cameras airborne	4	5	5	14
No. in missing non-reporting A/C	0	0	0	0
No. completing mission	4	5	5	14
No. photographing targets	4	5	4	13
Failure to photograph - mechanical	0	0	1-b	1
Failure to photograph - other reasons	0	0	0	0
No. usable negatives	74	a	68	142-c

a. Film not processed at time of report.
b. Focal plane shutter jammed.
c. Not complete

C. 462nd Group

	K-18	K-20	K-22	Total
No. cameras airborne	4	10	5	19
No. in missing and non-reporting A/C	0	0	0	0
No. completing mission	4	10	5	19
No. photographing targets	2	5	5	12
Failure to photograph - mechanical	2-a	0	0	2
Failure to photograph - other reasons	0	5-b	0	5
No. usable negatives	0-c	2-c	0-c	2-c

a. (1) Intervalometer fuse out. b. Not used. C. Unusable 10/10
 (2) Unable to open doors. undercast over
 target area.

I-1-1

SECRET

S E C R E T

D. 468th Group

	K-18	K-20	K-22	Total
No. cameras airborne	4	5	3	12
No. in missing and non-reporting A/C	0	0	0	0
No. completing mission	4	5	3	12
No. photographing targets	4	3	2	9
Failure to photograph - mechanical	0	0	0	0
Failure to photograph - other reasons	0	2-a	1-b	3
No. usable negatives	51	14	32	97

a. (1) No reason available.
(2) Not used

b. Forgot camera.

E. Totals

	K-18	K-20	K-22	Total
N. cameras airborne	15	32	19	66
No. in missing and non-reporting A/C	1	6	3	10
No. completing mission	14	26	16	56
No. photographing targets	12	14-a	13	39-a
Failure to photograph - mechanical	2	0	1	3
Failure to photograph - other reasons	0	12	2	14
No. usable negatives	164-a	24-a	127-a	315-a

a. Information not complete.

Note: For information concerning radar cameras see Annex F,
Radar Information.

I-1-2

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By SG NARA Date 11/8/05

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ANNEX

J

AIRCRAFT LOSSES AND DAMAGE

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By SG NARA Date 11/8/05

S E C R E T

I - AIRCRAFT LOSSES AND DAMAGE

Mission No. 20

14 December 1944

A. Aircraft Losses

1. Known Battle Losses: (None).

2. Known Operational Losses (1):

a. A/C 508 (40th) overshot the runway at Cox's Bazaar on return from the secondary target and bogged down in a swampy marsh. It is believed to be a possible complete loss.

3. Missing Aircraft (4):

a. A/C 457, 726, 831, and 574 all of the 40th Group suffered severe damage as a result of a mid-air bomb explosion. This explosion may have been caused by bombs colliding just after release or initiated by flak. Of the damaged aircraft listed A/C 574, is believed to have ditched or the crew bailed out approximately 100 miles west of Rangoon; one is believed down over Rangoon; one was last seen in trouble in the Rangoon area; and one is completely unaccounted for. The exact identity of the latter three is confused and therefore unknown.

B. Aircraft Damage

For details of battle and operational damage by aircraft, see Consolidated Mission Statistical Summary, Annex M, Table V.

J-1

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By SG NARA Date 11/8/05

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ANNEX

K

FUNCTIONING OF EQUIPMENT

- I - Functioning of Equipment
- II - Performance Data*

* Prepared by Operations, Plans and Training Section,
XX Bomber Command

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By SG NARA Date 11/8/05

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I - FUNCTIONING OF EQUIPMENT

Mission No. 20

14 December 1944

1. A/C Airborne 48
2. Less: A/C failing to get over the primary target with bombs - mechanical reasons 3
 - a. Bombed last resort target (2):
 - (1) A/C 859 (40th) - #1 engine oil leak.
 - (2) A/C 415 (468th) - electrical short in system; turbo amplifier burned out.
 - b. Jettisoned bombs (1):
 - (1) A/C 340 (444th) - #1 engine oil leak; gas leak in bomb bay.
3. A/C over primary target 45
4. Less: A/C failing to bomb primary target - other reasons 12
 - a. Bombed secondary target (11):
 - (1) A/C 225 (40th) - weather.
 - (2) A/C 726 (40th) - weather.
 - (3) A/C 457 (40th) - weather.
 - (4) A/C 539 (40th) - weather.
 - (5) A/C 587 (40th) - weather.
 - (6) A/C 729 (40th) - weather.
 - (7) A/C 685 (40th) - weather.
 - (8) A/C 407 (40th) - weather.
 - (9) A/C 831 (40th) - weather.
 - (10) A/C 571 (40th) - weather.
 - (11) A/C 508 (40th) - weather; dropped 2 1000-pound bombs on ST and jettisoned 10 1000-pound and 6 500-pound bombs, bombardier knocked back by mid-air explosion.
 - b. Bombed target of opportunity (1) 32
 - (1) A/C 227 (468th) failure to identify assigned target.
5. A/C bombing primary target 33

K-I-1

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By SG NARA Date 11/8/05

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HEADQUARTERS
XX BOMBER COMMAND
APO 493

S E C R E T

Auth: CG XX B3

Initials

Date 19 December 44

CONSOLIDATED
SPECIALIST MISSION
REPORT OF
STAFF FLIGHT ENGINEER

Date Prepared: 19 December 1944

Field Order Number 20
Date of Mission 14 Dec 44

1. A summary of the aircraft performance is listed on the following table. Results for the 40th Group are listed but not included in the overall averages since all a/c for which logs were available bombed the secondary target.
2. Bomb loads were limited by space limitations rather than take-off gross weight due to the type and size of bombs carried on this mission. As a result take-off gross weights were also reduced. The fuel load prescribed for this target at the maximum takeoff weight was used which resulted in fuel reserves which are higher than usual.

