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MISSIONS NOS. 30 & 31

25 - 26 Jan. 1945

Missions Nos. 30 & 31

25 - 26 Jan. 45

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Combat Oper.

HEADQUARTERS TWENTIETH AIR FORCE	
Chief of Staff	
Deputy Chief of Staff C. G. S.	
Deputy C. G. S. T. M. & L.	
A. G.	

XX BOMBER COMMAND



Tactical Mission Report

No. 30-31

DATE 25-26 JANUARY 1945

GENERAL OF THE ARMIES H. H. ARNOLD

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* 16/2/45 *WJS* *
* Date Initials *
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TWENTIETH AIR FORCE
Office of the Deputy Commander, IB and C
APO 493

TACTICAL MISSION

REPORT

Field Orders Nos. 30 and 31 Mission Nos. 30 and 31

MINING AREAS; APPROACHES TO SINGAPORE, SAIGON,
AND CAM RANH BAY

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Prepared by:

Intelligence Section
XX Bomber Command

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TWENTIETH AIR FORCE
Office of the Deputy Commander, IB & C
APO 493

16 February 1945

SUBJECT: Report of Operations, 25-26 January 1945.

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

1. UNITS PARTICIPATING:

Three of the four Bombardment Groups of the XX Bomber Command were directed by Field Orders 30 and 31 to conduct a mine-laying operation at night against areas of strategic importance in the war of attrition against Japanese shipping. The participating Groups, their locations, and their Commanding Officers were as follows:

<u>Group</u>	<u>Base</u>	<u>Commanding Officer</u>
444th	Dudhmundi	Colonel A.L. Harvey
462nd	Piardoba	Colonel A.F. Kalberer
468th	Kharagpur	Colonel J.V. Edmundson

2. IDENTIFICATION OF MISSION:

a. Attack Nos. 30 and 31.

b. Mining Targets Specified:

(1) Primary Areas:

- (a) Singapore Area: Johore Strait Field; Inner Middle Channel Field; Outer Middle Channel Field; Rhio Strait Field; Inner Main Strait Field; and Outer Main Strait Field.
- (b) Saigon Area: Cap St. Jacques Field; Ganhrui Bay Field; and Song Soirap Field.
- (c) Cam Ranh Bay Area: Grand Passage Field.

(2) Secondary Areas:

- (a) For aircraft assigned Singapore Areas: Penang Harbor (05°25'N - 100°21'E); Pakchan River (10°00'N - 98°35'E); and Mergui Harbor (12°25'N - 98°35'E).
- (b) For aircraft assigned Saigon and Cam Ranh Bay Areas: Goh Si Chang Channel (13°10'N - 100°50'E); and Mekong River (between 11°16'N - 105°17'E and 11°35'N - 104°55'E or between Mytha, 10°20'N - 106°23'E, and mouth of river).

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- (3) Last Resort Area; Tavoy Harbor (13°35'N - 98°14'E) -- for all aircraft.

3. STRATEGY AND PLAN OF OPERATIONS;

a. Importance of Targets;

(1) SINGAPORE remains one of the most important shipping centers in the Japanese "Outer Zone". It is of considerable significance both economically and militarily. It is the southern Headquarters for both the Army and the Navy. Many of the supplies for Burma arrive in Singapore by ship and are taken northwards by rail and small vessels. It is one of the few places outside Japan itself which offers the enemy docking facilities for its damaged ships. The Japanese task force of two battleships and supporting units which recently fled from the Philippines went to Singapore for fuel and refuge. Much merchant shipping also operates out of the port. This includes oil tankers taking oil to Japan from Sumatra. As a mining target it is one of the most important and most suitable available.

(2) SAIGON was an important convoy and assembly point for ships travelling to and from Singapore until June 1944. It also had significance as a troop and military supply port for Burma and was used for export of economic goods from Indo-China. In June 1944, because of bombing attacks by the Fourteenth Air Force or other reasons, the Japanese reduced the use of Saigon - Cap St. Jacques as a convoy assembly point and routed most of their shipping via the west coast of Borneo and the Philippines. However, some military and economic shipping continued to use Saigon. Now that U.S. Forces are being established in the Philippines the Japanese have to a great extent resumed use of the Saigon route. There has been an upswing in the shipping traffic there. The Japanese task force which fled to Singapore stopped at Saigon. The port remains important and is ideally mineable with aerial mines.

(3) CAM RAHN BAY; This harbor was originally developed by the French as a Naval Base and Anchorage. It is an excellent naval anchorage. The Japanese have made good use of it since the start of the war. It was one of their important staging areas for their drive to the South. Since then the harbor has been used primarily by military shipping. Recently there has been an indication of increase of both merchant and military shipping. Its close proximity to the Philippines makes it a convenient temporary refuge for damaged ships. Its narrow entrance and shallow approach channel make it ideally mineable.

(4) MEKONG RIVER; The Mekong River is an important shipping artery for taking supplies from Saigon to Phnom Penh and thence by rail to Bangkok and Burma. The railway line is not completed between Saigon and Phnom Penh so that it is necessary that supplies go either by ship or road. The water route is the one most frequently used according to P/W reports. Many of the Japanese now fighting in Burma came via that route. Any interference of the water route by aerial mining will contribute directly to the effect on the enemy's lines of communication.

(5) GOH SI CHANG ANCHORAGE; This anchorage in the Gulf of Siam is used for unloading large ships which cannot cross the shallow bar leading to Bangkok. The large ships unload to small vessels which then proceed up the river to Bangkok. The use of both Bangkok and Goh Si Chang has fallen off considerably since the Strategic Air Force started aerial mining there about 1 year ago. However, it is necessary to keep both places under continuous mining attack as the Japanese are extremely anxious to bring shipping into the area. If they could bring ships into Goh Si Chang and Bangkok the rest of the supply route to Burma can be made by railroad.

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(6) PENANG: Next to Singapore, Penang is the most important harbor in Malaya. It is used as a base for both Japanese and German submarines. What little enemy shipping still remains in the Indian Ocean undoubtedly calls there. It has been mined twice by aircraft and once by submarine. It is desired to keep the place under mining attack primarily to interfere with enemy submarine activities there but also to further discourage enemy shipping in the Indian Ocean.

(7) PAKCHAN RIVER: The Pakchan River is now one of the most important staging points for enemy supplies going to Burma. Large ships can come up into the harbor and transfer their loads to smaller vessels which then proceed up the coast to the Burmese ports. The trans-Kra Isthmus Railroad also terminates near the head of the Pakchan River making it easy to bring supplies from either Bangkok or Singapore by rail and then transfer them to small coastal vessels. This area is being kept under continuous aerial mining attack.

(8) MERGUI and TAVOY: Both of these ports along the Burmese Coast are important staging points for supplies being brought into Burma. Generally the supplies are brought into port by small vessels and then transferred to the north by rail and road. Continuous mining over the past year has discouraged the enemy from bringing large ships into these harbors. However, occasionally a convoy attempts to use them and even the small vessels in port are fair mining targets in the shallow waters of those ports.

b. Details of Flaming:

(1) Operational Planning:

(a) Successful aerial mining by the Eastern Air Command has resulted in denying the use of naval ports within range to enemy shipping for long periods of time, forcing the enemy to utilize Singapore, Cam Ranh Bay, and Saigon as ports of entry for ships carrying supplies destined for the Burma front. Recent naval action in the Philippines has inflicted heavy damage on many enemy ships, forced them to retire from ports with major repair facilities, and thereby increased the relative importance of Singapore, Cam Ranh Bay, and Saigon.

(b) It was originally planned to mine these three harbors in one coordinated mission between 23 and 30 January, thus making maximum use of the full moon period.

(c) Weather conditions and differences in the time over the target, however, resulted in setting up the proposed mine project as two separate missions. Planning the mining project in this manner helped to avoid confusion and enabled the Command to select the most favorable conditions for both areas.

(d) Naval representatives were consulted and arrangements were made to provide two officers and three enlisted men at each of the groups participating in the mission in order to aid in loading and handling the mines.

(e) Selection of approaches and times over targets were largely influenced by weather, position of moon, and known defense areas. Different target times were made necessary for Saigon and Singapore areas because of weather and moon conditions.

(f) The tactical plan for the two operations was as follows;

The four Groups were called upon to employ their aircraft in the following manner: 463th Group - 26 aircraft were to mine designated areas in the Singapore area; 444th Group - 24 aircraft were to mine designated areas in the Singapore area; 462nd Group - 19

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aircraft were to mine designated areas in the Saigon harbor and 7 aircraft were to mine the Grand Passage Channel in the Cam Ranh Bay area; and 40th Group - furnish weather and reconnaissance planes as needed and alert a force of approximately 24 aircraft to bomb shipping targets, if any, resulting from the mining operation.

(2) Determination of Mine Load:

(a) Mine loading was prescribed fully in Mining Instructions, Annex Number 2 to Field Orders 30 and 31.

(b) Naval representatives were present at each of the Groups to provide technical aid. Aerial mines were delivered from the Aerial Mine Depot at Ondal to the Group Ordnance Officers. Technical personnel accompanied the mines for the purpose of servicing and preparation.

(3) Other Planning Information:

(a) Field - No. A/C	Altitude	Heading	Time over Area
<u>444th Group:</u>			
Johore Strait - 9	5000'	150° M	1809Z
Inner Middle Channel - 4	4000'	60° M	1809Z
Outer Middle Channel - 11	4000'	25-75° M	1809Z
<u>468th Group:</u>			
Rhio Strait - 8	3000'	167° M	1809Z
Inner Middle Channel - 4	4000'	60° M	1809Z
Inner Main Strait - 9	4000'	85° M	1739Z
Outer Main Strait - 5	6000'	110-120° M	1809Z
<u>462nd Group:</u>			
Cap St. Jacques - 10	5000'	160° M	1452Z
Ganhrai Bay - 4	2000'	301° M	1452Z
Song Soirap - 5	3000'	320° M	1452Z
Grand Passage - 7	3000'	160° M	1514Z

(b) Mine Flots: All mines released, including those released in case of emergency, were to be accurately plotted.

(c) Routes: Routes to be flown including initial points and pin points were prescribed fully in the field orders.

(d) Mining Instructions: Mines required, arming of mines, and a detailed plan for laying mines were fully specified in Mining Instructions, Annex No. 2 to Field Orders Nos. 30 and 31.

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

a. Take-off:

(1) Take-off times were not specified in the field orders. Instead, each Group was to schedule its take-offs so as to place the aircraft over the target at the times indicated in the foregoing.

(2) Take-off was accomplished on D-day as follows:

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<u>Group</u>	<u>A/C Airborne</u>	<u>First A/C Off</u>	<u>Last A/C Off</u>
444th	24	0838Z	0941Z
462nd	26	0630Z	0829Z
468th	26	0903Z	0942Z
Overall	76	0630Z	0942Z

(3) The last aircraft of the 462nd Group, off at 0829Z, took off one hour and 23 minutes after the 25th plane which took off at 0706Z.

(4) Weather at the various bases was clear with visibility ranging from unlimited to 8-15 miles in haze. Winds were calm at two bases and northwest at 8 miles per hour at the third.

b. Route Out:

(1) Separate routes were prescribed to and from each of the mining areas. In all, 34 check points were used on the various routes.

(2) Deviations from the routes to the primary areas numbered 10. Of these, 4 aircraft mined secondary areas, 1 mined an opportunity area, 1 jettisoned its mines, and 4 returned to base with their mines.

c. Primary Areas:

(1) Of the 76 aircraft airborne, 66 mined primary areas. A total of 54 MK25 and 321 MK26-1 aerial mines was dropped as follows; 41 aircraft dropped 54 MK25 and 137 MK26-1 aerial mines in approaches to Singapore; 19 aircraft dropped 150 MK26-1 aerial mines in approaches to Saigon; and 6 aircraft dropped 34 MK26-1 aerial mines in approaches to Cam Ranh Bay.

(2) Times of release of mines in the Singapore area varied from 1750Z to 1902Z, in the Saigon area from 1413Z to 1615Z, and in the Cam Ranh Bay area from 1456Z to 1530Z. Altitudes over-all ranged from a low of 2000 feet to a high of 6000 feet. Headings varied widely in accordance with Mining Instructions. Indicated air speeds varied from 185 to 235 miles per hour.

(3) Weather in the Singapore area was as follows; a high thin cirrostratus overcast veiled but did not obscure the moon. Lower clouds were patchy in their distribution but average cover over the target areas did not exceed 4/10. Large areas were completely clear of low clouds. Low clouds were thin stratus and/or stratocumulus at approximately 4000 feet. Weather at Saigon and Cam Ranh Bay was 8/10 to 10/10 thin altostratus at 15,000 feet with scattered thin stratocumulus at 5000 feet. Visibility was 15 miles in a slight haze and the area was illuminated by moonlight despite the thin cloud cover.

d. Secondary Areas:

(1) Three aircraft mined the Pakchan River, dropping a total of 3 MK25 and 12 MK26-1 aerial mines at 1508Z, 1525Z, and 1615Z respectively.

(2) One aircraft mined Penang Harbor at 1728Z from 5700 feet and dropping 6 MK26-1 aerial mines.

(3) One aircraft which had already placed 4 mines in its primary area released 2 MK26-1 aerial mines at 1730Z from 5000 feet in the Go Si Chang Channel near Bangkok.

e. Opportunity Area: One aircraft mined Navan Bay at 1539Z from 6000 feet, dropping 6 MK26-1 aerial mines.

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f. Route Back;

(1) Only 3 aircraft varied from the planned route from the target back to base. One returned to a XX Bomber Command base other than its own, one landed at Cox's Bazaar before proceeding to its home base, and one returned using check points other than those prescribed.

(2) Weather at the bases on return was clear with visibility ranging from 5 to 15 miles and winds from calm to north-northeast at 8 miles per hour.

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

a. Three aircraft of those mining the approaches to Saigon encountered automatic weapons fire at altitudes of 2000 to 5000 feet. Ground flashes were observed by 2 aircraft and meager and inaccurate fire was reported by the other.

b. No anti-aircraft was encountered in the Cam Ranh Bay area.

c. Five aircraft of those mining the approaches to Singapore encountered meager and inaccurate heavy anti-aircraft fire at altitudes of 3000 to 5000 feet. Meager and inaccurate automatic weapons fire was also encountered. It was reported as originating from 6 locations. Both tracers and bursts were reported, the latter varying at any one instant from 3 to 8 and the total from 24 to 50.

d. One aircraft reported meager and inaccurate heavy anti-aircraft fire at Tandjoengbalai and 2 aircraft encountered automatic weapons fire at Georgetown, Penang Island.

e. Searchlight activity was noticeably lacking, only 4 to 5 feeble or questionable beams being reported.

f. One conventional barrage balloon flying at an altitude of 2000 feet and anchored to a stationary aircraft carrier was reported.

g. The Saigon area was effectively blacked out, but at the time the first aircraft were approaching Singapore, that area was not observing blackout regulations. It required 15 minutes to blackout the land areas and at no time were channel lights or lighthouse beams extinguished.

6. ENEMY AIR OPPOSITION (See Annex C);

There was no enemy air opposition on this mission.

7. WEATHER (See Annex D);

a. The weather encountered had no adverse effects on the success of the mission.

b. The thin cloud cover above flight altitude at the targets allowed sufficient moonlight to locate the visual check points. At the same time, enough light was cut off so that the planes did not gleam or shine.

c. Metro winds were rated generally as good to fair. Since operations for the most part were carried out in darkness, however, no accurate check was possible.

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8. COMMUNICATIONS (See Annex E);

a. In general, communications were excellent despite the increase in traffic resulting from the aircraft flying singly to their targets. Only 2 aircraft committed violations of the tactical doctrine and these were minor.

b. Interference by stations near the Command's frequencies was reported but communications were not disrupted thereby. In the target area, considerable fading was reported on all frequencies.

c. The use of radio homing beacons was reported by 67 aircraft, with extreme initial contact as far as 1100 miles. The use of radio ranges was reported by 6 aircraft with extreme initial contact of 800 miles. Sixteen aircraft requested D/F aid; of these, 3 were Class I, 7 were Class II, and 6 were Class III.

d. Air-to-air homing was not used on these missions and no violations of cryptographic security were reported.

9. RADAR (See Annex F);

a. Radar equipment was used primarily on these mining missions in selecting the initial and pin points from which to start mining operations. Radar in this manner was reported a great aid. Scope photographs, however, indicated some of the mining operation could have been performed using radar entirely. Combat crew coordination was excellent and the good results obtained were directly attributed to this coordination.

b. Photographic results were excellent and the number and quality of pictures returned were greatly improved.

c. Serviceability of the radar systems was above average.

10. RCM (See Annex G);

a. Eight RCM search aircraft equipped with bottom-mount D/F antennas were scheduled for this mission; 7 were airborne. RCM observers searched for enemy early warning radar en route to and from the target and for enemy radar fire control equipment in the target area.

b. Radar intercepts were infrequent on both of the missions.

c. Tail gunners using APG - 15 were to notify the RCM observers upon attack by night fighters so that the RCM observers could check possible night-fighter radar frequencies. As a result of the lack of enemy air opposition, however, no night-fighter radar intercepts were obtained.

d. D/F cuts on the Saigon-Cam Ranh Bay mission were nil. Approximately 30 cuts were obtained on the Singapore mission.

e. It is possible that radar was being used to determine position of aircraft since only 3 or 4 questionable searchlights were reported.

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

a. No enemy air opposition was met and no test of gunnery was possible on these missions. All guns were test fired, however, and 5160 rounds of ammunition were expended in this manner.

b. There were 6 CSFC malfunctions (1.7 per cent of turrets in

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aircraft reporting) and 9 50-caliber machine-gun malfunctions (1 per cent of the guns in aircraft reporting).

12. CAMERAS AND PHOTOGRAPHS (See Annex I):

Cameras carried on this mission were exclusively K-24 (radar) cameras, details of which may be found in Annex F, Radar.

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


There were no losses or damage of any sort on this mission.

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

a. Of the 76 aircraft airborne, 9 failed to mine the assigned primary areas for mechanical reasons. Of these, 4 aircraft mined secondary areas, 1 jettisoned its mines, and 4 brought their mines back to base.

b. There were 93 engineering malfunctions in flight (exclusive of the engineering malfunctions related to failure to mine the primary areas) as follows: power plant and accessory - 10, propellers and governors - 8, oil system - 10, fuel system - 12, electrical system - 16, instruments - 32, and miscellaneous - 5.

c. Over-all averages for fuel consumption were: Saigon and Cam Ranh Bay - 6460 (maximum - 7400, minimum - 6000) and Singapore - 7000 (maximum - 7500, minimum - 6575).


R.M. RAMEY
Brigadier General, U.S.A.
Commanding

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ANNEX

A

EXECUTION OF THE MISSION

- I - Take-offs and Routes
- II - Track and Vertical Flight Paths *
- III - Staff Bombardier's Report
- IV - Mine Loading
- V - Disposition of Mines
- VI - Miscellaneous Mining Data - by Area
- VII - Navigation Report *

* Prepared by Staff Navigator

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I - TAKE-OFFS AND ROUTES

Missions No. 30-31

25-26 January 1945

A. Take-offs

<u>Group</u>	<u>First A/C Off</u>	<u>Last A/C Off</u>	<u>Elapsed Time</u>	<u>No. of A/C Taking Off</u>	<u>Average Take-off Interval</u>
44th	250838Z	250941Z	63 min.	24	164 sec.
462nd	250630Z	250706Z	36 min.	25*	90 sec.
468th	250903Z	250942Z	39 min.	26	94 sec.
Overall	250630Z	250942Z	192 min.	75	

* Does not include A/C 502 that made late take-off at 250829Z.

