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HEADQUARTERS XX BOMBER COMMAND
APO 493

MISSION NO. 3 COPY NO. 1

B-29 MISSION NO. 3
7-8 JULY 1944

GENERAL H. H. ARNOLD

COMMANDING GENERAL

TWENTIETH AIR FORCE

21-9239-347

HEADQUARTERS XX BOMBER COMMAND
APO 493

MISSION NO. 3 COPY NO. 1

B-29 MISSION NO. 3
7-8 JULY 1944

GENERAL H.H. ARNOLD
COMMANDING GENERAL
TWENTIETH AIR FORCE

SECRET

HEADQUARTERS
XX BOMBER COMMAND
APO 493

SECRET
By Authority of the Commanding
General, XX Bomber Command
16 Aug 44 JGS
Date Initials

16 August 1944

SUBJECT: Report of Operations, 7-8 July 1944.

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

Herewith submitted is the Tactical Mission Report on the B-29 strike against targets on the Island of Kyushu, Japan, on 7-8 July 1944.

L. G. Saunders

L. G. SAUNDERS,
Brigadier General, U.S.A.,
Commanding.

1 Incl
Incl 1 - Tactical Narrative Report,
Opns, 7-8 July 44, cy no. 1.

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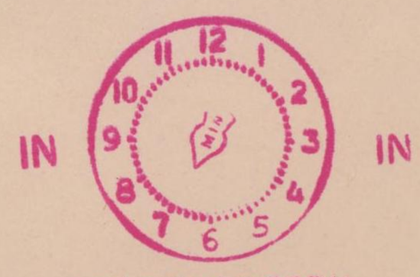

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S E C R E T

SECRET
By Auth of the C.G.
XX Bomber Command
7 Aug 44 — Date — Initials

HEADQUARTERS
XX BOMBER COMMAND
APO 493

TACTICAL MISSION REPORT

Field Order No. 3 Mission No. 3

7-8 July 1944

TARGETS ON ISLAND OF KYUSHU, JAPAN

SASEBO NAVAL DOCKYARDS AND ARSENAL, SASEBO

AKUNOURA ENGINE WORKS, NAGASAKI

OMURA AIRCRAFT PLANT, OMURA

IMPERIAL IRON AND STEEL WORKS, YAWATA

IMPERIAL IRON AND STEEL WORKS, TOBATA

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Prepared by
A-2 Section
XX Bomber Command

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By Auth of the C.G.:	
XX Bomber Command	
7 Aug 44	
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7 August 1944

SUBJECT: Report of Operations, 7-8 July 1944.

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

1. UNITS PARTICIPATING:

The 40th, 444th, 462nd and 468th Bombardment Groups of the 58th Bombardment Wing furnished the combat aircraft utilized in this mission that combined attack with night photo-reconnaissance. The aircraft participating in the mission were dispatched from the China Bases in the Chengtu area as follows:

GROUP	BASE
40th	Hsinching
444th	Kwanghan
462nd	Kunglai
468th	Pengshan

2. IDENTIFICATION OF MISSION:

a. Attack Number 3.

b. Targets Planned:

(1) Primary Targets: (Bombing and Photo Reconnaissance)

(a) Sasebo Naval Dockyards and Arsenal at Sasebo, Kyushu, Japan (Objective Folder No. 90.36 - 752) at 33° 10'N--129° 42'E. Assigned to: 2 aircraft of the 40th Bomb Group, 6 aircraft of the 444th Bomb Group, 4 aircraft of the 462nd Bomb Group and 6 aircraft of the 468th Bomb Group.

(b) Akunoura Engine Works at Nagasaki, Kyushu, Japan (Objective Folder No. 90.36 - 542) at 32° 44'N -- 129° 51'E. Assigned to 2 aircraft of the 40th Bomb Group.

(c) Omura Aircraft Plant at Omura, Kyushu, Japan (Objective Folder No. 90.36 - 1627) at 32° 55' 00"N -- 129° 56' 30"E. Assigned to 2 aircraft of the 40th Bomb Group.

(d) Imperial Iron and Steel Works at Yawata, Kyushu, Japan (Objective Folder No. 90.34 - 28) at 33° 51' 56"N -- 130° 48' 40"E. Assigned to 1 aircraft of the 462nd Bomb Group.

(e) Imperial Iron and Steel Works at Tobata, Kyushu, Japan (Objective Folder No. 90.34 - 29) at 33° 54' 00"N -- 130° 49' 30"E. Assigned to 1 aircraft of the 462nd Bomb Group.

(2) Primary Photo Target: (Photo Reconnaissance Only)

(a) Miike Dyestuffs at Omuta, Kyushu, Japan (Objective Folder No. 90.35 - 1243) at 33° 02' 00"N -- 130° 27' 00"E. Assigned to 2 aircraft of the 40th Bomb Group.

(3) Secondary Target:

(a) The port facilities at Laoyao (near Haichow) in Kiangsu Province in Occupied China (Objective Folder No. 83.11 - 204) at 34° 46' 00"N -- 119° 27' 30"E.

(4) Last Resort Target:

(a) Docks and storage area at Hankow, Occupied China (Objective Folder No. 83.8) at 30° 35' 00"N -- 114° 17' 00"E.

3. STRATEGY AND PLAN OF OPERATION:

a. Importance of Targets:

(1) Primary:

(a) Sasebo Naval Dockyards and Arsenal at Sasebo:

(A) This installation, one of Japan's four major naval bases, is responsible for the construction of one - two percent of all ships up to and including battleships and of 12 percent of the enemy's marine engines. This base is also capable of handling major repairs to any type and size vessel. Facilities include three building ways and seven drydocks and shops used in the construction of and repairs to ships, engines, turbines, and boilers. Moreover, it is possible that recent naval action in the vicinity of the Marianas may have resulted in the bringing of damaged vessels into this port for repairs.

(b) Akunoura Engine Works at Nagasaki:

(A) This is an important component of one of Japan's major naval bases and ship-building installations. The ship-building complex at Nagasaki, which includes the Mitsubishi Dockyard and the Tategami Shipyard, has a combined production of approximately 10 percent of the Empire's marine engines and 16 percent of the enemy's ships. The complex includes facilities for making repairs to any size vessel.

(c) Omura Aircraft Factory at Omura:

(A) This installation, located on the eastern shore of the almost land-locked Omura Bay, is of recent construction and photo reconnaissance indicates that further expansion is being made. No figures are available on production but the size of the plant is indicative of its importance to the Japanese aircraft industry. It is probable that the enemy is assembling first line planes, probably ZEKES and RUFES, at the Omura plant. There is a further probability that major repairs to aircraft are also made.

(d) Imperial Iron and Steel Works at Yawata:

(A) This plant, the largest producer of steel in the Japanese empire, was the primary target of the first B-29 attack against the homeland of the enemy. (For details on the importance of this target, see paragraph 3, a, (1), (a) classified Tactical Mission Report, Field Order No. 2, Mission No. 2, Target: The Imperial Iron and Steel Works, Yawata, Kyushu, Japan, 15-16 June 1944, this Headquarters, dated 5 July 1944.)

(e) Imperial Iron and Steel Works at Tobata:

(A) This Works is an integral part of the Yawata works. Its rolling mills annually produce 100,000 metric tons of steel plate and 3000 tons of sheet, strip, and tin plate, a substantial contribution to Japan's total output of these metal products.

(2) Primary Photo Reconnaissance Target:

(a) Miike Dyestuffs Plant at Omuta:

(A) Total lack of photo coverage of this important chemical-products plant and its nearness to the Omura Aircraft Factory, a primary target on this mission, led to the inclusion of the Miike Dyestuffs Plant as a target for photo reconnaissance.

(3) Secondary:

(a) The port facilities at Laoyao were the secondary and last resort target of the first B-29 attack against Japan. (For details on the importance of this target, see paragraph 3, a, (2), classified Tactical Mission Report, this Headquarters, dated 5 July 1944.)

(4) Last Resort Target:

(a) The docks and storage facilities at Hankow, Occupied China, located on the Yangtze River, have been long a key to the Japanese supply problems in Central Occupied China. Many of the supplies and materiel necessary for recent enemy operations have been transported on the Yangtze River to Hankow for unloading, storage, and eventual redistribution to combat areas.

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

(1) Strategic Considerations:

(a) The second mission of B-29 aircraft from China bases in the Chengtu Area against Japan proper, ordered by the Commanding General, Twentieth Air Force, was a continuation of the Very Long Range bomber program of carrying the air war to the heart of the enemy's industrial empire. From this Command's point of view, the attack had a twofold significance: (1) it would serve to harass and contain the enemy's defenses, and (2) it would serve to gain information by photo reconnaissance of targets and by observation of enemy defensive measures against our aircraft.

(b) The first mission of VLR aircraft against Japan proper had undoubtedly created some apprehension in the Japanese mind. They were conditioned mentally to accept as a fact the vulnerability of their homes and industries to attacks by land-based aircraft capable of carrying more than a token bomb load. The question of whether or not similar B-29 attacks could be carried out regularly and with only brief intervals intervening was one that must have been uppermost in the minds of the enemy. Thus, the psychological advantage gained by the initial attack against Japan would tend to be retained by even a small-scale effort.

(2) Selection of the Targets: The primary targets of this bombing and photo-reconnaissance mission were ordered by the Commanding General of the Twentieth Air Force. The Sasebo Naval Dockyards and Arsenal, the objective of the brunt of the attack, are located on heavily industrialized Kyushu Island. Other primary targets on Kyushu were conveniently close to Sasebo. Furthermore, in addition to the ordered targets, the

Miike Dyestuffs Plant at Omuta was added as a primary photo reconnaissance target as a result of the lack of photo coverage on this Plant.

(3) Determination of D-Day: Orders from Higher Headquarters directed delivery of a night operation against the designated targets between 1 and 10 July. A full moon was due on 5 July and the forecast was favorable for good target weather between 6 and 8 July. Modification necessary for night photography were a limiting factor and D-Day was finally established as 7 July 1944.

(4) General Plan of the Mission: In order to bring the aircraft over the target at night and to preclude our aircraft being over enemy territory in daylight, take-off time was established as 0949Z, with a planned flight time of approximately 13 hours. Furthermore, as a means of confusing enemy defenses, all aircraft except those ordered to bomb Yawata and Tobata were ordered to proceed along the same track to 33° 00'N -- 126° 15'E, at which point three distinct approaches were to be employed to the primary targets. The aircraft of the 40th Group that were assigned to bomb targets at Yawata and Tobata were ordered to fly a direct track to their Initial Point. Furthermore, as a means of effecting the most economical use of gasoline, altitude on course was to be kept as low as the terrain would permit.

(5) Bombing Data: Bombing and night photographic-reconnaissance altitudes were planned in such a way as to obtain dispersal of individual aircraft into levels ranging from 15,000 to 19,000 feet. The axis of attack planned in the case of the Sasebo target was from two headings, 8 aircraft from 111° magnetic and 10 aircraft from 00° magnetic. The axes of attack selected for other targets were: Yawata, 127° magnetic; Tobata, 217° magnetic; Omura and Omuta 83° magnetic; and Nagasaki, one aircraft at 121° and one at 301° magnetic. It was planned to photograph the various targets before and after the release of the GP bombs, thereby securing photographs useful both in future planning and in target damage assessment.

(6) Messages from the Target Area: As a means of following the progress of the attack, all aircraft were ordered to report "bombs away" by repeating the prearranged code word "LOLLY" over the best usable air-ground frequency within ten minutes after "bombs away."

(7) Determination of Bomb Load:

(a) Bomb loading was as follows: Eight 500-pound GP AN-M-43 in each aircraft with one-tenth (0.1) nose and twenty-five thousandths (.025) tail fuses. In addition, all aircraft except two, were to be armed with nine AN-M-46 photo-flash bombs fuzed to explode at four thousand feet. Two aircraft assigned the targets at Omura and Omuta were to be armed with 12 photo-flash bombs in addition to the 8 GP bombs.

(b) The eight 500-pound GP AN-M-43 bombs were selected as the most profitable load that could be carried on the mission against the assigned targets. It was realized that the maximum effort of the small force against Sasebo would be insufficient to inflict serious damage to the Naval Dockyard. Any bomb smaller than 500 pounds would have little effect on the heavy construction, whereas the employment of heavier bombs would naturally reduce the number of possible hits and lessen the chances of hitting the Aiming Point.

(8) Fighter Cover: Arrangements were made with the 312th Fighter Wing to provide cover for VIR bases in the Chengtu Area.

4. MOVEMENT FROM REAR TO FORWARD AREA: (See Annex A)

a. The movement of aircraft from bases in India to bases in the Chengtu area was begun on D-Day minus 2 (5 July), was continued on D-Day minus 1 (6 July), and was concluded on D-Day.

b. A total of 28 aircraft were airborne from rear bases in the movement to the forward area. Of these airplanes, two were forced to return to their India bases because of mechanical difficulties and two others were forced to land enroute to the forward area. The total number of aircraft landing at forward area bases during the movement was 24, of which 22 landed prior to D-Day and 2 arrived on D-Day.

c. Aircraft departed from their India bases with the same loadings of oxygen, fuel, oil, ammunition, GP bombs, and photo-flash bombs with which they were to depart from the Chengtu area on the mission.

5. EXECUTION OF THE MISSION: (See Annex B)

a. Take-off:

(1) In compliance with XX Bomber Command Field Order Number 3, the 58th Bombardment Wing scheduled 21 aircraft as outlined in its Field Order Number 4. Of this number, 18 were airborne. Details by Groups are as follows:

Group	Target	No. A/C Dispatched	No. A/C Airborne	First A/C Off	Last A/C Off	Elapsed Time, Last A/C From 0930Z
40th	Omura & Omuta	2	2			
	Sasebo	1	0	0945Z	0953Z	08 Minutes
	Nagasaki	1	0			
444th	Sasebo	5	5	0949Z	1004Z	15 Minutes
462nd	Sasebo	4	4			
	Yawata	1	1	0942Z	1054Z	72 Minutes
	Tobata	1	1			
468th	Sasebo	6	5	0949Z	0957Z	08 Minutes

(2) Of the 18 aircraft airborne, one aircraft, assigned Omura as a target, returned to its China base with its bombs as a result of a burned-out collector ring on its number four engine.

(3) The 312th Fighter Wing remained on the alert during take-off but the absence of enemy air activity made fighter cover unnecessary.

b. Route Out: With the exception of three aircraft encountering mechanical difficulties and bombing other targets, individual B-29's proceeded to their assigned primary targets as ordered and without incident.

(1) All aircraft assigned to the target at Sasebo flew a common direct track from China bases to a point at 33° 00'N -- 126° 15'E. At this point aircraft of the 462nd and 468th Bombardment Groups made a right turn and proceeded to the initial point, Taka Island (32° 39' 30"N -- 129° 45' 15"E), while, at the same point, aircraft of the 444th made a left turn and proceeded to the Initial Point at Uku Island (33° 17' 50"N -- 129° 07' 40"E).

(2) One aircraft assigned to photograph and bomb the target at Omura and then to photograph the target at Omuta proceeded by direct track from its China base to a point at 33° 00'N -- 126° 15'E. At this point a turn was made to the right and the aircraft proceeded to Saishu

(Quelpart) Island, thence to Kaba Island (32° 46'N -- 129° 00'E), the Initial Point. The other aircraft assigned to this target was an early return.

(3) The single aircraft assigned to the target at Tobata took off from its China base and proceeded by direct track to a point at 34° 47'N -- 131° 09'E. At this point the aircraft turned right and proceeded to the Initial Point, Ai Island (34° 30'N -- 131° 17' E).

(4) The single aircraft assigned to the target at Yawata took off from its China base and proceeded on course to target until it reached a point at 33° 12'N -- 123° 31'E where one of its engines caught fire. This aircraft then turned and proceeded to the Secondary Target at Laoyao.

(5) In accordance with the Field Order, two aircraft were assigned to the target at Nagasaki. However, only one aircraft was scheduled to take off and it did not become airborne.

c. Initial Point: The initial point for each of the various targets was well chosen and readily located by radar.

d. The Primary Targets:

(1) Black out conditions were generally in effect in Occupied Chinese cities along the route and all target areas were completely blacked out. RCM operators, as on the previous attack on Japan, logged early warning signals. However, the question of whether blackouts in these areas are standard procedure or are the result of early warning signals has not been clarified.

(2) Sasebo Naval Dockyards and Arsenal:

(a) The first aircraft over the Sasebo target was at 071608Z. A total of 11 aircraft dropped 88 500-pound GP high-explosive bombs and 95 photo-flash bombs in the general area of the target from altitudes varying from 15,000 feet to 19,000 feet. An additional aircraft assigned to Sasebo failed to bomb in the target area as a result of inoperative radar and inaccurate DR calculations. Its bombs were dropped about 15 miles north of Sasebo on an undetermined target.

(b) The combination of effective blackout and 9/10 to 10/10 undercast at all times with tops increasing from 7,000 to 19,000 feet made visual bombing impossible. In addition, aircraft were precluded from obtaining usable photographs, and crew members were unable to make accurate observations of bomb damage. However, the following reports are of interest: the tail gunner of one aircraft observed, 15 minutes after leaving the target, a large flash in the vicinity of Sasebo; the crew members of another aircraft reported seeing flashes of light following the release of the GP bombs. The last aircraft over Sasebo was at 071752Z, 1 hour and 44 minutes after the first.

(3) Omura Aircraft Plant at Omura and Miike Dyestuffs at Omuta: At 071658Z the remaining single aircraft assigned to these targets was over Omura and at 071704Z over Omuta. From an altitude of 14,300 feet, this aircraft dropped 9 photo-flash bombs and 8 500-pound GP high explosive bombs. At the same altitude the aircraft proceeded to the Omuta target, where it released 3 photo-flash bombs. Both targets were obscured by a 10/10 undercast at 4000 feet, and both were blacked out completely.

(4) Imperial Iron and Steel Works at Tobata: The one aircraft assigned to photograph and bomb this target was over the aiming point at 071714Z. Bombs, including 8 500-pound GP high-explosive bombs, 1 500-pound Incendiary cluster (M-18), and 9 photo-flash bombs were dropped from an altitude of 15,000 feet. Although it was a moonlight night and the sky was clear at the target, the Aiming Point was obscured by a heavy ground

haze. Several fires, however, were reported in the target area after the bombs were dropped.

(5) With minor exceptions, bombing runs on all primary targets were accomplished as planned. With the exception of the aircraft which was assigned to bomb Omura at 15,000 and which bombed at 14,300 feet, all aircraft deviated slightly from the briefed axis of attack and briefed IAS on the bomb run.

e. Secondary Target: The single aircraft bombing the dock area at Laoyao, assigned Yawata as a primary target, was forced to turn back and was over the target at 071649Z at an altitude of 8000 feet. Crew members reported seeing bombs strike in the dock area with two bombs straddling a long jetty. Actual results of bombing, however, are undetermined.

f. Last Resort Target: Two aircraft of the 462nd Group, unable to reach the assigned target at Sasebo as a result of inability to transfer fuel, proceeded to Hankow. Of these, one miscalculated and dropped its bombs about 20 miles from Hankow. The results of the bombing by the other aircraft are undetermined.

g. Route Back:

(1) The 17 aircraft attacking targets returned from the night operations individually to their bases in the Chengtu area. The first aircraft landed at 071606Z and the last at 080156Z.

(2) One aircraft of the 468th Bomb Group returning from the attack on Sasebo developed a leak in oil cooler and feathered its number two propeller in the vicinity of Chao Lake. Low on fuel, this aircraft landed at Liangshan at 072230Z, refueled, took off, and subsequently landed at its base at 080156Z.

(3) No enemy air activity occurred within range of fighter aircraft of the 312th Fighter Wing.

h. Operational Results of the Mission: The purpose of the mission was partially realized in that some damage was inflicted upon the enemy and the ever-present danger of attack was demonstrated to the Japanese people. However, cloud-coverage of target areas made night photo reconnaissance ineffective, and even if ideal conditions had prevailed, it is doubtful that good photographs would have been obtained as a result of the poor quality of the photo-flash bombs. Radar contributed to the navigational success of the mission and improvement was noted in Radar-bombing technique. Furthermore, radar-scope photographs obtained of the targets and of navigational check points enroute will be of value for future missions.

6. ENEMY OPPOSITION: (See Annex C)

a. Enemy Antiaircraft and Ground Defenses:

(1) Heavy Antiaircraft: Heavy antiaircraft fire was encountered by B-29 aircraft over the Sasebo area, in the vicinity of Shishiki on Hirado Island, near Konoura (approximately 20 miles south of Sasebo), and at Hankow. In almost all cases, this fire was reported as being meager and inaccurate. In addition, meager and inaccurate antiaircraft fire, possibly from a ship, was encountered between Saishu Island and the Initial Point for the Sasebo target.

(2) Automatic Weapons: Fire from automatic weapons was encountered over the areas of Sasebo, Nagasaki, Omura, and from a possible ship off Saishu Island. All automatic weapons fire was reported as being meager and inaccurate.

(3) Evasive Action: Antiaircraft fire was generally inaccurate. Thus, after bombs were away, most of the aircraft took mild evasive action as a precautionary measure. This action consisted of a right turn together

with a loss of altitude. One aircraft, however, encountered fairly accurate heavy antiaircraft fire after leaving Sasebo and resorted to evasive action consisting of rapid loss of altitude while making diving turns to the right and left.

(4) Searchlights Encountered: Searchlights were reported as follows: 3 at Sasebo, 6 at Nanking, 15 at Hankow, 1 near Ozu, 3 six miles southeast of Yingtze, and 6 in the vicinity of Pang Fou. Enemy searchlights were ineffective and uncoordinated.

(5) Smoke Screens and Barrage Balloons: No smoke screens or barrage balloons were reported over any of the targets. However, since all targets were obscured by either a heavy undercast or ground haze, it is entirely possible that both barrage balloons and smoke screens were being used at the time of attacks.

b. Enemy Aircraft:

(1) Enemy aircraft made attacks upon three of our aircraft. These, made during the early daylight hours (072135Z to 072229Z) as the aircraft were returning to their bases, were made by aircraft encountered in the vicinity of the Peiping - Hankow Railroad, approximately 125 miles north of Hankow. A total of ten passes were executed by eight enemy fighters, identified as seven Oscars and one Tony. The enemy opened fire in only three of the ten passes.

(2) Enemy attacks were characterized by their preference for frontal approaches. There was also evidence that the enemy has not found any effective means of fighter attack against the B-29, lack of planning and coordination was again apparent. Single-plane attacks were the rule, and enemy pilots exhibited moderate aggressiveness. Tactics employed, excepting the absence of stern attacks, were without variance from those previously experienced.

(3) Preference of the enemy for frontal attacks on the B-29 is illustrated by the fact that all ten of the passes were made between 11 and 2 o'clock.

(4) The three passes during which enemy aircraft opened gun fire were pressed to 150, 200, and 400 yards. Of the other seven passes, two were carried to less than 500 yards. Failure of enemy fighters to fire while in range is possibly due to the increased speed of B-29 aircraft over other bombers and the consequent difficulty on the part of enemy fighter pilots in timing attacks against these faster targets.

(5) No new weapons or methods of attack were reported.

7. WEATHER: (See Annex D)

a. Weather in Chengtu area at take-off time was favorable for the mission.

b. Aircraft on the route out from bases to the hill area near 112° East encountered scattered cumulus and stratocumulus with bases at 5000 feet and tops at 6000 feet, a thin scattered layer of stratus at 7000 feet, and a 7/10 coverage of altostratus with bases at 12,000 feet. Several aircraft reported slight turbulence over the hill area, where cloud coverage was reported as being several layers of scattered to broken cumulus with the highest layer at 12,500 feet and an occasional cumulus building to 15,000 feet with a few cumulus over the mountains building to 18,000 feet. From the hill area enroute to the coast, aircraft reported a general dissipation of clouds, and from the coast into the targets clouds encountered were restricted generally to a broken stratus or stratocumulus deck at 3000 feet.

c. Over the primary targets, conditions were poor for bombing and photography. Either the targets were obscured by 10/10 coverage of stratus or stratocumulus, or by haze.

d. Weather on the return trip was similar to that on the route out except for the fact that the cloudiness had dissipated to some extent.

e. Aircraft returning from the attack found an 8000-foot overcast at their Chengtu bases. Visibility in the haze was three miles. All of the 17 aircraft bombing targets returned safely to their home bases.

f. A full moon and the good weather simplified navigation, permitting dead reckoning and celestial fixes along the route. However, radar pilotage and radio fixes were employed by some of the navigators.

g. With a few minor and unimportant exceptions, weather encountered was as forecast.

8. BATTLE LOSSES AND BATTLE DAMAGE:

a. Battle Losses: All aircraft participating in the mission returned safely to bases.

b. Battle Damage: No damage was suffered by aircraft as a result of antiaircraft fire. As a result of enemy air action, one aircraft sustained minor damage to its vertical stabilizer and to the crank case on its number two engine.

9. COMMUNICATIONS: (See Annex E)

a. Communications facilities were generally adequate with excellent results obtained on both the air-ground channels and point-to-point channels. Comments on various phases are as follows:

(1) Air-Ground Communications: As in the previous mission all air-ground communications were controlled at a central point (Hsinching). Signals were sent out at regular predetermined intervals on all channels assigned in order that radio operators could select the proper channels by signal strength comparison. Results in general were excellent. Aircraft received the ground station at Hsinching all the way to and over the targets. Some aircraft, however, experienced difficulty in contacting the ground station on voice on the return trip, and, on returning to bases, some aircraft failed to furnish required position reports.

(2) Navigational Aids: Requests made for bearings were received and acknowledged without incident.

(3) Point-to-Point Communications: Communications between bases in the Chengtu area and the central point at Hsinching and those between Rear and Advanced Headquarters were excellent.

(4) Radio Discipline: Radio silence was generally maintained. Exceptions to strict radio silence, however, included pre-arranged "Bombs Away" messages transmitted from the primary target areas and the requirement that all aircraft were to obtain navigational aid and/or clearance into the control area when within 250 miles of Hsinching.

(5) Signal Security: CSP 1270 or prearranged messages were used for all transmissions. No clear text messages were known to have been sent.

(6) Air-to-Air Communications: Since formations were not flown, air-to-air communications were unnecessary.

(7) Enemy Radio Activity: Some radio interference on two frequencies was encountered. This jamming, however, did not interfere with reception of the ground station.

(8) Special Messages from the Target Area: As a means of determining at the earliest possible moment the number of aircraft bombing the primary targets, all aircraft were directed to send a prearranged message within ten minutes after "bombs away." The word "Lolly" was employed as the code word.