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By SG NARA Date 11/8/05

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 SUMMARY OF ALL GROUPS
 F. O. #20

Group	Overall Average	40th	444th	462nd	468th
Target	Primary	Secondary	Primary	Primary	Primary
*Number of Aircraft	33	3	11	12	10
Total Time	10:32	11:24	10:37	10:33	10:25
Time to Target	5:26	7:23	5:38	5:17	5:30
Fuel Burned	Ave 5040	5080	5205	5025	4885
	Max 5450	5400	5450	5400	5200
	Min 4550	4775	4800	4760	4550
Aux. Fuel Carried	Ave 706	600	754	650	720
	Max 1100	600	1100	1000	1100
	Min 600	600	600	600	600
Burnable Reserve	Ave 1060	910	948	1026	1235
	Max 1600	1210	1200	1600	1450
	Min 500	600	650	500	800
**Air Miles	2380	2375	2444	2321	2386
Ground Miles	2350	2362	2470	2272	2300
**Gals/Air Miles	2.12	2.14	2.13	2.16	2.05
***Ave Bomb Alt.	19,200	20,250	19,100	20,300	18,100
Starting Gross Wt	Ave 130,200	132,500	131,275	130,805	128,264
	Max 133,137	132,967	131,872	133,137	131,310
	Min 128,442	132,161	128,442	125,884	124,334
Wt. of Bombs	Ave 11,440	15,710	12,540	12,150	9,380
	Max 17,100	15,710	17,100	12,500	12,500
	Min 6250	15,710	8320	8320	6250
No. of Bombs	M-44, M-65 10.8	12	11.6	11.7	9
	M-43, M-64 0.9	6	2.9	0	0

*For which logs were available that returned to their home base.
 **accuracy of air miles is doubtful due to methods of determination.
 ***Pressure altitude

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SECRET

L

TARGET DATA GEN ASSEMBLY

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* * * * *
* Prepared by: *
* Target Intelligence Unit *
* * * * *
* * * * *
* * Bomber Command *
* * * * *

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SECRET

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

HEADQUARTERS
XX BOMBER COMMAND
Intelligence Section
APO 493

28 December 1944

DAMAGE ASSESSMENT REPORT NO. 30

TARGET: Rama VI Bridge, Bangkok, Thailand. (13° 49' N - 100° 31' E).

GENERAL STATEMENT:

This report relates to damage resulting from a daylight attack by 33 aircraft of XX Bomber Command on 14 December 1944. A total of 354 1000# GP and 4 500# GP bombs were dropped. Assessment of damage was accomplished from excellent quality photography obtained by the 444th Bomb Group, XX Bomber Command, on 23 December 1944.

No definite item of damage to the bridge was identified on this cover. A small section near the southern end appears to be slightly out of line and may be damaged. However the damage would appear to be slight and would probably not impair the use of the bridge.

Hits and near misses were scored on both approaches but repairs are seen to have been effected by the time of this reconnaissance and it is believed that the bridge is being used.

Bombs falling to the east and west of the bridge destroyed at least 35 small buildings and damaged 27 others as well as two small piers. Largest of the buildings affected was 120' x 35' with the majority averaging only about 40' x 40'.

REFERENCES: (1) Preliminary Damage Assessment Report No. P.M. (S) 238, C.P.I.C., S.E.A.

WEIGHT OF ATTACK: 33 Aircraft
354 1000# GP
4 500# GP

PHOTOGRAPHY: (1) Strike Photos LMB20, 14 December 1944, quality good, scale variable.
(2) XX Bomber Command Mission LMR38, 23 December 1944, scale approximately 1:8500, quality excellent.

PREVIOUS PHOTO COVER: (1) Enclosure to C.P.I.C. S.E.A. Report P.M. (S) 238.

ANNEXES: (1) Annotated Photo and Bomb Plot.

REMARKS:

Numbers preceding statements below refer to corresponding numbers on the attached annotated photo, Annex 1.

DETAILS OF DAMAGE:

(1) No definite damage was identified to the bridge. A small section near the southern end appears slightly out of line and may be damaged. It is believed, however, that the bridge is usable.

-1-

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By SG NARA Date 11/8/05

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

- (2 and 3) Several hits and near misses damaged the rail lines on both approaches but repairs had been effected by the time of reconnaissance.
- (4) A 80' x 45' building damaged by a near miss.
- (5) Three buildings averaging 30' x 20' damaged.
- (6) Three buildings averaging 40' x 20' destroyed and 3 others damaged.
- (7) Approximately 15 buildings averaging 40' x 20' destroyed.
- (8) Three buildings 30' x 45', 1 60' x 30', 1 120' x 35' destroyed.
- (9) Two 60' x 30' and 1 30' x 25' buildings destroyed.
- (10) Two buildings averaging 30' x 35' damaged.
- (11) Two buildings 30' x 35', 1 60' x 30', 1 75' x 45' destroyed and 1 30' x 35' damaged.
- (12) Four buildings averaging 20' x 35' damaged.
- (13) Three buildings averaging 30' x 30' destroyed and 12 damaged.
- (14) Small pier and 45' x 35' building destroyed.
- (15) Small pier and 45' x 40' building destroyed.
- (16) A 50' x 30' building damaged.