B. Routes Planned

1. The following check points were used on this mission:
 - a. Preparis Island - 14°52'N - 93°40'E
 - b. Tenggol Island - 04°47'N - 103°40'E
 - c. Cape Penyabong - 02°38'N - 103°46'E
 - d. Northwest tip of Tekong Island - 01°26'N - 104°03'E
 - e. Point at 00°53'N - 102°25'E
 - f. Point at 02°42'N - 100°13'E
 - g. Roepat Island - 02°07'N - 101°39'E
 - h. Bengalis Island - 01°28'N - 102°31'E
 - i. South tip of Great Karimoen Island - 00°59'N - 103°27'E
 - j. Point on Batam Island - 01°12'N - 104°06'E
 - k. Cape Datok - 01°21'N - 104°18'E
 - l. Tioman Island - 02°46'N - 104°10'E
 - m. Horseburgh Light - 01°22'N - 104°26'E
 - n. Diamond Island - 15°52'N - 94°17'E
 - o. Tavoy Point - 13°32'N - 98°08'E
 - p. Chhlong - 12°16'N - 105°58'E
 - q. Phu Quoc Island - 10°01'N - 104°03'E
 - r. Pt. Ganrai - 09°23'N - 107°03'E
 - s. Kega Point - 10°41'N - 108°00'E
 - t. Point at 10°16'N - 107°15'E
 - u. Point at 10°13'N - 107°05'E
 - v. Entrance to Song Soirap - 09°24'N - 106°48'E
 - w. Point Padaran - 11°22'N - 109°01'E
 - x. Eastern tip Tre Island - 12°12'N - 109°19'E
 - y. Point at 12°05'N - 109°15'E
 - z. Point at 11°54'N - 109°10'E
 - aa. Neck of passage to Cam Ranh Bay - 11°53'N - 109°12'E
 - bb. Tinggi Island - 02°18'N - 104°07'E
 - cc. Point at 01°20'N - 104°09'E
 - dd. Sebong Point - 01°07'N - 104°15'E
 - ee. Tanjong San Island - 01°04'N - 104°10'E
 - ff. Little Karimoen Island - 01°08'N - 103°24'E
 - gg. Point at 02°53'N - 101°15'E
 - hh. Cape Piai - 01°16'N - 103°31'E

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2. Routes Planned (references are to letter designations in preceding paragraph):

a. 444th Group:

(1) Johore Strait Field, Singapore Area; Base to a to b to c (IP) to d (pin point) to target to e to f to a to Base.

(2) Middle Channel Field, Singapore Area; Base to a to g to h to i to j (IP and pin point) to target to k to l to b to a to Base.

(3) Outer Middle Channel Field, Singapore Area; Base to a to g to h to i to j (IP and pin point) to n to target to l to b to a to Base.

b. 462nd Group:

(1) Cap St. Jacques Field, Saigon Area; Base to n to o to p to r (pin point) to target to q to o to n to Base.

(2) Ganhrai Bay Field, Saigon Area; Base to n to o to p to s to t (IP) to r (pin point) to target to q to o to n to Base.

(3) Song Soirap Field, Saigon Area; Base to n to o to p to s to u (IP) to v (pin point) to target to q to o to n to Base.

(4) Grand Passage Field, Cam Ranh Bay Area; Base to n to o to p to s to w to x to y to z to aa (IP and pin point) to target to s to p to o to n to Base.

(5) Area between Mytha (10°20'N - 106°23'E) and mouth of Mekong River; Same as Ganhrai Bay Field except for target.

c. 468th Group:

(1) Rhio Strait Field, Singapore Area; Base to a to b to bb (IP) to cc to dd (pin point for 4 A/C) or ee (pin point for 4 A/C) to target to e to f to a to Base.

(2) Inner Middle Channel Field, Singapore Area; Base to a to g to h to i to j (IP and pin point) to target to k to l to b to a to Base.

(3) Inner Main Strait Field, Singapore Area; Base to a to g to h to ff (IP and pin point) to target to k to l to b to a to Base.

(4) Outer Main Strait Field, Singapore Area; Base to a to gg to hh (IP and pin point) to target to e to f to a to Base.

C. Deviations from Planned Routes

1. Mined Secondary Target:

- a. 444th Group ; 2 (A/C 435 and 736).
- b. 468th Group ; 2 (A/C 532 and 417).

2. A/C Not Mining Assigned Targets:

a. 444th Group:

(1) A/C 584 took off at 0928Z and flew on course until 1001Z and then returned to its base. Mines were jettisoned safe from 3000 feet in

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a field one mile southeast of runway.

(2) A/C 277 took off at 0950Z and returned with its mines at 1050Z.

(3) A/C 507 took off at 0920Z and returned with its mines at 1009Z.

(4) A/C 375 took off at 0902Z and returned with its mines at 0909Z.

(5) A/C 268 took off at 0906Z and flew the briefed flight line until 1046Z (4000 feet) and then flew on a reciprocal heading back to base, landing with its mines at 1839Z.

b. 462nd Group:

(1) A/C 801 could not locate target at Cam Ranh Bay due to undercast conditions. Mines were laid in an opportunity area in Navan Bay (11°33'N - 109°01'E).

c. 468th Group: None

3. A/C Landing at Other than Home Bases:

a. A/C 801 (462nd) had its radio inoperative and landed at Chakulia (40th Group base) at 2330Z. It returned to Piardoba 260341Z.

b. A/C 500 (468th) developed engine trouble on the return trip after mining the primary area and proceeded on a direct course to Cox's Bazaar, where it landed at 260245Z. It returned to Kharagpur 271035Z.

4. Other Deviations:

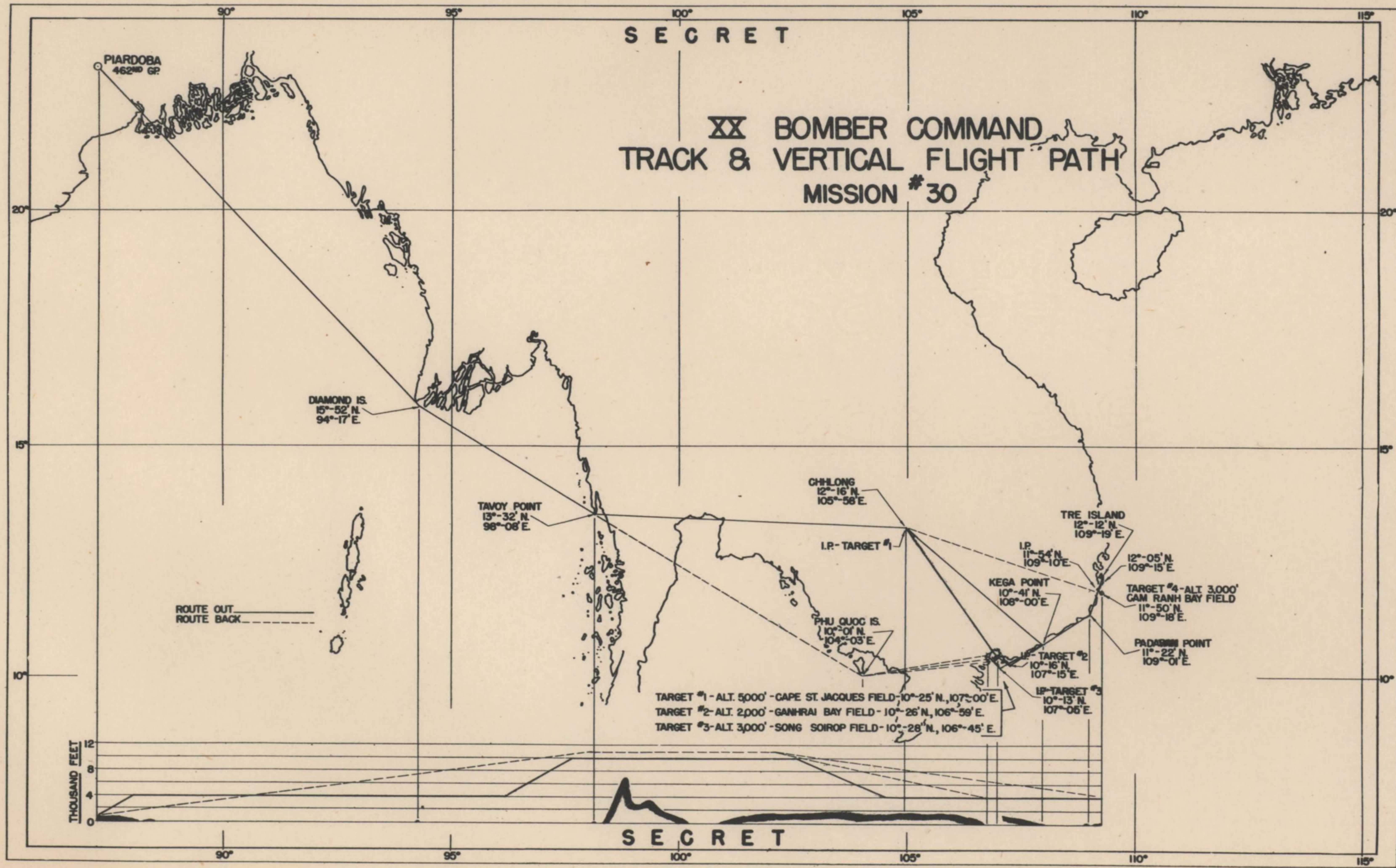
a. A/C 524 (444th), briefed to fly to the Johore Strait Field, flew as planned to the primary area. It returned as follows: target to 02°54'N - 104°09'E at 7000 feet to 04°43'N - 103°32'E at 10,000 feet to Preparis Island to Dudhkundi.

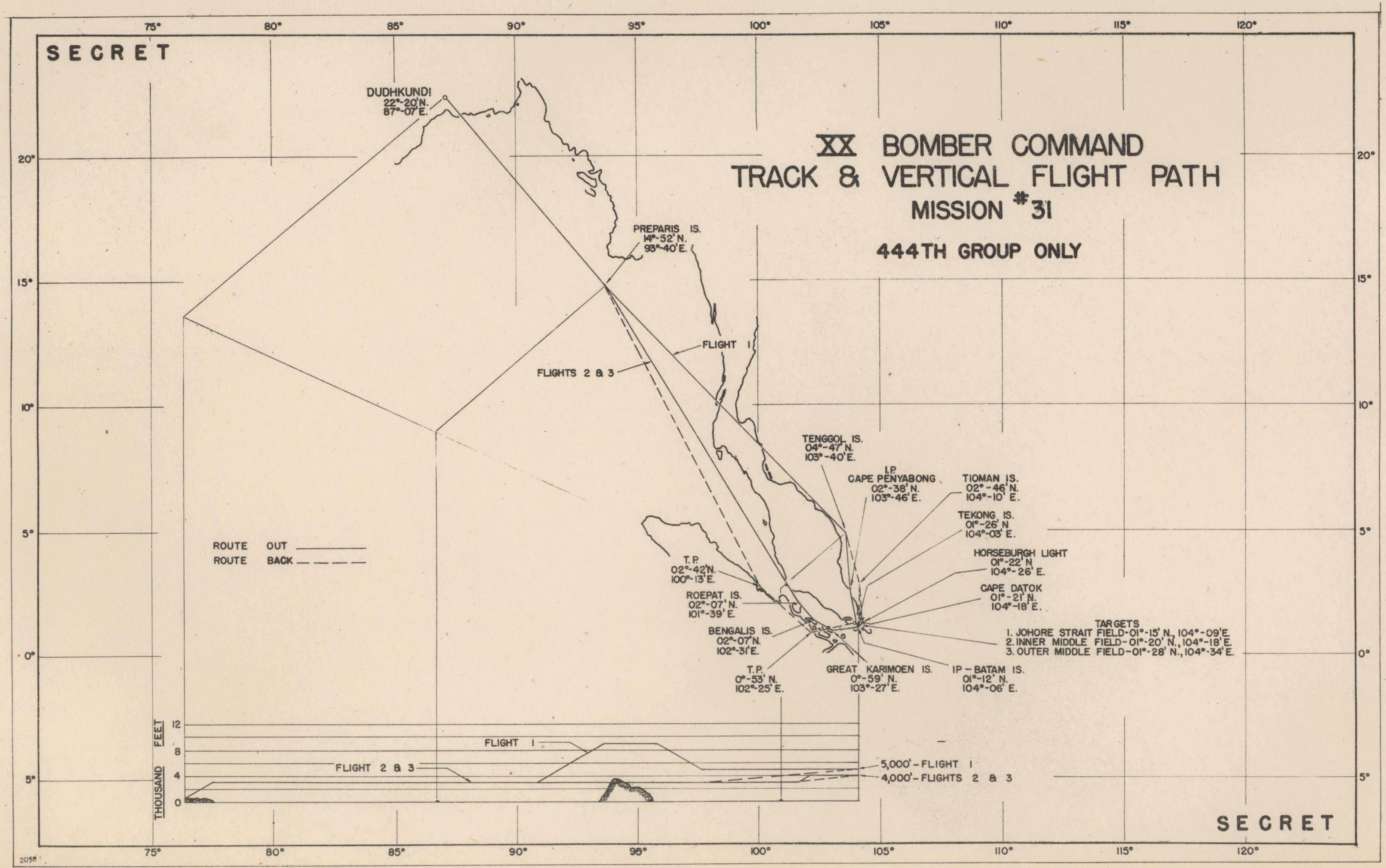
A-I-3

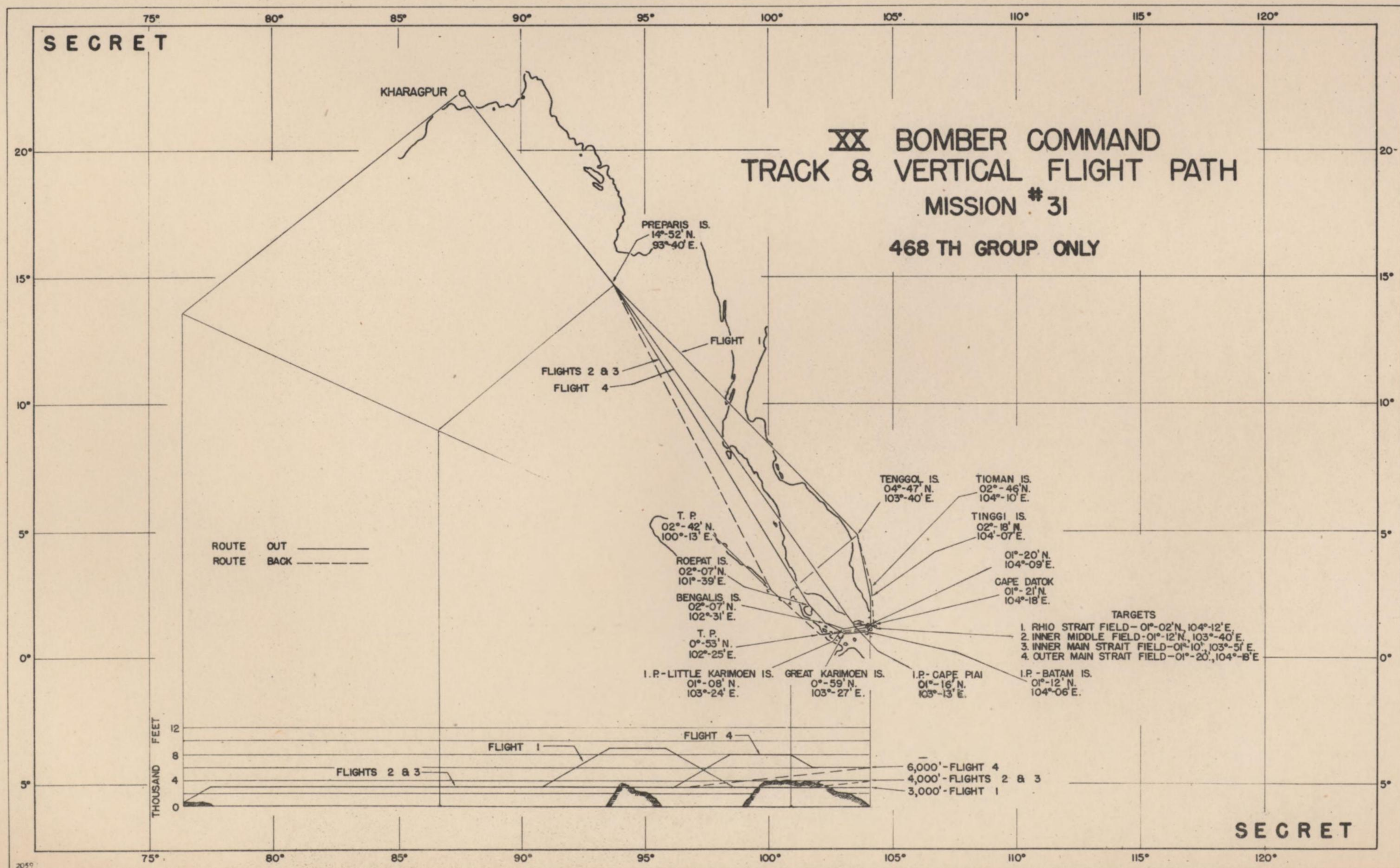
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Authority NWD760063
By AK NARA Date 11.27.05







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Auth: CG XX BC
Date: 31 Jan 45
Initials: QNK

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIAL MISSION REPORT
ON SEAFIELD BOMBING OPERATIONS

Date Prepared: 31 January 1945

Field Order Number 30 & 31
Date of Missions: 25 Jan 45

1. There was enough moonlight to provide excellent visibility for almost all crews. IP's and pin-points were identified without trouble. In general, these missions were carried out as prescribed, and crews reported accurate minelaying.

2. It might be added that the reports received from the groups mentioned the enthusiasm of the crews toward this type mission.

3. Malfunctions Reported: (#31)

444th Group:

- #378 - 1 Mine hung up.
Cause - undetermined (checked out in post-flight check).
- #884 - Bombardier forced to salvo 3 mines when normal release failed.
Cause - Open contact in A-1 receptacle.
- #861 - Chute failed to open on 2 mines, one mine exploded on impact.

468th Group:

- #703 - Chute on 2 mines failed to open.
- #415 - One mine exploded on impact.
- #892 - Normal release failed and mines were salvoed.
Cause - not reported.
- #208 - Normal release failed and two mines were salvoed.
Cause - not reported.
- #456 - Chute on one mine opened prematurely with the result that the mine hung in bombay a few seconds after release.

Malfunctions Reported (#30)

462nd Group:

- #506 - Normal release system failed and mines were slowly salvoed.
Cause - intervalometer was inoperative.
- #463 - Two mines would not release electrically.
Cause - A-2 release failure.
- #459 - One mine dropped on another hung up beneath it.
Cause - fused contacts in RS-2 relay.

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IV - MINE LOADING

Missions No. 30-31

25-26 January 1945

Group	Field	Area	No. A/C	Mines		Arming Planned (days)				
				MK25	MK26	0	10	15	20	30
444th	Johore Strait	Singapore	9	-	54	36	-	6	6	6
	Inner Middle Channel	Singapore	4	-	24	16	-	3	3	2
	Outer Middle Channel	Singapore	11	-	66	44	-	8	7	7
	Total		24	-	144	96	-	17	16	15
462nd	Cap St. Jacques	Saigon	10	-	80	50	-	10	10	10
	Ganhrai Bay	Saigon	3	-	24	15	-	3	3	3
	Song Soirap	Saigon	5	-	40	25	-	5	5	5
	Ground Passage	Can Ranh Bay	7	-	42	23	-	19	-	-
	Mekong River	Mytha	1	-	6	4	-	2	-	-
Total		26	-	192	117	-	39	18	18	
468th	Rhio Strait	Singapore	8	24	-	16	4	-	4	-
	Inner Middle Channel	Singapore	4	12	-	8	2	-	2	-
	Inner Main Strait	Singapore	9	18	18	36	-	-	-	-
	Outer Main Strait	Singapore	5	3	24	13	1	4	5	4
Total		26	57	42	73	7	4	11	4	
Grand Total			76	57	378	286	7	60	45	37

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V - DISPOSITION OF MINES*

Missions No. 30-31

25-26 January 1945

Disposition		No. A/C	Mines		PDM**			Arming (days)				
Field	Area		MK25	MK26	1	3	5	0	10	15	20	30
Johore Strait	Singapore	6	-	36	27	4	5	27	-	1	4	4
Inner Middle Channel	Singapore	2	-	12	12	-	-	8	-	2	-	2
Outer Middle Channel	Singapore	9	-	53	53	-	-	36	-	6	8	3
Rhio Strait	Singapore	8	24	-	24	-	-	16	4	-	4	-
Inner Middle Channel	Singapore	4	12	-	12	-	-	8	2	-	2	-
Inner Main Strait	Singapore	8	15	18	33	-	-	33	-	-	-	-
Outer Main Strait	Singapore	4	3	18	21	-	-	10	1	3	4	3
Total	Singapore	41	54	137	182	4	5	138	7	12	22	12
Cap St. Jacques	Saigon	10	-	80	70	5	5	50	-	10	10	10
Ganhrai Bay	Saigon	3	-	24	21	-	3	15	-	3	3	3
Song Soirap	Saigon	5	-	40	35	5	-	25	-	5	5	5
Mekong River	Saigon	1	-	6	6	-	-	4	-	2	-	-
Total	Saigon	19	-	150	132	10	8	94	-	20	18	18
Grand Passage	Cam Ranh Bay	6	-	34	33	-	1	25	-	9	-	-
Pakchan River	Victoria Pt.	3	3	12	13	1	1	13	-	-	1	1
Penang Harbor	Penang	1	-	6	6	-	-	3	-	1	1	1
Go Si Chang	Bangkok	a	-	2	2	-	-	1	-	1	-	-
Navan Bay	Opportunity	1	-	6	6	-	-	4	-	2	-	-
Jettisoned or re- turned	-	5	-	31	30	1	-	21	-	4	3	3
Grand Total		76	57	378	404	16	15	299	7	49	45	35

* Mines are MK25 aerial mines (actual weight - 1980 pounds) and MK26-1 aerial mines (actual weight - 1060 pounds).