10. RADAR AND RCM: (See Annex F)

a. Radar:

(1) Navigation: As on previous missions, radar was used by all aircraft in navigating to and from the target area. Numerous check points were identified at good range, and other points were excellent pilotage fixes. All of the aircraft bombing primary targets identified the initial points. Radar was also utilized to locate the secondary and last resort targets.

(2) Bombing: Almost complete reliance was placed on the use of radar for bombing, since, of the 17 aircraft attacking, 12 employed radar. Moreover, 3 of the 5 aircraft not bombing by radar were deprived of that method by inoperative sets. Analysis of reports received in post-flight interrogation, indicates 7 theoretical hits on targets and 5 misses.

(3) Radar-Scope Photography: Of the 17 aircraft equipped with C-3 radar cameras and scheduled for the mission, 4 aircraft so equipped failed to participate in the attacks. From the airborne aircraft equipped with C-3 radar cameras, usable sets of pictures of the bombing run were obtained from 6 cameras. In addition to the usable bomb-run photographs, many valuable pictures were obtained of check points. These pictures will be of use in future radar briefing as well as for training and planning.

(4) Auxiliary Radar Equipment: Auxiliary radar sets SCR - 695, SCR - 718, and SCR - 729 performed satisfactorily with the employment of SCR - 695 (IFF) showing improved discipline over that of previous missions. The SCR - 718 (Altimeter) was used extensively by all navigators for obtaining accurate altitudes. This equipment also provided radar operators and pilots with altitude checks. The SCR - 729 (Interrogator Responsor) was used more extensively on this mission. Serviceability of auxiliary radar sets again was excellent, with one failure each reported for SCR - 695 and SCR 729 and none for the SCR - 718.

b. RCM:

(1) As in past missions, participation of RCM observers was confined to searching for Japanese radar signals enroute to and at the target areas. No offensive action was taken.

(2) Search was confined principally within two ranges: (A) in the 27.5 to 70 megacycles range from take-off to 124°E; and (B) in the 140 to 220 megacycles range from 124°E to targets and on return from targets to 116°. Direction-finding antennas, now being placed on aircraft of this

command, were not installed at the time the mission was run. Therefore, pin-pointing of enemy radar stations was not possible. Six aircraft participating in the mission were equipped with search receivers.

(3) As a result of RCM reports and observations, the following conclusions may be drawn: (A) the Japanese Early Warning System was in operation along the route; (B) heavy antiaircraft fire was generally meager and inaccurate, indicating that gun-laying radar, if available to the enemy, was not effective; (C) searchlights generally were ineffective; and (D) fighter interception was weak and ineffective, indicating that GCI and AI, if available, were not put to effective use.

11. CENTRAL STATION FIRE CONTROL: (See Annex G)

a. Meagerness of enemy fighter opposition on this and previous attacks has not afforded a real opportunity to test the effectiveness of the Central Station Fire Control under combat conditions.

b. Of the three fighter attacks in which the enemy opened fire, three attempts to return fire were reported. One was unsuccessful because of a CSFC gunner's failure to throw the proper switch; one effort failed because of a malfunction; and the third resulted in a claim of damage to an enemy aircraft.

c. Experience to date has indicated the necessity of having gunnery personnel prepared to clear stoppages in flight. Gunnery training as a result has been intensified, and it is reasonable to believe that the number of uncleared malfunctions will decrease in future missions.

12. CAMERAS AND PHOTOGRAPHS: (See Annex H)

a. Of the 22 K-19 night cameras installed for the mission, 5 were on aborting aircraft, 6 malfunctioned, 1 was not operated, and 10 took photographs. The 6 malfunctions were due to photo-electric cell trouble caused by dampness.

b. Clouds and/or ground haze over the target areas practically nullified the chances of success of night photography.

c. Two photographs of possible military importance were obtained as follows: (1) the inner harbor at Omuta, partially obscured by clouds, and (2) a target area at Hankow.

d. The M-46 photo-flash bombs used on the mission failed to detonate with the desired brilliant white flash, but exploded instead with a flash of yellowish brown color.

e. As indicated in the Radar section, C-3 (Radar) Cameras on 13 aircraft functioned excellently for the most part and radar-scope photographs of use for analysis and in future training and operations were obtained.

13. FUNCTIONING OF EQUIPMENT: (See Annex I)

a. Movement from the Rear to the Forward Area: Prior to and including D-Day 29 aircraft were scheduled to take-off for the forward area, of which 28 were airborne. As a result of mechanical difficulties, four aircraft enroute to the Chengtu area were forced either to return to their rear bases or to land enroute.

b. Malfunctions During the Mission:

(1) On D-Day, 21 aircraft were scheduled to take off. Of these, 3 failed to take off because of mechanical difficulties as follows: (a) excessive RPM drop; (b) low power and engine cutting out; and (c) an excessive oil leak.

(2) Of the 18 aircraft airborne, 4 failed to bomb their designated primary targets as a result of mechanical failure as follows: (a) one returned early with bombs because of an exhaust collector ring failure; (b) One bombed the secondary target because of an engine fire which was subsequently extinguished and the propeller feathered; and (c) two bombed the last resort target because of fuel-transfer failures.

14. TARGET DAMAGE ASSESSMENT:

a. Subsequent to the attack no photo coverage has been obtained. Furthermore, as a result of the unfavorable conditions over the target areas, photographs taken by the attacking aircraft were unsatisfactory for assessment of damage. An analysis of photographs obtained on mission shows the following:

(1) Sasebo Naval Dockyard: Eight cameras returned with exposures, and, although bombs are seen in several pictures, insufficient ground detail prevents plotting. No statement can be made as to bomb damage, nor can an estimate be made of the probable locality of bomb strikes.

(2) Omura Aircraft Plant: One camera returned with exposures. Eight bombs are seen against a solid undercast and no ground detail is visible.

(3) Miike Dyestuffs, Omuta: One camera returned with exposures. In one photograph the Inner Harbor just west of Target No. 1254, Miike Harbor can be seen. This would indicate that the aircraft was on course and probably passed over the Miike Dyestuffs Plant, but no photographs of the Plant itself were obtained.

(4) Docks and Storage Area, Hankow, China: One camera returned with exposures. No photographs of military value or of value in damage assessment were obtained.

L. G. SAUNDERS
Brigadier General, U. S. A.
Commanding

A

ANNEX

A

MOVEMENT FROM REAR TO FORWARD AREA

MOVEMENT FROM REAR TO FORWARD AREA

Mission No. 3

7-8 July 1944

	40th	444th	462nd	468th	Total
Aircraft dispatched	7	6	8	8	29
Aircraft airborne	7	6	7	8	28
Aircraft returning to XX Bomber Command bases	2	0	0	0	2
Aircraft forced to land en route -- movement not completed	1	1	0	0	2
Total aircraft landing in Forward Area	4	5	7	8	24
Aircraft landing on D-Day minus 2	0	5	0	7	12
Aircraft landing on D-Day minus 1	3	0	6	1	10
Aircraft landing on D-Day	1	0	1	0	2
Total	4	5	7	8	24

B

ANNEX

EXECUTION OF THE MISSION

I - Details of Routes

II - Horizontal Track

III - Vertical Tracks

A. Aircraft Bombing Primary Targets

B. Aircraft Bombing Secondary Target

C. Aircraft Bombing Last Resort Target

I - DETAILS OF ROUTES

Mission No. 3

7-8 July 1944

A. Primary Target - Sasebo (444th Group)

5 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Kwanghan	0949-1004	3000-14,000	195-215
First Turning Point to:	33° 00' N-126° 15' E	*	*	*
Initial Point to:	33° 18' N-129° 08' E	1601-1622	16,000-18,000	188-200
Target to:	Sasebo	1608-1634	16,000-18,000	190-210
Base	Kwanghan	2251-2359	10,000-15,000	190-200

* Not available.

B. Primary Target - Sasebo (462nd and 468th Groups)

7 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Bases to:	Kunglai and Pengshan	0953-1054	3000	192-195
First Turning Point to:	33° 00' N-126° 15' E	*	*	*
Second Turning Point to:	32° 21' N-128° 45' E	1545-1656	12,000-17,000	192-200
Initial Point to:	32° 33' N-129° 46' E	1630-1741	15,800-17,000	195-203
Target to:	Sasebo	1637-1752	15,000-17,000	190-200
Bases	Kunglai and Pengshan	2303-0051	11,700-12,500	185-193

* Not available

C. Primary Target - Tobata (462nd Group)

1 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Kunglai	0942	3700	210
First Turning Point to:	32° 03' N-112° 03' E	1209	11,000	202
Second Turning Point to:	32° 45' N-119° 25' E	1358	16,000	202
Third Turning Point to:	34° 15' N-130° 05' E	1647	16,300	200
Initial Point to:	34° 30' N-131° 17' E	1704	15,000	200
Target to:	Tobata	1714	15,000	200
Base	Kunglai	0044	9700-13,000	190-240

D. Primary Target - Omura (40th Group)

1 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Hsinching	0935	*	*
First Turning Point** to:	33° 00' N-126° 15' E	1603	10,500	195
Initial Point to:	32° 46' N-129° 00' E	1642	14,300	191
Target to:	Omura	1658	14,300	195
Photographic Target to:	Omuta	1704	14,300	195
Base	Hsinching	0105	*	*

* Not available.

** Slight deviation from briefed course was made at 31° 20' N - 111° 48' E in order to bypass a thunder storm. A course of 47° True was flown for 18 minutes and then briefed course was resumed.

E. Secondary Target - Laoyao (462nd Group)
(Aircraft scheduled to bomb Yawata)*

1 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Kunglai	0945	**	206
First Check Point to:	33° 12' N-123° 31' E	1453	9700	206
Second Check Point to:	33° 30' N-123° 05' E	1506	8400	186
Target to:	Laoyao	1610-1649	8000	186
Base	Kunglai	2158	**	195

* Mechanical difficulty prevented bombing of primary target.
** Not available.

F. Last Resort Target - Hankow (462nd Group)
(Aircraft scheduled to bomb Sasebo)*

1 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Kunglai	0950	**	200
First Check Point to:	30° 55' N-107° 35' E	1053	10,000	200
Second Check Point to:	90 miles N of Hankow	1200	11,000	195
Target to:	Hankow	1250	11,000	195
Base	Kunglai	1600	5000	195

* Fuel transfer system failure prevented bombing of primary target.
** Not available.

G. Last Resort Target - Hankow (462nd Group)

(Aircraft scheduled to bomb Sasebo)*

1 Aircraft	Location	Time at Point (Z time)	Altitude (feet)	I.A.S. (mph)
Base to:	Kunglai	0956	**	203
First Check Point to:	31° 27' N-112° 35' E	1221	11,000	203
Target to:	Hankow	1240-1308	19,600	200
Base	Kunglai	1606	9000-10,000	195-197

* Fuel transfer system failure prevented bombing of primary target.

** Not available.

105°

110°

115°

CHINA

CHENGTU

HANKOW

CHENGTU LOCAL AREA

31°

30°

104°

KWANGHAN
444 GP.

CHENGTU

KUNGLAI
462 GP.

HSINCHING
40 GP.

PENGSHAN
468 GP.

LEGEND:

A/C DISPATCHED TO SASEBO (444TH G

A/C DISPATCHED TO SASEBO (462ND &

A/C DISPATCHED TO OMURA

A/C DISPATCHED TO TOBATA

A/C DISPATCHED TO YAWATA

5.72

CHINA

110°

115°

120°

125°

35°

30°

LAOYAO

HANKOW

KWANGHAN
444 GP.

NGTU

IG

AN

LEGEND:

A/C DISPATCHED TO SASEBO (444TH GP.)

A/C DISPATCHED TO SASEBO (462ND & 468TH GPS.)

A/C DISPATCHED TO OMURA

A/C DISPATCHED TO TOBATA

A/C DISPATCHED TO YAWATA

XX BOMBER COMMAND
TRACK CHART
MISSION #3

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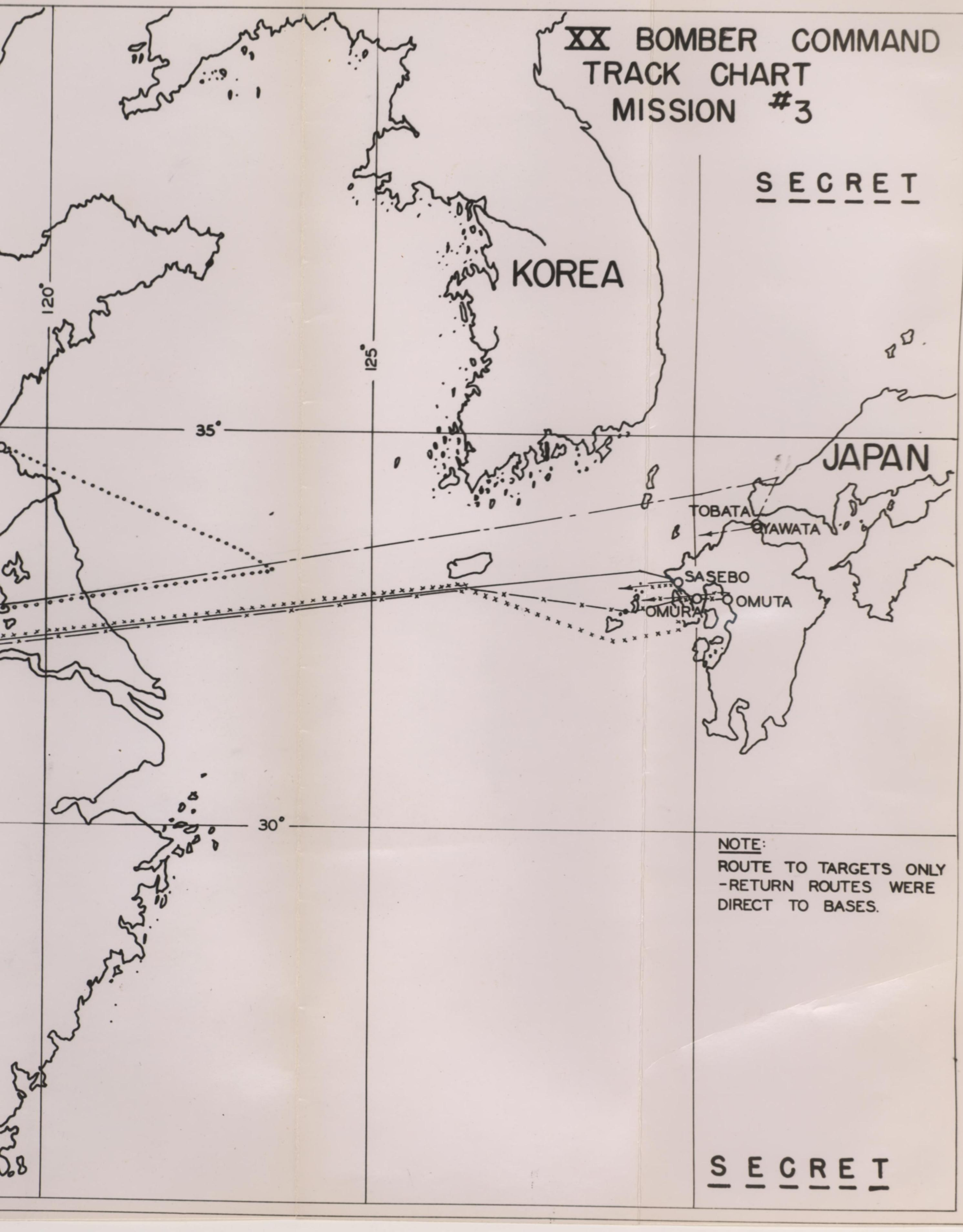

NOTE:
ROUTE TO TARGETS ONLY -RETURN ROUTES WERE DIRECT TO BASES.

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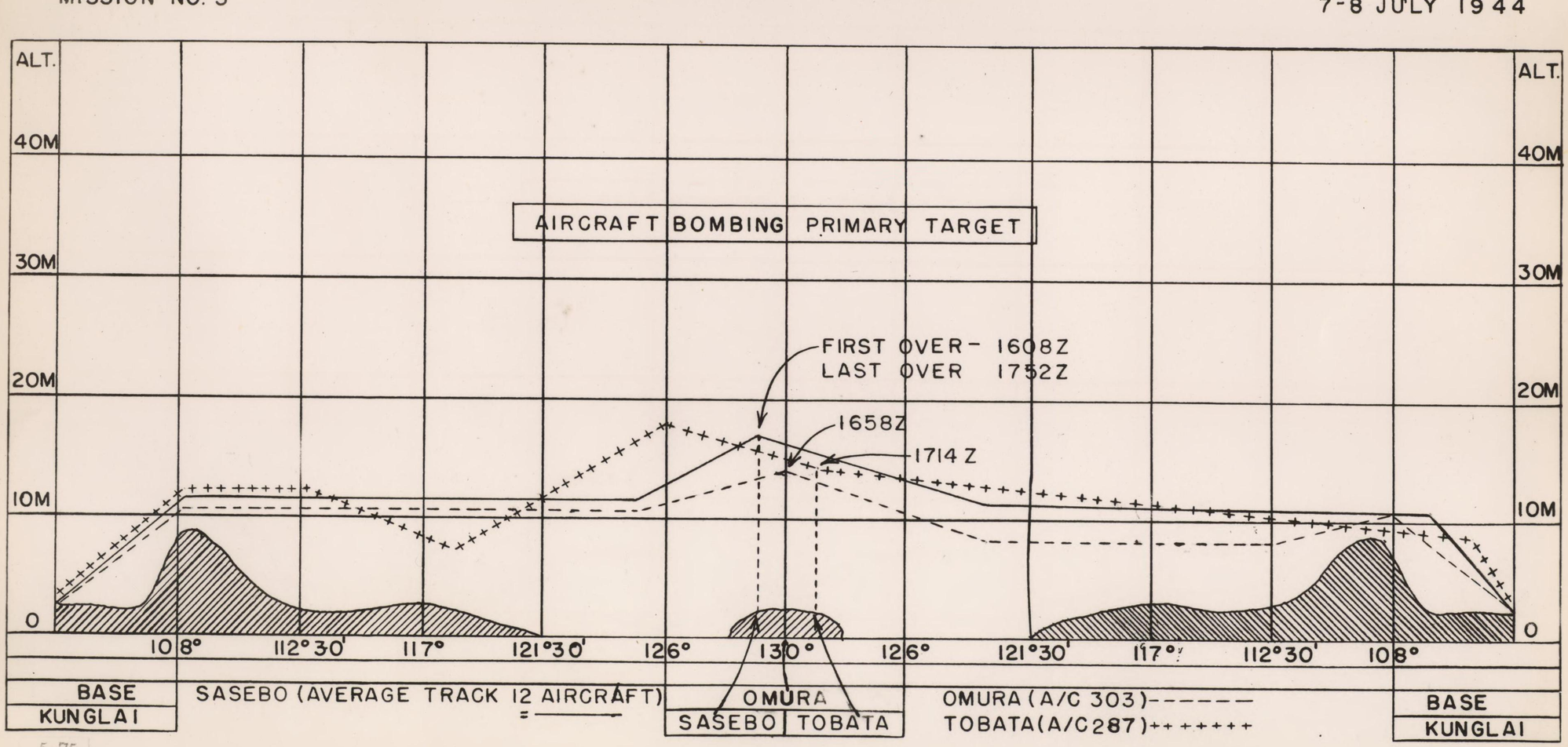
XX BOMBER COMMAND

MISSION NO. 3

7-8 JULY 1944



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VERTICAL TRACK CHART

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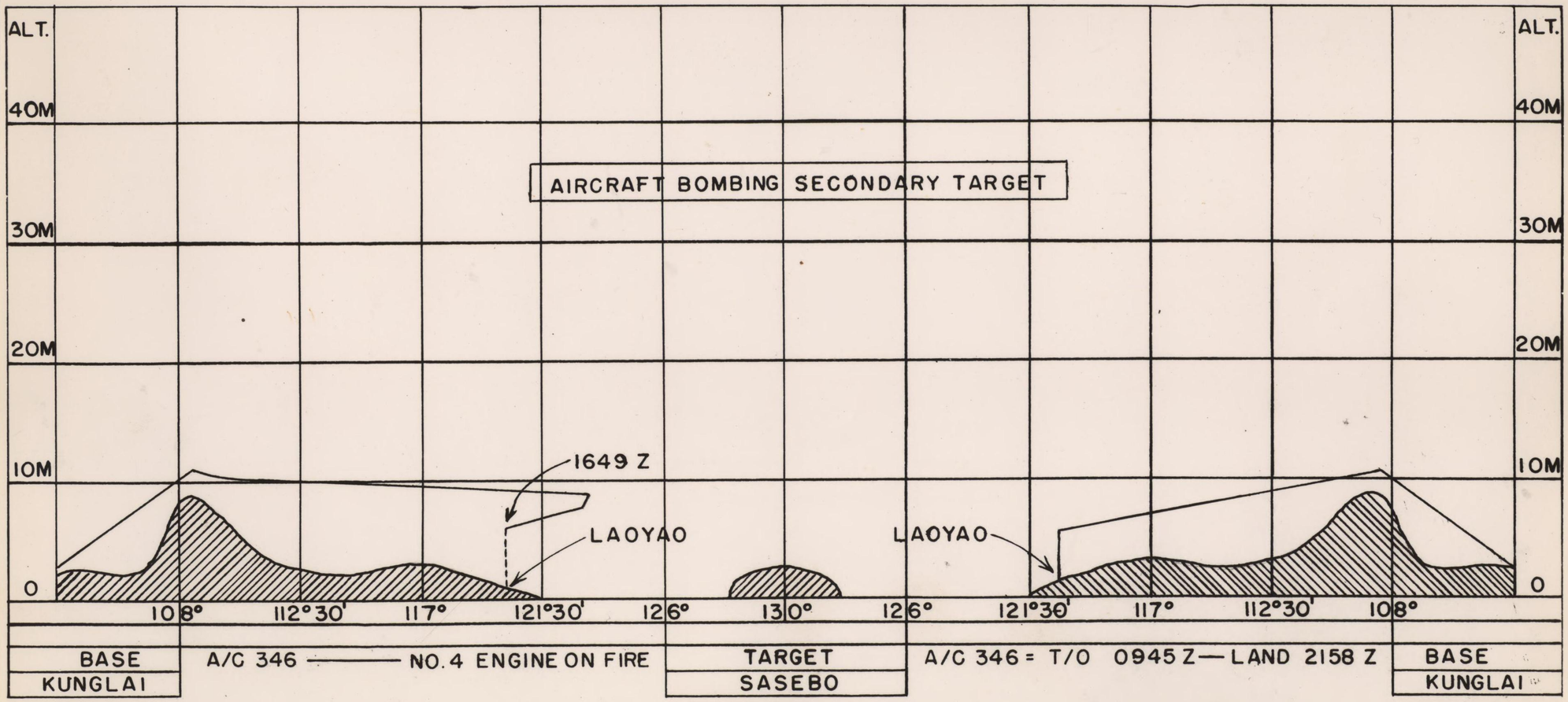
XX BOMBER COMMAND

MISSION NO. 3

7-8 JULY 1944



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VERTICAL TRACK CHART

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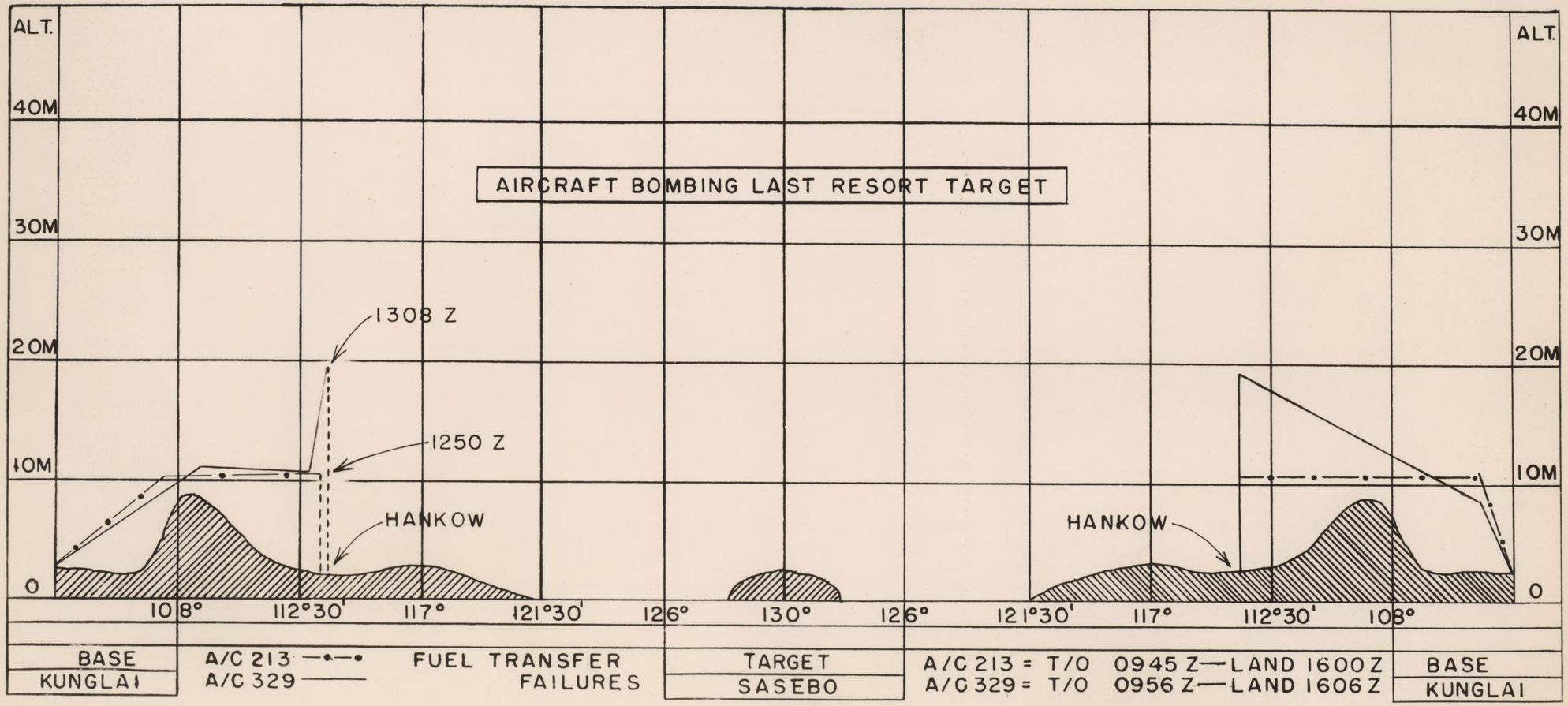
XX BOMBER COMMAND

MISSION NO. 3

7-8 JULY 1944



VERTICAL TRACK CHART

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C

ANNEX

C

ENEMY OPPOSITION

I - Enemy Antiaircraft and Ground Defense

II - Enemy Fighter Tactics

III - Tabular Analysis of Encounters

IV - Clock Summary of Attacks and Claims

I - ENEMY ANTIAIRCRAFT

Mission Number 3

7-8 July 1944

A. Heavy Antiaircraft Fire

1. SASEBO (33° 10'N -- 129° 44'E): Inaccurate and moderate to meager heavy antiaircraft fire was encountered from 1608Z to 1710Z from locations south of Sasebo, over Sasebo, and on leaving Sasebo. It was generally below, although some of the bursts were level with, or above, the aircraft, altitudes varying from 15,000 to 18,000 feet. In all cases it was reported as behind and to the right. If the fire encountered were Continuously Pointed through 9/10 to 10/10 undercast, it would have had to be radar controlled.