Frank L. Scott, Jr.
FRANK L. SCOTT, JR
Lt. Col., Air Corps
Chief, Intelligence Section

PREPARED BY: TARGET UNIT
INTELLIGENCE SECTION

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

ANNEX I
D.A. REPORT NO. 30
BANGKOK, THAILAND

1000' 500' 0 1000'

TARGET UNIT. XX B.C.
CONFIDENTIAL



TOTAL BOMBS DROPPED : 348		
TOTAL BOMBS IDENT. : 265 - 74%		
AREA	NO. OF BOMBS	%
0-1,000'	113	42.7
1,000'-2,000'	136	51.2
2,000-3,000'	10	3.8
3,000 PLUS	6	2.3



19.03

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

HEADQUARTERS
XX BOMBER COMMAND
Intelligence Section
APO 493

28 December 1944

DAMAGE ASSESSMENT REPORT NO. 29

TARGET: Central Station and Yards, Rangoon, Burma. (16° 47' N -
96° 10' E).

GENERAL STATEMENT:

This report relates to damage resulting from a daylight attack by 11 aircraft of the 40th Bomb Group, XX Bomber Command, on 14 December 1944. This was part of the force directed against the primary target of Mission 20, Rama VI Bridge at Bangkok, but on finding the primary target overcast this 11 plane formation proceeded on to bomb the secondary target at Rangoon. A total of 118 1000# GP and 64 500# GP bombs were dropped. Assessment of damage was derived from excellent quality photography obtained by the 44th Bomb Group on 16 December 1944.

Excellent bombing was accomplished by this Group. A very compact pattern measuring only 1600' across was centered squarely on the yard. Damage resulting was heavy and included the virtual destruction of the station, 4 passenger loading platforms, and 5 receiving sheds as well as several small miscellaneous shops. Out of a total of 15 lines through the yard 11 were cut by one or more hits and the remaining were at least temporarily blocked by wreckage. Thirty-five rolling stock were either destroyed or damaged and 60 more were probably damaged. Bombs falling outside of the yard area destroyed 8 and damaged 15 buildings in a business/residential area south of the yard and destroyed 5 small buildings to the north of the station.

REFERENCES: (1) Detailed Interpretation Report No. DM .328, C.P.I.C., S.E.A.

WEIGHT OF ATTACK: 11 Aircraft
118 1000# GP
64 500# GP

PHOTOGRAPHY: (1) Strike Photos Mission No. 4MB20, 14 December 1944, scale approximately 1:10,000, quality excellent.
(2) XX Bomber Command Mission No. 4MR37, 16 December 1944, scale approximately 1:1500, quality good.

PREVIOUS PHOTO COVER: None.

ANNEXES: (1) Annotated Photos and Bomb Plot.

REMARKS:

Numbers in parentheses preceding statements below refer to corresponding numbers on the attached annotated photos, Annex 1.

DETAILS OF DAMAGE:

A. Station and Passenger Loading Platforms;

- (1) The station Building received at least 9 direct hits resulting in nearly total destruction. Of the 10 sections

-1-

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

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Authority 760063

By SG NARA Date 11/8/05

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

making up the building, 7 are seen to be largely destroyed and the remaining 3 are heavily damaged.

- (2) The 800' overhead passageway across the yard has been severely damaged at both extremities and for approximately $2/3$ of its length.
- (3) Hits and near misses resulted in the virtual destruction of the 4 covered passenger loading platforms located just south of the station.
- (4) The 3 platform sheds just south of item (3) have been largely destroyed.

B. Yard Area:

Out of a total of 15 lines through the yard 11 have been cut by one or more hits and the remaining are at least temporarily blocked by wreckage.

Total rolling stock visible just prior to the attack was 155 rolling stock and 3 locomotives. Of these 35 were damaged or destroyed and 60 were probably damaged. No damage was noted to the locomotives.

- (5) The three receiving sheds in the southwest corner of the Yard are approximately half-destroyed, and a small building just south is heavily damaged.
- (6) Two small sheds in the southeast area of the Yards were destroyed.

C. Other Damage:

- (7) Bombs falling short of the target obtained a number of hits in a business/residential section south of the Yards. Eight buildings were destroyed and 15 others were damaged. Several buildings were seen to have been damaged by previous attacks.
- (8) Five small buildings were destroyed and another half-destroyed in an area northeast of the station.

Frank L. Scott, Jr.
FRANK L. SCOTT, JR
Lt. Col., Air Corps
Chief, Intelligence Section

PREPARED BY: TARGET UNIT
INTELLIGENCE SECTION

CENTRAL STATION and YARDS
RANGOON, BURMA
XX B.C. MISSION 20

ANNEX I
D.A. REPORT NO. 29
TARGET UNIT, XX B.C.