** Period delay mechanism.

a - A/C 463 placed 4 mines in the Grand Passage, Cam Ranh Bay, and 2 in the Goh Si Chang Channel.

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VI - MISCELLANEOUS MINING DATA - BY AREA

Missions No. 30-31

25-26 January 1945

NOTE: On this night mission, mining was by individual aircraft.
No formations were planned and none were flown.

A. Primary Targets

1. 144th Group - A/C Mining Johore Strait, Singapore

	<u>A/C</u>	<u>Release</u>	<u>Method</u>	<u>Altitude</u>	<u>Heading</u>	<u>IAS</u>	<u>No. Mines</u>
1.	462	1807Z	Visual	5000'	140° M	205	6 MK26
2.	524	1808Z	Visual	5000'	140° M	193	6 MK26
3.	533	1812Z	Visual	5000'	140° M	200	6 MK26
4.	492	1821Z	Visual	5000'	140° M	195	6 MK26
5.	422	1840Z	Visual	5000'	141° M	189	6 MK26
6.	464	1841Z	Visual	5000'	140° M	205	6 MK26
Total							36 MK26

2. 144th Group - A/C Mining Middle Channel Field, Singapore

1.	834	1805Z	Visual	4000'	60° M	210	6 MK26
2.	720	1806Z	Visual	4000'	60° M	210	6 MK26
Total							12 MK26

3. 144th Group - A/C Mining Outer Middle Channel Field, Singapore

1.	378	1810Z	Visual	4000'	25° M	235	5 MK26*
2.	270	1812Z	Visual	4000'	30° M	195	6 MK26
3.	730	1814Z	Visual	4000'	60° M	202	6 MK26
4.	496	1817Z	Visual	4200'	55° M	200	6 MK26
5.	732	1821Z	Visual	4000'	35° M	206	6 MK26
6.	376	1824Z	Visual	4000'	40° M	195	6 MK26
7.	228	1825Z	Visual	4000'	45° M	215	6 MK26
8.	861	1844Z	Visual	4000'	65° M	210	6 MK26
9.	411	1902Z	Visual	4000'	75° M	225	6 MK26
Total							53 MK26

* A/C 378 also returned with 1 MK26 mine.

4. 1462nd Group - A/C Mining Cap St. Jacques, Saigon

1.	232	1413Z	Visual	5000'	160° M	193	8 MK26
2.	393	1423Z	Visual	5000'	160° M	200	8 MK26
3.	590	1425Z	Visual	2055'	143° M	200	8 MK26
4.	503	1430Z	Visual	4900'	257° M	212	8 MK26
5.	473	1430Z	Visual	5000'	150° M	198	8 MK26
6.	230	1433Z	Visual	5000'	160° M	200	8 MK26
7.	711	1437Z	Visual	5000'	160° M	205	8 MK26
8.	450	1444Z	Visual	4800'	158° M	193	8 MK26
9.	728	1445Z	Visual	5000'	157° M	207	8 MK26
10.	502	1615Z	Visual	5000'	161° M	208	8 MK26
Total							80 MK26

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5. 462nd Group - A/C Mining Ganhrui Bay, Saigon

	<u>A/C</u>	<u>Release</u>	<u>Method</u>	<u>Altitude</u>	<u>Heading</u>	<u>IAS</u>	<u>No. Mines</u>
1.	454	1503Z	Visual	2000'	309° M	220	8 MK26
2.	480	1512Z	Visual	2000'	303° M	210	8 MK26
3.	521	1518Z	Visual	2000'	301° M	220	8 MK26
Total							24 MK26

6. 462nd Group - A/C Mining Song Soirap, Saigon

1.	484	1512Z	Visual	3100'	318° M	200	8 MK26
2.	531	1526Z	Visual	3000'	321° M	205	8 MK26
3.	476	1528Z	Visual	3000'	322° M	195	8 MK26
4.	488	1529Z	Visual	3000'	320° M	215	8 MK26
5.	506	1544Z	Visual	3000'	320° M	195	8 MK26
Total							40 MK26

7. 462nd Group - A/C Mining Grand Passage, Cam Ranh Bay

1.	786	1456Z	Visual	3000'	160° M	218	6 MK26
2.	540	1501Z	Visual	3100'	162° M	223	6 MK26
3.	463	1504Z	Visual	3000'	161° M	196	4 MK26*
4.	459	1519Z	Visual	3000'	154° M	197	6 MK26
5.	800	1520Z	Visual	3100'	161° M	200	6 MK26
6.	838	1530Z	Visual	3000'	155° M	220	6 MK26
Total							34 MK26

* A/C 463 also mined secondary at Goh Si Chang Channel with 2 mines.

8. 462nd Group - A/C Mining Mekong River, Mytha

1.	873	1522Z	Visual	2000'	299° M	202	6 MK26
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9. 468th Group - A/C Mining Rhio Strait, Singapore

1.	275	1800Z	Visual	3000'	167° T	195	3 MK25
2.	714	1803Z	Visual	3000'	175° T	195	3 MK25
3.	208	1805Z	Visual	3000'	168° T	190	3 MK25
4.	429	1807Z	Visual	3000'	165° T	190	3 MK25
5.	529	1809Z	Visual	3000'	180° T	190	3 MK25
6.	436	1815Z	Visual	3000'	167° T	190	3 MK25
7.	892	1815Z	Visual	3000'	170° T*	190	3 MK25
8.	719	1820Z	Visual	3000'	167° M	190	3 MK25
Total							24 MK25

* A/C 892 made 2 runs over target. Heading on second was 291° T.

10. 468th Group - A/C Mining Inner Middle Channel, Singapore

1.	879	1822Z	Visual	4000'	61° T	197	3 MK25
2.	895	1828Z	Visual	4000'	60° T	198	3 MK25
3.	691	1833Z	Visual	4000'	60° T	198	3 MK25
4.	678	1841Z	Visual	4000'	60° T	197	3 MK25
Total							12 MK25

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11. 468th Group - A/C Mining Inner Main Strait, Singapore

	<u>A/C</u>	<u>Release</u>	<u>Method</u>	<u>Altitude</u>	<u>Heading</u>	<u>IAS</u>	<u>No. Mines</u>
1.	456	1750Z	Visual	4000'	87°T	195	6 MK26
2.	525	1754Z	Visual	4000'	82°T	195	3 MK25
3.	530	1757Z	Visual	4000'	276°T	195	3 MK25
4.	534	1759Z	Visual	4000'	86°T	200	3 MK25
5.	469	1805Z	Visual	4000'	85°T	195	3 MK25
6.	415	1805Z	Visual	4000'	86°M	195	3 MK25
7.	272	1830Z	Visual	4000'	86°T	195	6 MK26
8.	276	1845Z	Visual	4000'	85°T	195	6 MK26
Total							15 MK25 18 MK26

12. 468th Group - A/C Mining Outer Main Strait, Singapore

1.	471	1810Z	Visual	6000'	110°T	185	6 MK26
2.	703	1816Z	Visual	6000'	122°T	185	3 MK25
3.	500	1833Z	Visual	6000'	114°M	185	6 MK26
4.	424	1836Z	Visual	6000'	116°T	185	6 MK26
Total							3 MK25 18 MK26

B. Secondary Targets

1. A/C Mining Pakchan River

1.	485(444th)	1508Z	Visual	6000'	209° M	195	6 MK26
2.	736(444th)	1525Z	Visual	5500'	18° M	202	6 MK26
3.	532(468th)	1615Z	Visual	5500'	23° T	195	3 MK25
Total							3 MK25 12 MK26

2. A/C Mining Penang Harbor

1.	417(468th)	1728Z	Visual	5700'	1° T	187	6 MK26
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3. A/C Mining Goh Si Chang Channel

1.	463(462nd)	1730Z	Visual	5000'	?	?	2 MK26*
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* This A/C also placed 4 mines in its primary target area.

C. Opportunity Target

1. A/C Mining Navan Bay

1.	801(462nd)	1539Z	Visual	6000'	154° M	210	6 MK26
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HEADQUARTERS
XX BOMBER COMMAND
APO 493

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Auth: CG, XX BC
Initials: JW
Date: 1 Feb 1945

CONSOLIDATED
SPECIALIST MISSION REPORT
STAFF NAVIGATION OFFICER

Date Prepared: 29 January 1945

Field Order No. 30 & 31.
Date of Mission: 25 Jan '45

1. Navigation on this Mission was superior, with outstanding exactness being displayed by some individual navigators. The Missions to the Rhio Strait and the Jahore Strait fields are believed to be the longest bombing mission in history. Radar operator-navigator cooperation was excellent on this mission.

a. Average navigation time for the 444th and 468th Groups was as follows:

	<u>Time Out</u>	<u>Time Back</u>
444th Group	9h 12m	9h 00m
468th Group	8h 42m	8h 54m

b. Average time for 462nd Group by fields:

	<u>Time Out</u>	<u>Time Back</u>
Cape St. Jacques	7h 46m	7h 31m
Ganhrui Bay	8h 14m	7h 20m
Song Soirap Field	8h 23m	7h 17m
Grand Passage	8h 38m	7h 51m

c. The following navigational aid work was reported:

	<u>Gal Lops</u>	<u>Gal Fixes</u>	<u>Radio Fixes</u>	<u>OPM's</u>
444th	71	33	0	2
462nd	93	51	12	4
468th	130	99	6	5

d. Forecast winds were fair to good with some discrepancy in forecast for target areas. Actual average winds were as follows:

	<u>Half-way Out</u>	<u>Target</u>	<u>Half-way Back</u>
444th	4000' 95°-10K	4000' 286°-10K	4000' 96°-12K
462nd*	9000' 134°-14K	4000' 60°-12K	11000' 155°-14K

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	<u>Half-way Out</u>	<u>Target</u>	<u>Half-way Back</u>
468th	6000' 176°-15K	5000' 220°-11K	7000' 202°-12K

* Cape St. Jacques Area targets.

2. Although there was an outstanding amount of celestial work accomplished, some sortie reports indicated no celestial work at all by individual navigators.

3. Comments by Groups:

444th Group: No Comment

462nd Group: No Comment

468th Group: Tiomar Island reported 5000 feet high and shown on map as 3162 feet.

Suggested better course across Malay Peninsula to avoid enemy airfields.

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ANNEX

B

ENEMY ANTI-AIRCRAFT

* Prepared by: *
* * * * *
* Flak Officer *
* * * * *
* XX Bomber Command *
* * * * *

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SECRET
By auth of the C.G.
XX Bomber Command
1 Feb 45
Date Initials

HEADQUARTERS
XX BOMBER COMMAND
Intelligence Section
APO 493

1 February 1945

PRELIMINARY REPORT

ANTI-AIRCRAFT OPPOSITION ENCOUNTERED ON:

MISSION NUMBER 30 NIGHT (MINING), 25/26 JANUARY 1945; Primary Targets - GANHRAI BAY, CAPE ST. JACQUES and SONG SOIRAP in the SAIGON AREA, and CAMRANH BAY (1152N - 10912E); Secondary Targets - COH SI CHANG Channel (1320N - 10050E) and MUKONG RIVER (1124N - 10506E); Target of Last Resort - TAVOY HARBOR (1335N - 9814E).

MISSION NUMBER 31 NIGHT (MINING), 25/26 JANUARY 1945; Primary Targets - SINGAPORE STRAITS and RHIO STRAITS, SINGAPORE AREA; Secondary Targets - PENANG HARBOR (0525N - 10021E), PAKCHAN RIVER (1000N - 9835E) and MERGUI HARBOR (1225N - 9835E); Target of Last Resort - TAVOY HARBOR.

A. ANTI-AIRCRAFT FIRE ENCOUNTERED

1. CAPE ST. JACQUES AREA (30°20'N - 107°00'E)

Three aircraft of a total of 18 mining CAPE ST. JACQUES, GANHRAI BAY, and SONG SOIRAP from 1413Z to 1615Z at altitudes of 2,000 to 5,000 feet under CAVU and 1/10 undercast conditions encountered automatic weapons fire at 1515Z and 1512Z at 2,000 feet. Ground flashes only were observed by two aircraft at 1515Z, while meager and inaccurate (tracers within 150') AW fire was reported by the one aircraft mining at 1512Z.

2. CAM RANH BAY (1152N - 10910E)

Six aircraft mined this area from 1456Z to 1530Z from 3,000 to 3,100 feet altitude but no anti-aircraft fire was encountered.

3. SINGAPORE AREA (0115N - 104°00E)

a. Heavy Anti-aircraft Fire Encountered

Five of a total of 41 aircraft mining the SINGAPORE Straits encountered meager and inaccurate heavy anti-aircraft fire at 1756Z to 1822Z at altitudes of 3,000 to 5,000 feet under CAVU conditions. The following tables show the relation between the approximate courses of aircraft and the heavy AA fire encountered.

Table I: Course in Relation to Fire Encountered.

Course No.	Total A/C	Approximate Course given by geographical coordinates.	Altitude in thousand feet	Time interval between A/C minutes	Time of Bomb Release	Meager and Inaccurate Heavy anti-aircraft fire encountered	
						A/C Altitude	Time
1	15	01°01'N-103°33'E to 01°12'N-104°06'E	4	4	1850Z - 1907Z	0	4,000'
2	8	01°09'N-103°33'E to 01°12'N-104°06'E	4	7	1750Z - 1845Z	3	4,000' 5,000'
3	4	01°15'N-103°33'E to 00°59'N-104°06'E	6	6	1810Z - 1834Z	0	6,000'
4	14	01°42'N-104°00'E to 01°00'N-104°13'E	3-5	3	1800Z - 1811Z	2	3,000'

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Table II: Origin of Heavy AA Fire Encountered,

Course No.	Time HAA Encount.	Range to Mid-point in yards	Origin of Fire
2	1756Z	13,000	Singapore Town (01°18'N - 103°51'E).
2	1759Z	-----	Not given, but HAA fire encountered when South of Singapore
2	1806Z	3,500	Possible ship at 01°07'N - 103°51'E.
4	1807Z	36,000	4-gun heavy AA site on BAKUM Island (01°14'N - 103°46'E).
4	1814Z	26,000	Singapore Town (01°18'N - 103°51'E).

It was assumed that aircraft above flew approximate courses as briefed but the extreme ranges to the mid-points of courses on which heavy AA fire was encountered would indicate that the actual flight paths may have been closer to the origin of fire than determined. The deviations of bursts, however, of which no more than one was observed for each encounter, varied from level to 9,000 feet above, ahead to approximately 1 mile behind, and either to the left, right, or in line. Four of the bursts were described as red (probably due to darkness) while one crew observed ground flashes only.

Also, after assigning a standard reference point (01°15'N - 104°00'E), it was found that 4 aircraft traversed the SINGAPORE area before heavy AA fire was encountered while a total of 20 aircraft crossed the area without heavy AA opposition after the 5 aircraft had encountered fire.

Although the reported origins of heavy AA fire (Table II) and gun-laying radar signals intercepted by R.C.M. Observers (Naval - ship borne) do not coincide, it is still possible that the enemy was attempting to determine present position data by radar means as only 3 to 4 questionable searchlights were reported from SINGAPORE Town at 1752Z by 1 aircraft of a total of 41 participating in the mining operation.

b. Automatic Weapons Fire Encountered

Meager and inaccurate automatic weapons fire was encountered from 1752Z to 1821Z at altitudes of 3,000 to 5,000 feet under CAVU conditions by 16 of a total of 41 aircraft participating in the mining operation. AW fire encountered was about evenly divided between aircraft on Courses 1, 2, or 4 in proportion to the number of aircraft flying those courses. It was reported as originating from the following locations:

- (1) West Coast of BATAM Island at 01°06'N - 104°09'E.
- (2) East Coast of BINJAN Island in the vicinity of and at TAND OENGOEBAN (01°04'N - 104°13'E).
- (3) PEMTING Island (01°06'N - 103°48'E).
- (4) Small Island or possible ship at 01°11'N - 103°44'E.
- (5) Northwest tip of BATAM Island (01°12'N - 104°06'E).
- (6) West side of JOHORE STRAITS (01°28'N - 104°00'E).

No AW fire was observed from BAKUM Island or from SINGAPORE town, nor did the 4 aircraft on Course #3 at 6,000 feet altitude (Table I) encounter automatic weapons fire.

One aircraft reported tracer streams or bursts within 150', 14 at distances greater than 150' and 1 aircraft as approximately 1 mile away. Deviations were either level or below, generally ahead, and to the left, in line, or to the right as much as 1000 yards.

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Both tracers, red only, and bursts (described as yellow by one aircraft) were reported. The number of bursts observed at any one instant varied from 3 to 8 while the total reported for two encounters varied from 24 to 50. It is probable that the majority of the AW fire originated from machine guns or 25mm cannon firing tracers only, with the smaller portion from either 25mm or 40mm weapons firing ammunition with self-destroying elements, or time fused projectiles in the case of the 40mm.

4. TANDJOENGBALAI (00°59'N - 103°36'E)

One aircraft reported meager and inaccurate heavy antiaircraft fire from this vicinity at 1322Z at an altitude of 3,000 feet under CAVU conditions. One burst only was reported as ahead of the aircraft.

5. GEORGETOWN, PENANG ISLAND (05°24'N - 100°20'E)

Two aircraft encountered automatic weapons fire, one while mining the harbor at 1728Z and the other while enroute to the SINGAPORE Area at 1645Z.

Automatic weapons fire (red tracers) encountered at 1645Z at an altitude of 6,000 feet under CAVU conditions was meager and inaccurate with deviations of below, behind and to the right. Two bursts were observed at one instant while approximately 40 were reported for the entire encounter. This fire probably originated from 25mm twin-barrel cannon as fire was reported "coming from guns with two closely grouped barrels each - estimated from the appearance of the tracer streams" and firing self-destroying ammunition as evidenced by the bursts observed.

At 1728Z and at an altitude of 5,700 feet under CAVU conditions, however, automatic weapons fire was reported as meager but intense, with red tracers, and as originating from an unidentified ship in the harbor. No bursts were observed and deviations of the tracers were level, behind, and in line. Prior warning is indicated at 1728Z as the "aircraft came out of soup only two minutes before" reaching the target. No searchlights were observed.

B. NEGATIVE REPORTS OF FIRE ENCOUNTERED

Aircraft mined areas as listed below, but encountered no antiaircraft opposition:

- | | |
|---|--|
| 1. MEKONG RIVER, MYTHA
(10°20'N - 106°23'E) | One aircraft at 2,000' at 1522Z. |
| 2. PAKCHAN RIVER
(10°00'N - 98°35'E) | Three aircraft from 1508Z to 1615Z
from 5,500 to 6,000 feet altitude. |
| 3. GOH SI CHANG CHANNEL
(13°10'N - 100°50'E) | One aircraft at unstated time and
altitude. |
| 4. NAVAN BAY | One aircraft at 1529Z from 6,000 feet. |

C. SEARCHLIGHTS

Searchlight activity, both at CAPE ST. JACQUES and SINGAPORE and other areas where fire was encountered, was particularly lacking. Also the two reports below indicate either non-employment of the standard Japanese AA searchlights or inefficient use of searchlight material.

B-I-3

S E C R E T

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By AL NARA Date 11.27.05

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1. CHO GAO, CAPE ST. JACQUES AREA (10°22'N - 106°23'E)

One white feeble beam was observed at 1520Z from 2,000 feet through a 1/10 undercast by one aircraft of the 462nd Group. This uncertain searchlight remained on for approximately 4 minutes but never located the aircraft which passed approximately 4 miles to the Northwest.

2. SINGAPORE TOWN (01°18'N - 103°51'E)

From 3 to 4 questionable searchlight beams were observed by one aircraft at 1752Z from 4,000 feet under CAVU conditions out of a total of 41 aircraft participating in the mining operations in this area. The beams, which were not brilliant, yellow in color, and at a very low angle, remained on for approximately 4 to 5 minutes but never located the aircraft.

D. BARRAGE BALLOONS

One conventional barrage balloon flying at an altitude of 2,000 feet and anchored to a stationary CV, was observed 1,000 feet directly below the aircraft making the observation at 1808Z. The CV was located east of the King's Dock in SINGAPORE Straits. No other barrage balloons were reported by aircraft flying over the SINGAPORE Area.

E. GROUND-TO-AIR ROCKETS, SMOKESCREENS, and HIGH-ALTITUDE BALLOONS

None reported.

F. BLACKOUT

1. SAIGON AREA (10°46'N - 106°36'E)

Aircraft over the area from 1413Z to 1615Z reported that the SAIGON area was blacked out before approach and that the black-out was good with "very few lights" visible.