2. Vicinity of SHISHIKI (33° 11'N -- 129° 25'E), HIRADO ISLAND: Inaccurate to accurate, meager, and believed Continuously Pointed heavy antiaircraft fire was encountered from 1611Z to 1617Z and at 1758Z by two aircraft. In one case, the firing continued for about 2 minutes, bursting some distance away at the correct altitude and both to the left and right of the aircraft. In the other case, the fire was level and in line, and bursts were reported as rocking the plane. Because of the reported 6/10 to 10/10 undercast, there is a possibility that this fire was radar controlled. (RCM observers intercepted signals in this vicinity that might have been gun-laying radar. See Annex F for more detailed information concerning enemy radar.) The altitudes varied from 15,000 to 16,000 feet.

3. Near KONOURA (approximately 20 miles south of SASEBO at 32° 52'N -- 129° 44'E): Inaccurate and meager heavy antiaircraft fire was encountered by one aircraft at 1654Z at an altitude of 15,000 feet. Bursts were generally below or level, behind, and to the right. A total of 20 - 25 bursts over a relatively long period of time was reported.

4. Between SAISHU ISLAND (33° 20'N -- 126° 30'E) and the Initial Point for SASEBO (33° 18'N -- 129° 08'E): Meager and inaccurate heavy antiaircraft fire was reported at 1601Z, possibly from a ship, bursting below and ahead of the aircraft, and accurate for left and right deviations. The aircraft was at an altitude of 18,000 feet.

5. HANKOW (30° 36'N -- 114° 18'E): Meager and inaccurate heavy antiaircraft fire was encountered at 1308Z by one aircraft at 19,600 feet, and was generally below, behind, and to the right. It is believed to be Continuously Pointed, but the combat crew commented that it was poorly directed.

B. Automatic Weapons Fire

1. SASEBO (33° 10'N -- 129° 44'E): A/W fire was reported as meager and inaccurate by aircraft at 14,400 feet and 19,000 feet, indicating that the Japanese utilize all weapons available, even though their target may be out of range.

2. NAGASAKI (32° 44'N -- 129° 52'E): Meager and inaccurate automatic weapons fire was encountered at 1641Z and 1634Z with the aircraft at 19,300 feet.

3. OMURA (30° 55'N -- 129° 57'E): Meager and inaccurate automatic weapons fire was encountered at 1654Z with the aircraft at 14,300 feet.

4. From ships off SAISHU ISLAND (33° 20'N -- 126° 30'E): Two bursts of red tracers, meager and inaccurate, were encountered from a possible convoy of ships at 1745Z and at an altitude of 12,500 feet.

C. Searchlights

1. SASEBO (33° 10'N -- 129° 44'E): Two beams and three beams were reported by two aircraft at 1608Z and 1638Z respectively. Neither plane was located.

2. NANKING (32° 02'N -- 118° 48'E): Three separate aircraft reported the same number of beams, six, at times of 1342Z, 1925Z, and 1950Z. Beams did not locate the aircraft, although it was reported that this cluster of six beams did catch and hold an aircraft ahead of one of our aircraft at 1925Z.

3. HANKOW (30° 36'N -- 114° 18'E): One aircraft reported at 1308Z 15 beams that did not locate the aircraft.

4. Near OZU at 32° 53'N -- 130° 49'E: One aircraft reported at 1714Z one searchlight beam that did not locate the aircraft.

5. Six (6) miles southeast of YINGTZE at 32° 39'N -- 117° 10'E: One aircraft reported at 1300Z three beams that did not locate the aircraft.

6. Vicinity of PANG FOU (32° 58'N -- 117° 25'E): One aircraft reported at 1305Z six beams that did not locate the aircraft.

D. Evasive Action

Evasive action was generally not necessary. One aircraft, however, upon encountering fairly accurate heavy antiaircraft fire from the vicinity of SHISHIKI, HIRADO ISLAND, made diving turns both to the left and right.

E. Blackouts

1. Occupied CHINA: Reports varied as to the extent of the blackouts in Occupied China, but towns were generally either blacked out or blacked out immediately on the approach of the aircraft. NANKING was reported as being blacked out while an adjacent town was not.

2. JAPAN: All target areas and adjacent islands including SAISHU ISLAND were reported as being completely blacked out. Some navigation aids and lighthouses were reported functioning.

F. Smoke Screens and Barrage Balloons

No smoke screens or barrage balloons were reported.

G. Warning Nets

Considering the blackouts existing in Occupied China and at the targets in Japan and the continuous interception of enemy radar signals from the interior of China to the target areas and back, there is every reason to believe that there is an air-raid warning net in Occupied China and Japan. (See Annex F for more detailed information.)

II - ENEMY TACTICS

Mission No. 3

7-8 July 1944

1. Opposition by enemy aircraft was encountered by only three B-29 aircraft. Eight enemy fighters, identified as seven Oscars and one Tony, executed a total of ten passes or attacks. It is significant that none of these took place over Japan, all of them being made on the route back during the early hours of daylight, (2135Z to 2229Z) in the vicinity of the Peiping - Hankow Railroad, approximately 125 miles north of Hankow. Enemy Air Order of Battle indicates that these fighter aircraft probably came from units assigned to the Hankow - Wuchang area. They could have been staged from any one of several fields in the North Yangtze area.

2. Opposition was not generally effective. Enemy tactics were characterized in general by the following: lack of planned and coordinated attacks, single-plane encounters, moderate aggressiveness, and a decided preference for frontal approaches. These are in line with enemy tactics previously experienced.

3. The most closely pressed attack was made by an Oscar, who came in high from 11 o'clock and broke away at 150 yards. Four other encounters terminated between 200 and 400 yards. There was, however, enemy fire in only three of the ten encounters. Thus, only 30 percent of the encounters were actual attacks. Likewise, there were only three instances of fire from the B-29's.

4. One Oscar attacking high from 11 o'clock and closing to 300 yards has been claimed as "damaged." No other claims have been made by our gunners.

5. Damage to our aircraft was negligible. Slight damage was sustained by one B-29 as a result of an attack by Tony. Hits were made in the crankcase, causing the engine to smoke and develop an oil leak, but it was not necessary to feather the propeller. The vertical stabilizer also suffered minor damage.

6. The direction of all passes and attacks was from between 11 and 2 o'clock, as shown in the following tabulation:

Direction of pass or Attack	Front						Right Side						Total*
	11	11:30	12	12:30	1	1:30	2	2:30	3	3:30	4	4:30	
Above	2	1		1									4
Level	1		1	1									3
Below						1	1						2
Total	8						1						9

* One pass was also made from 1 o'clock, vertical position unknown.

7. Breakaways were generally sharp turns or rolls and dives on both sides and directly behind the bombers.

8. The attack resulting in damage to one of the B-29s occurred at 9700 feet with the B-29 indicating an air speed of 230 to 240 miles per hour. Tony came in from 11:30 o'clock at the same time as the B-29 was

turning into a pass from an Oscar at 1 o'clock. Oscar broke off at 1000 - 1200 yards, but Tony continued his approach at a high speed, opening fire at 800 yards. The bombardier attempted to open fire, but was unable to do so as a result of the failure of the CSFC gunner to throw the switch. Evasive action consisted of slipping to the right and turning into the attack. Hits were scored on the B-29 as Tony continued firing to 400 yards, after which he made a roll to the right and broke away.

9. No new or unusual tactics or weapons were observed.

10. Colors and distinguishing markings observed on the Japanese fighters are as follows:

a. Oscars (6): brown or yellow wings, yellow bellies, and orange insignia near the wing tips.

b. Oscar (1): silver in color, new in appearance.

c. Tony (1): silver.

III - TABULAR ANALYSIS OF ENCOUNTERS

Mission No. 3

7-8 July 1944

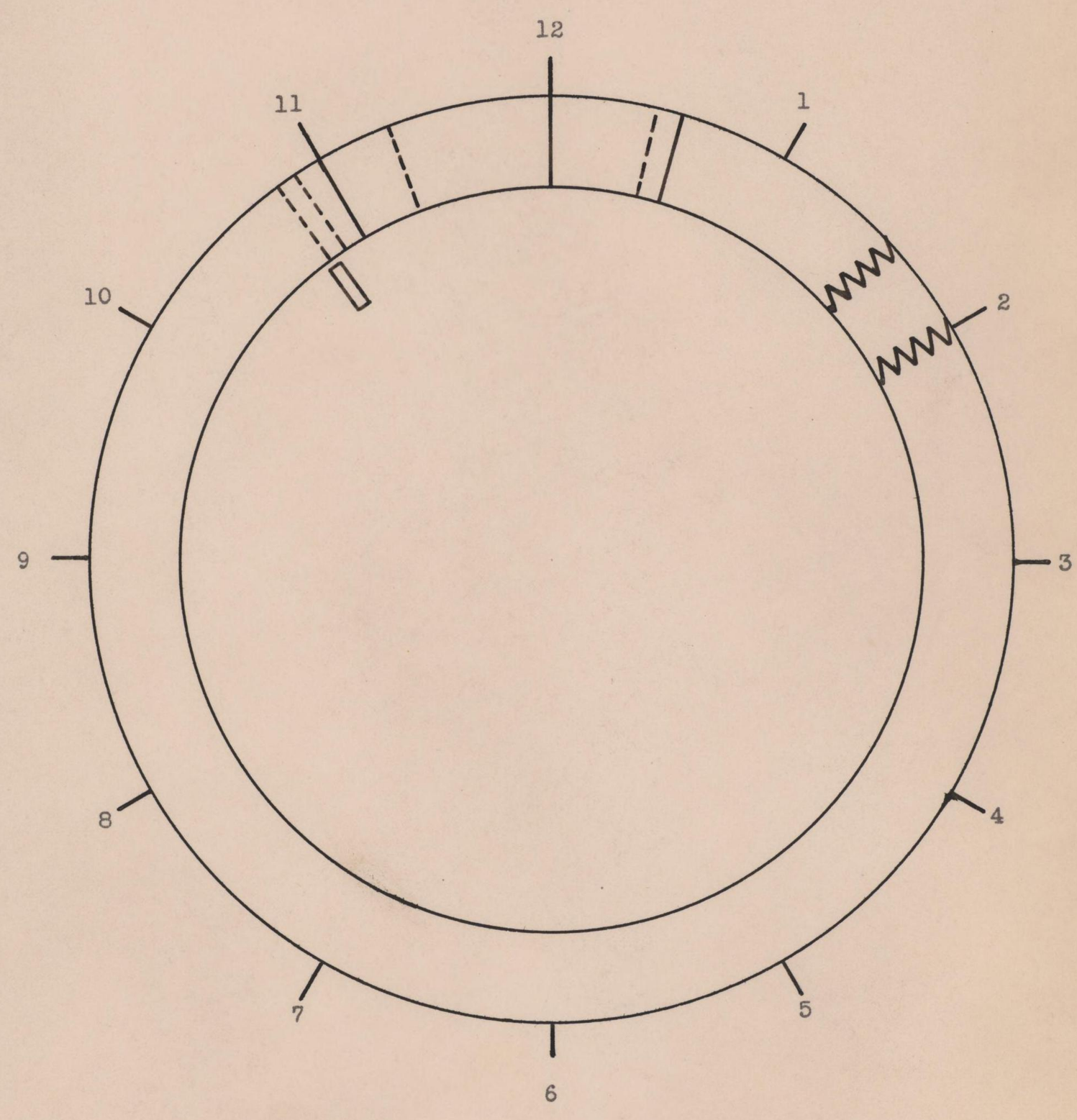
Time	Location	Altitude (feet)	Enemy Aircraft	Direction of Attack	Level of Attack	Enemy Opened Fire (yds)	B-29 Opened Fire (yds)	Distance Pressed (yards)	Breakaway
2135Z to 2150Z	Approx. 32° 15'N - 114° 30'E (1)	9700	OSCAR	12 O'clock	Level	No	No	Unknown	Dive under B-29
		9700	OSCAR	11 o'clock	Level	No	No	1000	Unknown
		9700	OSCAR	1 o'clock	Unknown	No	No	1000	Unknown
		9700	TONY	11:30 o'clock	1500 ft. above	800 (2)	No	400	Roll to left, passed under B-29
		9700	OSCAR	12:30 o'clock	Above	600	1200	200	Below at 5 o'clock
2200Z	31° 32'N - 113° 00'E	Unknown	OSCAR	1:30 o'clock	Below	No	No	400	Level at 4 o'clock
2205Z	31° 32'N - 113° 00'E	Unknown	OSCAR	2 o'clock	Below	No	No	800	Low at 6 o'clock
2215Z to 2229Z	31° 14'N - 112° 16'E to 31° 08'N - 111° 29'E	7000	OSCAR	12:30 o'clock	Level	No	800	600	Sharp peel away toward left side
		7000	OSCAR	11 o'clock	High	800	No	150	Sharp turn to left
		7000	OSCAR	11 o'clock	High	No	400 (3)	300	Toward 7:30 o'clock

(1) Approximately 125 miles north of HANKOW.
(2) B-29 damaged.
(3) OSCAR claimed as "damaged."

IV - CLOCK SUMMARY OF ATTACKS AND CLAIMS

Mission No. 3

7-8 July 1944



* One attack from 1 o'clock not recorded since level of attack is not known.

LEGEND

Above ----	4
Level —•—	3
Below wwww	2
	9

Damaged ▭

D

ANNEX

D

WEATHER INFORMATION

I - Weather Information: As Forecast and as Encountered

II - Chart - Weather as Briefed

III - Chart - Weather as Reported by Returning Crews

IV - Synoptic Map as of 1800 IST, 7 July 1944

	As Forecast	As Encountered
Bases at Take-Off	3/10 cumulus at 5000' - tops at 8000'. Scattered clouds at 12,000'. Vsby unlimited.	2/10 to 4/10 fair-weather cumulus with bases reported between 2000' and 5000' and tops between 6000' and 8000'. 2/10 to 5/10 cirrus at 20,000'.
Base Area to 112° E	Conditions similar to Base conditions with cumulus increasing over the mountain area to 7/10 - 8/10 coverage and tops building up to 13,000' - 15,000'. Layer cloud will increase and thicken in the Hill Area with the highest layer becoming overcast. Base at 10,000' - top at 13,000'. Broken cumulus cloud will tower through the layer cloud to 15,000'.	Scattered cumulus and stratocumulus. Bases at 5000' - tops at 6000'. A thin scattered layer of stratus at 7000' was reported along with 7/10 coverage of altostratus with bases at 12,000'. HILL AREA NEAR 112° E follows: Several layers of scattered to broken stratus with highest layer at 12,500'. Occasional cumulus building to 15,000' with a few to 18,000' near center of mountains. Turbulence was localized; some a/c reported moderate turbulence and light rime ice at + 12° C, altitude of 12,000', while others reported no turbulence or icing.
112° E to Coast	Cumulus will dissipate on the far side of the hills and cloud conditions will become 3 broken layers between 3000' and 10,000' except in the frontal zone which is about 116° E. Here layer cloud will increase and thicken and broken cumulus will build up to 13,000'.	3 layers of scattered to broken clouds were observed with bases of lowest at 5000' and of uppermost at 12,000'. Increased cumulus activity was observed in the frontal region but this constituted no hazard to flying.
Coast to Targets	Widely scattered towering cumulus in coastal region with tops to 10,000'. Over the sea a broken layer of stratocumulus or cumulus with base at 3000' and tops at 5000' - 6000'. A broken altocumulus layer at 10,000' will gradually dissipate over the sea.	Both layers of middle cloud dissipated over the sea giving a broken stratus or stratocumulus deck at 3000'. A thin layer, scattered to broken, of cirrostratus was observed over the water.

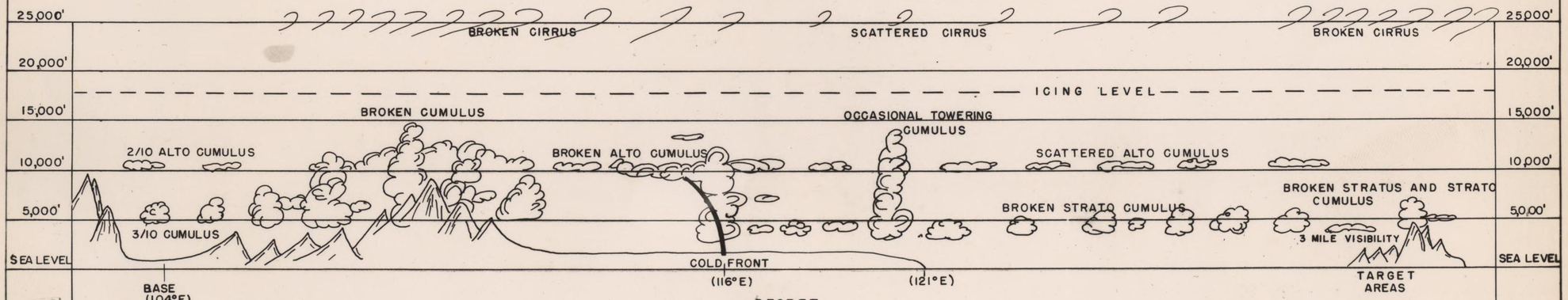
(continued on D-2)

I - WEATHER INFORMATION (continued from D-1)

At Targets		NAGASAKI, OMUTA, SASEBO: 7/10 - 9/10 stratocumulus at 3000'. Vsby 3 miles in haze. YAWATA, TOBATA: 3/10 stratocumulus at 3000'. Vsby 1 mile in smoke and haze. Altimeter setting: 19.90". Surface temperature: 26° C. 10,000' temperature: 9° C. 18,000' temperature: 0° C.			SASEBO: 10/10 stratocumulus. Tops at 4000' - 5000'. Breaks in clouds were reported over the water. TOBATA: No cloud cover. Haze in lower layers restricted visibility to a vertical line. OMURA: 10/10 stratus clouds. OMUTA: Clear but visibility restricted by haze.
Return Route		Mainly similar to Route Out except cumulus in coastal region will have dissipated and cumulus in mountains will have dissipated. Cloud conditions in mountains will consist of broken layer clouds, tops at 12,000'.			Weather encountered on route back was similar to that on outgoing trip except cloudiness had dissipated somewhat.
Bases on Return		Broken altostratus and altocumulus at 14,000'. Vsby 1½ miles in light fog at dawn, improving to 3 miles at 0600 GMT and to 6 miles at 0900 GMT.			8000' overcast. Vsby 3 miles in haze.
Icing		Freezing level at 18,000'.			Freezing level between 18,000' - 19,000'.
Turbulence		Moderate in clouds over the hills and in frontal zone on the Route Out, decreasing to slight on return.			
Winds Aloft	Altitude	Base to 115° E	115° E - 125° E	125° E to Target	As a result of cloud cover, the following were the only winds aloft reported: (1) 105° E to 109° E: 10,000'; 40° - 65° at 20 knots. (2) 114° E to 124° E: 12,000'; 220° - 240° at 25 knots.
	5000'	15° - 18 knots			
	10,000'	40° - 22 knots	240° - 22 knots	220° - 18 knots	
	15,000'			230° - 20 knots	
	20,000'			250° - 25 knots	

SECRET

XX BOMBER COMMAND
MISSION NO.3
7-8 JULY 1944
WEATHER AS BRIEFED



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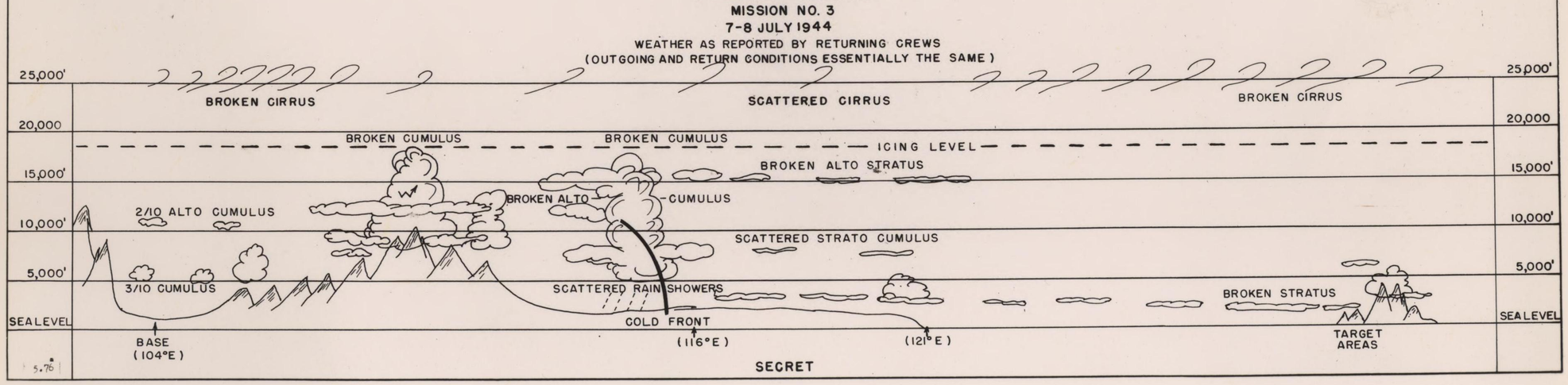
XX BOMBER COMMAND
MISSION NO. 3
7-8 JULY 1944
WEATHER AS REPORTED BY RETURNING CREWS
(OUTGOING AND RETURN CONDITIONS ESSENTIALLY THE SAME)



5.76

SECRET

SECRET

1008

1011

1014

H

CP

H

MT

1014

1011

SECRET

XX BOMBER COMMAND
MISSION NO. 3
SYNOPTIC MAP
AS OF 1800 I.S.T.
7 JULY 1944

5.78

~~SECRET~~

ANNEX

E

COMMUNICATIONS INFORMATION

~~SECRET~~

COMMUNICATIONS INFORMATION

Mission No. 3

7-8 July 1944

1. The Communications and Navigational Aid facilities, similar to those employed during the first raid on Japan on 15-16 June 1944, were generally satisfactory. No failures of importance were reported. The experience gained during the previous mission was a contributing factor in the over-all satisfactory performance.

2. Take-off times were reported as follows: Using a pre-arranged code, the time of take-off of each aircraft was telephoned from the Control Towers at the various bases to the Aircraft Control Center at Hsinching. The Aircraft Control Center, in turn, furnished this take-off information directly to the Fighter Control Center at Schwangliu. This system worked satisfactorily.

3. An SOP for the operation of the Aircraft Control Center and for liaison with the Fighter Control Center was established prior to the mission. The SOP worked satisfactorily except for the failure of returning aircraft to make the position reports required. Consequently, there was no information to relay to the Fighter Control Center and returning B-29s were not properly identified. As a result, the importance of making position reports at the prescribed time will be stressed in future briefings of Airplane Commanders and Radio Operators.

4. Aircraft received the ground station at Hsinching all the way to and at the targets. No "bombs away" signals were received, however, from aircraft of the 40th or 468th Bombardment Groups. Some aircraft also experienced difficulty in contacting the ground station on voice on the return trip.

5. Operators reported jamming on frequencies of 5530 kcs and 8280 kcs by two stations sending "dits" and "Vs". This interference by enemy stations ZRZ and YZP respectively did not prevent reception of the ground station.

6. Enemy stations intercepted were as follows:

Identification	Frequency	Type Emission
COZ	275 kcs	A-3
ZRZ	5530 kcs	A-1
CHF, LARM, OZR, YZP	8280 kcs	A-1

ANNEX

F

RADAR AND RCM

I - Radar Information

II - Radar Tables

Table 1 - Radar Reports on Bombing
Table 2 - Radar Bombing Evaluation
Table 3 - Radar Camera Results and Bombing Appraisal
Table 4 - Radar Operator Procedure and Methods
Table 5 - Radar Serviceability

III - RCM Information

F

I - RADAR INFORMATION

Mission No. 3

7-8 July 1944

A. Radar Summary of the Mission

On the third mission of the B-29 aircraft, 12 of the 17 aircraft bombing targets bombed by radar. Radar bombing continued to improve and some hits, 3 or more, are verified by the plots of the bombing run from scope photographs. Radar navigation was again extremely successful. Although radar target identification was better than on the previous mission, considerable difficulty was encountered in identifying the Sasebo area. As shown by a number of pictures, this difficulty was caused mainly by poor gain settings. Furthermore, although the attempts at night photography were generally unsuccessful, valuable photographs were obtained from 7 of the cameras installed in 13 aircraft. Nevertheless, the need for further training of radar operators and for advance radar reconnaissance was again demonstrated by the over-all radar results.

B. Bombing Results

1. As indicated in the foregoing, 12 aircraft of the 17 bombing targets bombed by radar. (See Table 1.) Moreover, 3 of the 5 aircraft not bombing by radar had their radar sets inoperative. Thus, it appears that almost complete reliance was placed on the use of radar for bombing. Radarscope photographs indicate the following: of the 6 sets of pictures taken on bombing runs, 2 show definite hits on the target areas at Tobata and Omura and a third shows a probable hit on the last resort target, Hankow (See Table 3). These results show excellent agreement with the analysis of the interrogation reports for theoretical radar hits, namely, 4 out of the 6 referred to above. This analysis, made on the basis of radar interrogation as in previous missions, shows 7 theoretical radar hits and 5 misses (See Table 2). The percentage of theoretical hits, 58 percent, is lower than on previous missions, but this probably results from the obtaining of more complete information on interrogation reports, and this percentage, therefore, is probably much closer to actual results than percentages obtained in previous missions.

2. There are several factors that should be considered in the evaluation of the bombing-run pictures. In the first place, the bombing runs showing definite misses were all reasonably close to the briefed ground track. Two of the operators who scored misses had sufficient justification in that one encountered confusing cloud echoes and the other had a malfunction in his radar set. In the second place, undue significance cannot be placed upon the results of this mission since so few aircraft were involved and since only the best radar results were capable of analysis. The results were further influenced by the fact that the quality of the radar personnel concerned was uniformly high.