AFTER

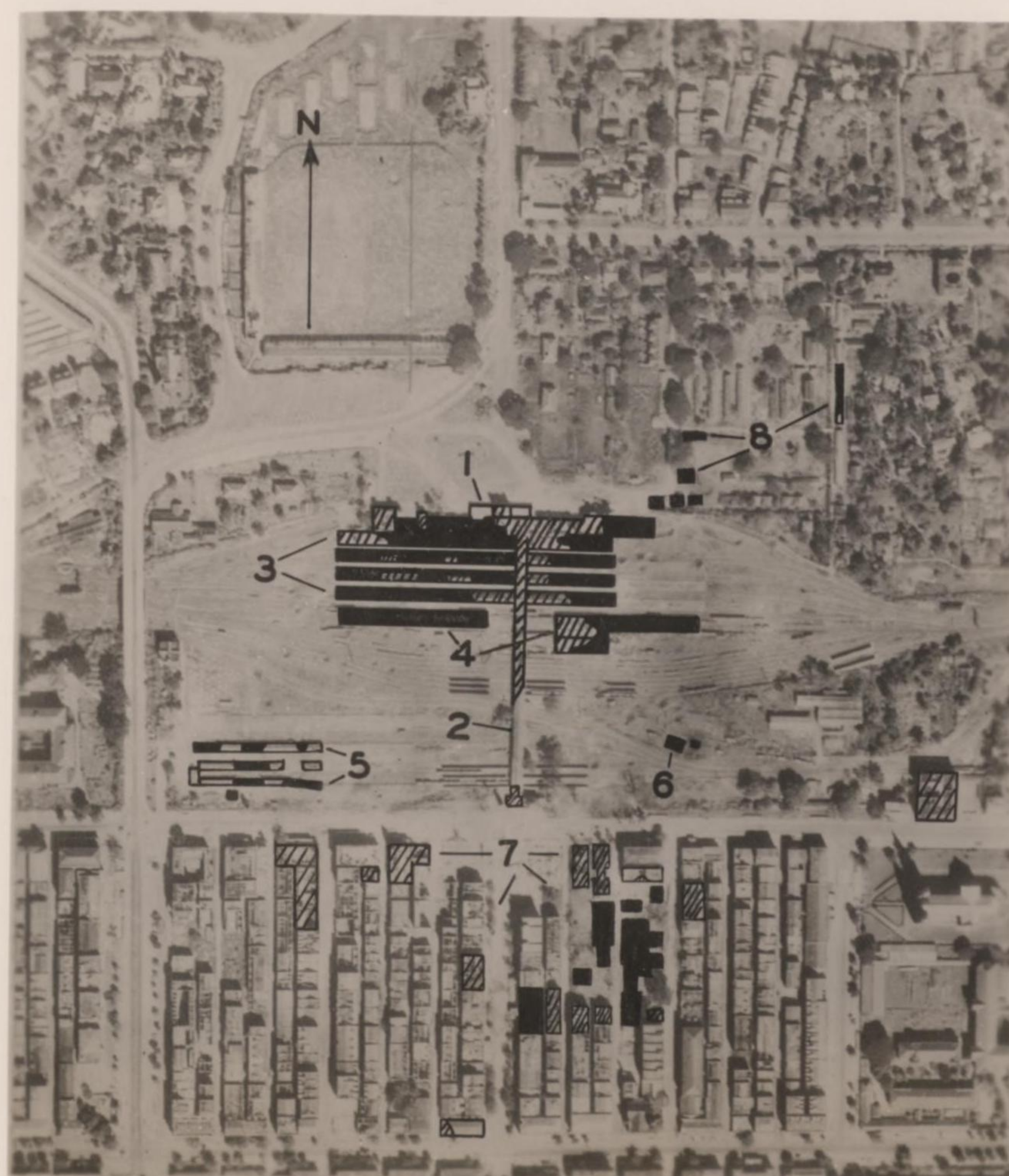
BEFORE



DURING



DAMAGE KEY:  DAMAGED
 DESTROYED



BOMB PLOT: PERCENTAGE 0-1000' - 80.1
PERCENTAGE 1-2000' - 19.9



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REPRODUCED BY
10TH PHOTO TECH. UNIT

S E C R E T

ANNEX

M

CONSOLIDATED MISSION STATISTICAL SUMMARY

* * * * *
* Prepared by: *
* Statistical Section *
* *
* 1st Bomber Command *
* * * * *

S E C R E T

S E C R E T

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XX BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

By Authority of the
 Commanding General
 12-21-44 SK
 Date Initials

Table I and II - Aircraft Participating *

Group	Mission No.	Field Order No.	** A/C Taking Off	*** Airborne A/C Failing to Bomb Designated Primary Target							Time of First Takeoff	Time of Latest Return	Average Time of Flight ***	
				Total No.	Percent	Mech.	Pers.	Wea.	Not in Form.	Misc.			Unknown	A/C Bombing Primary
40th	20	20	12	12	100%	1		11			2117Z	0833Z		9:57
444th	20	20	12	1	8.3%	1					2225Z	0922Z	10:39	4:31
462nd	20	20	12	0							2230Z	0935Z	10:09	
468th	20	20	12	2	16.7%	1	1				2236Z	0927Z	10:26	9:31
TOTAL	20	20	48	15	31.3%	3	1	11			2117Z	0935Z	10:24	8:54

* Mission was run from Rear Area bases; Tables I and II Consolidated because there was no Rear to Forward Area Movement.
 ** Field Order #20 requires each group to have 12 aircraft airborne on mission.
 *** Excludes A/C which landed at other fields.