2. ENROUTE TO SINGAPORE AREA,

No blackout was observed by aircraft enroute to the SINGAPORE Area, either on the western or eastern sides of the Malay Peninsula.

3. ENROUTE FROM THE SINGAPORE AREA

No blackout was observed in effect by aircraft enroute from the SINGAPORE Area, although VICTORIA POINT (10°00'N - 99°30'E) did black out at approximately 2133Z after aircraft #534 of the 468th Group had passed overhead and was about 5 miles distant.

4. SINGAPORE AREA (01°15'N - 104°00'E)

At the time the first aircraft approached, the SINGAPORE Area was not observing black-out regulations. It required approximately 15 minutes before land areas were almost entirely blacked-out, while at no time were channel (buoy) lights or beams from lighthouses extinguished.

At 1809Z A/C 529 of the 468th Group reported groups "of blue, yellow and white channel lights in that sequence on both sides of SINGAPORE Straits and on islands", while A/C 691 of the same Group observed that "most of the lights to the south of the run were white" with a few green. Channel markers were also observed in the JOHORE Straits near the Causeway that, like other channel lights, remained lit during the entire time of the attack.

B-I-4

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The following table (made possible by concise and complete information furnished in the 483th Group's Mission Report) shows the development of the blackout in the SINGAPORE Area.

Table III: Blackout - SINGAPORE Area

Time	Land-based lights in the SINGAPORE Area	Channel (Buoy) Lights	Lighthouses
1750Z-1755Z	ON - but individual lights beginning to be extinguished	ON	ON
1756Z-1805Z	Area partially to practically blacked out.	ON	ON
1806Z-1808Z	Area almost entirely blacked out.	ON	ON
1809Z-1830Z	Almost all lights off or masked, but not a perfect blackout.	ON	ON
1831Z-1833Z	Almost a perfect black out.	ON	ON

The blackout at SINGAPORE, although late in taking effect, is similar to that observed for cities or towns of Northern KYUSHU, Japan, during operations of this Command last summer. Land areas would be under good or excellent blackout regulations while channel markers and lighthouses for the adjacent water areas would continue to function during the entire period of the attack.

G. DAMAGE FROM ANTI-AIRCRAFT FIRE

None.

H. WARNING NETS

1. SAICOM-CAFE ST. JACQUES AREA

No statement can be made due to lack of good early warning radar intercepts, although the area was blacked out before the approach of our aircraft.

2. SINGAPORE AREA

It is evident that the enemy did not utilize the prior warning he should have had (indicated by initial lack of black out in the area) as aircraft were tracked by early warning radar at PENANG Island, and by early warning radars in the SINGAPORE Area. It may be that this type of an attack was not expected as all XX Bomber Command missions since August 1944 have been high altitude and daylight attacks.

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

B-I-5

S E C R E T

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Authority NWD 760003
By RL NARA Date 11.27.05

S E C R E T

ANNEX

C

ENEMY AIR OPPOSITION

* Prepared by: *
* * * * *
* Operational Intelligence Unit *
* * * * *
* XX Bomber Command *
* * * * *

S E C R E T

S E C R E T

JAPANESE FIGHTER TACTICS - MISSIONS NO. 30 & 31

TARGET: Harbor Areas in Singapore, Saigon and
Cam Ranh Bay.

TIME: Night Mission.

DATE: 25-26 January 1945.

Our aircraft met no air opposition, but reported sightings of 11 enemy aircraft as follows:

<u>No. of E/A</u>	<u>Time</u>	<u>Location</u>	<u>Remarks</u>
1	----	50 miles north of Saigon.	E/A had a strong searchlight located somewhere on the leading edge of the wing or in the nose. The light was apparently for use in locating aircraft at night. No fire was exchanged since E/A did not approach closer than one mile.
8	1435Z	Airfield north of Saigon.	Enemy aircraft were seen taking off; no contact was made.
1	----	30 to 40 min. from PT on return route.	Possible E/A level at 5 o'clock. A white and orange light was visible for 10 to 15 minutes, then faded out.
1 T/E	1752Z	At the PT before bombs away.	Approached the B-29 toward the tail, closed to 100 feet; (apparently no fire was observed).

C-1

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By RL NARA Date 11.27.05

S E C R E T

ANNEX

D

WEATHER INFORMATION

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

* * * * *
* Prepared by: *
* * * * *
* Weather Section *
* * * * *
* XX Bomber Command *
* * * * *

S E C R E T

SECRET

I - WEATHER INFORMATION

Missions No. 30-31

25-26 January 1945

SINGAPORE

	As Forecast	As Encountered
Base at Take-off	Clear and unrestricted.	KHARAGPUR; Clear. Visibility 8 miles in haze. Wind calm. DUDHKUNDI; Clear. Visibility unlimited. Wind calm.
Route Out	Base to 16°N; Clear and unrestricted. 16° to 8°N; 9/10 altostratus at 16,000'. 3/10 stratocumulus base 2000' top 3000'. Scattered cumulonimbus bases 3000' tops 20,000' in zone of inter-tropical front between 12 deg and 8 deg N. Occasional moderate turbulence and moderate to heavy rain showers in frontal zone. 8° to Target; Same as target area.	Base to 16 deg N; Clear and unrestricted to 18 deg, with 3/10 cumulus, top 5000' beginning at that latitude and increasing to 8/10 at 16 deg. Occasional scattered cirrus above 20,000'. 16° to target (East Route); Low cumulus, top 5000' became scattered south of 14 deg, and then broken again from 5 deg to target area. Cirrus remained scattered to 5 deg and then became broken to overcast thin cirrostratus. 16 deg to Target (West Route); Low cumulus, top 5000' became scattered from 14 to 10 deg North Lat. from 10 to 6° it was broken and in this zone a few small isolated cumulonimbus were reported, their tops to only 12,000'. Moonlight and lightning made these easy to locate and avoid. South of 6 deg the low clouds became more stratiform than cumuliform, but persisted as broken (8-9/10) to the south end of the Malacca Strait. Cirrus formations were same as on east route.
Target Area	4/10 Cirrostratus at 32,000'. 7/10 thin altostratus at 15,000'. 4/10 stratocumulus base 2000' top 4000'. Pressure: 29.83 inches.	High thin cirrostratus overcast veiled but did not obscure the moon. Lower clouds were patchy in their distribution, but average coverage over the target area did not exceed 4/10. Large areas were completely clear of low clouds. Low clouds were thin stratus and/or stratocumulus at about 4000'.
Return Route	No change in west route. Slight increase in cumulus activity on east route.	Target to 13 deg N (East Route); Cirrostratus was broken to 7 deg N, scattered thence to 10 deg, and nil north of 10 deg. Lower clouds became cumuliform again north of target area but tops re-

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S E C R E T

	As Forecast	As Encountered
		<p>mained no higher than 5000'. Coverage was 4/10 to point where Malay Peninsula was crossed, became 7/10 across the land area, and decreased to 1-2/10 from west coast to 13 deg.</p> <p>Target to 13 deg N (West Route): <u>Similar cirrus to east route.</u> Cumulus over Malacca Strait averaged 6-7/10 coverage with tops increased to 7-8000', and patches of broken altocumulus were reported at 12,000' in this area. In the zone from 3 deg to 10 deg the thunderstorms had become very frequent although still were only of moderate intensity. Tops estimated up to 15,000' and turbulence was moderate, but rain showers were occasionally heavy. Lower cumulus between thunderheads averaged 3/10 varying from 5 to 8000' at 3 deg with coverage increasing to 5-7/10 from 7 to 10 deg. In zone from 10 to 13 deg the activity had decreased to only scattered stratocumulus at 4000'. 13 deg to Base (Both Routes): <u>Sky coverage increased to 9/10 from 13 to 15 deg, clouds being only stratocumulus with tops at 4000' to the east, but showing a more cumuliform nature with tops to 8000' and occasional lightning and moderate turbulence on the more westerly course. Just north of Preparis Island clouds dissipated to very thin scattered stratus at 4000', and from there to base the sky was cloudless.</u></p>
Base on Return	Clear. Visibility 7 miles in haze.	<p><u>KHARAGPUR</u>; Clear. Visibility 5 miles in light smoke. Wind calm. <u>DUDHKUNDI</u>; Clear. Visibility 15 miles. Wind calm.</p>

A. Winds Aloft -- Forecast

Altitude	Base to 16 deg	16 deg to 11 deg	11 deg to 6 deg	6 deg to Target
1,000'	340 deg - 05K	40 deg - 05K	120 deg - 10K	20 deg - 07K
5,000'	340 deg - 15K	10 deg - 12K	130 deg - 10K	360 deg - 08K
10,000'	340 deg - 20K	270 deg - 18K	140 deg - 12K	340 deg - 10K
15,000'	320 deg - 25K	270 deg - 19K	160 deg - 16K	60 deg - 11K

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S E C R E T

B. Winds Encountered

Winds at Target at 4,000': 30 deg - 10K.
Because of darkness and over-water conditions, it was not possible to get a good check on the winds aloft along the route.

C. Target Temperatures

As Forecast

Altitude	Temperature
Surface	24 deg C.
1,000'	16 deg C.
5,000'	7 deg C.
10,000'	1 deg C.
15,000'	-5 deg C.

As Encountered

Altitude	Temperature
3,000'	19 Deg C.
4,000'	17 Deg C.
6,000'	12 Deg C.

SAIGON AND CAM RANH BAY

	As Forecast	As Encountered
Base at Take-off	Clear to scattered cirrus. Visibility 12-15 miles with slight haze. Surface wind NW 8 mph.	Clear. Visibility 15 miles in slight haze. Surface wind NW 8.
Route Out	Base to 93 deg E: Same as base weather. 93 to 100 deg E: 6/10 cumulus base 2000' to 7000' with 1/10 cumulonimbus base 2000' top 17,000'. 7/10 altostratus base 15,000' top 17,000'. 4/10 cirrostratus above 25,000'. 100 deg E to Target: 4/10 stratocumulus base 3000' top 4500'. 7/10 altostratus base 16,000' top 17,000'. 2/10 cirrostratus base above 25,000'.	Base to 94 deg E: Nil clouds except 2/10 cirrus above 25,000' from 100 miles from India coast to Diamond Island. Visibility gradually improving en route from 12 to 15 miles. Haze to 5000'. 94 to 102 deg E: 4/10 to 6/10 stratocumulus base 3000' top 5000' and occasionally to 7000'. Scattered buildups to 18,000' over Malay Peninsula. 3 to 4/10 cirrostratus above 20,000'. Visibility 25 miles with very light haze. Occasional light to moderate turbulence over Malay Peninsula. 103 deg E to Target: 5/10 to 7/10 stratocumulus below 10,000'. Shower activity with light turbulence and 10/10 clouds in several layers to 15,000' in Chhlong area. 10/10 thin altostratus at 15,000' extending into target area.

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By RL NARA Date 11.27.05

S E C R E T

	As Forecast	As Encountered
Target Area	Saigon Area: 5/10 stratocumulus base 3000' top 4500'. 5/10 altostratus base 16,000' top 17,000'. 1/10 cirrostratus above 25,000'. Cam Ranh Bay Area: 6/10 stratocumulus base 3000' top 4000', otherwise same as Saigon area. Target Pressure: 29.80 inches	Both Main Target Areas; 8 to 10/10 thin altostratus at 15,000' with scattered thin stratocumulus at 5000'. Visibility 15 miles with slight haze. Area illuminated by moonlight in spite of thin cloud cover.
Return Route	Same as Route Out.	Similar to Route Out except generally less cloud and no shower activity encountered.
Base on Return	Clear. Visibility 4-5 miles in haze. Surface wind 7-8 mph.	Clear. Visibility 5 miles in haze. Surface wind NNE 8 mph.

A. Winds Aloft - Forecast

Altitude	Base to 92 Deg	92 Deg to Tavoy	Tavoy to 103 Deg	103 Deg to Target
1,000'	340 Deg - 05K	040 Deg - 05K	090 Deg - 05K	010 Deg - 05K
5,000'	340 Deg - 15K	290 Deg - 12K	090 Deg - 10K	060 Deg - 12K
10,000'	340 Deg - 20K	240 Deg - 18K	080 Deg - 15K	080 Deg - 12K
15,000'	320 Deg - 25K	260 Deg - 21K	080 Deg - 18K	080 Deg - 12K
20,000'	290 Deg - 30K	280 Deg - 25K	080 Deg - 20K	080 Deg - 17K

B. Winds Encountered

Altitude	Base to 96 Deg	96 to 102 Deg	Target
4,000'	310 Deg - 15K		70 Deg - 12K
10,000'		100 Deg - 15K	

C. Target Temperatures

As Forecast

Altitude	Temperature
Surface	22 Deg C.
5,000'	14 Deg C.
10,000'	8 Deg C.

As Encountered

Altitude	Temperature
4,000'	20 Deg C.

D-I-4

S E C R E T

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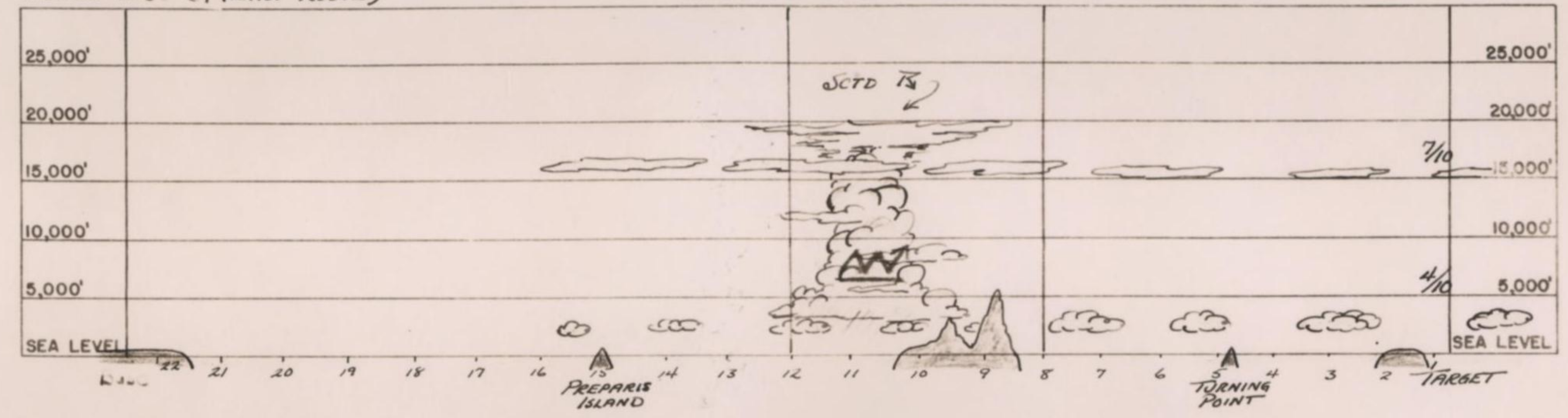
Authority NND760063
By RL NARA Date 11.27.05

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XX BOMBER COMMAND
 WEATHER AS FORECAST

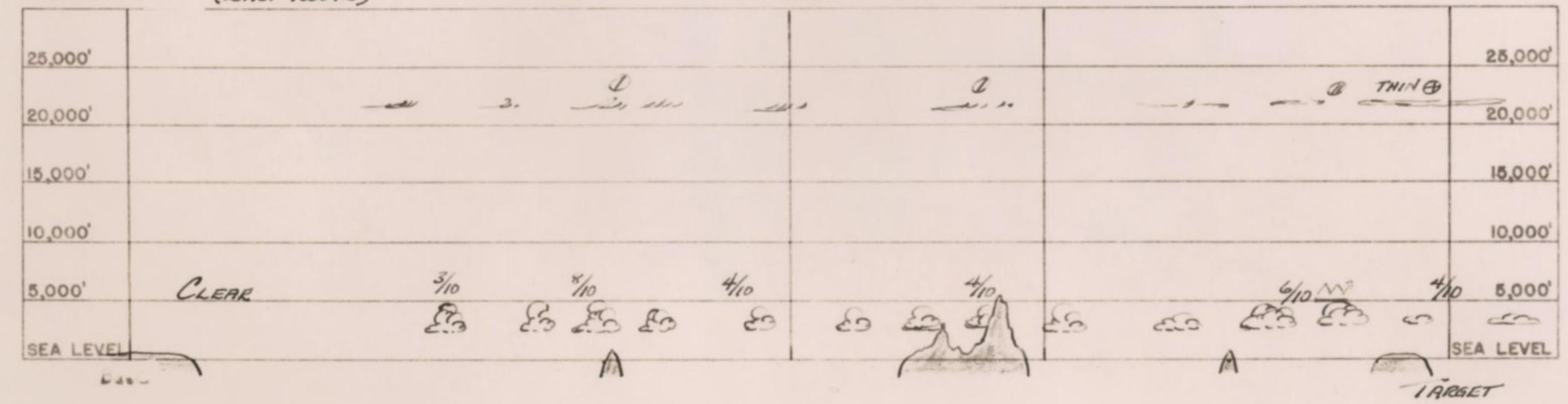
SINGAPORE MISSION

MISSION NO 37-1 (EAST ROUTE)



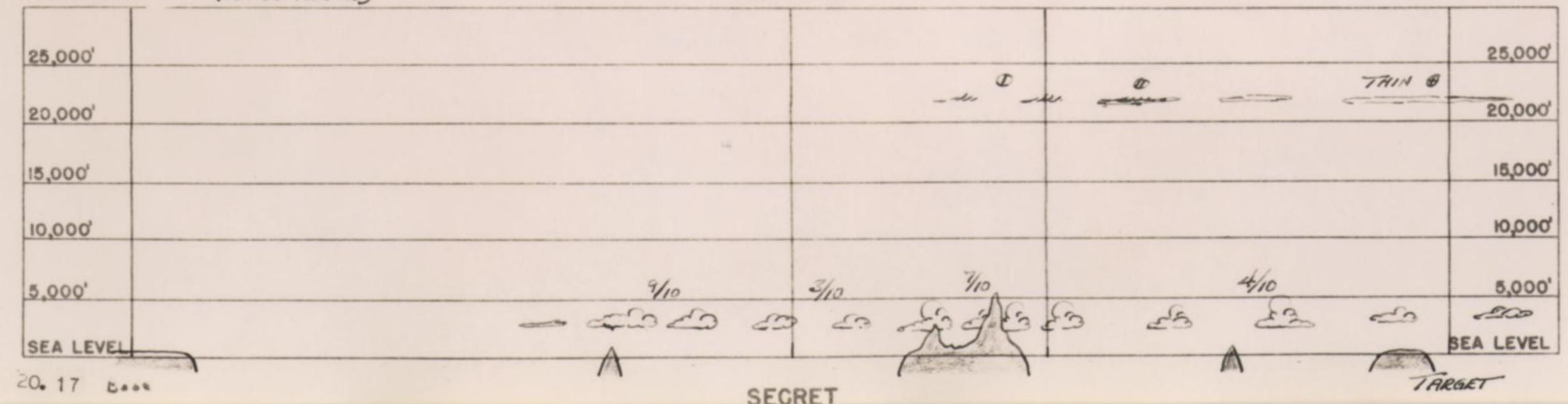
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 ROUTE OUT

MISSION NO (EAST ROUTE)



WEATHER AS ENCOUNTERED
 ROUTE BACK

MISSION NO (EAST ROUTE)