3. Considerable difficulty was experienced in locating and identifying the Sasebo Harbor and the target in that area. This difficulty resulted largely from inefficiency on the part of the operators in following the complicated pattern of coastline and harbors south of Sasebo and from gain settings that were much too high to distinquish the bright targets in the Sasebo Harbor area from the dark harbor area itself. Likewise, the approach from the west as predicted in the radar briefing folder was poor from a radar standpoint. These difficulties in target identification serve to iterate the need for adequate radar training, particularly against complicated radar targets. The advantages accruing from advance radar reconnaissance was demonstrated by the results obtained at Tobata. In this case, the bombing

run closely followed the pictures taken after the raid on Yawata on 15-16 June.

C. Radar-Scope Photography

There were 17 C-3 radar cameras installed in aircraft scheduled to participate in the mission. Four of these were in aircraft that failed to take-off, leaving 13 that actually were used on the mission to photograph the radar scope. Of these, usable pictures of the bombing run were only obtained from 6 cameras. (See Table 3.) The failure to obtain usable photographs from the others may be assigned to the inexperience of the navigators in focusing the C-3 camera, poor timing of pictures during the bombing run, and the excessive vibration of the camera mounts. Many valuable pictures were obtained, however, on check points and initial points. These, together with the usable bombing-run pictures, will be extremely useful for future radar briefing material as well as for training and planning. Here, again, the failures serve to emphasize the need for extensive training on the part of radar operators in radar operational procedure and bombing-run techniques.

D. Radar Navigation

1. As on previous missions, radar was used by all aircraft in navigating to and from the target area. Numerous check points in China, such as Si Lake, Ting Lake, the Yangtze River, and various cities, were identified at good ranges. The China Coast and Saishu Island were excellent pilotage fixes, and all of the aircraft bombing primary targets identified the initial points. No aircraft deviated widely from the briefed course. Radar was also used to locate the secondary target and the last resort target.

2. Drift and ground speed were not determined by radar in two Groups, but in the other two valuable use of this navigational aid was made. An encouraging increase in the use of azimuth stabilization was also noted. (See Table 4 for details of the use of radar equipment.)

E. Radar Serviceability

All aircraft airborne on this mission had their radar sets operational, but the longer time of operation and the higher operating altitudes lowered the over-all serviceability of the APQ-13 to 81 percent (13 sets out of 16 reported, See Table 5). Several sets had minor difficulties in flight, but these were repaired by the operators. One of the radar failures resulted from gasoline overflowing into the radar dome during transfer. Operators continue to report excessive heating of the synchronizer, modulator, and other units, resulting in reduced range. In these cases, the operators have been forced to turn off the sets to allow the units to cool. As a result, Group Radar Officers have recommended the installation of cooling fans.

F. Auxiliary Radar Equipment

1. The auxiliary sets, SCR - 695, SCR - 718, and SCR - 729, performed satisfactorily.

2. The employment of the SCR - 695 (IFF) showed much better discipline than in the previous missions. The only violation of IFF procedure was the reported use of emergency code by one aircraft in normal flight, both outbound and inbound.

3. The SCR - 718 (Altimeter) was used extensively by all navigators for obtaining accurate altitudes and for checking altitudes used by radar operators and pilots.

4. The SCR - 729 (Interrogator Responser) was used more extensively on this mission than previously and pick-up ranges on the YJ beacons were reported from 20 miles to 80 miles. Several aircraft were assisted in locating their bases by use of this radar navigational aid.

5. The serviceability of the auxiliary radar sets was again excellent with only one failure reported for the SCR - 695, none for the SCR - 718, and one for the SCR - 729.

II - RADAR TABLES

Mission No. 3

7-8 July 1944

Table 1 - Radar Reports on Bombing

	40th	444th	462nd	468th	Total	Percent of total
A/C Bombing PT	1	5	3	5	14	100
Radar Bombing PT	1	4	3	3	11	79
A/C Bombing ST	0	0	1	0	1	100
Radar Bombing ST	0	0	0	0	0	-
A/C Bombing LRT	0	0	2	0	2	100
Radar Bombing LRT	0	0	1	0	1	50
Total A/C Bombing	1	5	6	5	17	100
Total Radar Bombing	1	4	4	3	12	71

Table 2 - Radar Bombing Evaluation

	40th	444th	462nd	468th	Total	Percent of total
Total Radar Bombing	1	4	4	3	12	100
A/C Scoring Probable Radar Hits	1	3	2	0	6	50
A/C Scoring Probable Radar Misses	0	1	2	3	6	50
Percent of Group Scoring Probable Hits	100	75	50	-	50	-

II - RADAR TABLES (Continued)

Mission No. 3

7-8 July 1944

Table 3 - Radar Camera Results and Bombing Appraisal

	40th	444th	462nd	468th	Total	Percent of total
A/C Airborne with Cameras	1	4	4	4	13	100
Cameras Obtaining Usable Pictures - Check Points	1	1	3	2	7	54
Cameras Obtaining Usable Pictures Bombing	1	0	3	2	6	46
Radar Pictures Showing Bombing Hits	1	0	1	0	2	15
Radar Pictures Showing Probable Bombing Hits	0	0	1	0	1	8

Table 4 - Radar Operator Procedure and Methods

	40th		444th		462nd		468th		Total	
	No.	% Total	No.	% Total	No.	% Total	No.	% Total	No.	% Total
A/C Bombing by Radar	1	100	4	100	4	100	3	100	12	100
Identified IP*	1	100	4	100	3	100	3	100	11	100
Identified Target at Effective Range	1	100	4	100	4	100	2	67	11	92
Bombed on Briefed Track*	1	100	3	75	2	67	3	100	9	82
Effective Length of Bomb Run	1	100	4	100	4	100	2	67	11	92
Radar Drops Using Probable Correct Drift*	1	100	3	75	2	67	2	67	8	73
Computed Drift and Ground Speed by Radar	0	-	1	25	3	75	3	100	7	58
Used Sector Scan on Bomb Run	1	100	2	50	3	75	0	-	6	50
Used Azimuth Stabilization on Bomb Run	1	100	2	50	3	75	3	100	9	75

* Represents percent of total aircraft bombing primary target by radar.

II - RADAR TABLES (Continued)

Mission No. 3

7-8 July 1944

Table 5 - Radar Serviceability

	40th		444th		462nd		468th		Total	
	No.	% to Total	No.	% to Total	No.	% to Total	No.	% to Total	No.	% to Total
APQ - 13 Operating at Take-off*	1	100	5	100	5	100	5	100	16	100
APQ - 13 Permitting Bombing over Target	1	100	4	80	5	100	3	60	13	81
APQ - 13 Failure in Flight Repaired by Operator	0	-	0	-	0	-	1	20	1	6
Average Length of APQ - 13 Operation (Hours)	12		10		8½		10		10	

* Two aircraft airborne did not report condition of APQ - 13 at take-off.

SASEBO AREA

AAF TARGET CHART JAPAN NO. 752 - SPECIAL EDITION

U. S. RESTRICTED
Equals British RESTRICTED

AIRCRAFT NO 223

5 ⊕ INDICATES LOCATION & DIRECTION OF FLIGHT WHEN PICTURE NO 5 WAS TAKEN.

SEA OF OMURA

OMURA BAY

THE ONLY TARGET APPEARING UPON THIS SIDE OF THIS CHART IS TARGET NO. 752, ON WHICH THE CHART IS CENTERED. OTHER PRINCIPAL TARGETS WITHIN A FOUR MILE RADIUS ARE SHOWN ON THE LARGE SCALE CHART ON THE REVERSE SIDE AND MAY BE PLOTTED HEREON, AS DESIRED, BY MAKING REFERENCE TO DETAIL OR DISTANCE AND BEARING FROM THE SAME CENTER TARGET AS SHOWN ON THE REVERSE SIDE.

TARGETS AND OBJECTIVE AREAS ARE NUMBERED FROM ONE TO INFINITY WITHIN EACH COUNTRY. THESE NUMBERS ARE COMBINED INTO CODE SHOWING THE COUNTRY, OBJECTIVE AREA, AND TARGET. FOR EXAMPLE, 81.1-5 INDICATES BRITISH PACIFIC ISLANDS (81), BORNEO NORTH AREA (1), AND TARGET 5, BRITISH PACIFIC ISLANDS SERIES. TARGET NUMBERS BEAR NO RELATION TO LOCATION WITHIN COUNTRY OR TO IMPORTANCE OF TARGETS.

DASHED OUTLINE IN BLACK INDICATES AREA COVERED BY RECOGNITION CHART ON THE REVERSE SIDE.

COMPASS ROSE INDICATES MAGNETIC BEARING TOWARD THE TARGET.

THIS CHART IS PREPARED FOR USE IN DAYLIGHT, UNDER WHITE, ULTRA-VIOLET, RED, AND AMBER LIGHT.

SUPPLEMENTING THIS CHART IS A SET OF PERSPECTIVES CONSTRUCTED ON THE FOLLOWING HEADINGS: 70°, 130°, 210°, 280°, 350°.

LEGEND

- Primary Highways
- Secondary Highways
- Single Track Railroad
- Double Track Railroad
- Electric Railroad
- Power Lines

Elevations in Feet

20' Center Target Elevation
2709' Highest Known Elevation

Polyconic Projection — Scale 1:125,000

OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE WASHINGTON, D. C.

4-53

JANUARY 1944 REVISED, CORRECTED

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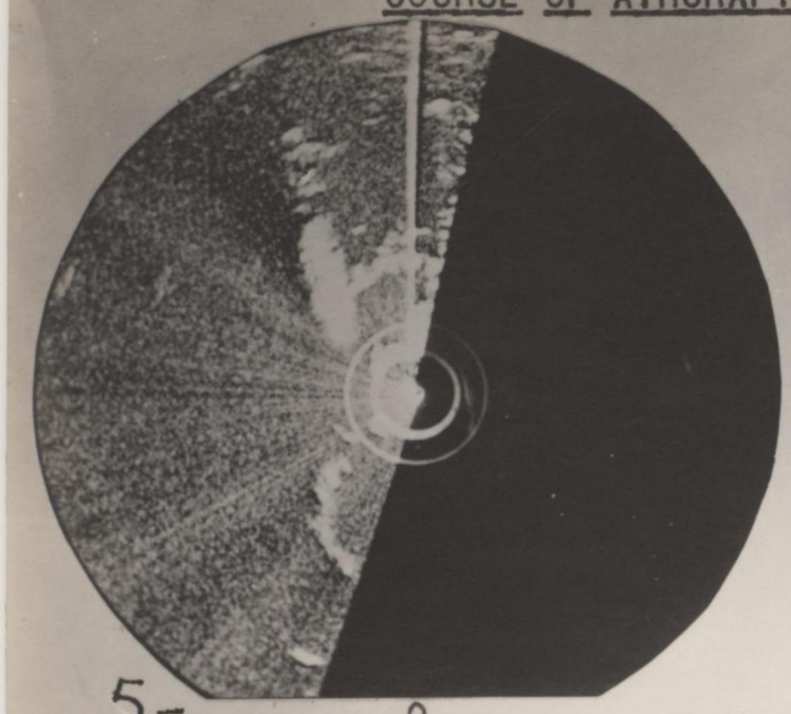
U. S. RESTRICTED
Equals British RESTRICTED

COMPILED FOR THE U. S. ARMY AIR FORCES BY THE U. S. COAST AND GEODETIC SURVEY, WASHINGTON, D. C.

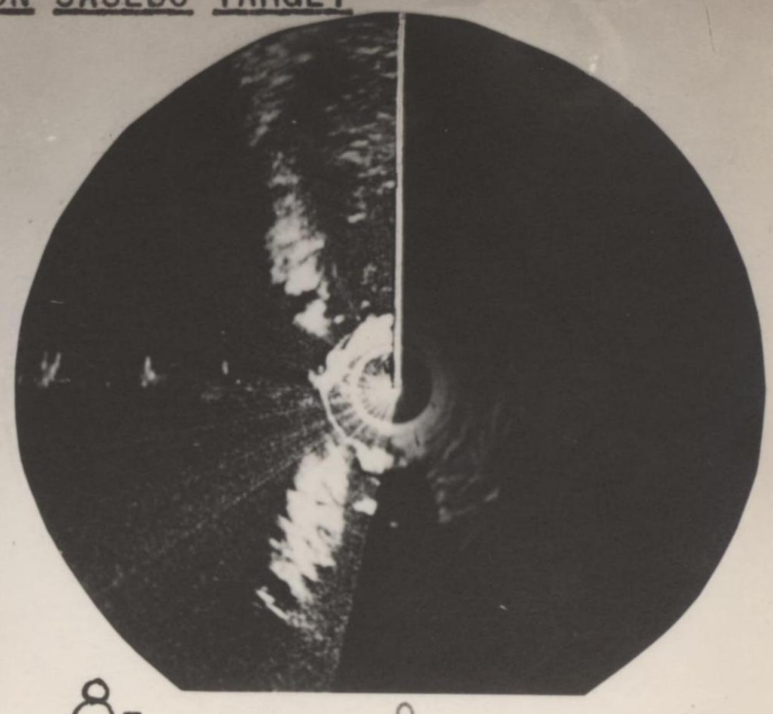
AAF TC JAPAN NO. 752

SECRET

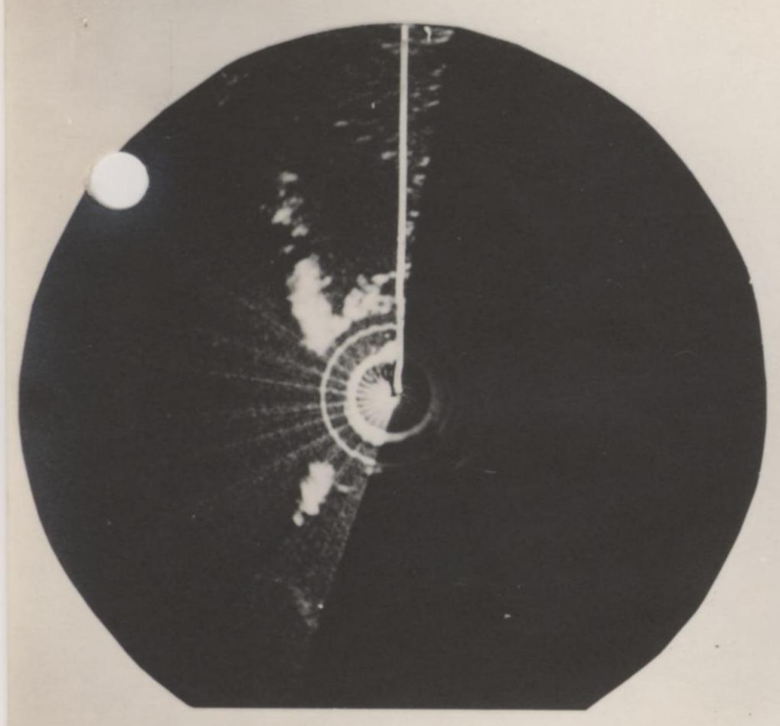
COURSE OF AIRCRAFT NO. 223 ON SASEBO TARGET



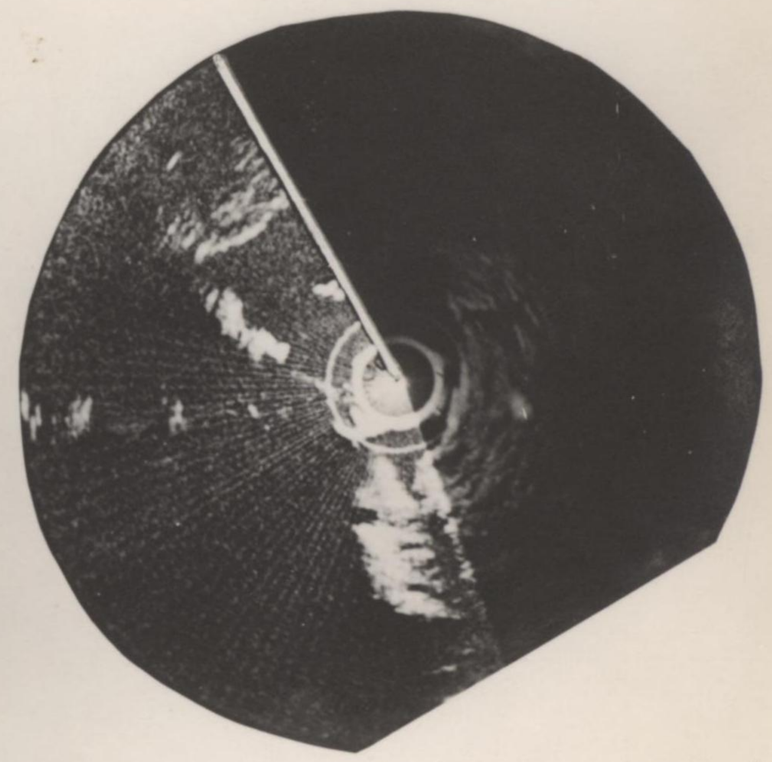
5- HEADING 0°. SWEEP 20 MILES NOTE CLOUD OVER MUTA ISLAND.



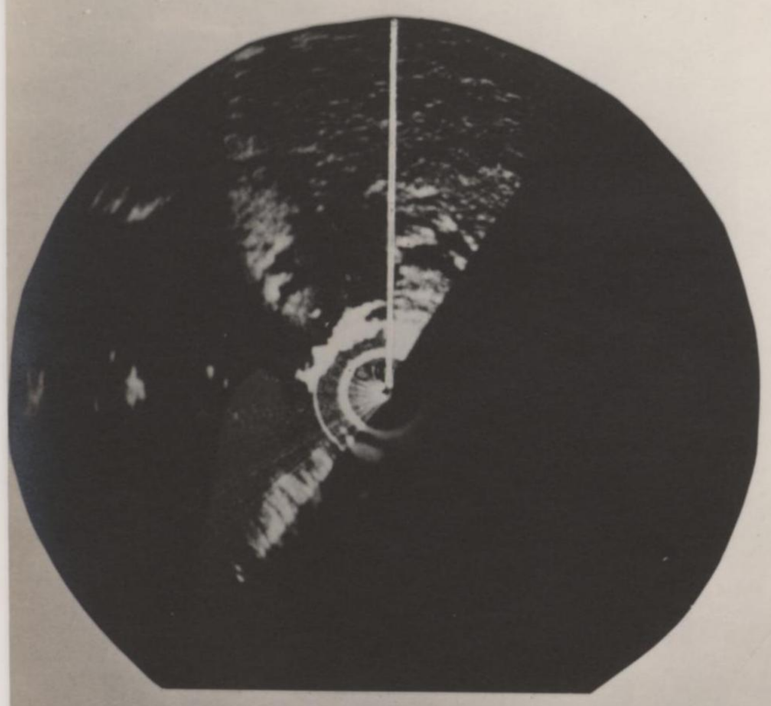
8- HEADING 0°. SWEEP 20 MILES. MAINLAND STILL AT 12 O'CLOCK.



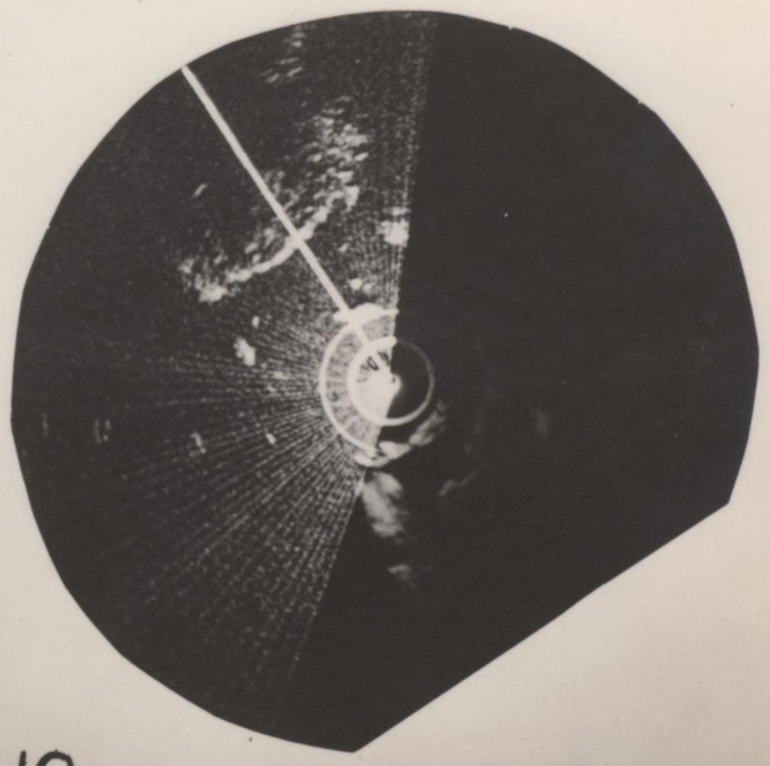
6- HEADING 0°. SWEEP 20 MILES. FURTHER ALONG COURSE.



9- SWEEP 20 MILES. LOWER MAINLAND BETWEEN 3 AND 6 O'CLOCK. LONG SWEEP OF COAST ON HIRADO ISLAND BEGINS TO APPEAR AT 11 O'CLOCK.



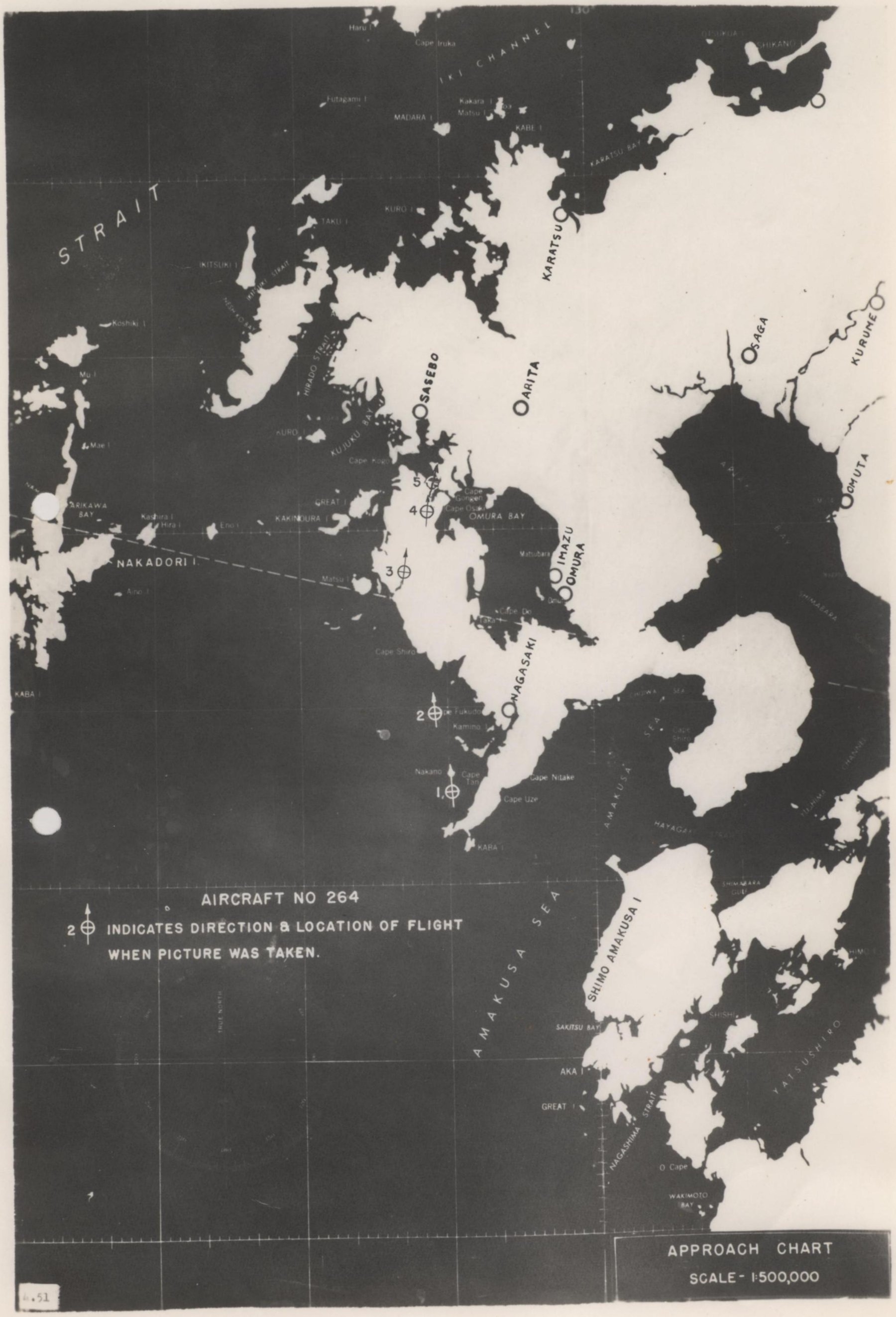
7- HEADING 0°. SWEEP 20 MILES MAINLAND OFF AT 12 O'CLOCK. NOTE SASEBO BAY RANGE 8 MILES AT 1 O'CLOCK



10- SWEEP 20 MILES. LONG SWEEP OF COAST ON HIRADO ISLAND APPEARS BETWEEN 11 AND 12 O'CLOCK.

SECRET

SECRET



AIRCRAFT NO 264

2 ⊕ INDICATES DIRECTION & LOCATION OF FLIGHT WHEN PICTURE WAS TAKEN.