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XX BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

S E C R E T
 By Authority of the
 Commanding General:

12-21-44 *ZR*
 Date Initials

Table III - Bombing Runs

Group	No. of A/C Bomb- ing	Target Bombed	Time of Release		Altitude of Release		Visual Bombing		Radar Bombing		On the Leader	Aircraft Dropping On	
			Earliest	Latest	Highest	Lowest	A/C Sighting For		A/C Sighting For			AFCE	Manual
							R & D	Range	R & D	Range			
40th	11	Rangoon	0444Z	0444Z	21,000	19,500	1	10				1	10
	1	Bassein	0148Z	0148Z	19,000	19,000	1					1	
444th	11	Bangkok	0415Z	0417Z	19,760	18,400	2				9	2	9
462nd	12	Bangkok	0339Z	0417Z	21,700	19,500			1		11	1	11
468th	10	Bangkok	0420Z	0420Z	18,400	17,500	1				9	1	9
	1	Bassein	0356Z	0356Z	18,200	18,200	1					1	
	1	Opportunity	0427Z	0427Z	17,850	17,850	1					1	
TOTAL	33	Bangkok	0339Z	0420Z	21,700	17,500	3		1		29	4	29
	11	Rangoon	0444Z	0444Z	21,000	19,500	1	10				1	10
	2	Bassein	0148Z	0356Z	19,000	18,200	2					2	
	1	Opportunity	0427Z	0427Z	17,850	17,850	1					1	

Primary Target - Bangkok
 Secondary Target - Rangoon
 Last Resort Target - Bassein

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XX BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

By Authority of the
 Commanding General:

12-21-44 SR
 Date Initials

Table IV - Bomb Loading & Disposal

Group	* Type of Bombs	Bomb Loading on A/C Airborne in H. A.			On Targets				Bomb Disposal			
		Fusing		Average No. Loaded	Total Loaded	Bangkok	Rangoon	Bassein	Of Opportunity	Jettisoned	Returned	Unknown
		Nose	Tail									
40th	500# G.P.	Inst	N.D.	6.3	76		64	6		6		
	1000# G.P.	Not Fused	N.D.	11.7	140		118	12		10		
444th	1000# G.P.	Inst	N.D.	11.3	136	126				10		
462nd	1000# G.P.	Inst	N.D.	11.7	140	138				2		
468th	500# G.P.	Inst	N.D.	.3	4	4						
	1000# G.P.	Inst	N.D.	9.5	114	90		12	12			
TOTAL	500# G.P.	Inst	N.D.	1.7	80	4	64	6		6		
	1000# G.P.	Inst	N.D.	11.0	530	354	118	24	12	22		

* 500# G.P. - AN-M 43) Actual weight 543.9 pounds.
 AN-M 64)
 1000# G.P. - AN-M 65) Actual weight 1018.4 pounds.
 AN-M 44)

NOTE: Bomb weight information supplied by Ordnance Section, XX Bomber Command.

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 By Authority of the
 Commanding General:
12-21-44 SP
 Date Initials

AA BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

Table V - Aircraft Lost and Damaged

Group	A/C Ser- ial No.	*Combat A/A	Aircraft Lost	
				Explanation
40th	24457	X		One or more engines shot out over secondary target. A/C missing.
	24726	X		One or more engines shot out over secondary target. A/C missing.
	93831	X		Damaged over target. A/C missing.
	24574	X		One or more engines shot out over secondary target. A/C missing.
	24508	X		Crash landed at Cox's Bazaar. <u>Possible loss on mission.</u>

* Not known definitely whether all the aircraft were hit by anti-aircraft fire or whether anti-aircraft fire hit one of the bombs which were being dropped causing the explosion and damage.

Group	A/C Ser- ial No.	Major Damage		Explanation
		A/A	Other	
40th	65225	X		Fuselage, wings, wing tanks, supercharger.
	63407		X	#4 engine, #2 fuel cell, flaps, wings, rudder elevator, aileron, fuselage. Explosion of bombs from ship in own formation.
	24685	X		#1 engine, wings, fuselage and tail.
	24587	X		Wings, fuselage, nacelles, rt. rear bomb bay doors, #3 propeller.
	24729		X	5 holes in wing, hydraulic lines shot out.
	24589		X	Right wing, (fuel cell punctured) vertical and right horizontal stabilizer, left aileron trim tab. (Own bombs).
	* 24508		X	2 fuel cells, rudder cable, sheet metal work on fuselage, nose wheel, two tires.
		3	4	

* See aircraft lost.

Group	A/C Ser- ial No.	Minor Damage				Explanation
		E/A	A/A	Own Guns	Other	
40th	All Major Damage.					
444th	24462				X	Antenna Broken
462nd	63472				X	Both Bomb Bay doors ruined
468th	N C N E					

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XX BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

S E C R E T

By Authority of the
 Commanding General:

12-21-44 SR
 Date Initials

Table VI - Attacks & Passes by Enemy Aircraft

DIRECTION	ALTITUDE															
	HIGH				LOW				LEVEL				TOTAL			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
0800																
0900																
1000																
1100																
1200																
0100									1				1			
0200																
0300																
0400																
0500																
0600																
0700																
TOTAL									1				1			

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XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY
Mission Number Twenty
14 December 1944

S E C R E T

By Authority of the
Commanding General:

12-21-44 SR
Date Initials

Table VII - Personnel Losses

Crew Position	Killed				Missing				Seriously Injured				Slightly Injured				Total Casualties				Total Participating			
	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468	40	444	462	468
Pilot					6												6				14	12	12	17
Co-Pilot					4												4				12	12	12	11
Navigator	1				4												5				12	12	12	12
Bombardier					4												4				12	12	12	12
Flt. Engr.					4												4				12	12	12	13
Radar					4			1									5				12	12	12	11
Radio					4												4				12	12	12	12
CFC Spec					4												4				12	12	12	12
Right Gnr					4												4				12	12	12	12
Left Gnr					4												4				12	12	12	12
Tail Gnr					4												4				12	12	12	12
R C M																								2
Unknown																								
Others																					2	9	3	1
TOTAL	1				46				1								48				136	141	135	139

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By SG-NARA Date 11/8/05

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XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY

Mission Number Twenty
14 December 1944

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By Authority of the
Commanding General:

12-21-44 SR
Date Initials

Table VIII - Expenditures of Ammunition and Claims Against Enemy Aircraft

Group	Ammunition Expended Per Plane In Combat Flying					Total Expended	Claims Against Enemy Aircraft					
	Upper Front	Lower Front	Upper Rear	Lower Rear	50 Cal. Tail		Destroyed	Probably Destroyed	Damaged	Per 1000 Rounds Expended in Combat		
										Destroyed	Probably Destroyed	Damaged
40th	3	3	0	13	3	260	0	1	0	-	3.85	-
444th	0	0	0	0	0	0	0	0	0	-	-	-
462nd	0	6	0	6	4	200	0	0	0	-	-	-
468th	0	0	0	0	0	0	0	0	0	-	-	-
TOTAL	1	2	0	5	2	460	0	1	0	-	2.17	-

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XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY
Mission Number Twenty
14 December 1944

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By Authority of the
Commanding General:

12-22-44 SR
Date Initials

Table IX - Gasoline Loading and Consumption

Group	Average Gross Weight Per Plane Before Rear Area Takeoff	Average Gals Gas Loaded Per A/C Before Rear Area Takeoff	* Average Gallons Consumed on Mission		* Average Gallons Remaining in A/C After Mission	
			Per Aircraft Bombing Primary	Per Aircraft Not Bombing Primary	Per Aircraft Bombing Primary	Per A/C Not Bombing Primary
40th	132456	5983		4750		1217
444th	131214	6146	5206	2850	953	3150
462nd	130043	6050	5024		1026	
468th	128613	6100	4876	4750	1244	1250
TOTAL	130581	6070	5040	1433	1068	1550

* Excludes A/C which did not return directly to home fields.

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By SGNARA Date 11/8/05

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By Authority of the
Commanding General:

12-21-44 JK
Date Initials

XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY
Mission Number Twenty
14 December 1944

Table X - Airborne Aircraft Failing to Bomb Primary Target

<u>Group</u>	<u>A/C Ser. No.</u>	<u>Reason</u>
40th	65225	Weather
	24508	Weather
	24726	Weather
	24457	Weather
	24589	Weather
	24587	Weather
	24729	Weather
	24685	Weather
	93859	Bad Oil Leak on #1 Engine
	63407	Weather
	93831	Weather
	24574	Weather
444th	6340	Oil Leak in #1 Engine Gas Leak in Bomb Bay
462nd	N O N E	
468th	65227	Personnel Error
	63415	Electrical Short in System Turbo Amplifier Burnt Out

Table XI - Engineering Malfunctions

Part I - Engineering Malfunctions Preventing Airborne A/C From Bombing
Primary

		<u>40th</u>	<u>444th</u>	<u>462nd</u>	<u>468th</u>	<u>Total</u>
OIL SYSTEM	Oil Leaks	1	1			2
FUEL SYSTEM	Fuel Leak		1			1
POWER PLANT	Turbo Supercharger				1	1
TOTAL		1	2		1	4

NOTE: For details, see Table X - "Summary of A/C Failing to Bomb Primary"

Part II - Engineering Malfunctions Not Preventing A/C From Bombing Primary

		<u>40th</u>	<u>444th</u>	<u>462nd</u>	<u>468th</u>	<u>Total</u>
POWER PLANT & ACCESSORY SECTION	Eng. running hot		1	1	1	3
	Turbo Supercharger and/ or Turbo Control Sys.		1	1	1	3
	Intercooler and/or Control System		1			1
	Eng. running rough		1			1
PROPELLERS & GOVERNORS	Feathered Props	2		1		3
	Governor			1		1
	Governor Oil Leak		1			1

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By SG NARA Date 11/8/05

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TABLE XI, PART II (cont'd)

By Authority of the

Commanding General:

12-21-44 *SR*

Date Initials

		40th	444th	462nd	468th	Total
OIL SYSTEM	Oil leaks	1	1	2	1	5
	Oil temperature regulator	1	4	1		6
	Oil pressure low		1	3		4
FUEL SYSTEM	Fuel transfer system			1		1
	Fuel pressure low		1			1
	Fuel quantity gage			1		1
ELECTRICAL SYSTEM	Starter malfunction				1	1
	Generators		1	2	1	4
	Landing lights		1			1
	Fluorescent lights		1			1
	Inverter switch	1				1
	Bomb Bay doors inoperative		2	1		3
	Normal inverter		1			1
	Landing gear nacelle door			1		1
INSTRUMENTS	Carb air temp gage			4		4
	Cylinder head temp gage		2	1		3
	Nose oil press gage			2		2
	Oil temp gage				2	2
	Fuel press gage			1		1
	Tachometer		5	5		10
	Radio compass	1				1
	Airspeed indicator		2			2
	A.F.C.E.		2			2
MISCELLANEOUS	Oxygen system			1		1
	Pressurization		1	1		2
	Bomb Bay door screw			1		1
	Defroster fan		1			1
	Cabin air flow indicator		1		1	2
TOTALS		6	32	32	8	78

NOTE PERTAINING TO BOTH PART I AND PART II:

Only engineering malfunctions are listed. All other malfunctions, such as radar, are excluded. If one aircraft had more than one engineering malfunction all malfunctions have been listed.