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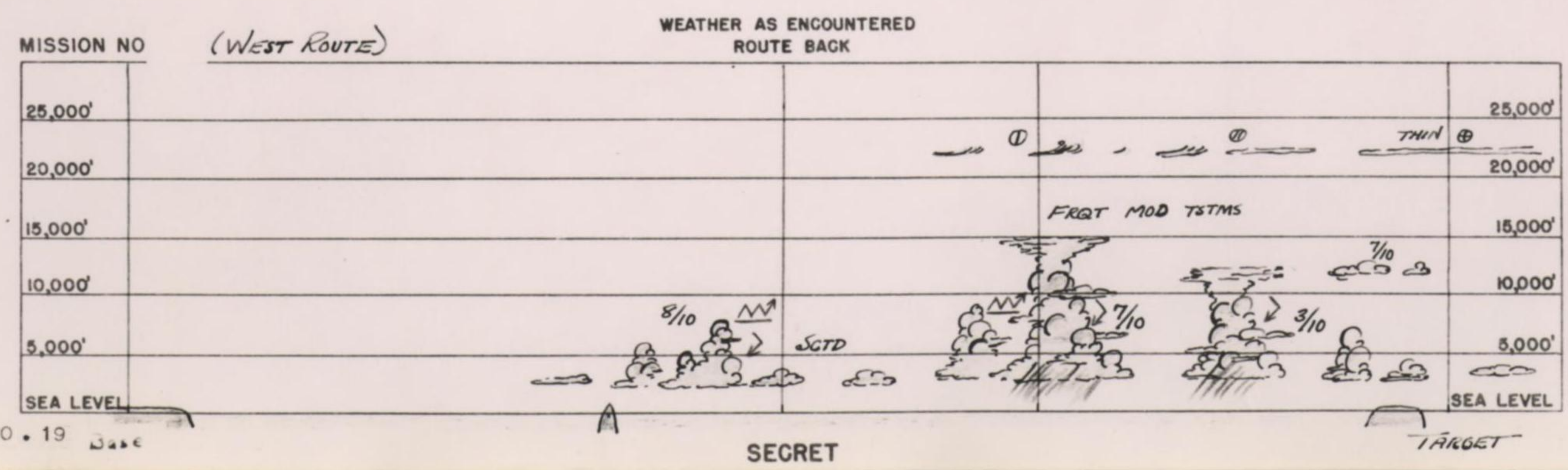
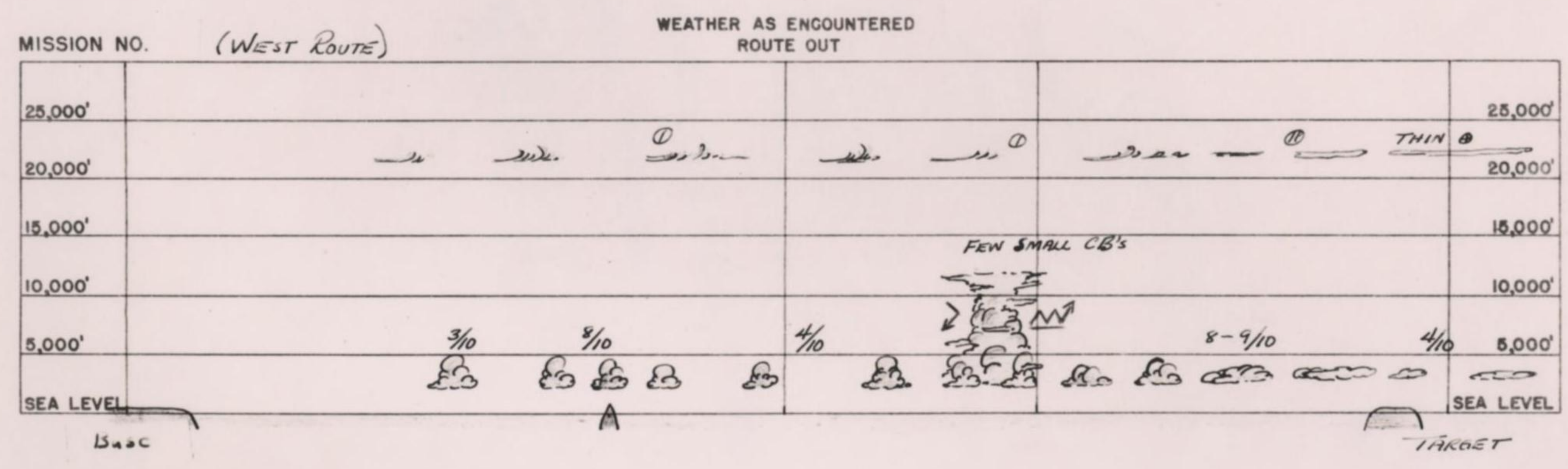
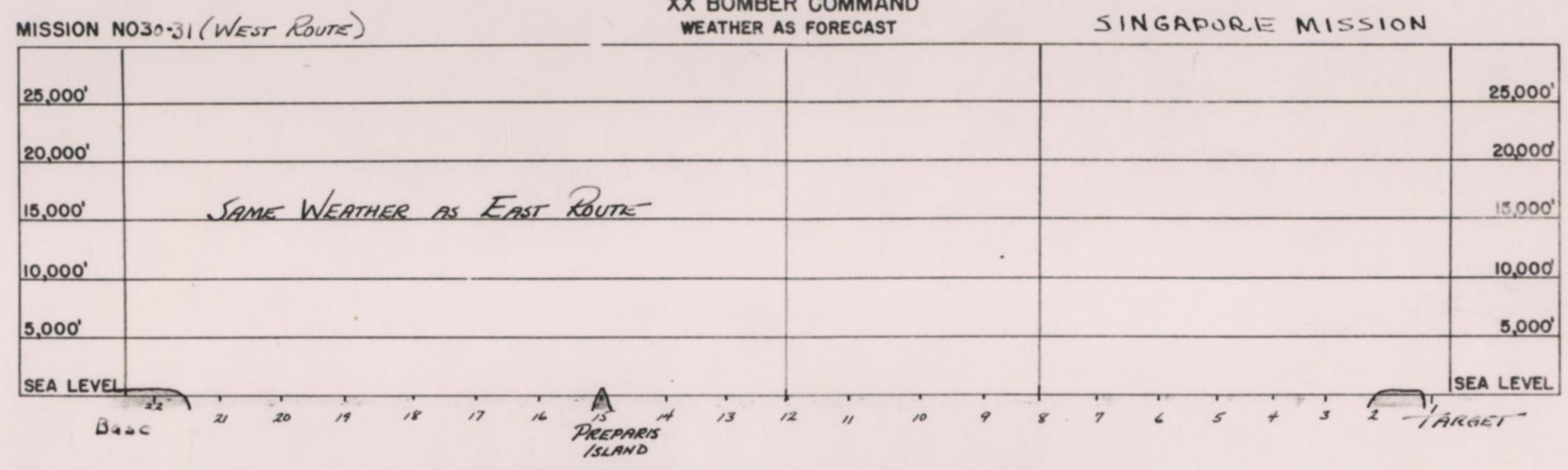
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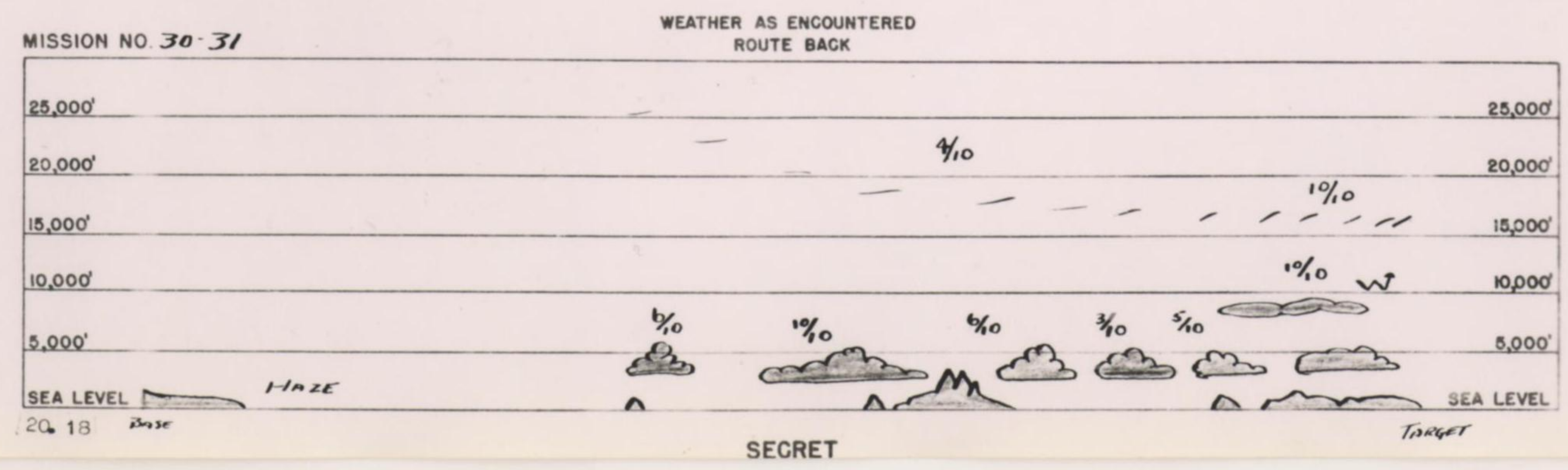
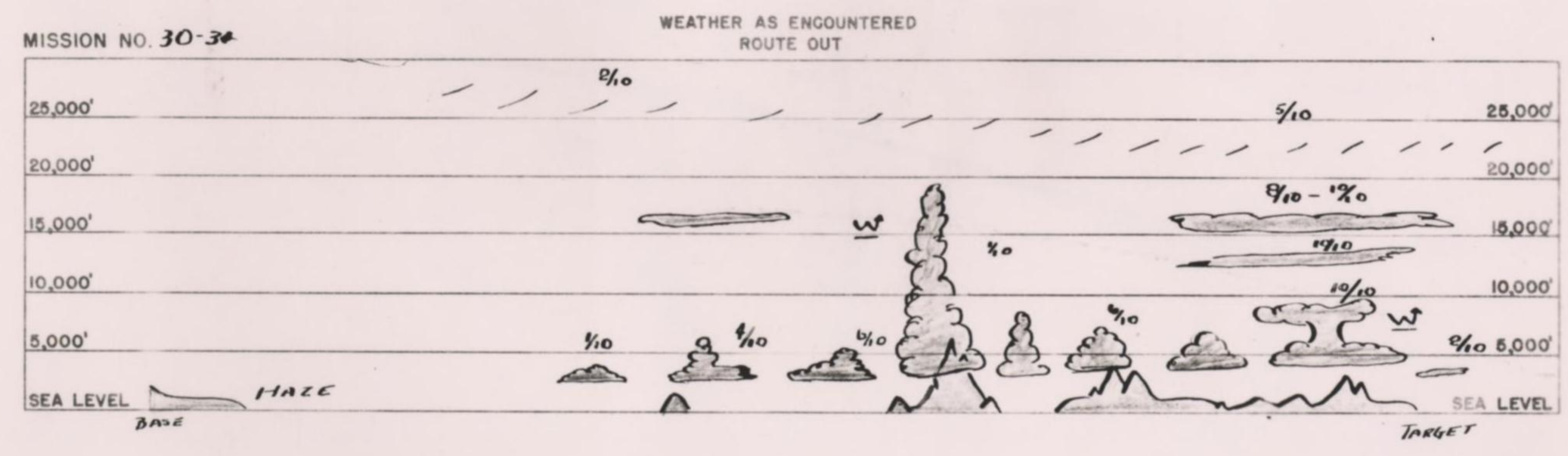
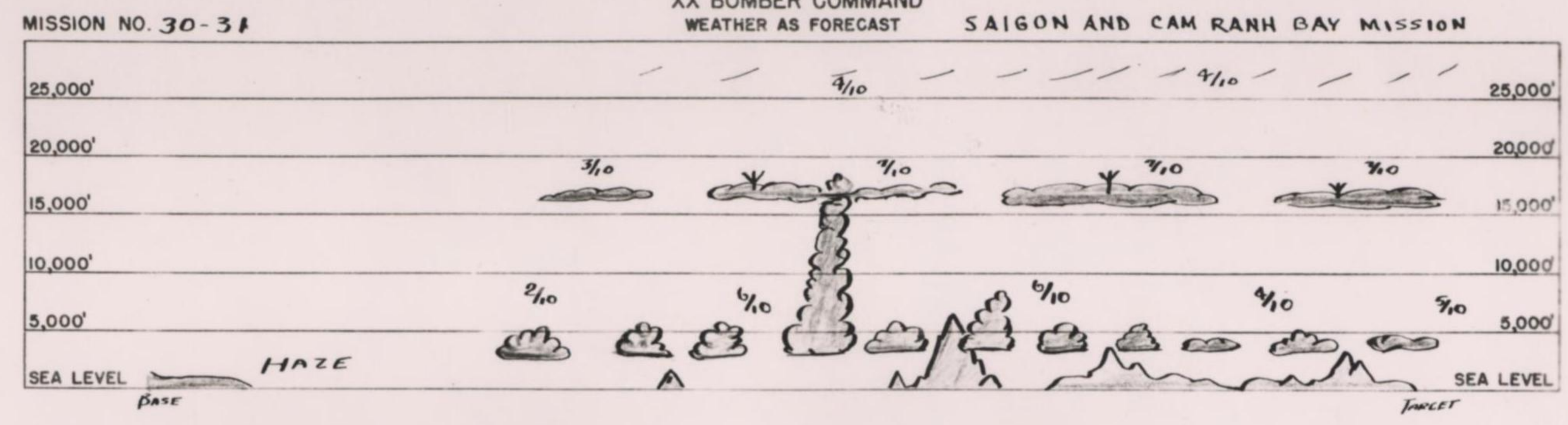
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 XX Bomber Command
 WEATHER AS FORECAST



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XX BOMBER COMMAND
WEATHER AS FORECAST SAIGON AND CAM RANH BAY MISSION



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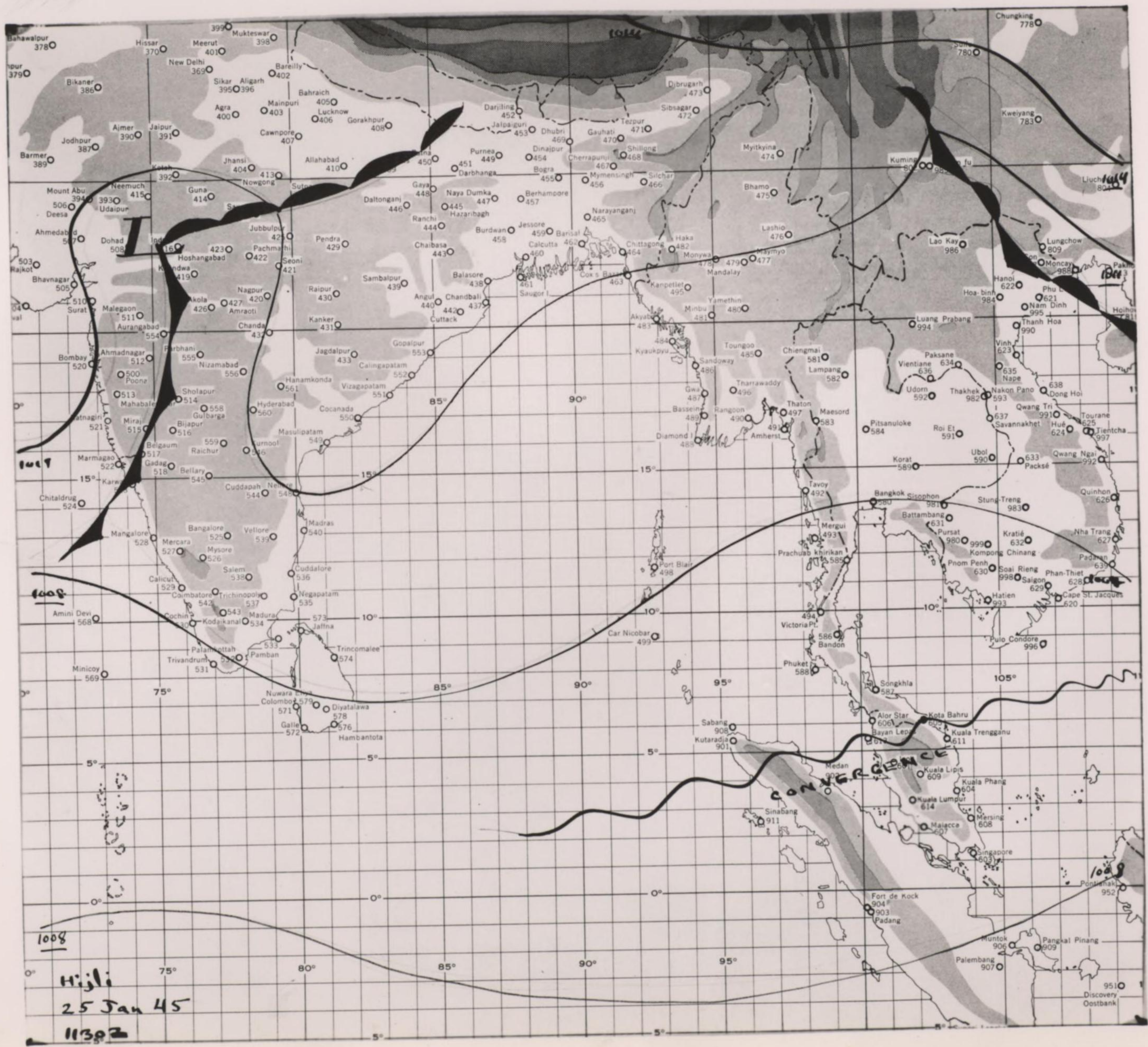
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By *AK* NARA Date 11.22.05



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S E C R E T

ANNEX

E

COMMUNICATIONS INFORMATION

* * * * *
* Prepared by: *
* * * * *
* Communications Section *
* * * * *
* XX Bomber Command *
* * * * *

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E.O. 11652, Sec. 3(E) and 5(D) or (E)
NND 740120
By CB/m NARS, Date OCT 21 1975

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DECLASSIFIED
Authority NND 760063
By AK NARA Date 11.27.05

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* SECRET *
*Auth: CG, XX BC *
*Initials: *
Date: 31 Jan 45

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

• XX BOMBER COMMAND COMMUNICATIONS (RADIO) OFFICER

Date Prepared: 29 January 1945 Field Orders No: 30, 31

Dates of Missions: 25-26 January 1945.

1. In general, communications for missions number thirty (30) and thirty-one (31) were considered excellent.

2. The flight plans called for aircraft to fly individually on these missions, and there was a resultant increase in traffic. A summary of the traffic sent in compliance with the tactical doctrine is as follows:

	<u>444th Gp</u>	<u>462nd</u>	<u>468th</u>
a. Aborts:	4	0	0
b. Bombs Away:	19	25	26
c. Attack:	0	0	0
d. Convoy Sighting:	2	0	0
e. Position Report:	20	23	22
f. 92% of the aircraft sent "Bombs Away" messages. There were four (4) aborts, and one (1) aircraft jettisoned, thus accounting for all aircraft. 86% of the aircraft sent position reports, 14% being unaccounted for in the Group Consolidated Specialists Reports.			
g. There were two (2) infractions of tactical doctrine: two aircraft of the 468th Group requested readability reports on the outbound leg.			

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

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a. AIRCRAFT TO GROUND STATION:

<u>Frequency</u>	<u>0900-1100</u>	<u>1100-1300</u>	<u>1300-1500</u>	<u>1500-1700</u>	<u>1700-1900</u>
2900 kcs	-- -- --	-- -- --	-- -- --	-- -- --	S3 R5 --
2955 kcs	-- -- --	-- -- --	S3 R3 W2	-- -- --	S4 R3 W3
4825 kcs	-- b --	-- -- --	-- -- --	-- -- --	-- -- --
5185 kcs	-- -- --	-- -- --	S3 R4 W1	S2 R3 W2	S1 R1 W4
8260 kcs	S4 R4 W1	-- -- --	S3 R4 W1	S3 R3 W3	S2 R2 W4
8325 kcs	-- -- --	-- -- --	-- -- --	-- -- --	S1 R2 --
8495 kcs	S3 R3 W2	S4 R4 W4	S4 R4 W1	S5 R5 W1	S2 R2 W1

<u>Frequency</u>	<u>1900-2100</u>	<u>2100-2300</u>	<u>2300-0100</u>	<u>0100-0300</u>	<u>0300-0500</u>
2900 kcs	S3 R3 --	S3 R3 --	S3 R4 --	-- -- --	-- -- --
2955 kcs	S2 R3 W2	S3 R3 W2	S3 R3 W2	-- -- --	-- -- --
4825 kcs	-- -- --	-- -- --	-- -- --	S3 R3 W4	S4 R4 W3
5185 kcs	S2 R2 W3	S2 R3 W3	S3 R4 W2	S4 R4 W1	-- -- --
8260 kcs	S2 R3 W4	S4 R5 W1	S5 R5 W0	S5 R5 W0	-- -- --
8325 kcs	S2 R3 --	S3 R4 --	S4 R5 --	-- -- --	-- -- --
8495 kcs	S2 R3 W1	S2 R3 W1	S1 R2 W3	S3 R4 W1	S4 R4 W1

b. GROUND STATION TO AIRCRAFT:

<u>Frequency:</u>	<u>0900-1100</u>	<u>1100-1300</u>	<u>1300-1500</u>	<u>1500-1700</u>	<u>1700-1900</u>
2900 kcs	-- -- --	-- -- --	-- -- --	S3 R4 W1	S1 R2 W3
2955 kcs	-- -- --	-- -- --	S3 R3 W2	-- -- W4	S4 R3 W3
4825 kcs	-- -- W1	-- -- W2	-- -- --	-- -- --	-- -- --
4995 kcs	S3 R4 W1	S3 R4 W2	-- -- --	-- -- --	-- -- --
5185 kcs	S4 R5 W0	S4 R4 W1	S3 R4 W2	S3 R3 W3	S3 R3 W5
8260 kcs	S5 R5 W0	S5 R5 W 0	S4 R3 W3	S3 R2 W4	S3 R3 W4
8325 kcs	S5 R5 W1	S4 R5 W2	S4 R4 W3	S3 R4 W3	S3 R3 W3
8495 kcs	S5 R5 W1	S4 R4 W1	S4 R4 W1	S4 R4 W2	S3 R4 W2
12285 kcs	S5 R5 W1	S4 R4 W2	S4 R4 W2	S4 R4 W1	S3 R2 W2
12335 kcs	-- -- --	S3 R4 W3	S2 R3 W3	S3 R3 W3	S1 R1 W2

<u>Frequency</u>	<u>1900-2100</u>	<u>2100-2300</u>	<u>2300-0100</u>	<u>0100-0300</u>	<u>0300-0500</u>
2900 kcs	S3 R3 W2	S3 R3 W2	S3 R4 W2	-- -- --	-- -- --
2955 kcs	S2 R3 W2	S3 R3 W2	S3 R3 W2	-- -- --	-- -- --
4825 kcs	-- -- --	S2 R3 W1	S1 R2 W3	S3 R4 W1	S4 R4 W1
4995 kcs	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
5185 kcs	S2 R3 W5	S3 R3 W4	S4 R4 W3	S4 R4 W3	-- -- --
8260 kcs	S4 R4 W3	S4 R4 W3	S5 R5 W1	S5 R5 W0	-- -- --
8325 kcs	S2 R3 W3	S3 R4 W2	S3 R3 W1	-- -- --	-- -- --
8495 kcs	S2 R2 W1	S2 R2 W1	S2 R2 W1	-- -- --	-- -- --
12285 kcs	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
12335 kcs	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --

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c. Interference by stations working near our frequencies was reported, but it did not seriously disrupt communications. Considerable fading was reported on all frequencies, while aircraft were in the target area.