APPROACH CHART

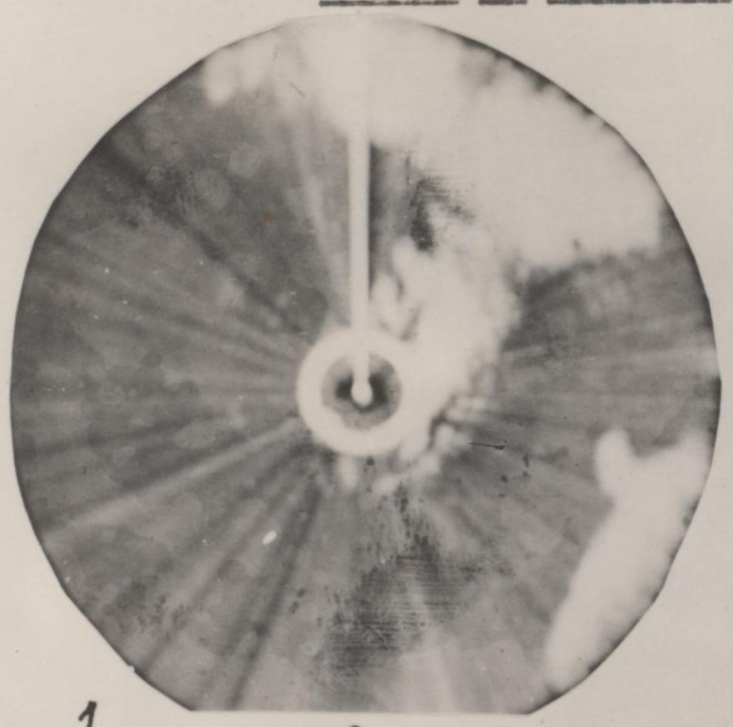
SCALE - 1:500,000

4.51

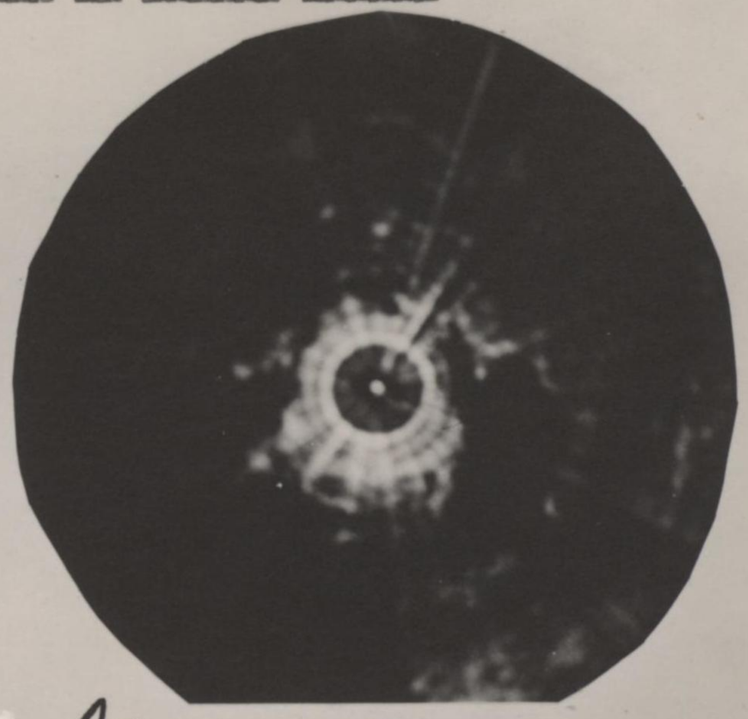
SECRET

SECRET

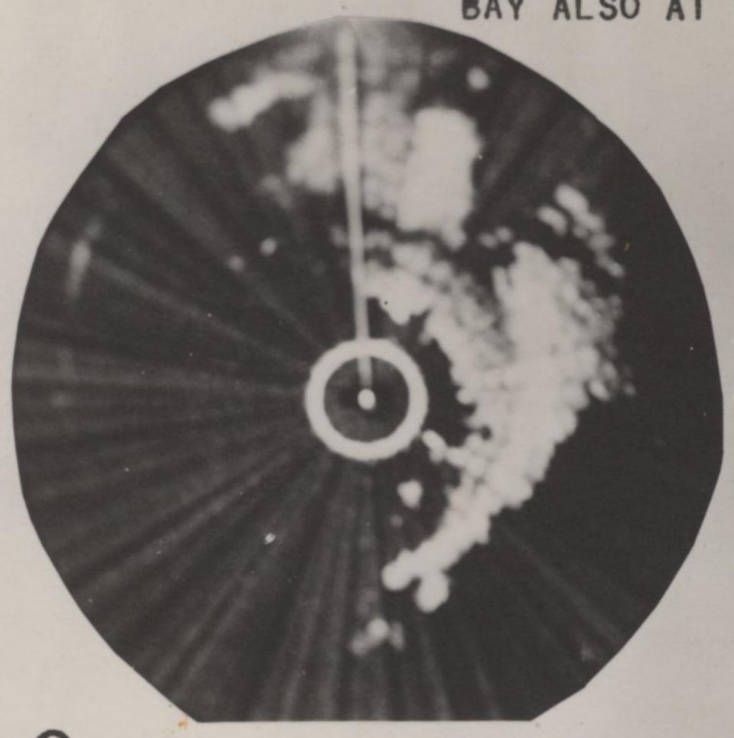
COURSE OF AIRCRAFT NO. 264 ON SASEBO TARGET



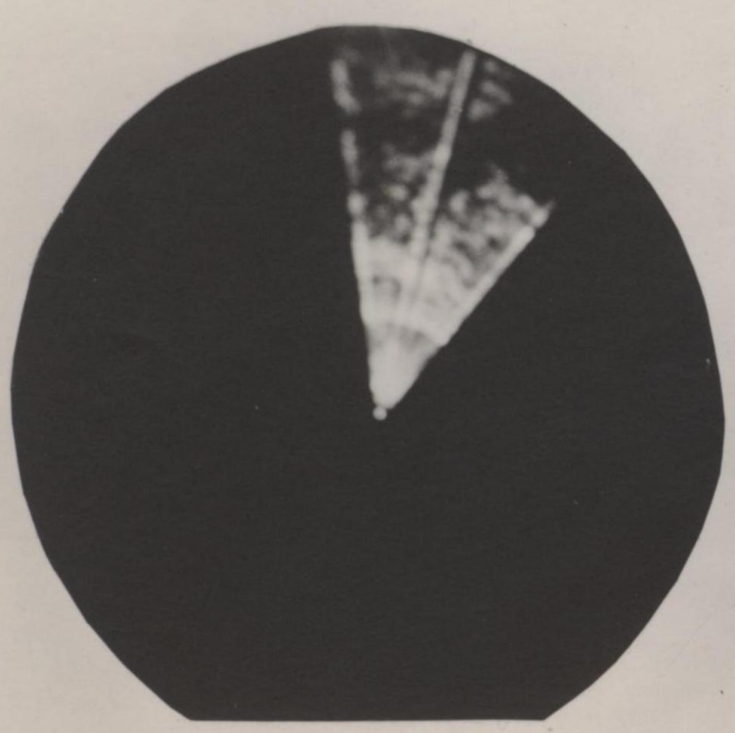
1- HEADING 0°. SWEEP 20 MILES CAPE ON SHIMO AMAKUSA ISLAND VISIBLE AT 4 O'CLOCK



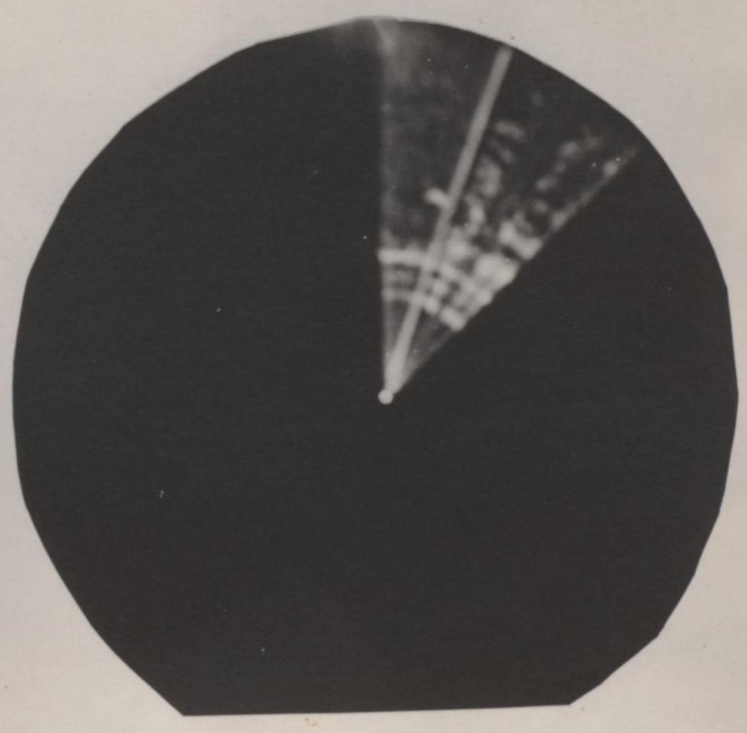
4- HEADING 15° SWEEP 20 MILES. OMURA BAY NOW APPEARS AT 3 O'CLOCK AND TARGET SASEBO BRIGHT BLIP AT 12 O'CLOCK. NOTE SASEBO BAY ALSO AT 12 O'CLOCK



2- HEADING 355°. SWEEP 20 MILES. KABA ISLAND AND CAPE (IP) VISIBLE AT 6 O'CLOCK



3- HEADING 7°. SWEEP 10 MILES. STRAIT INTO OMURA BAY APPEARS AT 12 O'CLOCK WHILE OMURA BAY IS NOTED AT 2 O'CLOCK



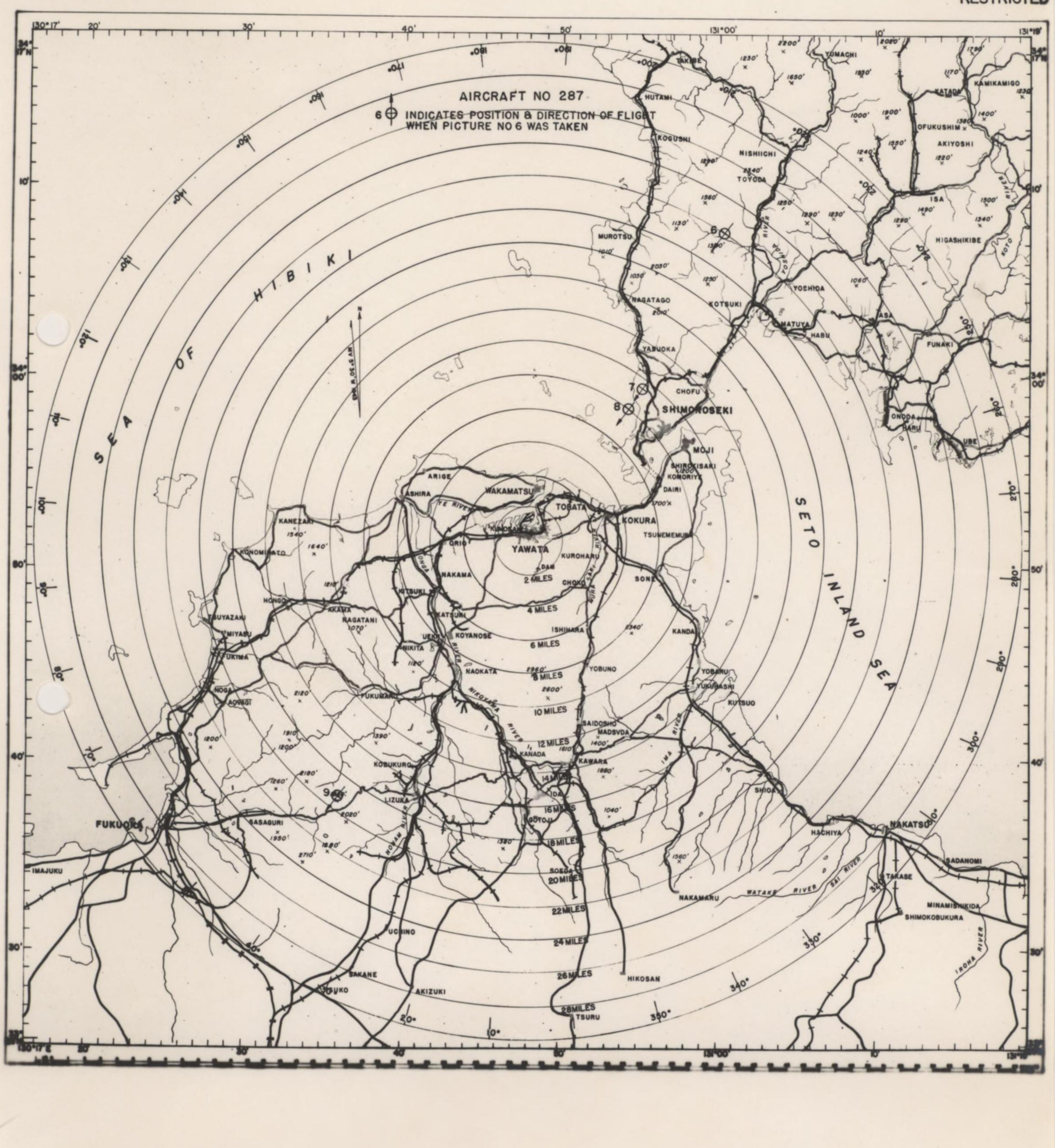
5- HEADING 15°. SWEEP 10 MILES. BRIGHT BLIP JUST OFF HEADING LINE IS PROBABLY SASEBO NAVAL AIR STATION

SECRET

TARGET SECTION, A-2
XX BOMBER COMMAND

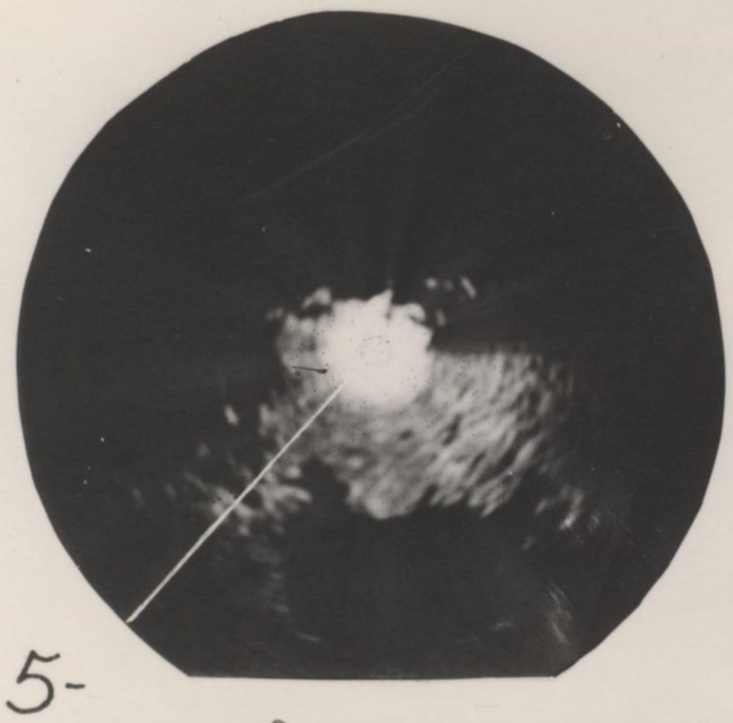
YAWATA AREA

TARGET CHART NO. 7
RESTRICTED



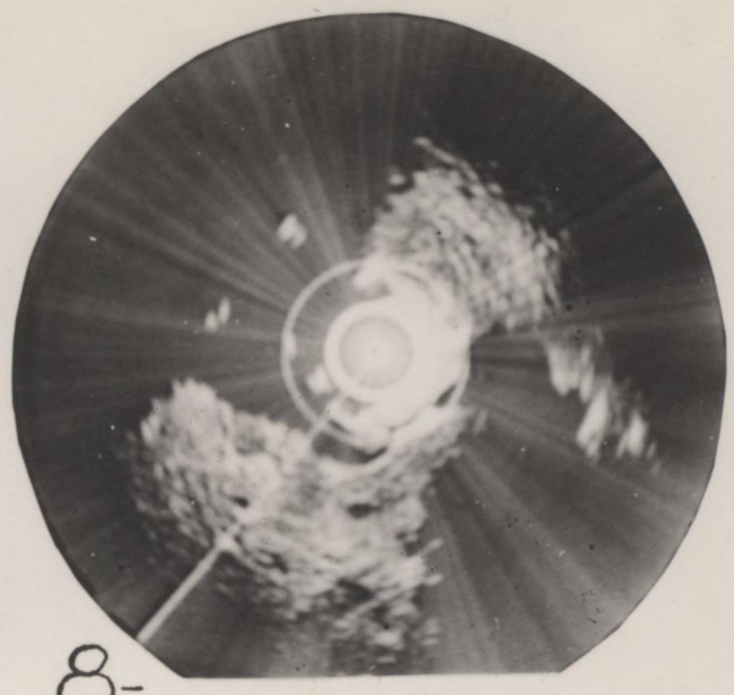
SECRET

COURSE OF AIRCRAFT NO. 287 ON TOBATA TARGET



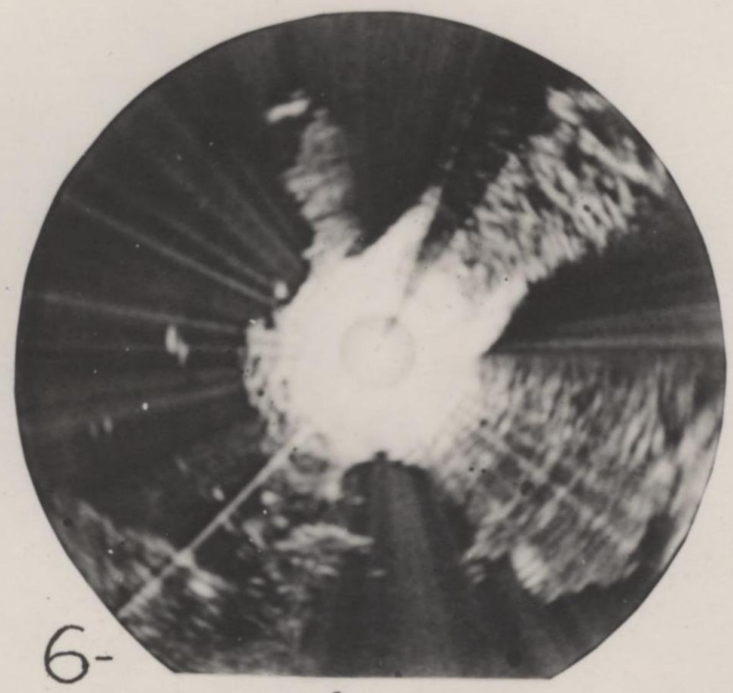
5-

HEADING 217°. SWEEP 50 MILES. SETO INLAND SEA VISIBLE AT 6 O'CLOCK. NOTE: A/C LOCATION JUST OFF UPPER MAP AREA.



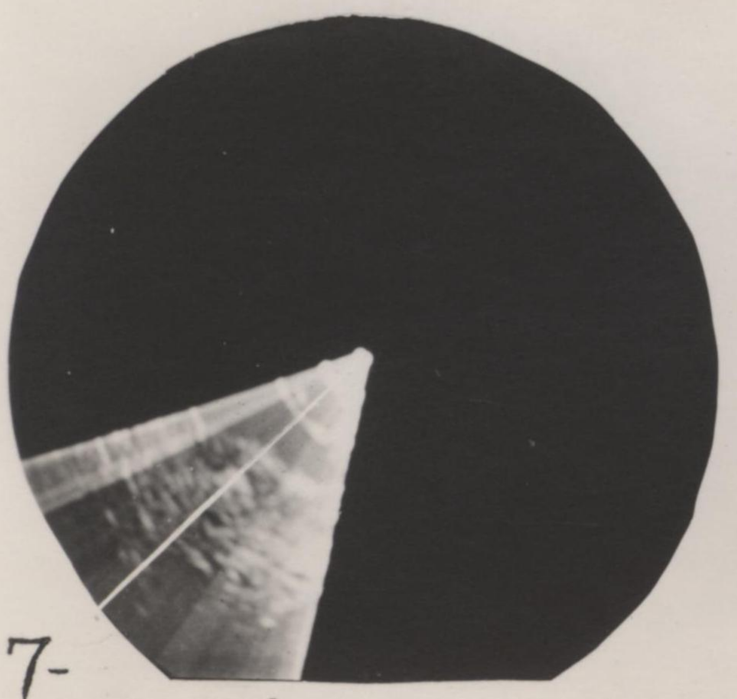
8-

HEADING 217°. SWEEP 20 MILES SHIMONSEKI STRAIT BETWEEN TWO MAIN ISLANDS CLEARLY VISIBLE AT 5 O'CLOCK. TOBATA TARGET STILL VISIBLE ON HEADING LINE.



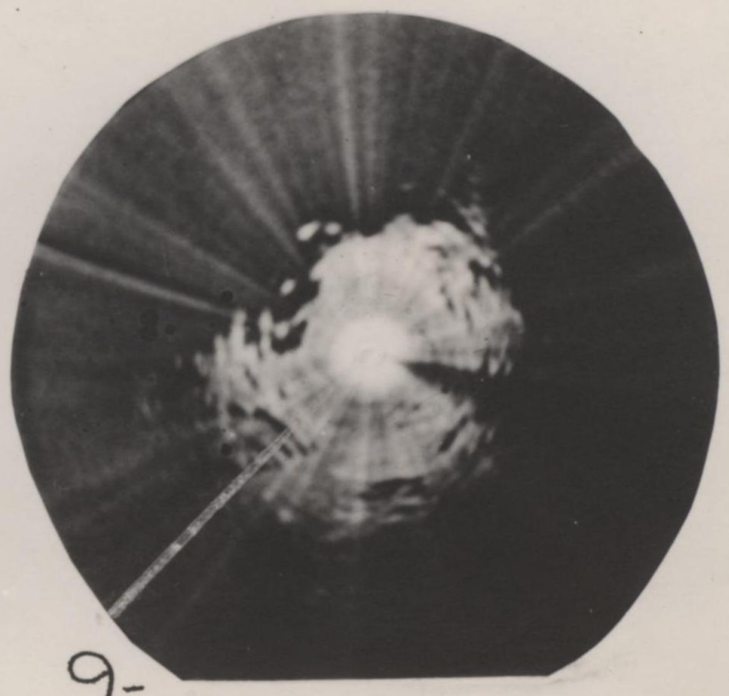
6-

HEADING 217°. SWEEP 20 MILES ISLANDS IN SEA OF HIBIKI CLEARLY SHOW BETWEEN 8 AND 11 O'CLOCK.



7-

HEADING 217°. SWEEP 20 MILES. TOBATA AND YAWATA TARGETS APPEAR AT 7 O'CLOCK.



9-

HEADING 217°. SWEEP 50 MILES. OVER MAINLAND, SEA OF HIBIKI VISIBLE OFF 10 O'CLOCK.

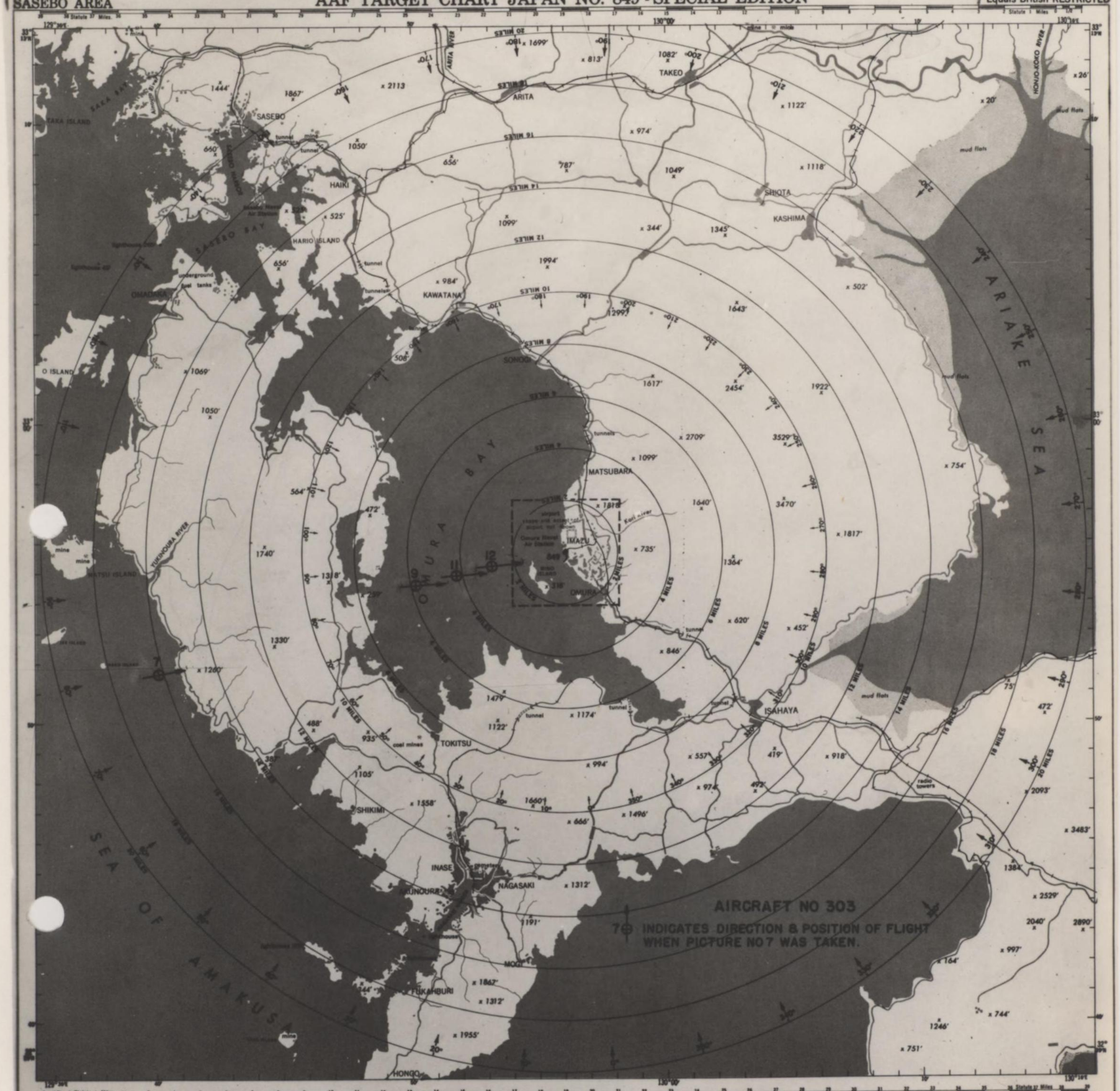
4.64

SECRET

SASEBO AREA

AAF TARGET CHART JAPAN NO. 849 - SPECIAL EDITION

U. S. RESTRICTED
Equals British RESTRICTED



THE ONLY TARGET APPEARING UPON THIS SIDE OF THIS CHART IS TARGET NO. 849, ON WHICH THE CHART IS CENTERED. OTHER PRINCIPAL TARGETS WITHIN A FOUR MILE RADIUS ARE SHOWN ON THE LARGE SCALE CHART ON THE REVERSE SIDE AND MAY BE PLOTTED HEREON, AS DESIRED, BY MAKING REFERENCE TO DETAIL OR DISTANCE AND BEARING FROM THE SAME CENTER TARGET AS SHOWN ON THE REVERSE SIDE.