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By SG NARA Date 11/8/05

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XX BOMBER COMMAND
 CONSOLIDATED MISSION STATISTICAL SUMMARY
 Mission Number Twenty
 14 December 1944

By Authority of the
 Commanding General:

12-22-44 SK
 Date Initials

Table XII - Utilization of Useful Load
 (Based on A/C Bombing P.T.)

Group	Nb. of Ground Miles	Number of A/C Considered	Type of A/C	Av. Gross Weight at Takeoff For Mission	Aver Basic Weight of A/C	Aver Useful Load	Aver. Number of Bombs Loaded	* Aver Weight of Bombs Loaded	Aver Weight of Gas Loaded at 6 Pounds per Gal	Average Miscellaneous Weight	
40th				NONE OF THE AIRCRAFT BOMBED THE PRIMARY TARGET							
		1	Bomb Bay Tanks	128,442	74,842	53,600	1000# GP 8	8,144	38,400	7,056	
444th	2470	10	Gen. Wing Tanks	131,516	75,375	56,141	1000# GP 12	12,216	36,810	7,115	
		1	Bomb Bay Tanks	125,884	75,117	50,767	1000# GP 8	8,144	36,000	6,623	
462nd	2272	11	Gen. Wing Tanks	130,421	75,078	55,342	1000# GP 12	12,216	36,327	6,799	
		5	Bomb Bay Tanks	125,604	74,847	50,757	500# GP .8 1000# GP 6.0	6,543	37,440	6,774	
468th	2300	5	Gen. Wing Tanks	130,923	75,006	55,918	1000# GP 12	12,216	36,000	7,702	
**		7	Bomb Bay Tanks	126,050	74,885	51,165	500# GP .6 1000# GP 6.6	7,001	37,371	6,793	
TOTAL	2350	26	Gen. Wing Tanks	130,938	75,178	55,760	1000# GP 12	12,216	36,450	7,093	

* 500# G.P. - AN-M 43 or AN-M 64 equals actual weight 543.9.
 1000# G.P. - AN-M 65 or AN-M 44 equals actual weight 1018.4 pounds.

** Excludes the 40th Group.

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ANNEX

N

FIELD ORDERS

* All Field Orders Material in the following *
* Annex originally classified as TOP SECRET, *
* is hereby re-classified to SECRET. *
*
* By Authority of the C.G., XX Bomber Command *
*
* 26 December 1944 FL *
* _____ *
* Date Initials *
* *****

NOTE: Exhibits to the Field Orders are included in Annex O.

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Authority 760063
By SG NARA Date 11/8/05

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* S E C R E T *
* By Auth of the C.G. *
* XX Bomber Command *
* 12 Dec 44 WRS *
* Date Initials *

NOT TO BE TAKEN INTO THE AIR

ON COMBAT MISSION

FIELD ORDERS)
:)
NUMBER 20)

XX BOMBER COMMAND
APO 493
12 Dec 44 - 0900Z

MAPS: AAF Aeronautical Charts: 558, 557, 675, 676, 677, 679, 678, 798,
799. (or equivalent International Maps of the world.)
AAF Long Range Air Navigation Charts, INDIA (26) BENGAL (38)
(or equivalent Naval Aviation Charts, V-30 Series.)

1. Omitted. (See Annex No. 1, Intelligence Summary).
2. This Command conducts a daylight attack on D-Day against AAF Target No. 98.2-45.

ROUTE OUT: Base Area - DIAMOND ISLAND (15°52'N, 94°17'E) - Assembly Point - I.P. (MONDHOL RAJBURI, 13°32'N, 99°50'E) Target. Immediately after take off aircraft will climb on course to 5,000'.

BASE ALTITUDE: 12,000' pressure altitude.

ROUTE BACK: Target - TAVOY POINT (13°32'N, 98°08'E) - DIAMOND ISLAND 15°52'N 94°17'E) - Base Area.

AXIS OF ATTACK: 68° Magnetic.

AIMING POINT: Center of Bridge.

METHOD OF BOMBING: By 12 plane formation.

3. a. 40th Group: TAKE OFF: Beginning at 2117Z on D minus one.
ASSEMBLY POINT: TAVOY POINT (13°32'N, 98°08'E).
ASSEMBLY ALTITUDE: An odd thousand feet.
BOMBING ALTITUDE: 20,000' pressure altitude.
BREAKAWAY: To the left.
- b. 444th Group: TAKE OFF: Beginning at 2224Z on D minus one.
ASSEMBLY POINT: North Tip TAVOY ISLAND (13°04'N, 98°19'E)
ASSEMBLY ALTITUDE: An even thousand feet.
BOMBING ALTITUDE: 19,000' pressure altitude.
BREAKAWAY: To the right.
- c. 462nd Group: TAKE OFF: Beginning at 2230Z on D minus one.
ASSEMBLY POINT: South Tip LAUNGLON BOK ISLAND (13°47'N, 97°54'E).