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

a. Radio Homing Beacons:

<u>Location</u>	<u>No of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extreme Initial Contact</u>	<u>Avrge Track</u>
Barrackpore(CM)	5	146	200	284°
Calcutta(VU2ZU)	1	1000	1000	320°
Chittagong(NR)	4	194	250	---
Chakulia(AF)	1	500	500	320°
Dudhkundi(FN)	12	97	240	275°
Dum Dum(VUR)	3	533	700	336°
Khargpur(GK)	24	388	733	320°
Piardoba(ML)	17	401	1100	211°

b. Radio Ranges:

<u>Location</u>	<u>No of A/C Reporting</u>	<u>Average Initial Contact</u>	<u>Extreme Initial Contact</u>	<u>Avrge Track</u>
Barrackpore(CM)	3	531	750	---
Chittagong(NR)	1	800	800	---
Khargpur(GK)	2	260	260	---

c. D/F facilities:

<u>Station</u>	<u>Frequency</u>	<u>Type Bearing</u>			<u>Distance</u>
		<u>I</u>	<u>II</u>	<u>III</u>	
4E3(444th)	2955 kcs			1	150 mi.
4E3	4825 kcs	1			300 mi.
6C2(462nd)	8325 kcs	1			100 mi.
6C2	8325 kcs			1	200 mi.
6C2	8325 kcs			1	300 mi.
6C2	8325 kcs		1		120 mi.
3S8(468th)	5185 kcs		1		---
3S8	5185 kcs			1	---
3S8	5185 kcs			1	---
3S8	8260 kcs		1		---
3S8	8260 kcs		1		---
3S8	8260 kcs	1			---
3S8	8260			1	---

d. Air-to-air homing was not used on these missions.

5. No violations of cryptographic security were reported.

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6. Malfunctions of equipment are summarized as follows:

a. 444th Group

- (1) A/C 376 - Interphone cut out; repaired in flight.
- (2) A/C 534 - Collins transmitter would not tune; not repaired in flight. Liaison receiver weak; not repaired in flight.
- (3) A/C 270 - Radio compass antenna lead-in broken; command antenna was substituted.
- (4) A/C 834 - Trailing wire kinked and would not go out; not repaired in flight.
- (5) A/C 533 - Overloaded dynamotor for Collins transmitter; not repaired in flight.

b. 462nd Group:

- (1) A/C 393 - Liaison Key broken.
- (2) A/C 786 - Interphone tubes burned out.
- (3) A/C 459 - IFF wire in control box loose; repaired in flight.
- (4) A/C 463 - Indicator meter burned out on Collins transmitter; not repaired in flight.

c. 468th Group:

- (1) A/C 456 - Shorted microphone in gunner's position; repaired in flight.
- (2) A/C 678 - Interphone dynamotor shorted out; used command set.
- (3) A/C 703 - Compass sense antenna mast broken; not repaired in flight.
- (4) A/C 3424 - Radio compass out; cause undetermined.
- (5) A/C 4486 - Short in radio operator's jackbox; jackbox replaced.
- (6) A/C 4714 - Compass sense antenna lead-in broken; not repaired in flight.

S E C R E T

ANNEX

F

RADAR

I - Radar Information*

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

II - Radar Tables*

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

III - Radar Photograph Analysis Charts**

* Prepared by Radar Section, XX Bomber Command

** Prepared by Target Intelligence Unit, XX Bomber Command

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By AK NARA Date 11.27.05

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.....
.SECRET
.Auth: CG XX BC.
.Initials OSS
.Date 31 Jan 45
.....

HEADQUARTERS
XX BOMBER COMMAND
APO 493

CONSOLIDATED
SPECIALIST MISSION
REPORT OF

XX BOMBER COMMAND RADAR OFFICER

Date Prepared 31 January 1945
Date of Mission 28 January 1945

Field Orders No. 30 & 31

I - Radar Information

A - Navigation and Bombing

1. Field Orders number 30 and 31 were mining missions of shipping channels around Siagon and Singapore. The 462nd Bombardment Group participated in field order number 30, the mining of shipping areas around Siagon. The 444th and 468th Bombardment Groups participated in field order number 31 and mined the shipping areas around Singapore.

2. Moonlight and CAVU weather conditions over the mining area permitted the dropping of the mines visually. Radar equipment was used, however, chiefly in the selection of the initial points and pin points from which to start the mining runs. Combat crew comments were many on the value of radar in selecting the proper check points and course in which to drop the mines.

3. Radar scope photographs received from the missions showed excellent mapping of the channel areas and a greater and clearer coverage than was originally expected at the low altitudes flown. Radar operators reported also the ease of locating and identifying points on course.

4. The general excellent results obtained may be directly attributed to the close coordination between the navigator, bombardier and radar operator.

B - Scope Photography

1. Photographic results were better than average and the number and quality of pictures received was greatly improved. Thirty (30) cameras were installed and returned twenty (20) useable sets of photographs. The mining run was traceable on a total of sixteen (16) sets.

C - Serviceability

1. Malfunction of the radar systems was at a minimum. A total of sixty-five (65) or ninety-two (92%) percent of the equipment was operational over the mining areas.

2. There were no pressurization failures encountered primarily due to the low operating altitudes for mining. The range of the systems was reported also increased at these altitudes.

-1-

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II - Radar Tablos

A - Bombing Data

Total A/C Mining-----71.
 A/C in 462nd & 468th mined visually.
 A/C in 444th mined by combination radar and visual run.
 Bombardier dropped manually.

B - Photographic Results

DATA	444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%
No. Cameras Installed	6	-	11	-	13	-	30	-
K-35 Cameras	0	-	5	-	3	-	8	-
K-24 Cameras	6	-	6	-	10	-	22	-
No. Cameras in Abort, Early Ret. & Miss. A/C *	1	17	0	0	0	0	1	3
No. Cameras Completing Mission *	5	83	11	100	13	100	29	97
No. Cameras in Radar & Camera Malfunc. A/C #	3	60	2	18	3	23	8	28
Sets Pic. Returned #	2	40	9	82	9	67	20	67
No. Negatives Returned	111	-	202	-	145	-	458	-
Sets Pictures Usable **	2	100	9	100	9	100	20	100
Sets Pic. Tracing Bomb Run **	2	100	8	89	6	67	16	80

* Percentage based on cameras installed.
 # Percentage based on cameras completing mission.
 ** Percentage based on sets pics returned.

C - Navigational Ranges

CHECK POINT	444th Gp		462nd Gp		468th Gp		Total	
	Number Reporting	Average Range	Number Reporting	Number Reporting	Number Reporting	Average Range	Total No. Reporting	Average Range
Mapping Range	20	47	18	50	24	46	52	48
Singapore Area (PT)	4	30	-	-	10	30	14	30
Georgetown Area (ST)	3	55	-	-	4	37	7	44
Victoria Pt. (LRT)	4	23	-	-	12	43	16	39
Penyabong Pt. (IP)	9	36	-	-	-	-	9	36
Batam Island (IP)	6	31	-	-	12	30	18	30
Tinggi Island (IP)	-	-	-	-	12	28	12	28
Little Kariomen (IP)	-	-	-	-	1	35	1	35
Piai Point (IP)	-	-	-	-	1	35	1	35

S E C R E T

C - Navigational Ranges (Con't)

CHECK POINTS	444th Gp		462nd Gp		468th Gp		Total	
	Number Reporting	Average Range	Number Reporting	Average Range	Number Reporting	Average Range	Total No. Reporting	Average Range
Saigon Area (PT)	-	-	10	23	-	-	10	23
Cam Ranh Bay Area (PT)	-	-	5	26	-	-	5	26
Mekong River (ST)	-	-	8	32	-	-	8	32
Tavoy Harbor (LRT)	-	-	19	38	-	-	19	38
Chhlong (IP)	-	-	4	27	-	-	4	27
Cape Tioan (IP)	-	-	3	20	-	-	3	20
Cape St. Jacques (IP)	-	-	4	20	-	-	4	20
Cam Ranh Bay Neck (IP)	-	-	5	26	-	-	5	26
Bongkalis Island	8	36	-	-	14	37	22	37
Great Kariomon	9	30	-	-	1	50	10	32
Jarcondam Island	10	35	-	-	13	37	23	36
Proparis Island	23	33	-	-	36	33	49	33
Printian Island	2	40	-	-	8	31	10	33
Roepat Island	4	34	-	-	15	35	19	35
Sayer Island	7	30	-	-	11	34	18	32
Sullivan Island	3	35	-	-	13	37	16	37
Tiomun Island	6	36	-	-	14	35	20	35
Grand Lake	-	-	10	39	-	-	10	39
Ganh Rai Bay	-	-	16	29	-	-	16	29
Kega Point	-	-	9	34	-	-	9	34

D - Serviceability

DATA	444th Gp		462nd Gp		468th Gp		Total	
	No.	%	No.	%	No.	%	No.	%
A/C Airborne	24	-	26	-	26	-	76	-
A/C Reporting	24	-	26	-	26	-	76	-
APQ-13 Oper. at Take-off*	24	100	25	96	26	100	75	99
A/C Bombing	19	-	26	-	26	-	71	-
A/C Reporting Bombing *	19	79	26	100	26	100	71	93
APQ-13 Oper. over Target #	18	95	23	89	24	92	65	92
APQ-13 Unrepairable Fail. #								
Completely Inoperative	2	11	6	23	5	19	13	18
Partially Inoperative	0	0	1	4	1	4	2	3
Total	2	11	7	27	6	23	15	21
APQ-13 Repaired in Flight	3	-	2	-	0	-	5	-
SCR-718 Fail. (Inverter)	0	-	0	-	1	-	1	-
SCR-695 Failure	0	-	0	-	0	-	0	-

* Percentage based on A/C bombing.
 # Percentage based on A/C reporting bombing.

S E C R E T

E - Malfunctions

DATA	444th Gp	462nd Gp	468th Gp	Total
<u>At Take-off</u>				
Inverter		1		1
Total		1		1
<u>Between Take-off & Target</u> (Completely Inoperative)				
R.F. Unit		1		1
Synchronizer		1		1
Inverter	1			1
No Trace			1	1
Range Unit			1	1
Total	1	2	2	5
<u>(Partially Inoperative)</u>				
R.F. Unit (low gain)		1		1
Navigator's scope out			1	1
Total		1	1	2
<u>Total Complete & Partial</u>	1	3	3	7
<u>Between Target & Landing</u> (Completely Inoperative)				
Inverter	1a	1	2	4
RA-88		1		1
JB-40 (short)		1	1	2
Total	1	3	3	7
<u>Repaired in Flight</u>				
Changed Inverter	3a	2		5
<u>Auxiliary Equipment</u>				
SCR-718 (Inverter)			1	1

a - Became inoperative after changing invertors.

S E C R E T

NOTE: The following radar photograph analysis charts have been prepared to cover the operations of such aircraft as obtained the necessary scope photographs. They serve the purpose of tracing the approaches of these individual aircraft, locating more or less precisely the mines that were dropped and giving information on the general subject of mining operations from a radar point of view. These charts are part of a more detailed study (to be published in the near future) of the radar aspects of these missions.

S E C R E T

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By AL NARA Date 11.27.05

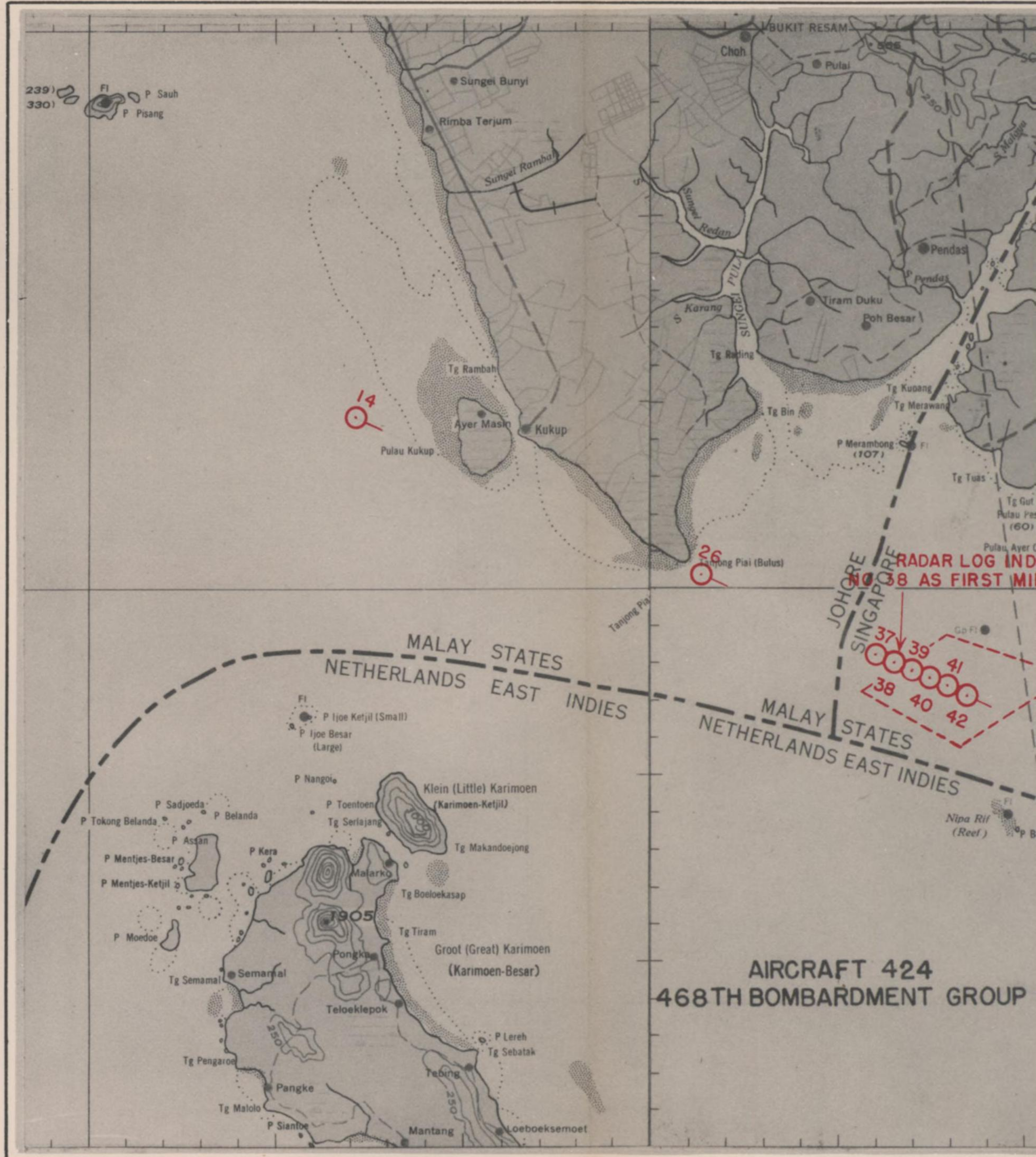
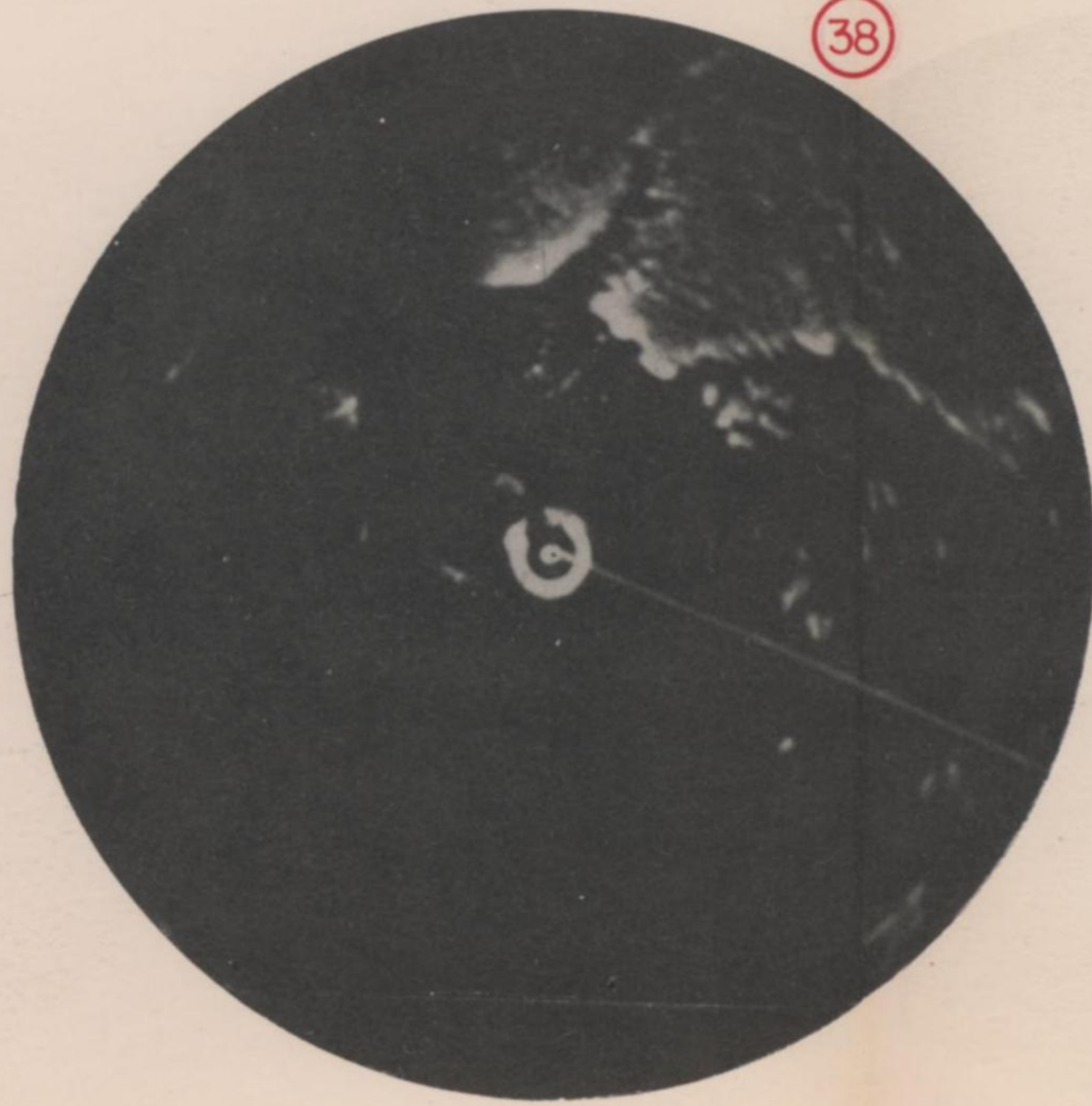
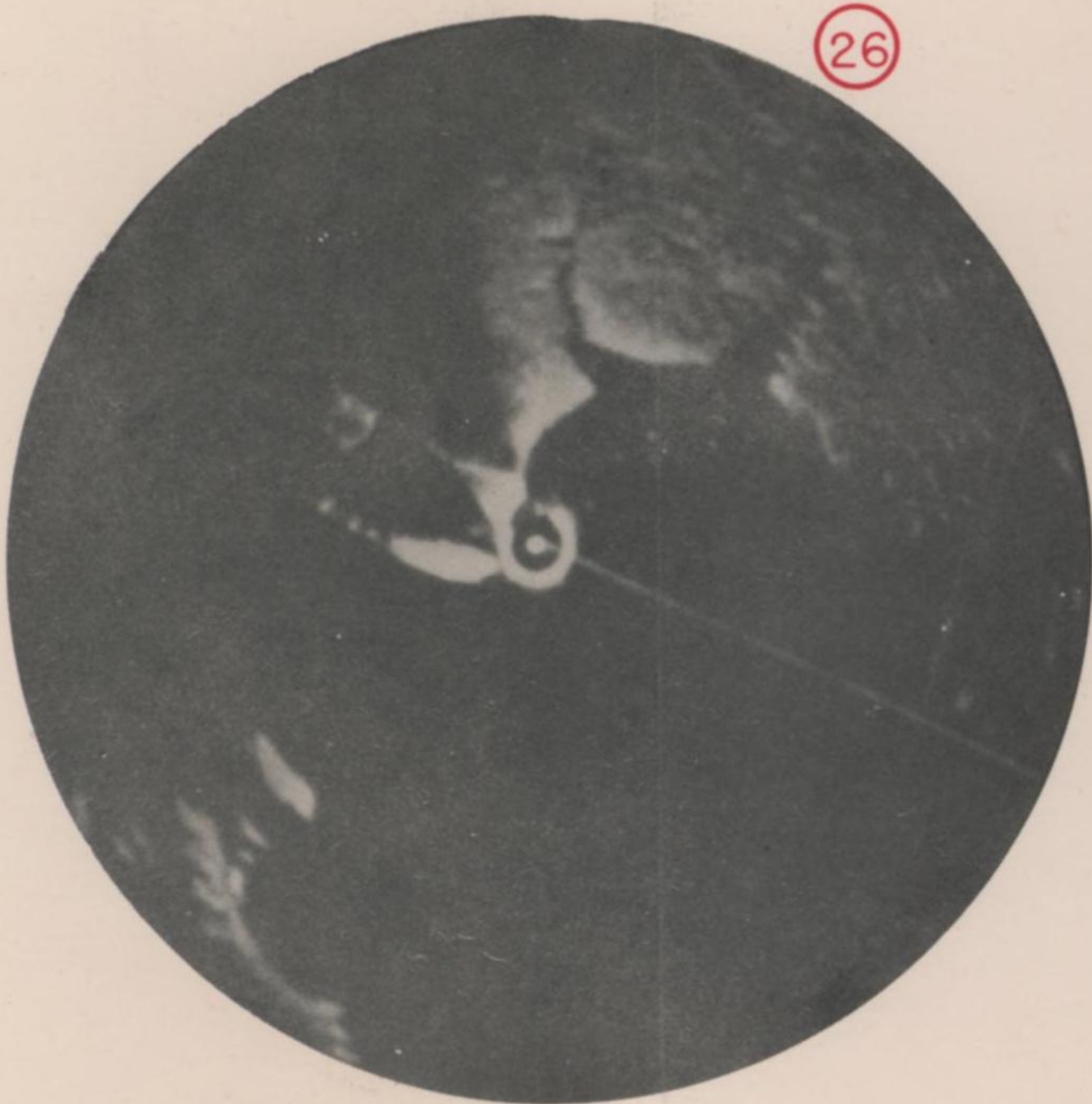
424 - 2/1/45