TARGETS AND OBJECTIVE AREAS ARE NUMBERED FROM ONE TO INFINITY WITHIN EACH COUNTRY. THESE NUMBERS ARE COMBINED INTO CODE SHOWING THE COUNTRY, OBJECTIVE AREA, AND TARGET. FOR EXAMPLE, 81.1-5 INDICATES BRITISH PACIFIC ISLANDS (81), BORNED NORTH AREA (1), AND TARGET 5, BRITISH PACIFIC ISLANDS SERIES. TARGET NUMBERS BEAR NO RELATION TO LOCATION WITHIN COUNTRY OR TO IMPORTANCE OF TARGETS.

DASHED OUTLINE IN BLACK INDICATES AREA COVERED BY RECOGNITION CHART ON THE REVERSE SIDE.

COMPASS ROSE INDICATES MAGNETIC BEARING TOWARD THE TARGET.

THIS CHART IS PREPARED FOR USE IN DAYLIGHT, UNDER WHITE, ULTRA-VIOLET, RED, AND AMBER LIGHT.

SUPPLEMENTING THIS CHART IS A SET OF PERSPECTIVES CONSTRUCTED ON THE FOLLOWING HEADINGS: 20°, 60°, 140°, 190°, 320°

4-52

AAF No. 303

LEGEND

- Primary Highways
- Secondary Highways
- Single Track Railroad
- Double Track Railroad
- Electric Railroad
- Power Lines

Elevations in Feet

20' Center Target Elevation
3529' Highest Known Elevation

Polyconic Projection — Scale 1:180,000

OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE WASHINGTON, D. C.

FEBRUARY 1944 (SPECIAL EDITION)

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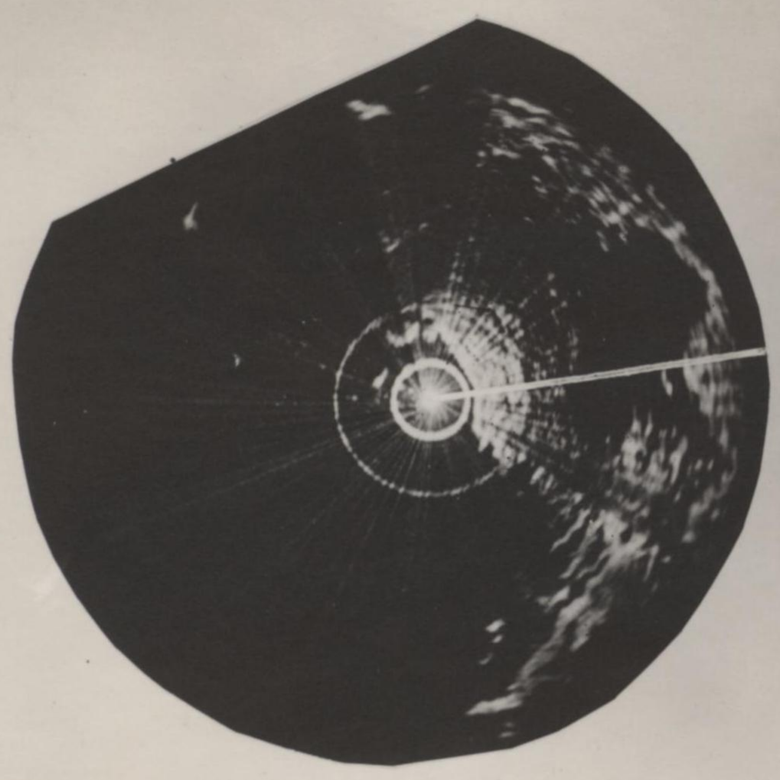
COMPILED FOR THE U.S. ARMY AIR FORCES BY THE U.S. COAST AND GEODETIC SURVEY, WASHINGTON, D. C.

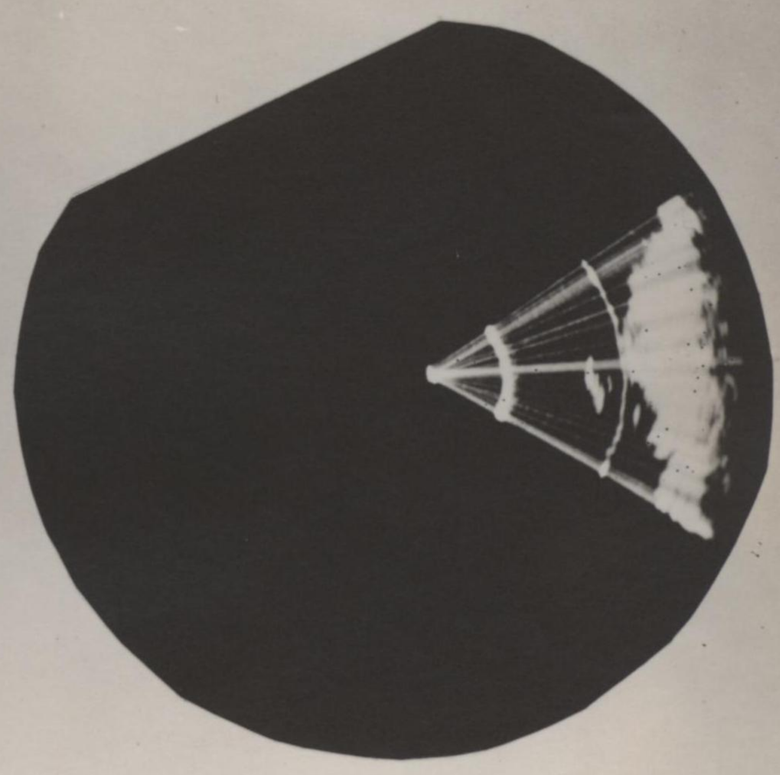
AAF TC JAPAN NO. 90.36-849

SECRET

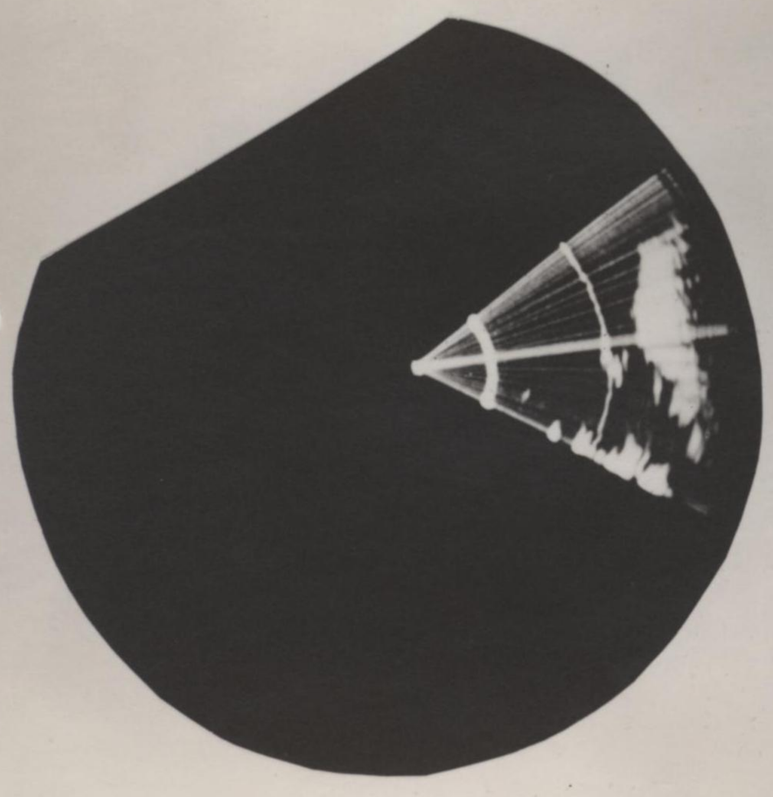
COURSE OF AIRCRAFT NO. 303 ON OMURA TARGET



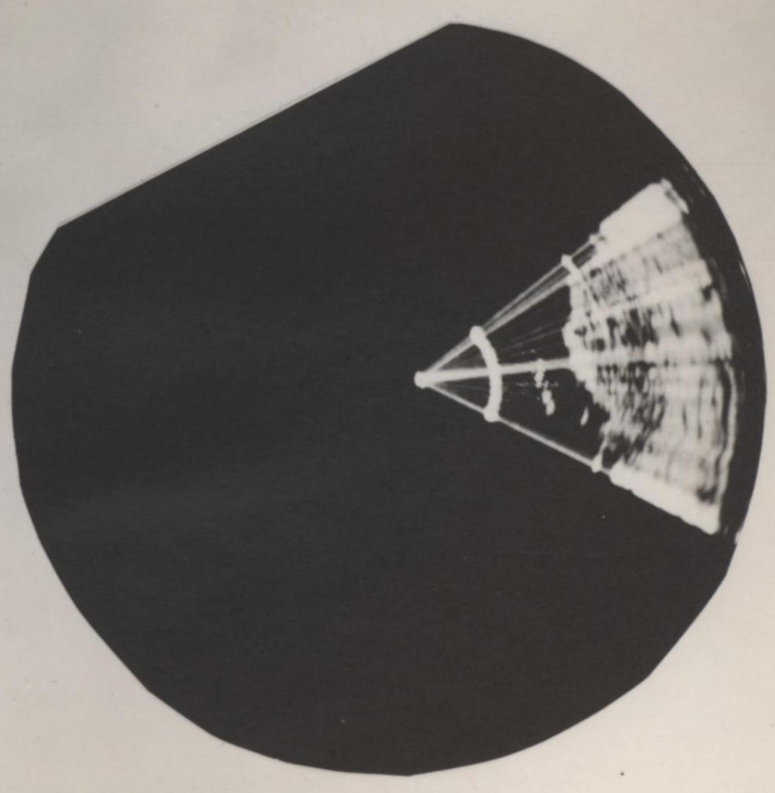
7- HEADING 83°. SWEEP 20 MILES. LOCATION JUST OFF MAINLAND. OMURA BAY IDENTIFIABLE AROUND 3 O'CLOCK



11- HEADING 83°. SWEEP 10 MILES. FIRST PHOTO FLOOD, BOMBS AWAY. NOTE: GAIN TOO HIGH.



9- HEADING 83°. SWEEP 10 MILES. MINO ISLAND VISIBLE AT 3 O'CLOCK ON BOMB RELEASE CIRCLE.



12- HEADING 83°. SWEEP 10 MILES. JUST BEFORE RELEASE OF GP BOMBS.

SECRET

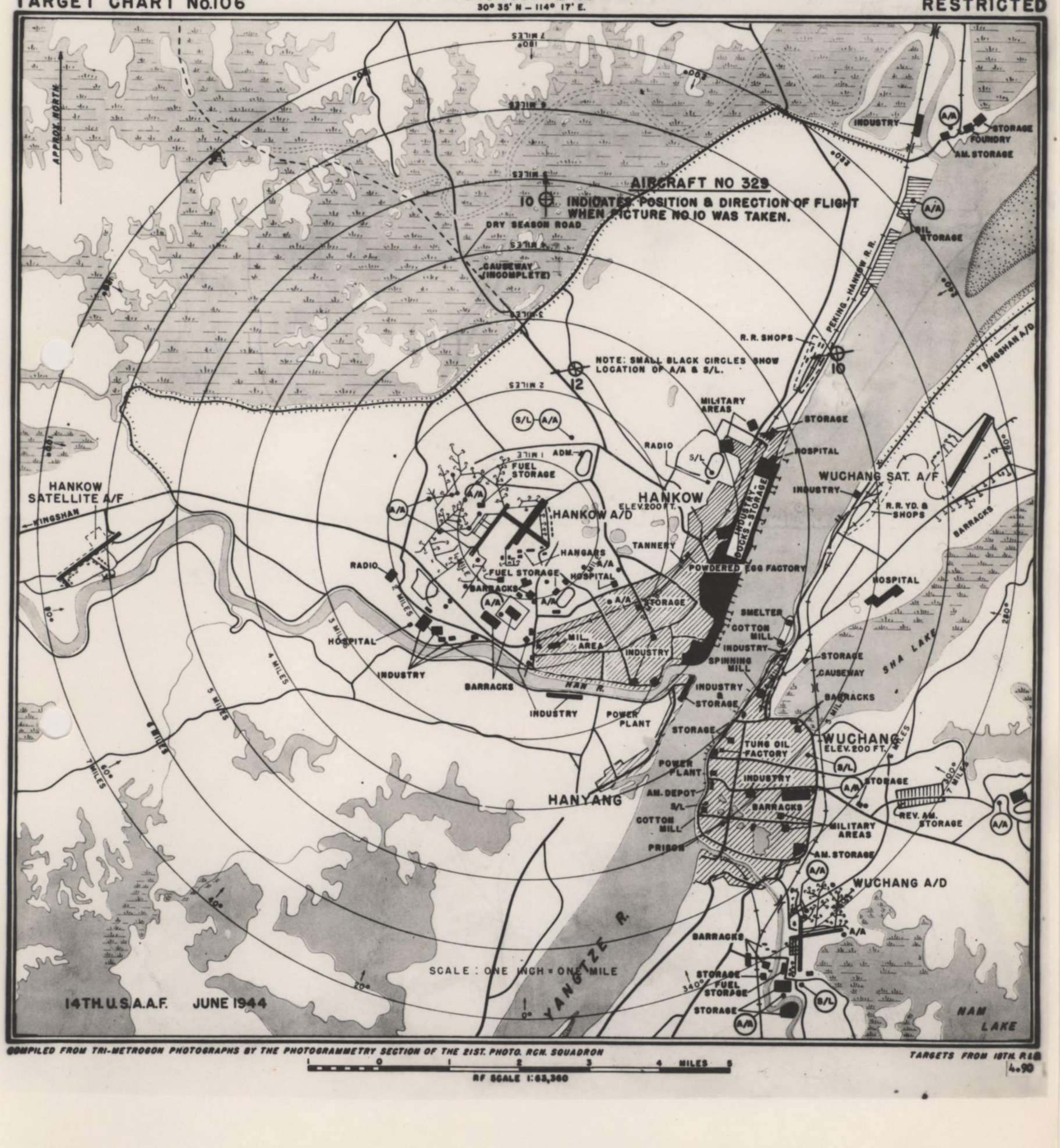
SECRET

HANKOW

30° 35' N – 114° 17' E.

TARGET CHART No.106

RESTRICTED



COMPILED FROM TRI-METROGON PHOTOGRAPHS BY THE PHOTOGRAMMETRY SECTION OF THE 21ST. PHOTO. RCN. SQUADRON

0 1 2 3 4 MILES 5

RF SCALE 1:63,360

TARGETS FROM 18TH. R&S

4-90

SECRET

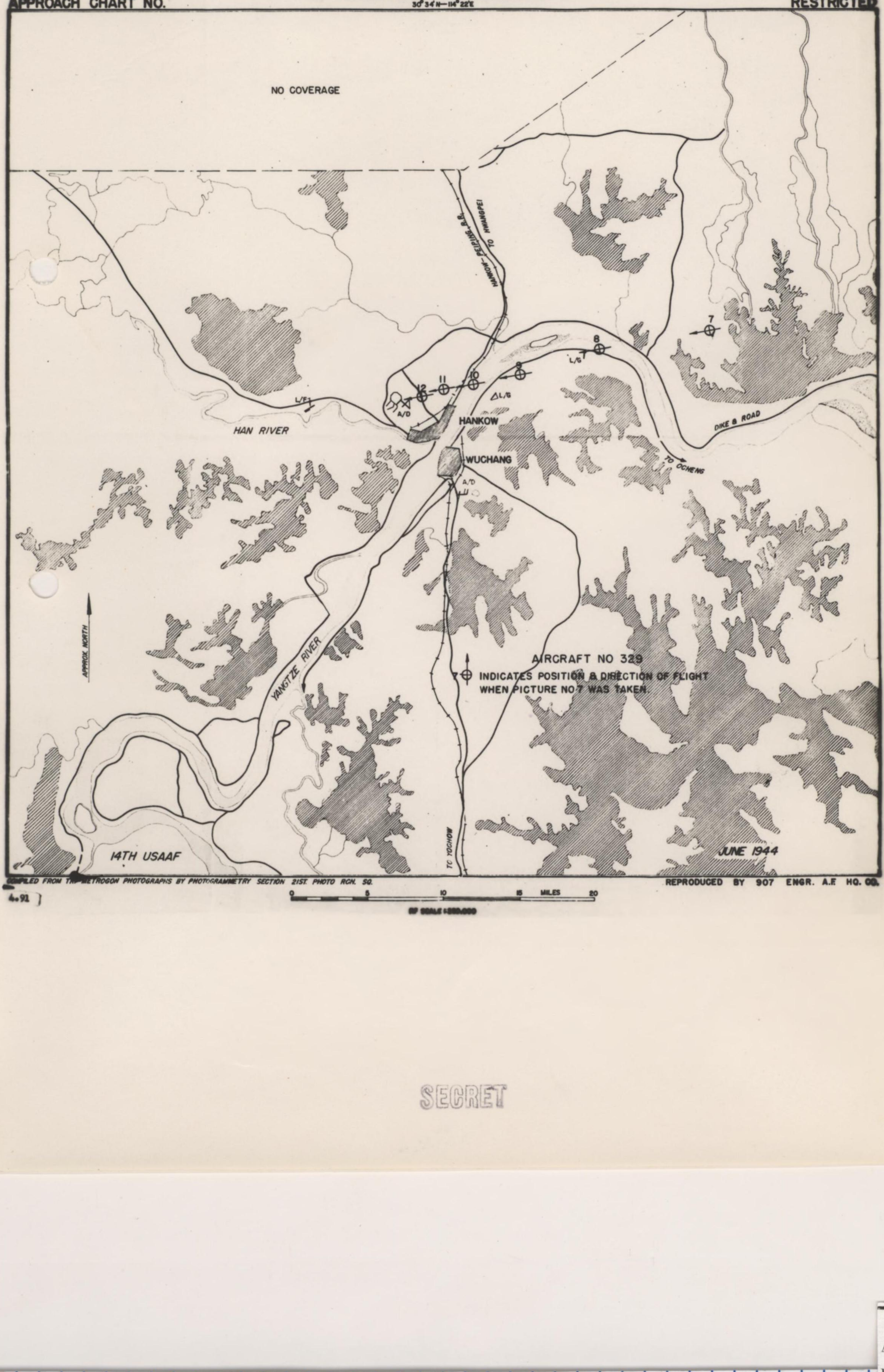
SECRET

HANKOW—WUCHANG

30° 34' N—114° 22' E

APPROACH CHART NO.

RESTRICTED



COMPILED FROM THE METROGON PHOTOGRAPHS BY PHOTOGRAMMETRY SECTION 21ST. PHOTO RCN. SQ.

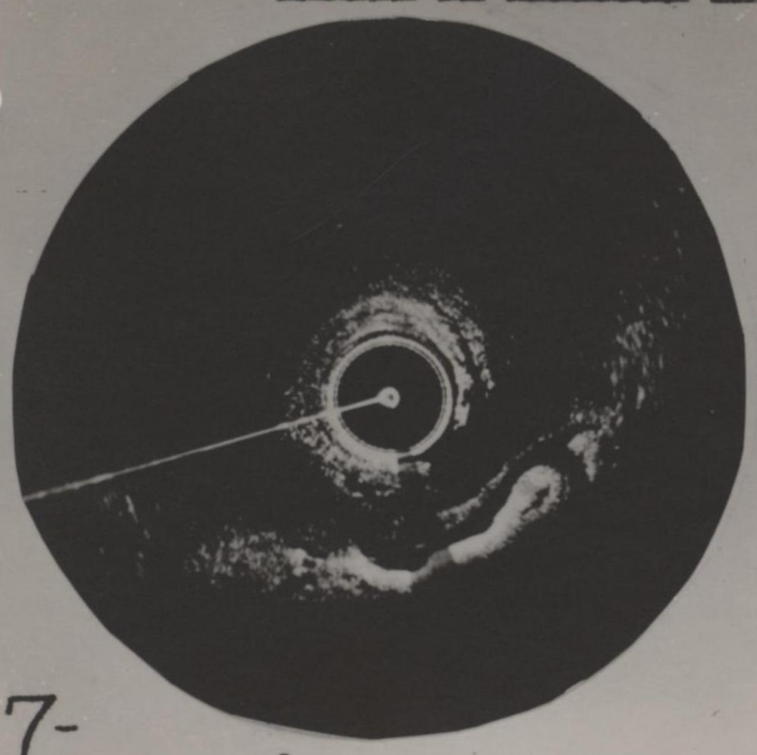
REPRODUCED BY 907 ENGR. A.F. HQ. CO.

4-91

0 5 10 15 MILES 20

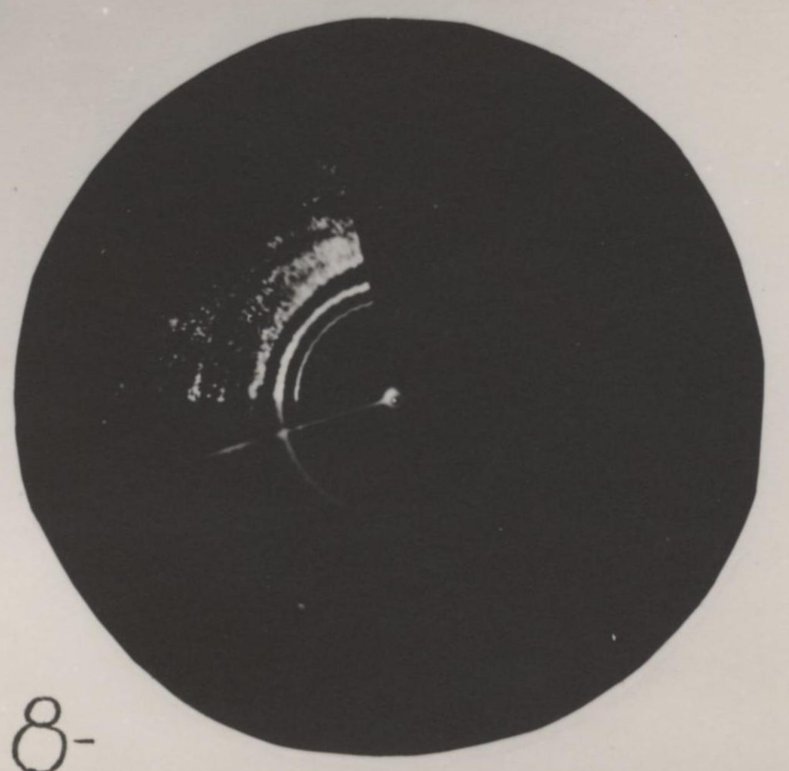
SECRET

COURSE OF AIRCRAFT NO. 329 ON HANKOW TARGET

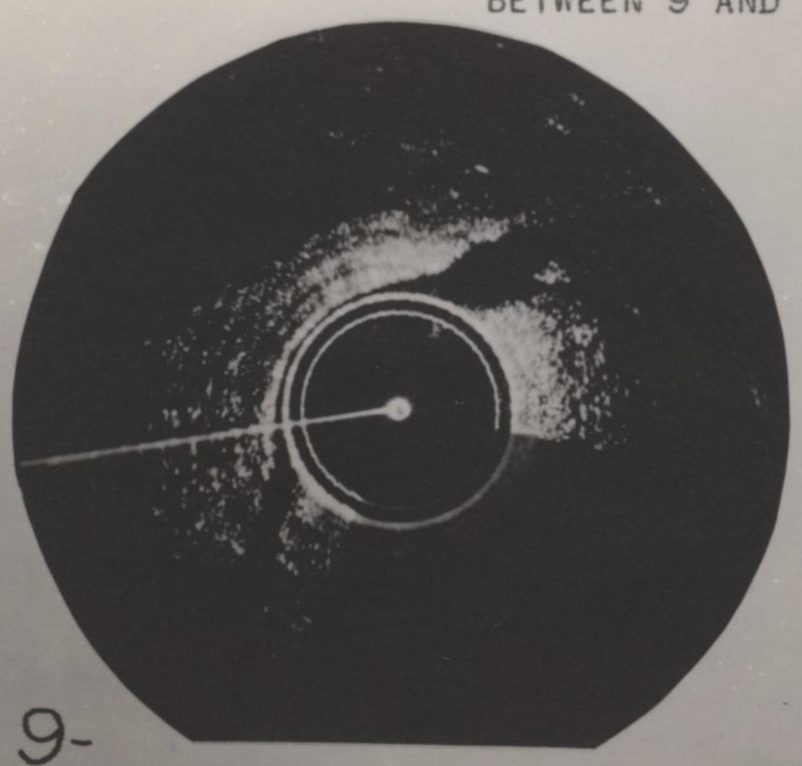


7-
HEADING 260°. SWEEP 20 MILES.
YANGTZE RIVER VISIBLE BETWEEN
4 AND 6 O'CLOCK

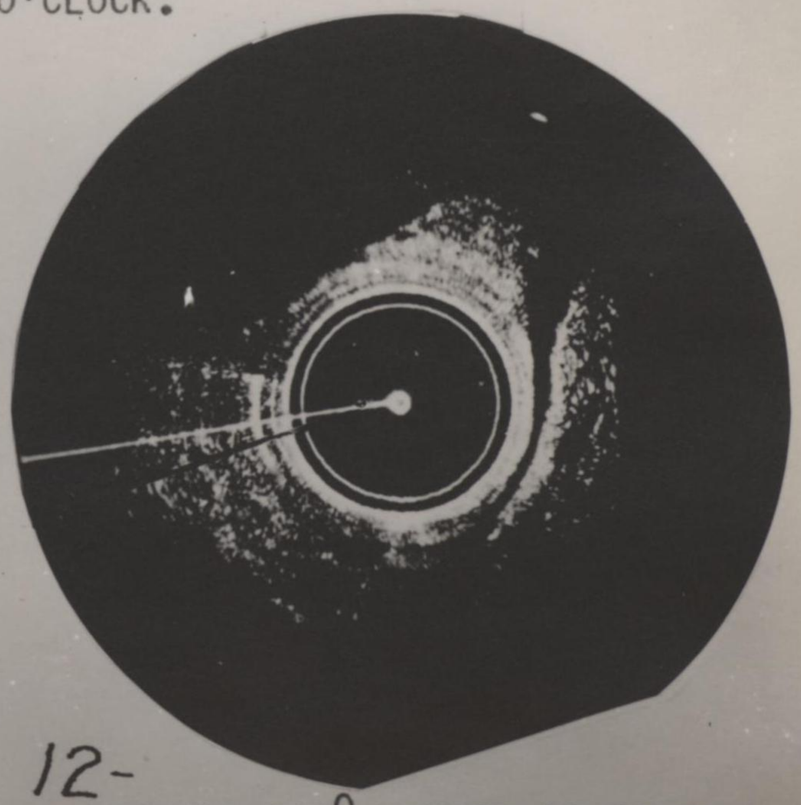
10-
HEADING 260°. SWEEP 10 MILES.
MARSHLAND CLEARLY IDENTIFIABLE
NOW AT 10 O'CLOCK.