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By SG NARA Date 11/8/05

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ASSEMBLY ALTITUDE: An odd thousand feet.

BOMBING ALTITUDE: 21,000' pressure altitude.

BREAKAWAY: To the left.

d. 468th Group: TAKE OFF: Beginning at 2237Z on D minus one.

ASSEMBLY POINT: CABUSA ISLAND (12°49'N, 97°53'E).

ASSEMBLY ALTITUDE: An even thousand feet.

BOMBING ALTITUDE: 18,000' pressure altitude.

BREAKAWAY: To the right.

- x (1) If weather conditions prevent visual bombing of the primary target planes will bomb the secondary target.
- (2) SECONDARY TARGET: XX Bomber Command Target 82.2D.
VISUAL AIMING POINT: Center of Southern edge of Railroad Station.
RADAR AIMING POINT: Slightly east of strong signal from city and approximately 4,000 feet from north bank of Rangoon River.
INITIAL POINT: KAINGTHAUNG ISLAND (15°42'N, 95°02'E)
AXIS OF ATTACK: 47° Mag.
- (3) LAST RESORT TARGET: XX Bomber Command Target 82.2 F.
VISUAL AIMING POINT: Center of largest bldg. in central river siding.
RADAR AIMING POINT: Northwest portion of signal from city.
- (4) BOMB TYPE: 1,000# (TNT or Amatol filled) bombs fuzed instantaneous nose and non delay tail will be carried as follows: a minimum of 12 per aircraft equipped with center section wing tanks and 8 per aircraft not equipped with center section wing tanks.
- (5) Each Group will furnish 12 airborne aircraft.
4. No change.
5. a. No. Change.
b. Command Post: Headquarters, XX Bomber Command, APO 493.

By command of MAJOR GENERAL LEMAY:

JOHN E. UPSTON
Brigadier General, USA
Chief of Staff

OFFICIAL:

JOSEPH J. PRESTON
Colonel, Air Corps
Deputy Chief of Staff,
Operations

1-CG, XX Bomber Command
1-DCS/O, XX BC
2-Chief, Intell. Section
1-Chief, TO Branch
3-CO, 40th Group
3-CO, 444th Group
3-CO, 462nd Group
3-CO, 468th Group

ANNEXES:

#1-Intelligence Summary

DISTRIBUTION:

1-CG, Twentieth Air Force
1-SAC, SEAC
1-CG, India Burma Theatre
1-CG, AAF, IBT (Less Annex #1)
1-CG, AAF, IBT, Evaluation Board

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Authority 760063

By SG NARA Date 11/8/05

SECRET

TOP SECRET
By auth of the C.G.
Bomber Command
12 Dec 44
Date Initials

NOT TO BE TAKEN INTO THE AIR

ON COMBAT MISSIONS

ANNEX NO. 1 TO FIELD ORDERS NO. 20, B-17 BOMBER COMMAND

INTELLIGENCE SUMMARY

I -- Operational Intelligence

SECTION I: ENEMY GROUND SITUATION

For the latest ground situation in Burma and China, refer to Radio-gram Extract reports disseminated by this Headquarters December 1944.

SECTION II: ENEMY ORDER OF BATTLE - SEA

1. No known major enemy fleet units are operating at the present time in the Bay of Bengal, the Andaman Sea, or the Gulf of Siam.
2. In the Bangkok area, there may be some Thai Naval units of small size or even Japanese gun boats and there is a remote possibility of one or two Japanese destroyers.

SECTION III: ENEMY ORDER OF BATTLE - AIR

1. For the latest air estimate of Burma and Thailand, see Secret letter, this Headquarters, subject: Air Estimate - Burma, Thailand, French Indo China, dated 8 December 1944.
2. Enemy interception enroute to or from the target is estimated at nil to weak.
3. Enemy interception at the primary target is estimated at weak with the possibility that a few individual aircraft may experience moderate interception. The enemy capabilities for interception at the secondary and last resort targets are estimated as moderate and weak respectively.

SECTION IV: ENEMY AIRCRAFT

For new types of enemy aircraft which might be encountered, see "Technical Air Intelligence Center Summary #5", dated September 1944.

SECTION V: ENEMY AIRFIELDS

For the latest status of enemy airfields in Burma, Thailand, and French Indo China, see Enemy Airfield Report No. 3, Southeast Asia, dated 25 July 1944 and published by Washington, and Secret letter, this Headquarters, Subject: Japanese Airfields in Burma, dated 7 December 1944.

SECTION VI: ENEMY ANTI-AIRCRAFT

General Reference, Section V, "Jap Antiaircraft Defenses," Weekly Intelligence Summary, E.I.C., Number 15, 1 December 1944: BANGKOK: Flak Intelligence Bulletin Number B-4, 23 November 1944 with one change as follows: Last Date of Photo Cover, KANCHANABURI - 1 December 1944, all other information remains the same; BANGKOK: Flak Intelligence Bulletin B-7, 11 December 1944; and BASSERIN: No HAA guns reported or HAA fire encountered.

SECTION VII: EVASION AND ESCAPE

Refer to "Evasion in Thailand" dated 24 November 1944, and "Evasion in the Rangoon Area," dated 1 November 1944.

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