ALL SWEEPS 20 MILES,
ALTITUDES 6000', HEADINGS 113°MAG.

SECRET

RADAR PHOTOGRAPH ANALYSIS
SINGAPORE AREA-MALAY STATES
MISSION NO. 31-MINING OF APPROACHES TO HARBOR

OUTER MAIN STRAIT FIELD



AIRCRAFT 424
468TH BOMBARDMENT GROUP

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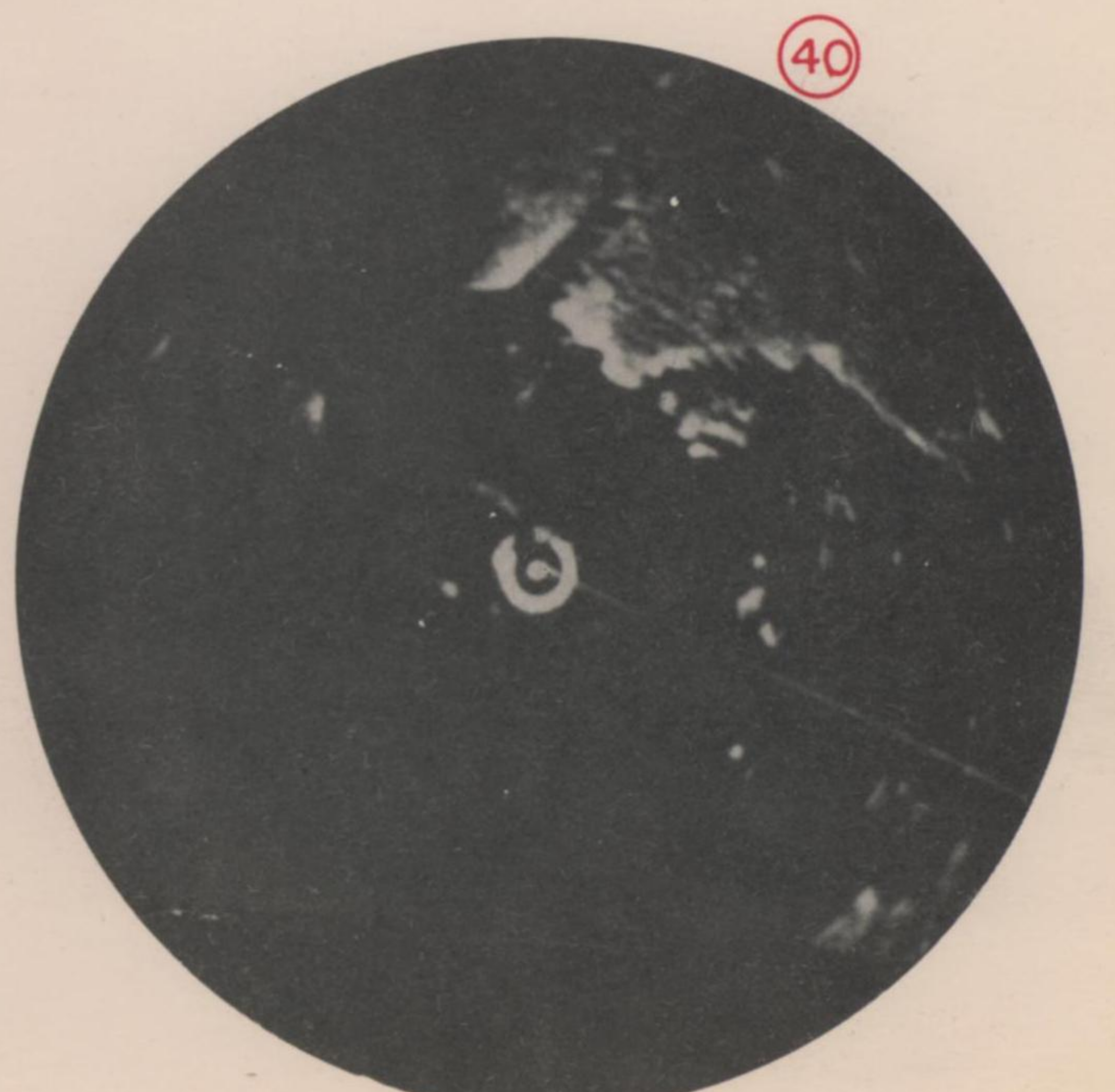
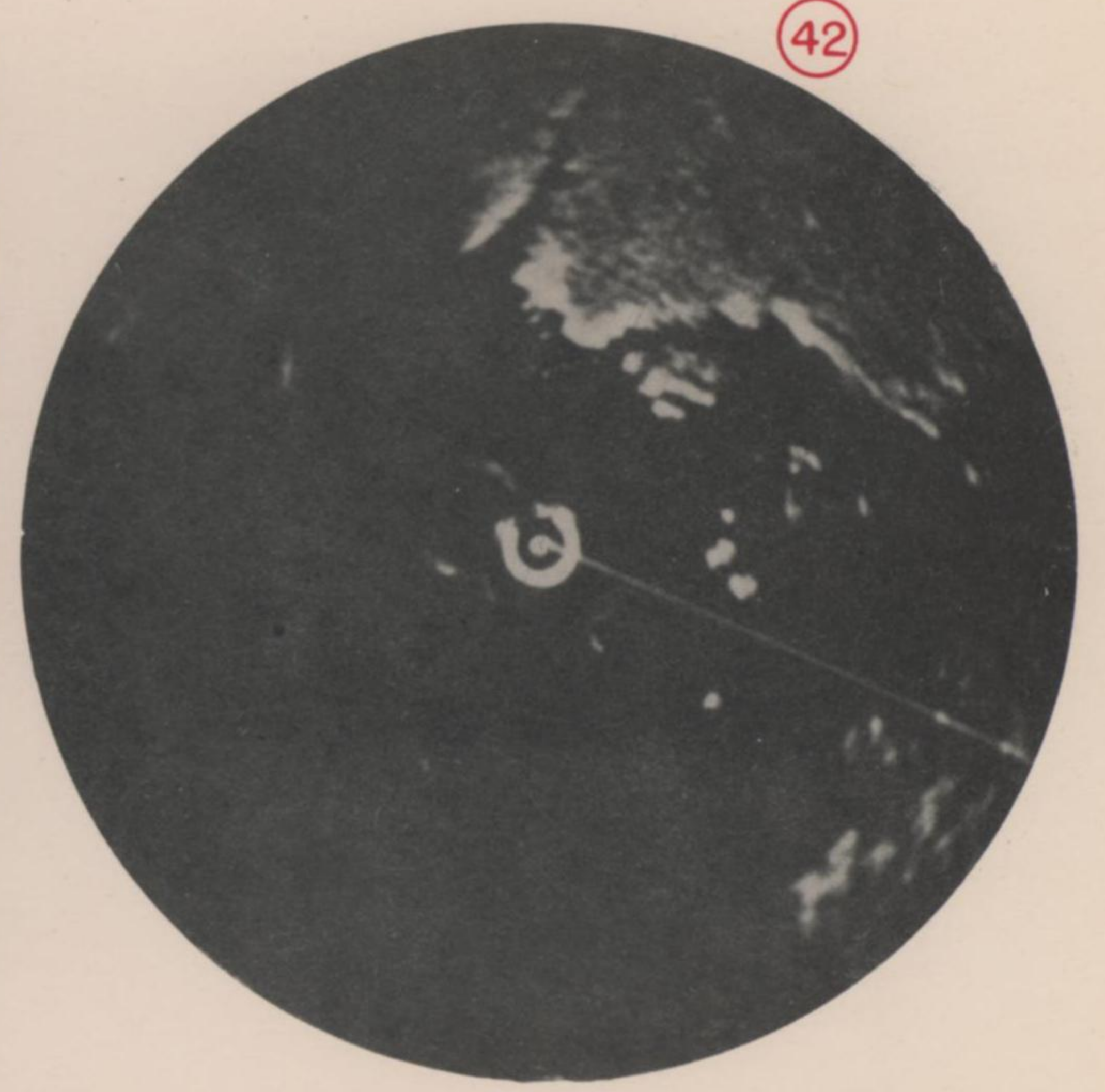
SECRET

R 92.2 SHEET A

RADAR PHOTOGRAPH ANALYSIS SINGAPORE AREA - MALAY STATES

D. 31 - MINING OF APPROACHES TO HARBOR & NAVAL BASES

OUTER MAIN STRAIT FIELD



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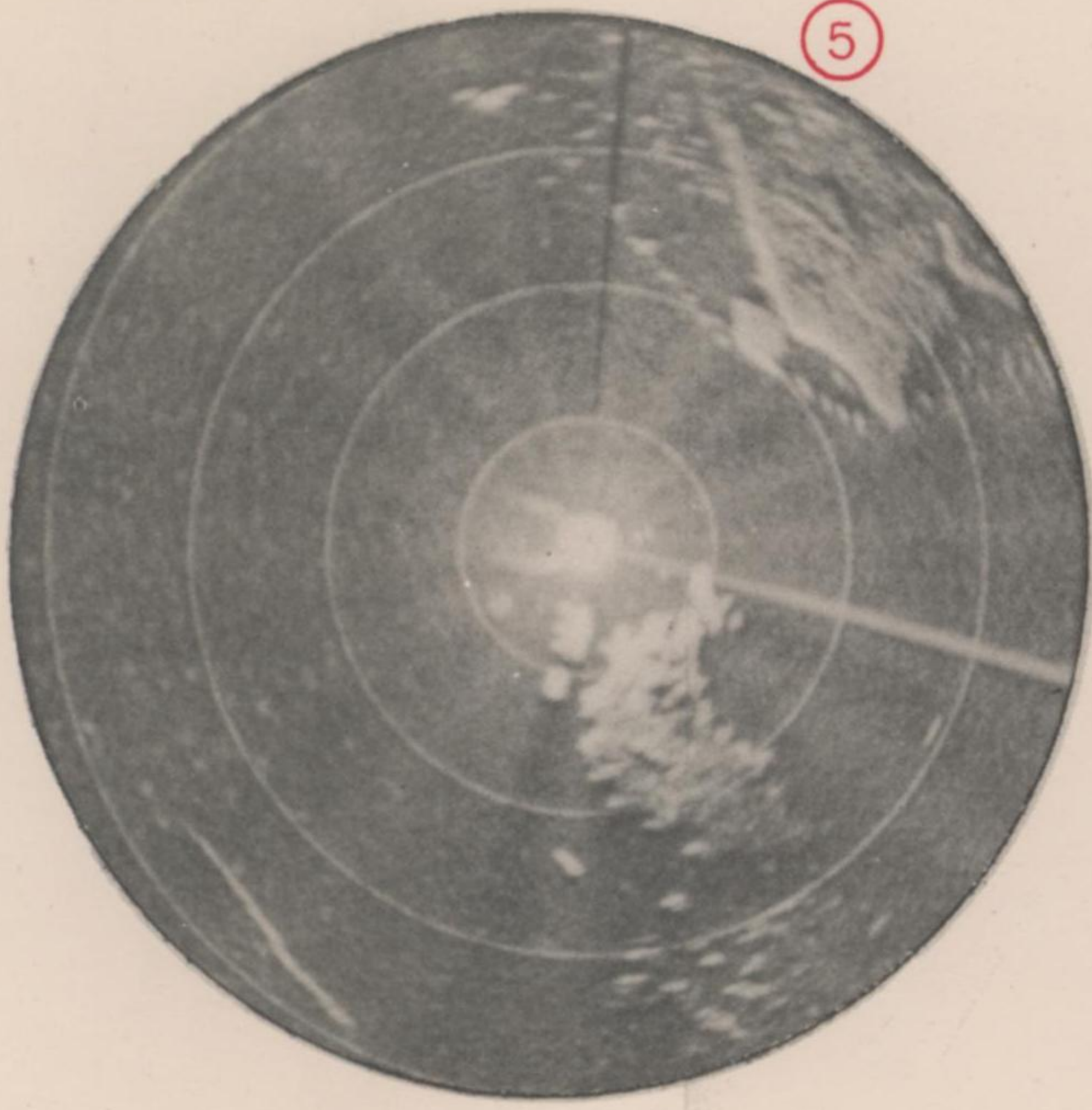
456 - 2/1/45

ALL SWEEPS 20 MILES, ALTITUDES 4000'
HEADINGS 85° MAG., UNLESS OTHERWISE INDICATED.

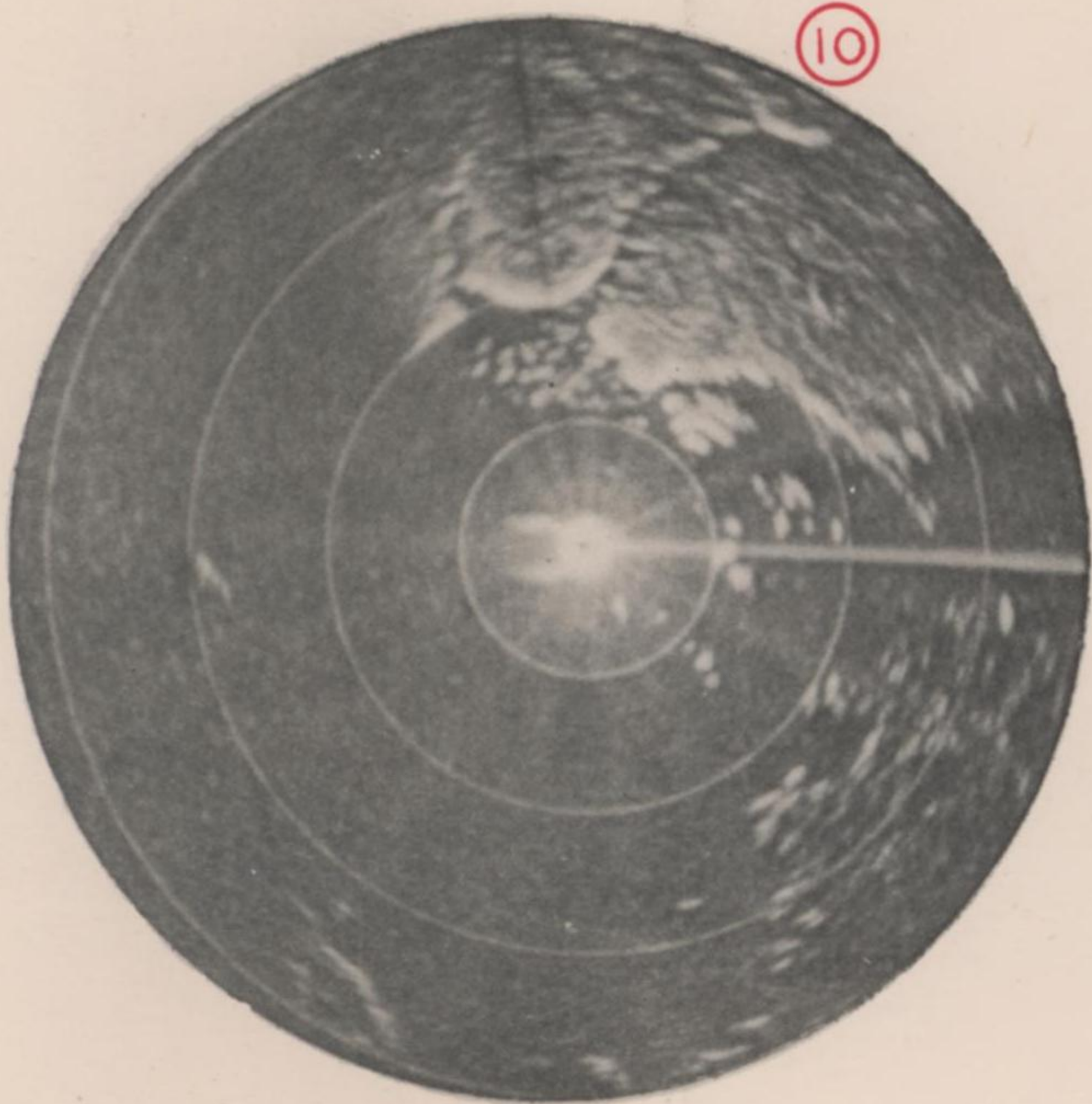
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RADAR PHOTOGRAPH ANALYSIS
SINGAPORE AREA - MALAY STATES
MISSION NO. 31 - MINING OF APPROACHES TO HARBOR &