8-
HEADING 260°. SWEEP 10 MILES.
YANGTZE RIVER NOW APPEARS
BETWEEN 9 AND 12 O'CLOCK.



9-
HEADING 260°. SWEEP 10 MILES.
YANGTZE RIVER VISIBLE AGAIN AT
1 AND 7 O'CLOCK. MARSHLAND AREA
BEGINS TO APPEAR AT 10 O'CLOCK.

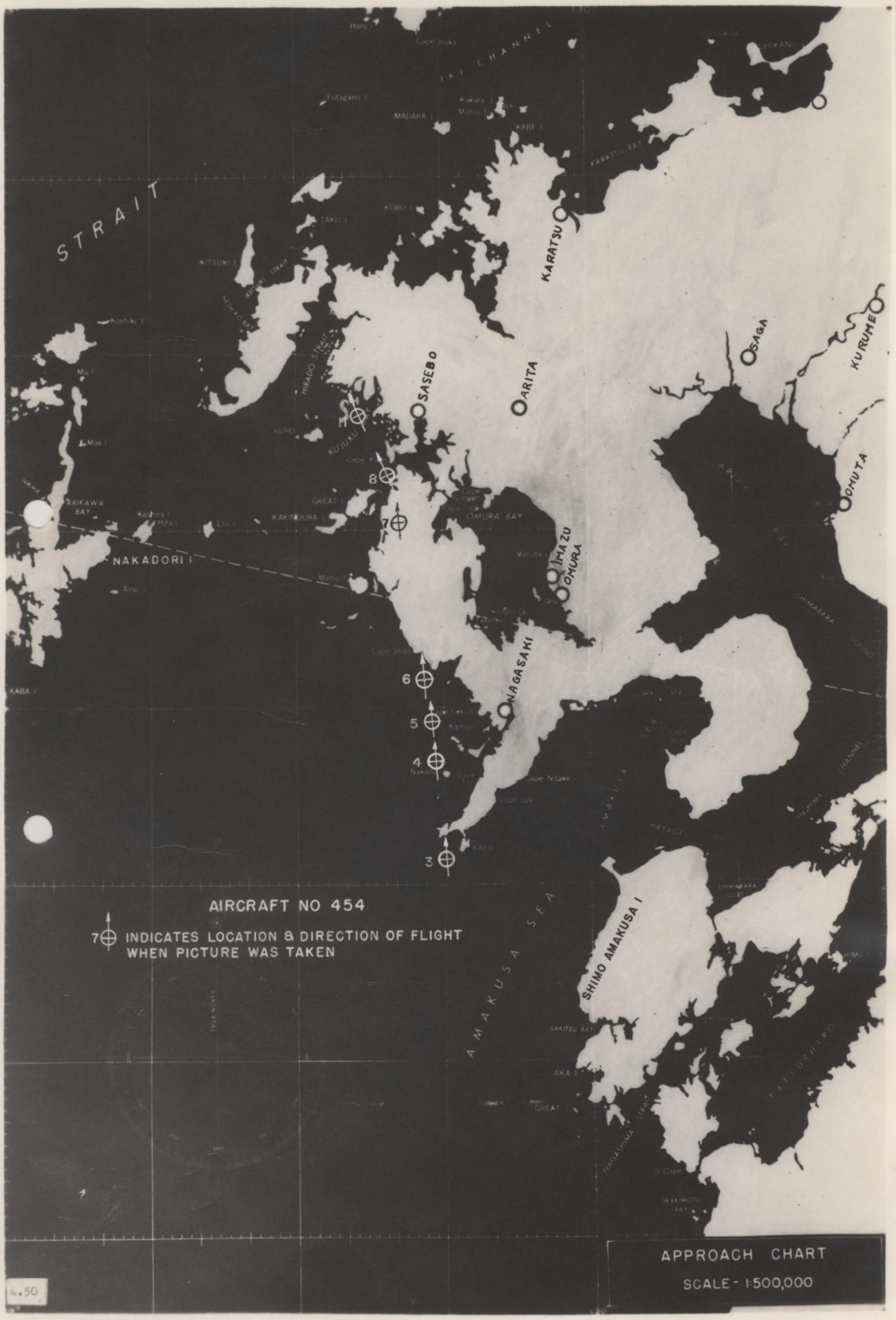


12-
HEADING 260°. SWEEP 10 MILES.
MARSHLAND APPEARS AT 11 O'CLOCK
AND YANGTZE RIVER BETWEEN 2 AND
5 O'CLOCK.

4.89

SECRET

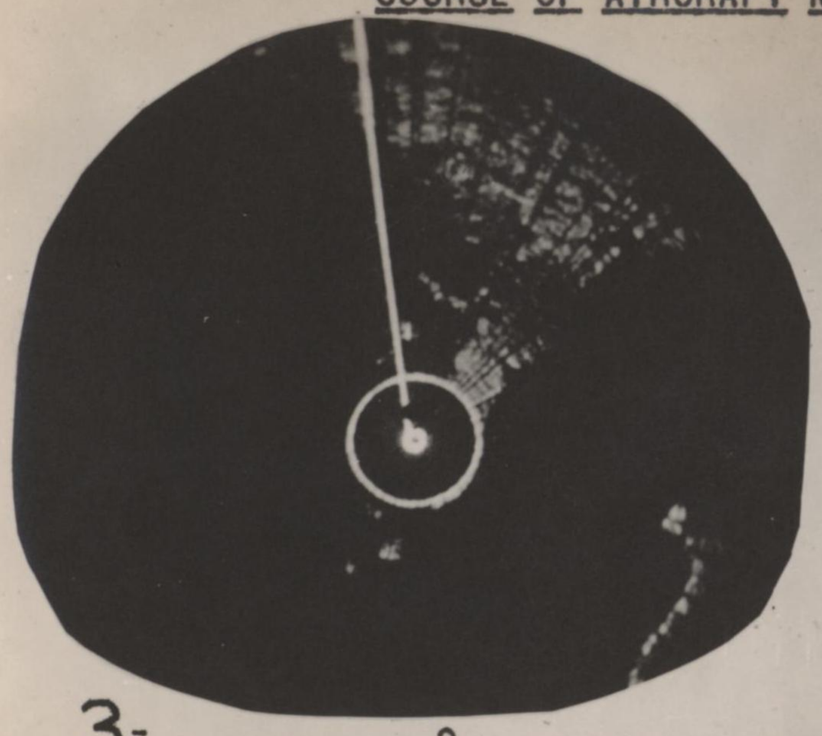
SECRET



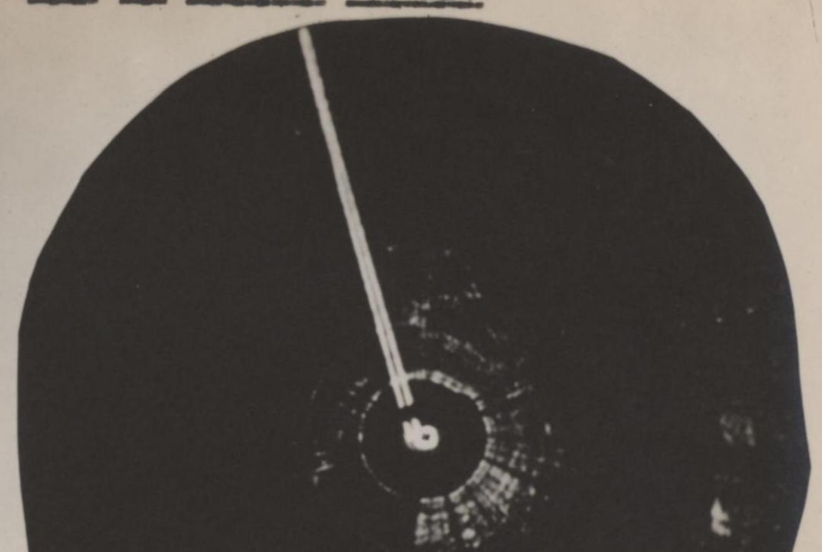
SECRET

SECRET

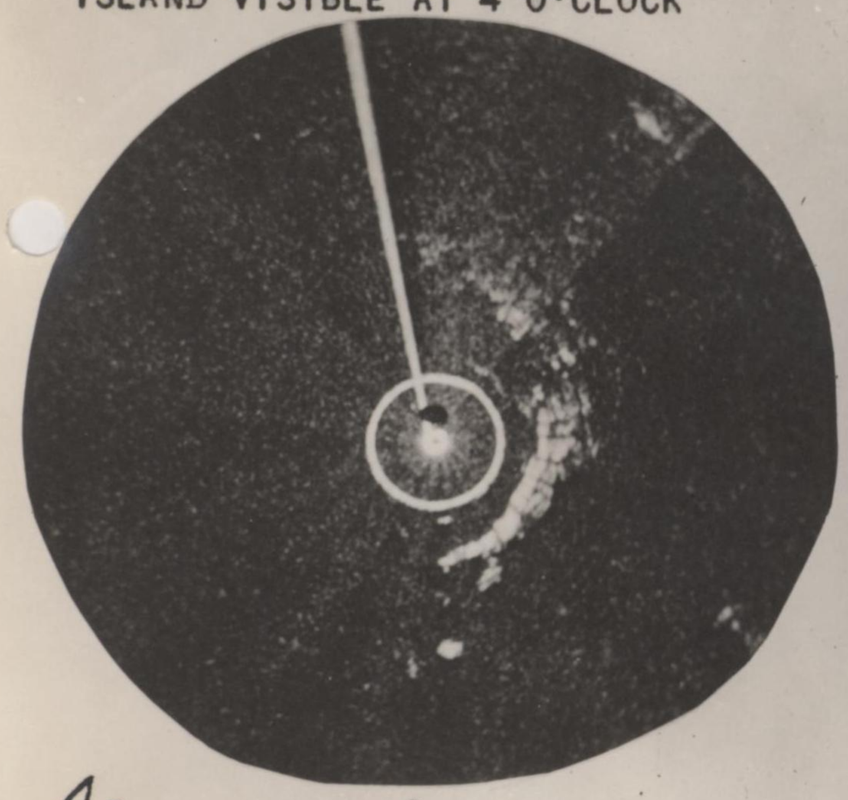
COURSE OF AIRCRAFT NO. 454 ON SASEBO TARGET



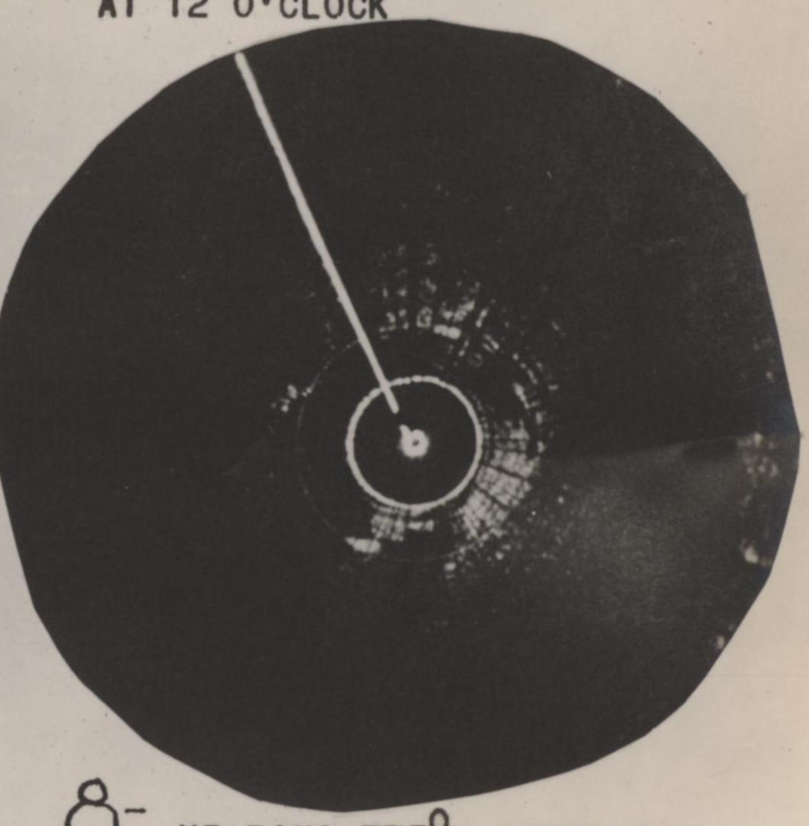
3- HEADING 356°. SWEEP 20 MILES. CAPE ON SHIMO AMAKUSA ISLAND VISIBLE AT 4 O'CLOCK



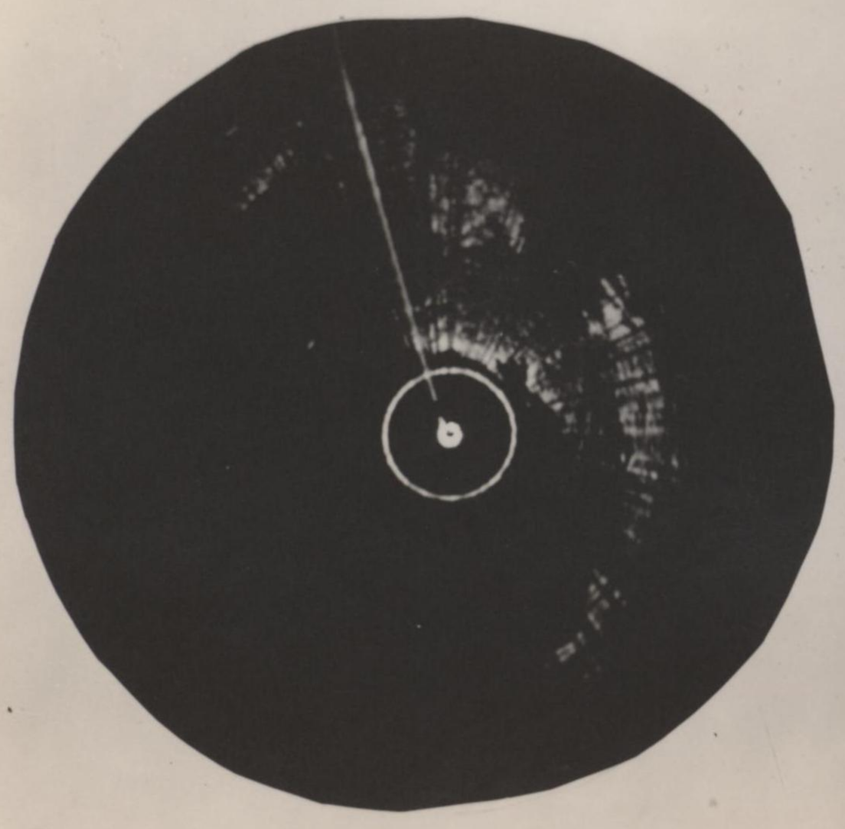
7- HEADING 350°. SWEEP 20 MILES. SASEBO BAY VISIBLE AT 12 O'CLOCK



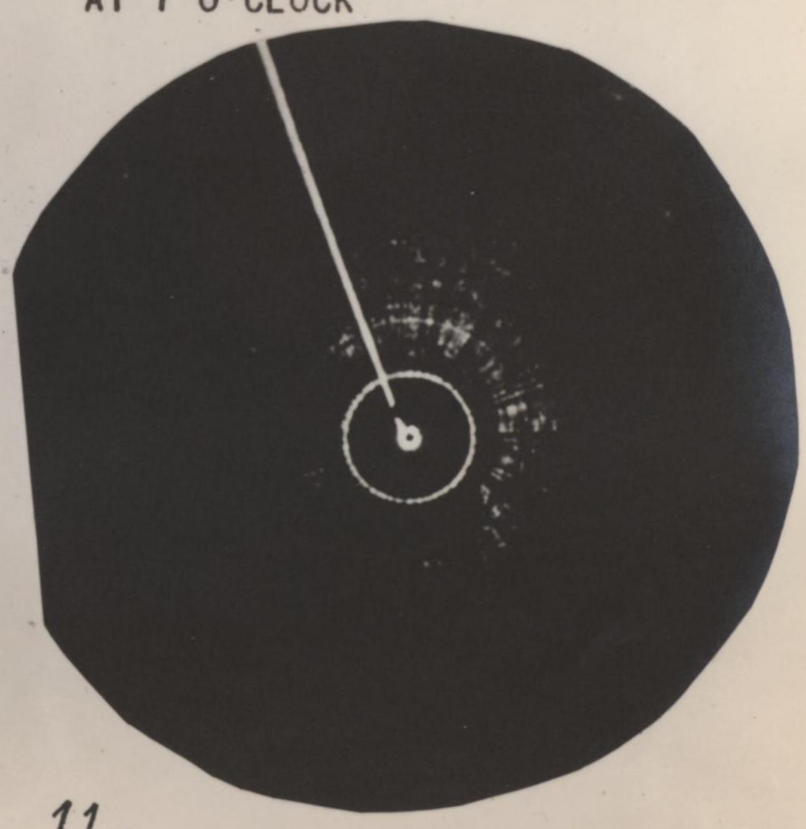
4- HEADING 356°. SWEEP 20 MILES. KABA ISLAND AND CAPE (IP) VISIBLE AT 6 O'CLOCK



8- HEADING 335°. SWEEP 20 MILES. SASEBO BAY NOW APPEARS AT 3 O'CLOCK. GREAT AND KAKINOURA ISLANDS ARE VISIBLE AT 7 O'CLOCK



6- HEADING 356°. SWEEP 20 MILES. CAPE DO AND CAPE OSAKI EXTENDING INTO OMURA BAY APPEARS BETWEEN 2 AND 3 O'CLOCK



11- HEADING 335°. SWEEP 20 MILES. SASEBO BAY VISIBLE AT 4 O'CLOCK

SECRET

III - RCM INFORMATION

Mission No. 3

7-8 July 1944

A. General

1. As in past combat missions, RCM participation was confined to searching for Japanese radar signals enroute to and at the target areas. No offensive action was taken.

2. Search was made principally in two ranges: (a) in the 27.5 to 70 megacycles range from take-off to 124°E, and (b) in the 140 to 220 megacycles range from 124°E to targets and on return from targets to 116°E.

3. Direction-finding antennas, now being placed on aircraft of this Command, had not been installed at the time the mission was run. Therefore pin-pointing of enemy radar stations was not possible.

4. Six aircraft participating in the mission were equipped with search receivers.

B. Frequencies Intercepted

1. 27.5 - 70 Megacycles Band: Only scattered interceptions were made in this band. No conclusions are possible.

2. 72 - 82 Megacycles Band: As in the previous mission against Yawata, interceptions in this band were in predominance. Signals were first intercepted in China at 31° 40'N -- 115° 50'E and were logged to the target areas. The signals were principally at 75, 76, and 77 megacycles at 500 Pulse Recurrence Frequency and 10-40 microseconds pulse length.

3. 93 - 102 Megacycles Band: Signals in this range were picked up near Japan, predominantly at 94, 95, 98, and 100 megacycles at 700 - 1000, 1500, and 2200 PRF, and 10 - 40 microseconds pulse length.

4. 143 - 154 Megacycles Band: A few signals were intercepted in this band by three observers in the region north of Shanghai. The frequencies centered around 145 and 151 megacycles at 500 and 1000 PRF and from 5 to 40 microseconds pulse length.

5. 175 - 210 Megacycles Band:

   a. No signals were intercepted at 175 megacycles.

   b. One signal was intercepted at 185 megacycles at 1800 PRF and a pulse length of 8.5 microseconds.

   c. A number of interceptions were made at 195, 198 and 200 megacycles at 1100 PRF and pulse lengths of 3 to 10 microseconds. These interceptions were made principally at the targets, over water 125 miles from the target, and over water 125 miles from the China Coast.

6. One aircraft, on its way to the secondary target (Laoyao) after turning back as a result of engine trouble, logged a signal at 205 megacycles, 1200 PRF, and 10 microseconds pulse length. The RCM Observer

made the following comments in his log, "At 34° 00'N -- 122° 30'E, this signal came in suddenly and very strong. At 34° 20'N -- 121° 41'E, the same signal, but weaker. At 34° 30'N -- 120° 50'E, the signal went off." The logging was made while over the Yellow Sea with the aircraft heading for land. It is believed that the signal at 205 megacycles may have originated from a naval craft.

C. Summary of Interceptions Made

Frequencies	Pulse Recurrence Frequency	Pulse Lengths
70.1 - 74.7	500	8, 10, 30*, 40 - 50*
75	500, 1000*, 1600*	12*, 25-30*, 40, 40-80*
76	500, 2000*	6*, 8*, 12*, 30*, 52*, 60*
77 - 80	500	12*, 20-25, 37.5*, 45*, 80*
81.2 - 82.5	500 - 1100	50*, 60
93 - 97	700, 840, 900, 2250	10, 16, 20, 25, 40
100 - 102.5	740, 900, 1550*, 2200*	25-40, 50*, 60*
135*	550*, 1100*	60*
145, 146.5	500*, 1000*	15*, 50*
149, 158	500	2*, 5, 22.5*
185*	1800*	8.5*
195-201	1100, 2000, 3900*	3, 10, 40*, 60*

* Indicates information received by only one RCM Observer.

D. Equipment Malfunctions Reported

1. AN/ARR-5: Video output inherently poor. Noise to signal ratio high. Pulse width determination difficult and inaccurate.

2. AN/APR-4: TU-58B--gear drive became bound and could not be tuned manually or automatically. Spare unit was put into service.

3. AN/APA-6: Near end of flight, APA-6 heated up excessively and did not trigger well. Continuously operated for 10 hours.

4. Jackson Oscillator: Over target, short circuit developed in high-voltage secondary winding of power transformer. One oscillator was also inoperative as a result of a faulty connection in the power connector.

E. Conclusions

1. The Japanese Early Warning System was in operation along the route flown.

2. Antiaircraft fire was generally meager and inaccurate: gun-laying radar, if available to the enemy, was not effective.

3. Searchlights were generally ineffective. One B-29, for example, reported that over Nanking on return "six searchlights were turned on late and failed to intercept our aircraft."

4. Fighter interception was weak and ineffective. GCI and AI, if available, were not put to effective use.

F. RCM Activity Map

Each dot on the following map represents one signal interception from one enemy radar station. These dots are placed at the point of interception by the RCM Observers.

ANNEX

G

CENTRAL STATION FIRE CONTROL

G

CENTRAL STATION FIRE CONTROL

Mission No. 3

7-8 July 1944

A. Comments on System

1. Failure of enemy fighter aircraft to press home attacks against the B-29 in this as well as previous missions has not permitted a satisfactory test of the CFC System under the pressure of battle conditions. Functional tests continue to indicate that the System is potentially satisfactory.

2. To date enemy fighters have shown a reluctance to fire while in range possibly as a result of underestimating the speed of the B-29 with the resulting inability to get into firing position. Out of ten passes made by fighter aircraft during the mission, only three bona-fide attacks developed. B-29's reported three attempts to return fire. One was unsuccessful because of a CFC gunner's failure to throw the proper switch. One firing effort failed because of a malfunction. The third resulted in a claim of damage to an enemy aircraft.

3. Reports indicate that eight gun malfunctions occurred during test and defensive firing. Three of these were cleared in the air. Of three turret malfunctions, two were cleared before reaching enemy territory.

4. Experience to date has shown the necessity for having gunnery personnel prepared to clear stoppages in flight. As a result, gunnery training has been intensified, and it is reasonable to believe that the number of uncleared malfunctions will decrease in future missions.

ANNEX

H

CAMERAS AND PHOTOGRAPHS

I - K - 19 Night Cameras

II - C - 3 Cameras (Radar)

H

CAMERAS AND PHOTOGRAPHS

Mission No. 3

7-8 July 1944

I - K-19 Night Cameras

Cameras	40th	444th	462nd	468th	Total
Installed	5	6	6	5	22
In aborting aircraft	4	1	0	0	5
Malfunctions	0	0	3	3	6*
Taking photographs	1	5	2	2	10
In operating condition not taking photos	0	0	1	0	1

* Photo-electric cell trouble caused by dampness.

II - C-3 Cameras (Radar)

Cameras	40th	444th	462nd	468th	Total
Installed	4	4	5	4	17
In aborting aircraft	3	0	1	0	4
Malfunctions	0	0	0	0	0
Taking photographs	1	4	4	4	13

ANNEX

I

FUNCTIONING OF EQUIPMENT

I - Details of Abortives

II - Summary of Abortives

III - Malfunctioning of Equipment - by Type

IV - Fuel Consumption Data

I - DETAILS OF ABORTIVES

Mission No. 3

7-8 July 1944

1. A/C dispatched to Forward Area. 29

2. Less A/C failing to take-off 1

3. A/C airborne to Forward Area. 28

4. Less A/C returning to bases. 2

   a. A/C 6297 (40th) - Engine failure.
   b. A/C 6348 (40th) - Engine failure.

5. Less A/C whose movement to Forward Area was not completed 2

   a. A/C 6237 (40th) - Forced landing at Lalminir Hat.
   b. A/C 6315 (444th) - Forced landing at Jorhat: Numbers 1 and 2 engines ran away; bombs and bomb bay tanks jettisoned.

6. A/C landing in Forward Area 24

7. Less A/C not scheduled for mission 3

8. A/C dispatched on mission 21

9. Less A/C failing to take-off 3

   a. A/C 6290 (40th) - Excessive RPM drop.
   b. A/C 6308 (40th) - Low power and engine cutting out.
   c. A/C 6390 (468th)- Excessive oil leak.

10. A/C airborne on mission 18

11. Less A/C failing to bomb primary targets 4

   a. Returning early with bombs - A/C 6351 (40th): exhaust collector ring failure.
   b. Bombing secondary target - A/C 6346 (462nd): engine fire, subsequently extinguished and propeller feathered.
   c. Bombing last resort target:
      (1) A/C 6213 (462nd): Fuel transfer system failure.
      (2) A/C 6329 (462nd): Fuel transfer system failure.

12. A/C bombing primary targets 14

II - SUMMARY OF ABORTIVES

Mission No. 3

7-8 July 1944

A/C dispatched but failing to take-off, both phases	4
Returning to Bases for mechanical reasons, both phases	3
A/C in Forward Area not dispatched	3
Forced landing enroute to Forward Area	2
Mechanical difficulties but bombing last resort target	2
Mechanical difficulties but bombing secondary target	1

III - MALFUNCTIONING OF EQUIPMENT - BY TYPE

Mission No. 3

7-8 July 1944

A. Engineering Failures

Engine failures (feathered)	4
Cylinder head temperature guage malfunctions	4
Tachometer fluctuating or inoperative	4
Oil leaks	3
Exhaust collector ring failures	2
Fuel transfer pump inoperative	2
Generators inoperative	2
Fuel liquidometers out	2
Oil cooler stuck	1
Excessive RPM drop on left magneto	1
Flux gate transmitter	1
Carburetor malfunction	1
Propeller governor stuck	1
Bomb bay fuel shut-off valve stuck open	1
Main diverter voltage low	1

B. Miscellaneous Failures

Siphoning gasoline from bomb bay tanks	4
Radar inoperative	3
Oxygen system leak	1
Liaison radio inoperative	1
Radio compass inoperative	1

IV - FUEL CONSUMPTION DATA*

Mission No. 2

7-8 July 1944.

	40th**	444th	462nd	468th
Average total gallons consumed	-	6348	5995	6203
Average air miles flown	-	3399	3089	3419
Gallons per air mile average	-	1.87	1.94	1.81
Maximum gallons per air mile	-	1.96	1.99	1.85
Minimum gallons per air mile	-	1.78	1.88	1.77

* Based on aircraft bombing primary targets.

** 40th Group not included in average figures, since only one aircraft of this Group bombed its primary target.

ANNEX

J

CONSOLIDATED MISSION STATISTICAL SUMMARY

Prepared by:

STATISTICAL SECTION
XX Bomber Command

J

XX BOMBER COMMAND
Consolidated Mission Statistical Summary
Mission #3 - 7 July 1944

S E C R E T

By Authority of the
Commanding General;
7/29/44 [illegible]
Date Initials

Table I - Aircraft Participating

Group	F.O. No.	Mission No.	Primary Target	A/C Airborne in Rear Area	% Airborne A/C Aborting between Rear & Fwd Area	A/C Scheduled to Take Off Fwd Area	A/C Taking off from Fwd. Area	Airborne A/C Failing to Bomb Designated Target				% of Airborne A/C Failing to Bomb Designated Target	Target Bombed			
								Mech Fail	Pers Fail	Weather	Unknown		Sasebo	Omura	Tobata	Others
40th	3	3	Aircraft Plant Omura, Kyushu	7	42.9	4	2	1	0	0	0	50.0	0	1	0	0
444th	3	3	Naval Dockyards Sasebo, Kyushu	6	17.0	5	5	0	0	0	0	0	5	0	0	0
462nd	3	3	2-Yawata 3-Sasebo 2-Tobata	7	0	6	6	3	0	0	0	50.0	2	0	1	3
468th	3	3	Naval Dockyards Sasebo, Kyushu	8	0	6	5	0	0	0	0	0	5	0	0	0
TOTAL				28	14.3	21	18	4	0	0	0	22.2	12	1	1	3

SECRET

XX BOMBER COMMAND
Consolidated Mission Statistical Summary

Mission #3 - 7 July 1944

SECRET

By Authority of the
Commanding General:
7/24/44 FCH
Date Initials

Table II - Bombing Runs

Group	No. of A/C Bombing	Target Bombed	Time of Release		Altitude of Release		Visual Bombing		Radar Bombing		A/C Dropping On	
			Earliest	Latest	Highest	Lowest	A/C Sighting For R & D	A/C Sighting For Range	A/C Sighting For R & D	A/C Sighting For Range	AFCE	Manual
40th	1	Omura	1658 Z	1658 Z	14,300	14,300			1			1
444th	5	Sasebo	1608 Z	1634 Z	18,000	16,000	1 **		4		5	
462nd	6	1-Laoyao 2-Hankow 1-Tobata 2-Sasebo	1649 Z 1250 Z 1714 Z 1701 Z	1649 Z 1308 Z 1714 Z 1752 Z	8,000 14,600 15,000 17,000	8,000 11,000 15,000 15,000	2 *		1 * 1 2		1 1 2	2
468th	5	Sasebo	1615 Z	1652 Z	19,000	15,000	2 ***		3		5	
TOTAL	17	1-Omura 12-Sasebo 1-Laoyao 2-Hankow 1-Tobata	1250 Z	1752 Z	19,600	8,200	5		12		14	3

* One bombed on combination of visual and radar.
** Bombed on Navigator's ETA and heading.
*** Bombed by dead reckoning.

SECRET

S E C R E T

XX BOMBER COMMAND
Consolidated Mission Statistical Summary

Mission #3 - 7 July 1944

S E C R E T

By Authority of the
Commanding General:
7/29/44 EOH
Date Initials

Table III - Bomb Loading and Disposal

Group	Bomb Loading						Disposal of Bombs								Bombing Accuracy		
	High Explosives			Photo Flash			On Target		Jettisoned		Returned		Unknown		Distance of H.E. from A.P.		
	No. & Wgt of Bombs	Nose	Tail	No. & Wgt. of Bombs	Nose	Tail	H. E.	Photo	H.E.	Photo	H.E.	Photo	H.E.	Photo	0-1000 Ft	1000-2000 Ft	Over 2000
40th	16-500# G.P.	.1	.025	21-M46 51#	*** M-111		8	12			8	9			Results not observed.		
[illegible]	40-500# G.P.	.1	.025	41-M46 51#	*** M-111		40	41							Results not observed.		
462nd	1-500# Incend (M-18) 48-500# G.P.	28.6 .1	.025	54-M46 51#	*** M-111		1 Incen 48	54							Results not observed.		
468th	40-500# G.P.	.1	.025	45-M46 51#	*** M-111		40	45							Results not observed.		
TOTAL	1-500# Incend 144-500# GP			161-M46 51#			1 Incen * 136	** 152			8	9					

* 500# G.P. bombs were dropped on targets in the following numbers: 96 on Sasebo, 16 on Hankow, 8 on Omura, 8 on Laoyao, 8 on Tobata. One 500# Incendiary cluster was dropped on Tobata.
** 51# Photo flash bombs were dropped on targets in the following numbers: 104 on Sasebo, 18 on Hankow, 12 on Omura, 9 on Laoyao and 9 on Tobato.
*** Timing of these fuses varied from 32.5 to 45.9 seconds.

S E C R E T

SECRET

XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY

Mission No. III
7 July 1944

SECRET

By Authority of the
Commanding General:
7/9/44 FDH
Date Initials

TABLE IV - AIRCRAFT LOSSES AND CLAIMS

Group	Aircraft Lost					Aircraft Damaged									Claims Against Enemy		
	Total Lost	Cause of Loss				Total	Primary Cause of Damage				To be repaired by			Not Reparable	Destroyed	Probably Destroyed	Damaged
		Flak	E.A/C	Accident	Unknown		E/A	Flak	Own Guns	Accident	Tact Gp	Sv Gp	Dep Gp				
40th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
462nd	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
468th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1

SECRET

SECRET

XX BOMBER COMMAND
Consolidated Mission Statistical Summary
Mission #3 - 7 July 1944

SECRET

By Authority of the
Commanding General:
7/29/44 FJH
Date Initials

Table V - Encounters with Enemy Aircraft

DIRECTION	ALTITUDE															
	HIGH				LOW				LEVEL				TOTAL			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
1200	1	0	2	0	0	0	0	0	1	0	0	0	2	0	2	0
0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TOTAL	2	0	2	0	0	0	0	0	I	0	0	0	3	0	2	0

SECRET

XX BOMBER COMMAND
CONSOLIDATED MISSION STATISTICAL SUMMARY
Mission No. III

S E C R E T

By Authority of the
Commanding General:
11-9/45 FBA
Date Initials

TABLE VI - PERSONNEL LOSSES

Crew Position	Killed				Missing				Seriously Injured				Slightly Injured				Total Casualties				Total Participating			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Co-Pilot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Navigator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Bombardier	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Flt. Engr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Radar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Radio	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
C.F.C. Spec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Right Gnr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Left Gnr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Tail Gnr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	5
Pos Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	4
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	56	68	59

XX BOMBER COMMAND
Consolidated Mission Statistical Summary

Mission #3 - 7 July 1944

S E C R E T

By Authority of the
Commanding General:
7/9/44 LJK
Date Initials

Table VII - Expenditures of Gasoline and Ammunition

Group	Gasoline Expended Per Plane *										
	Minimum	Maximum	Median	Average Consumption	Aver Burnable Gas Left in Tanks Upon Return	Upper Front	Lower Front	Upper Rear	Lower Rear	.50 Cal Tail	20 MM Tail
40th	7060	7060	7060	7060	204	185	0	80	0	0	0
444th	6079	6400	6180	6293	971	10	10	10	10	15	0
462nd	6175	6270	6200	6218	1046	0	9	9	10	4	0
468th	6030	7250	6190	6412	852	4	4	5	4	5	1
TOTAL	6030	7060	6190	6374	890	15	7	12	7	7	0

* Includes only aircraft that bombed target in Japan proper.

ANNEX

K

FIELD ORDERS

ALL FIELD ORDER material in the following Annex originally classified TOP SECRET is reclassified to SECRET.
By authority C.G. XX Bomber Command

J.D.G. — 7 Aug 1944

Initials — Date

T O P SECRET

Copy # 31

Auth: CG, XX BC
Initials:
Date: 3 July 1944.

NOT TO BE TAKEN INTO THE AIR

XX Bomber Command
APO 493
3 July 1944, 1200

Classification Changed to SECRET 5-2-46 By Authority of C. G. AAF, by Kay St. Baker Kay St. Baker, Capt. A. C.

FIELD ORDER)
:
NUMBER 3)

MAPS: AAF Aeronautical Charts 1:1,000,000 #384, 385, 386, 387, 388, 436, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 553, 554, 555, 556, 557, 558

(or) International Map of the World 1:1,000,000 Osaka, Nagasaki, Kagosima, Nantung, Shanghai, Taihoku, Manking, Hankow, Foochow, Changsha, Kweilin, Chungking, Kunming, Calcutta, Assam, Tali, Bihar, Mandalay, Arakan

AAF Aeronautical Charts 1:500,000 388A, 388D, 491B

AAF Long Range Air Navigation Charts, 1:1,000,000 #17 (Yellow sea), #26 (India).

Naval Aviation Charts V-30 Series, 1:2,188,800 #16, 17, 41.

1. a. (1) Hostile Ground Situation: See Intelligence Annex No. 1.

(2) Hostile Air Situation: See Intelligence Annex No. 1.

b. (1) Omitted.

(2) See Intelligence Annex No. 1 for location of friendly airfields. The 312th Fighter Wing will provide fighter cover for VLR bases in the CHENGTU Area.

2. Staging from VLR bases in the CHENGTU Area, this Command attacks installations of strategic importance in KYUSHU, JAPAN, on D Day for the purpose primarily of obtaining night photographs and harassing and containing Japanese defenses.

3. a. The 58th Bombardment Wing will bomb and photograph the following targets employing not to exceed twenty-four (24) B-29 aircraft, at least twenty (20) of which will be prepared to

T O P SECRET

make night photographs. Each aircraft equipped for night photography will make a minimum of eight (8) photographic exposures of its assigned objective.

Primary Targets:
SASEBO NAVAL DOCKYARD (90.36-752)
IMPERIAL IRON AND STEEL WORKS, TOBATA (90.34-29)
IMPERIAL IRON AND STEEL WORKS, YAWATA (90.34-28)
AKUNOURA ENGINE WORKS (90.36-542)
OMURA AIRCRAFT PLANT (90.36-1627)
(See Annexes No. 3, 4, and 5)

The aircraft which bomb and photograph the OMURA AIRCRAFT PLANT will also photograph MIIKE DYESTUFFS PLANT (90.35-1243) at OMUTA.

Secondary Target: LAOYAO (83.11) dock area (See Annexes No. 3 and 4)

Last Resort Target: HANKOW (33.8) dock area (See Annex No. 3)

Aircraft, upon departure from the Rear Base Area, will be fully serviced with POL and oxygen and loaded with bombs and ammunition to minimize servicing requirements in the Forward Area. Fuzes will be carried in each airplane but bombs will not be fuzed until reaching Forward Bases.

4. Administrative and Supply Details: See Administrative Order No. 2, no change.

5. a. (1) Signal Communications: See Signal Orders, Annex No. 6.

(2) RCM: See RCM Orders, Annex No. 2.

b. Command Post:

(1) Headquarters, XX Bomber Command, APO 493.

(2) Advance Headquarters, 58th Bomb. Wing, APO 210.

K. B. WOLFE,
Brigadier General, U. S. A.,
Commanding.

OFFICIAL:
John E. Upston
JOHN E. UPSTON,
Brigadier General, U. S. A.,
A/C of S, A-3.

Classification Changed to
SECRET 5-2-46
C. G. AAF, by
Kay Gibson, Capt. AC

ANNEXES:

#1 - Intelligence
2 - RCM
3 - Objective Folders
4 - Radar Folder
5 - Photographic
6 - SIGNAL ORDERS

DISTRIBUTION:

1 - Commanding General
46 - A/C of S, A-2
2 - A/C of S, A-3
1 - A/C of S, A-4
1 - Communications Officer
1 - Ordnance Officer
1 - Photo Officer
1 - Chemical Warfare Officer
1 - Surgeon
5 - C.G., 58th Bomb Wing, APO 493
1 - C.G., Fourteenth Air Force
1 - C.G., Twentieth Air Force
1 - C.G., AAF, IBS, CBI
1 - C.G., 312th Wing (F)

~~TOP SECRET~~ SECRET

TOP SECRET
AUTH: CG, 58TH BW
INITIALS WK
DATE 3 July 1944

NOT TO BE TAKEN INTO THE AIR

FIELD ORDER)
:
NUMBER 4)

58TH BOMB WING
APO 493
3 JULY 1944

MAPS: AAF Aeronautical Charts 1:1,000,000 #384, 385, 386, 387, 388, 436, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 553, 554, 555, 556, 557, 558.

or: International Map of the World: 1:1,000,000, OSAKA, NAGASAKI, KAGOSIMA, NANTUNG, SHANGHAI, TAIKOKU, NANKING, HANKOW, FOOCHOW, CHANGSHA, KWEILIN, CHUNGKING, KUNMING, CALCUTTA, ASSAM, TALI, BIHAR MANDALAY, ARAKAN.

AAF Aeronautical Charts, 1:500,000 #387C, 388A, 388D, 491B.

AAF Long Range Air Navigation Charts 1:3,000,000 #17 (Yellow Sea) #26 (India)

Naval Aviation Charts V-30 Series, 1:2,188,800, #16, 17, 41.

H. O. Chart No. 5494 (YANGTZE RIVER ENTRANCE TO SHIMONOSEKI KAIKYO)

1. a. (1) Hostile ground situation: See Intelligence Annex No. 1.

(2) Hostile aircraft locations and airfields: See Intelligence Annex No. 1.

b. (1) Omitted.

(2) See Intelligence Annex No. 1 for location of friendly airfields. The 312th Fighter Wing will provide fighter cover for VLR bases in the CHENGTU area.

2. On D-Day the 58th Bombardment Wing attacks installations of strategic importance in KYUSHU, Japan for the primary purpose of obtaining night photographs and harassing Japanese defenses.

SECONDARY TARGET will be the port facilities at LAOYOA (See Target Chart No. 83.11, Annex No. 3).

Classification Changed to
SECRET 5-2-46
C. G. Army Air Forces
Ray G. Baker, Capt. A. C.

~~TOP SECRET~~ SECRET

LAST RESORT TARGET will be HANKOW (See Target Chart No. 106, Annex No. 3.)

3. a. (1) 468th Bombardment Group will dispatch six (6) aircraft to the forward area prior to D-Day.

(2) 468th Bombardment Group will bomb and photograph the SASEBO NAVAL DOCKYARD at SASEBO (See Target Chart No. 90.36-752, Annex No. 3, and Radar Folder No. 3, Annex No. 4).

ROUTE OUT: PENGSHAN - 33°00'N, 126°15'E -- 32°21'N, 128°45'E-- 32°33'N, 129°46'E -- TARGET.

ROUTE BACK: TARGET -- PENGSHAN

IP: 32°33'N, 129°46'E.

AXIS OF ATTACK: 01° Mag.

METHOD OF BOMBING: By individual aircraft at thousand foot levels from 15,000 feet - 19,000 feet. Aircraft will be dispersed through this altitude bracket. Aircraft bombing and taking photographs will toggle bombs as follows: Four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth, followed immediately by all of the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See Exhibit A, Annex No. 4 and Annex No. 5).

(3) 468th Bombardment Group will load eight (8) 500# GP AN-M-43 bombs per airplane fused one tenth (.1) nose; twenty-five thousandths (.025) tail. In addition those airplanes taking photographs will load nine (9) AN-M-46 photo-flash bombs fused to explode at 4,000 feet.

b. (1) 444th Bombardment Group will dispatch six (6) aircraft to the forward area prior to D-Day.

(2) 444th Bombardment Group will bomb and photograph the SASEBO NAVAL DOCKYARD AT SASEBO (See Target Chart No. 90.36-752, Annex No. 3, and Radar Folder No. 3, Annex No. 4).

ROUTE OUT: KWANGHAN - 33°00'N, 126°15'E -- 33°18'N, 129°08'E -- TARGET.

ROUTE BACK: TARGET -- KWANGHAN

IP: 33°18'N, 129°08'E

Classification Changed to SECRET 5-24-46 C. G. AA

Kay G. Baker Major, Capt. Air Corps

AXIS OF ATTACK: 111° Mag.

METHOD OF BOMBING: By individual aircraft at thousand foot levels from 15,000 feet - 19,000 feet. Aircraft will be dispersed through this altitude bracket. Aircraft bombing and taking photographs will toggle bombs as follows: Four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth, followed immediately by all of the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) s conds after the fifth followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See Exhibit A, Annex No. 4 and Annex No. 5).

(3) 444th Bombardment Group will load eight (8) 500# GP AN-M-43 bombs per airplane fused one tenth (.1) nose; twenty-five thousandths (.025) tail. In addition those airplanes taking photographs will load nine (9) AN-M-46 photo-flash bombs fused to explode at 4,000 feet.

e. (1) 40th Bombardment Group will dispatch six (6) aircraft to the forward area prior to D-Day.

(2) Two (2) aircraft of the 40th Bombardment Group will be assigned to bomb the SASEBO NAVAL DOCKYARDS at SASEBO (See Target Chart No. 90.36-752, Annex No. 3 and Radar Folder No. 3, Annex No. 4). One (1) of the above aircraft will also be assigned to take photographs of the SASEBO NAVAL DOCKYARD.

ROUTE OUT: HSINCHING - 33°00'N, 126°15'E -- 33°18'N, 129°08'E -- TARGET.

ROUTE BACK: TARGET -- HSINCHING

IP: 33°18'N, 129°08'E.

AXIS OF ATTACK -- 111° Mag.

Classification Changed to SECRET 5-2-46 By Authority of C. G. AAF, by Ray G. Baker
Ray G. Baker, Capt. A. C.

METHOD OF BOMBING: By individual aircraft at thousand foot levels from 15,000 feet - 19,000 feet. The aircraft bombing and taking photographs will toggle bombs as follows: Four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth followed immediately by all the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See Exhibit A, Annex No. 4 and Annex No. 5).

BOMB LOADING: Airplanes will be loaded with eight (8) 500# GP AN-M-43 bombs fused one tenth (.1) nose and twenty-five thousandths (.025) tail. In addition the airplane taking photographs will load nine (9) AN-M-46 photo-flash bombs fused to explode at 4,000 feet.

(3) Two (2) aircraft of the 40th Bombardment Group will be assigned to bomb and photograph the AKUNOURA ENGINE WORKS at NAGASAKI. (See Target Chart No. 90.36-542, Annex No. 3, and Radar Folder No. 5, Annex No. 4).

(a) One (1) aircraft will use the following route, IP, and Axis of Attack:

ROUTE OUT: HSINCHING - 33°00'N, 126°15'E -- 33°11'N, 128°48'E -- TARGET

ROUTE BACK: TARGET -- HSINCHING.

IP: 33°11'N, 128°48'E

AXIS OF ATTACK: 121° Mag.

(b) One (1) aircraft will use the following route, IP, and Axis of Attack:

ROUTE OUT: HSINCHING -- 33°00'N, 126°15'E -- 32°21'N, 128°45'E -- 32°26'N, 130°21'E -- 32°31'N, 130°21'E -- TARGET.

ROUTE BACK: TARGET -- HSINCHING.

IP: 32°31'N, 130°21'E.

AXIS OF ATTACK: 301° Mag.

Classification Changed to SECRET 5-2-46 By Authority of C. G. AAF, by Ray G. Baker
Ray G. Baker, Capt. A. C.

(c) METHOD OF BOMBING: By individual aircraft at thousand foot levels from 15,000 - 17,000 feet. Aircraft will toggle bombs as follows: Four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth, followed by all of the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth, followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See exhibit C, Annex No. 4, and Annex No. 5.).

BOMB LOADING: Airplanes will be loaded with eight (8) 500# GP AN-M-43 bombs fused one tenth (.1) nose and twenty-five thousandths (.025) tail in addition to nine (9) AN-M-46 photo flash bombs fused to explode at 4,000 ft.

(4) Two (2) aircraft of the 40th Bombardment Group will be assigned to bomb and photograph the OMURA AIRCRAFT PLANT at OMURA (See Target Chart No. 90.36-1627, Annex No. 3, and Radar Folder No. 6, Annex No. 4). In addition they will be assigned to photograph MIIKE DYESTUFFS at OMUTA (See Target Chart No. 90.35-1243, Annex No. 3, and Radar Folder No. 6, Annex No. 4).

ROUTE OUT: HSINCHING -- 33°00'N, 126°15'E -- 32°46'N, 129°00'E -- 32°54'N, 129°58'E (TARGET)

ROUTE BACK: TARGET -- 33°02'N, 130°[illegible] (OMUTA) - HSINCHING.

IP: 32°46'N, 129°00'E.

AXIS OF ATTACK: 83° Mag.

METHOD OF BOMBING: By individual airplane from 15,000 feet. Bombs will be toggled out as follows: Four (4) photo-flash bombs will be toggled at ten (10) second intervals over the target. The fifth photo-flash bomb will be toggled at ten (10) seconds after the fourth followed immediately by all of the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled 10 seconds after the fifth, followed at succeeding ten (10) second intervals by the seventh, and eighth. The remaining four (4) photo-flash bombs will be toggled at ten (10) second intervals over OMUTA. (See Exhibit D, Annex No. 4, and Annex No. 5).

BOMB LOADING: Airplanes will be loaded with eight (8) 500# GP AN-M-43 bombs fused one tenth (.1) nose and twenty-five thousandths (.025) tail in addition to twelve (12)AN-M-46 photo-flash bombs fused to explode at 4,000 feet.

d. (1) The 462nd Bombardment Group will dispatch six (6) aircraft to the forward area prior to D-Day.

(2) Four (4) aircraft of the 462nd Bombardment Group will be assigned to bomb the SASEBO NAVAL DOCKYARDS AT SASEBO (See Target Chart No. 90.36-752, Annex No. 3)and Radar Folder No. 3, Annex No. 4). Three (3) of the above aircraft will also be assigned to take photographs of the SASEBO NAVAL DOCKYARD.

ROUTE OUT: KIUNGLAI - 33°00'N, 126°15'E -- 32°21'N, 128°45'E -- 32°33'N, 129°46'E -- TARGET.

ROUTE BACK: TARGET - KIUNGLAI

IP: 32°33'N, 129°46'E

AXIS OF ATTACK: 01° Mag.

METHOD OF BOMBING: By individual aircraft at thousand foot levels from 15,000 feet - 19,000 feet. Aircraft will be dispersed through this altitude bracket. Aircraft bombing and taking photographs will toggle bombs as follows: Four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth, followed immediately by all of the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth, followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See Exhibit A, Annex No. 4, and Annex No. 5).

(3) One (1) aircraft of the 462nd Bombardment Group will be assigned to bomb and photograph the IMPERIAL IRON AND STEEL WORKS at YAWATA. (See Target Chart No. 90.34-28, Annex No. 3, and Radar Folder No. 4, Annex No. 4).

ROUTE OUT: KIUNGLAI - 34°00'N, 129°30'E -- 34°13'N, 130°05'E -- TARGET.

ROUTE BACK: TARGET -- KIUNGLAI.

IP: 34°13'N, 130°05'E.

AXIS OF ATTACK: 127° Mag.

METHOD OF BOMBING: At 16,000 feet. Bombs will be toggled as follows: four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourth, followed immediately by all the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See exhibit B, Annex No. 4, and Annex No. 5).

(4) One (1) aircraft of the 462nd Bombardment Group will be assigned to bomb and photograph the IMPERIAL IRON AND STEEL WORKS at TOBATA (See Target Chart No. 90.34-29, Annex No. 3, and Radar Folder No. 4, Annex No. 4).

ROUTE OUT: KIUNGLAI - 34°00'N, 129°30'E -- 34°13'N, 130°05'E -- 34°47'N, 131°09'E -- 34°30'N, 131°17'E -- TARGET

SECRET

ROUTE BACK: TARGET -- KIUNGLAI

IP: 34°30'N, 131°17'E.

AXIS OF ATTACK: 217° Mag.

METHOD OF BOMBING: At 15,000 feet. Bombs will be toggled as follows: four (4) photo-flash bombs at ten (10) second intervals will be toggled. The fifth photo-flash bomb will be toggled ten (10) seconds after the fourt, followed immediately by all the demolition bombs toggled as rapidly as possible. The sixth photo-flash bomb will be toggled ten (10) seconds after the fifth followed at succeeding ten (10) second intervals by the seventh, eighth, and ninth. (See Exhibit B, Annex No. 4, and Annex No. 5).

x. (1) From its forward area bsse each group will dispatch its first airplane on the mission at 0949Z on D-Day followed at two-minute intervals by the remainder of its aircraft.

(2) After landing at CHENGTU area bases on completing the mission, airplanes will be re-serviced immediately to a total of 3200 gallons of burnable gasoline and necessary engine oil, and will be kept on the alert during the remainder of the day. In case of enemy attack they will take off and return to the INDIA bases. In the event there is no attack they will take off on D-Day plus two (2) and return to the INDIA bases.

(3) K-19 or K-19-A cameras with photo-electric cell attachments will be installed in five (5) aircraft per group.

(4) Radar scope photographs will be taken by as many aircraft as possible of all good navigation check points and during bombing runs.

(5) Bombs will be loaded in rear bombay in rear area. Demolition bombs will not be fused until on the ground in the forward area. Fuses will be carried to the forward area by each combat aircraft.

(6) Bombing altitudes will be true altitudes. (Not indicated)

(7) Two hundred (200) rounds of 50 cal. ammunition will be carried per gun except the tail guns. Full ammunition will be carried for each tail gun including the 20mm cannon.

(8) Three (3) fully serviced bombay tanks will be carried per airplane.

(9) All bombay fuel will be transferred prior to the time the target is reached.