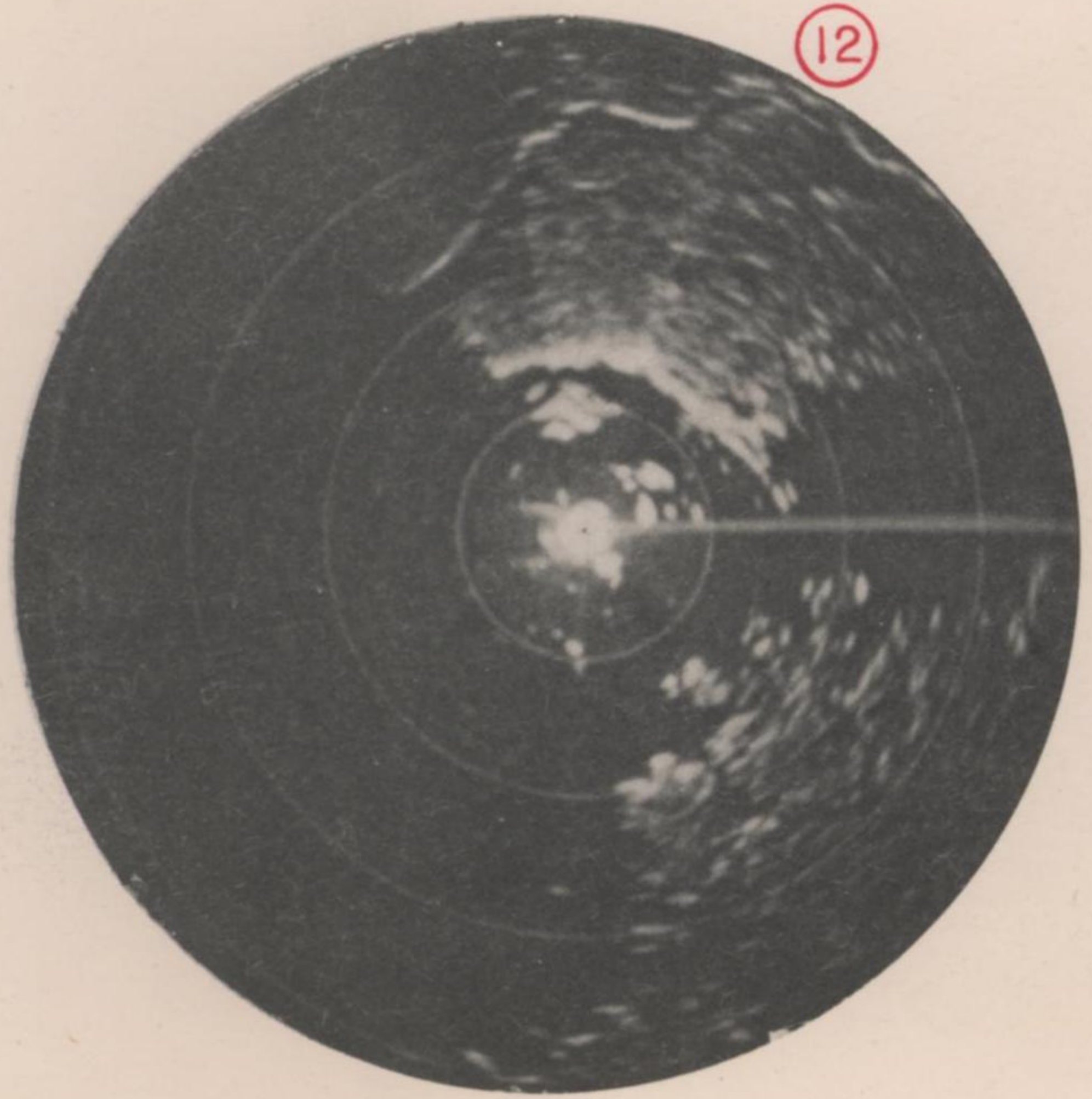
INNER MAIN STRAIT FIELD



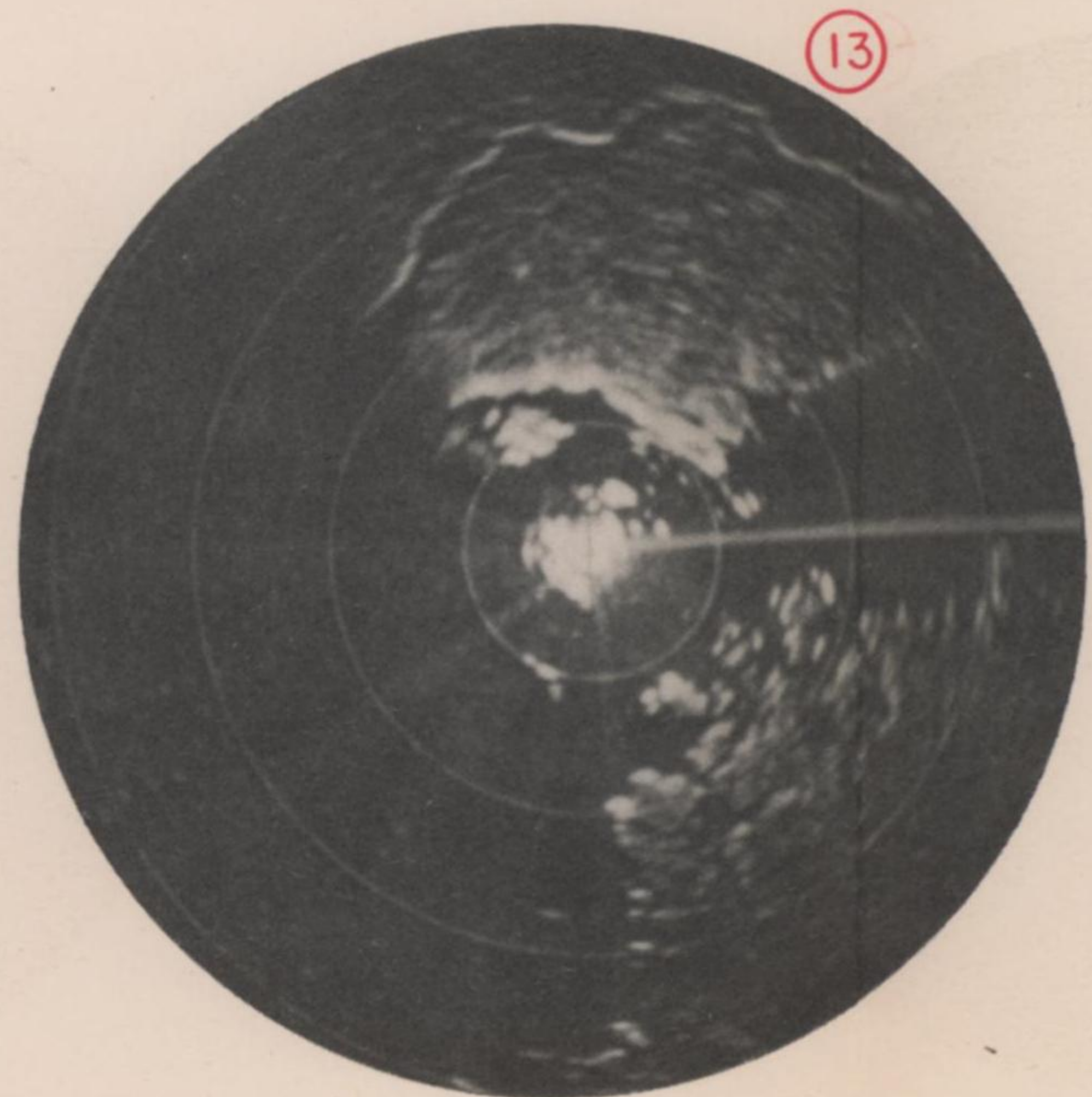
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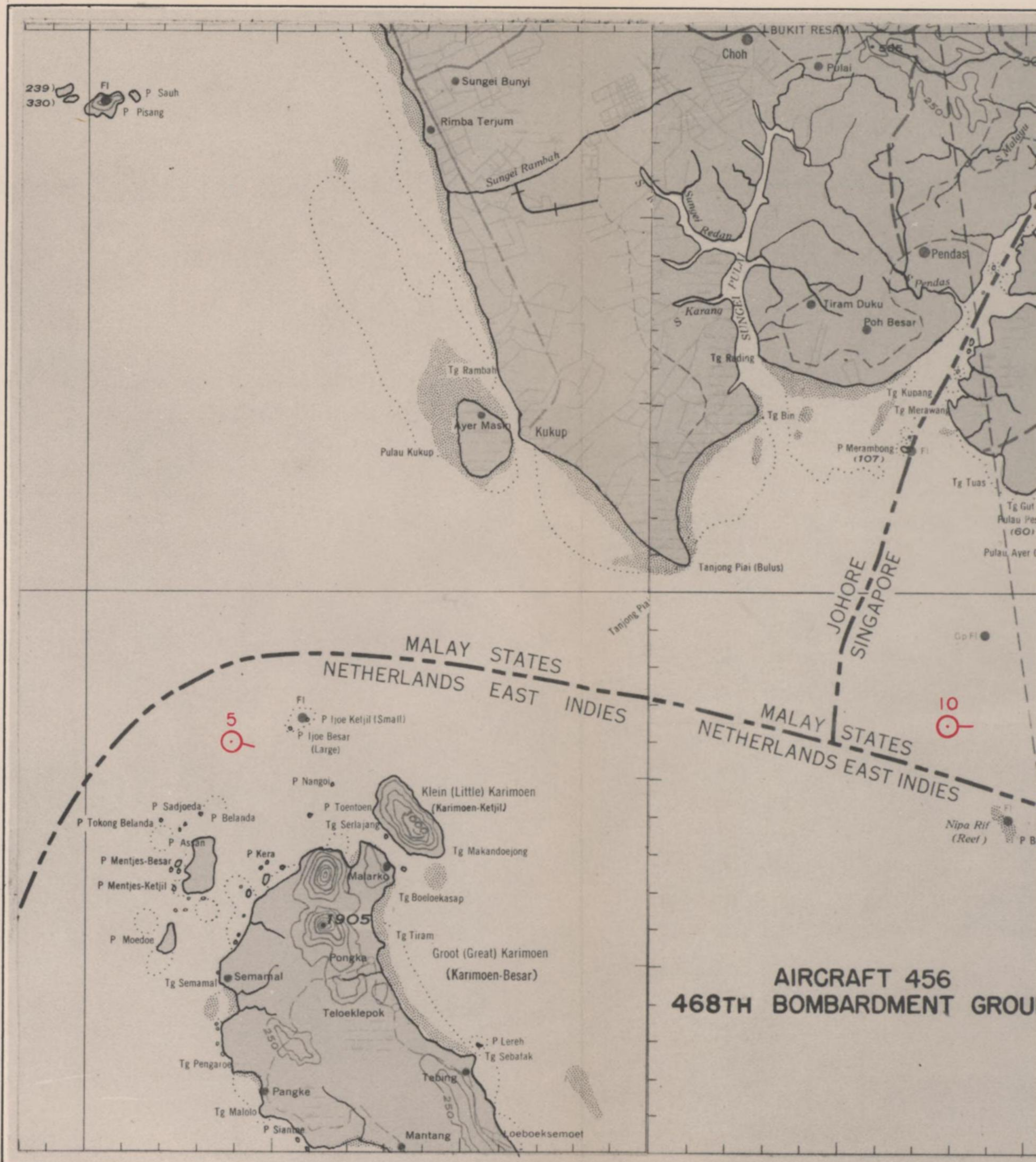
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12



13



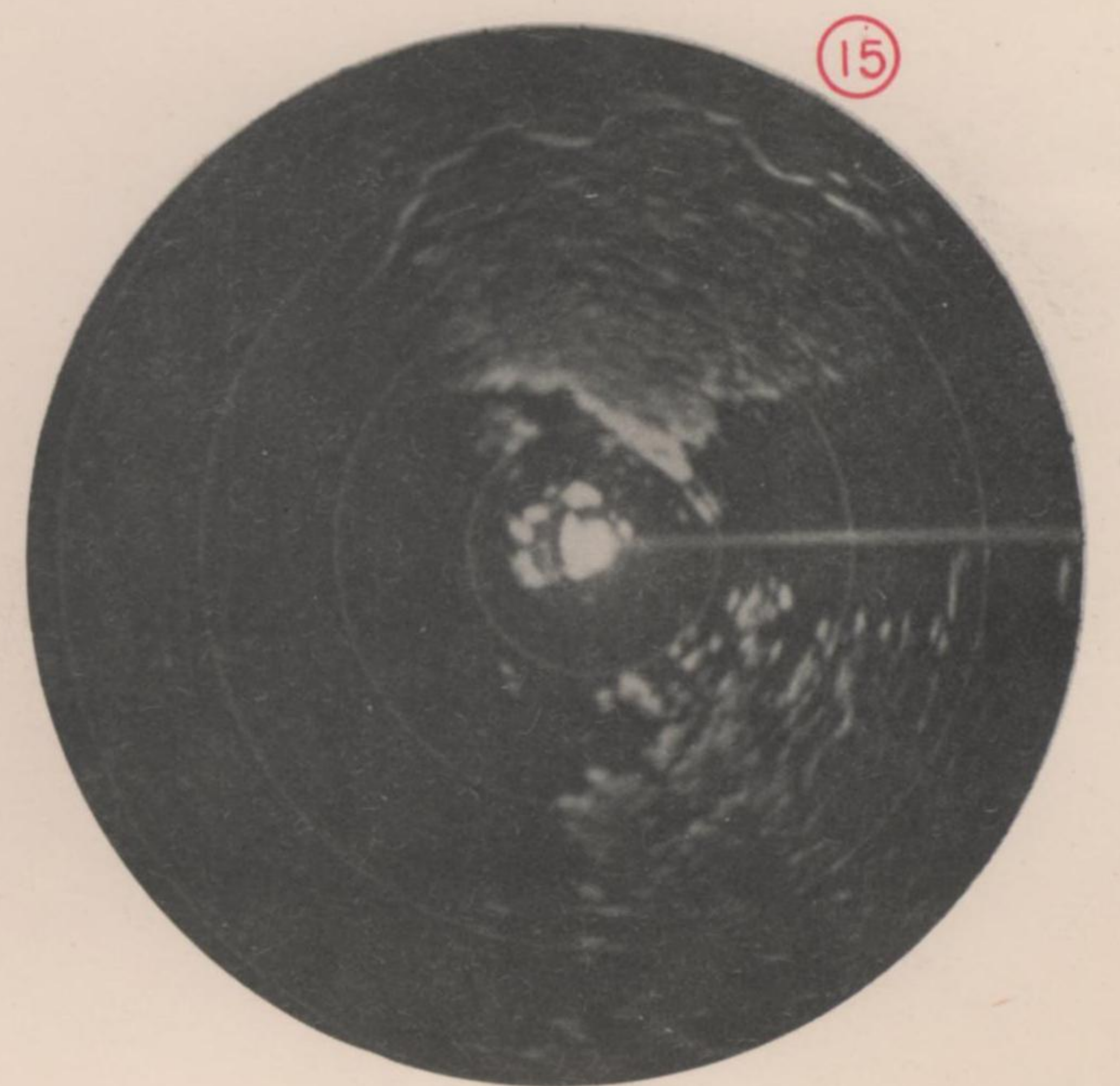
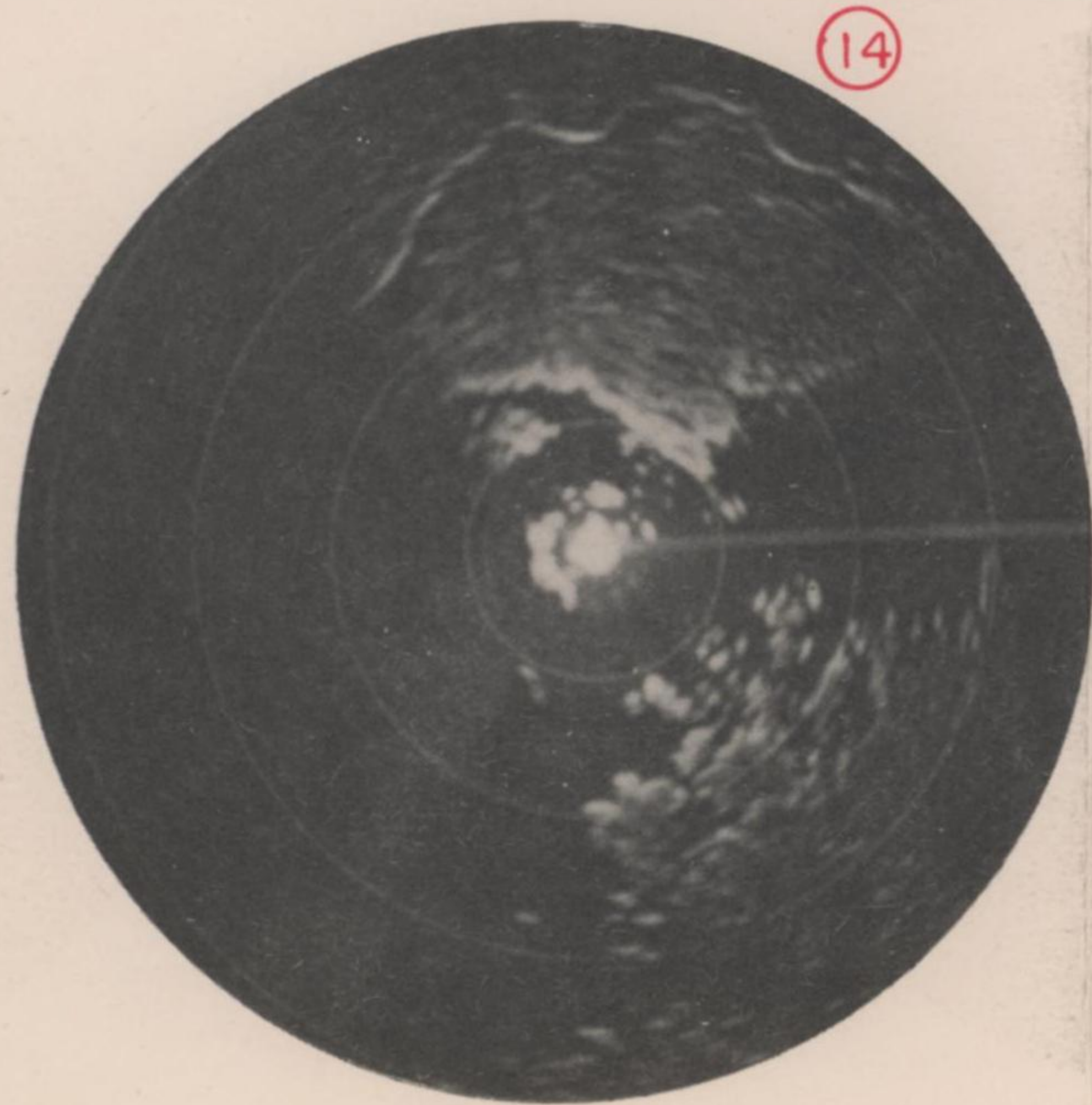
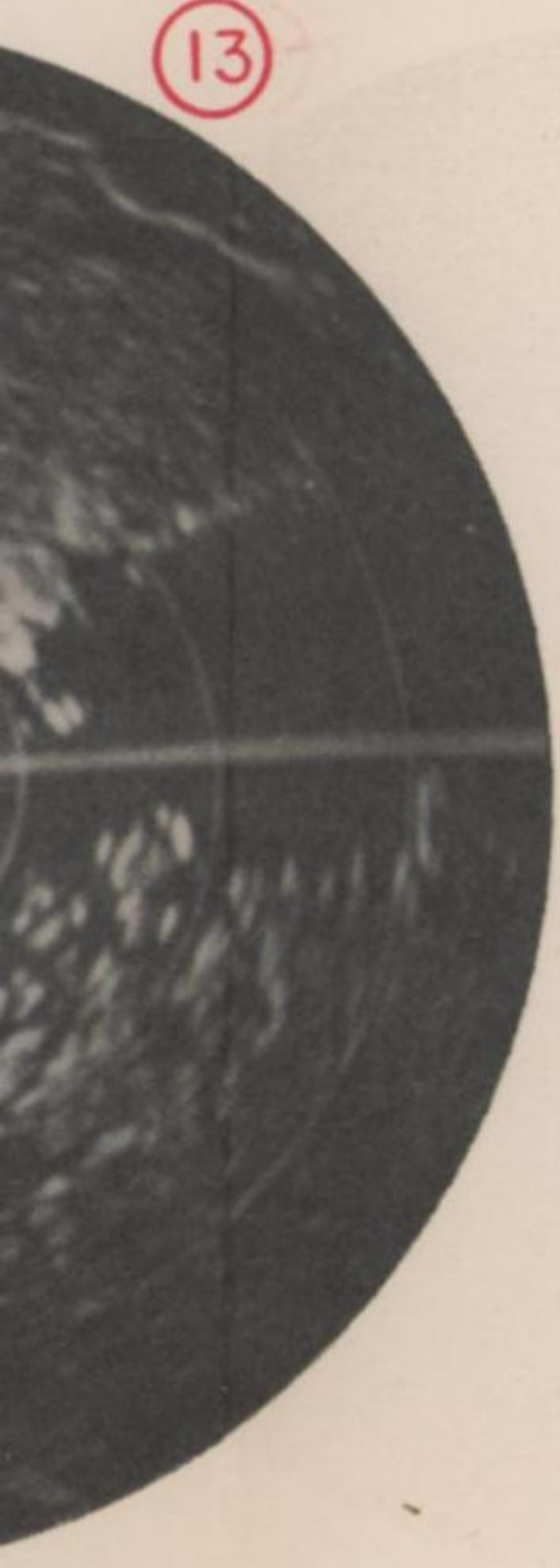
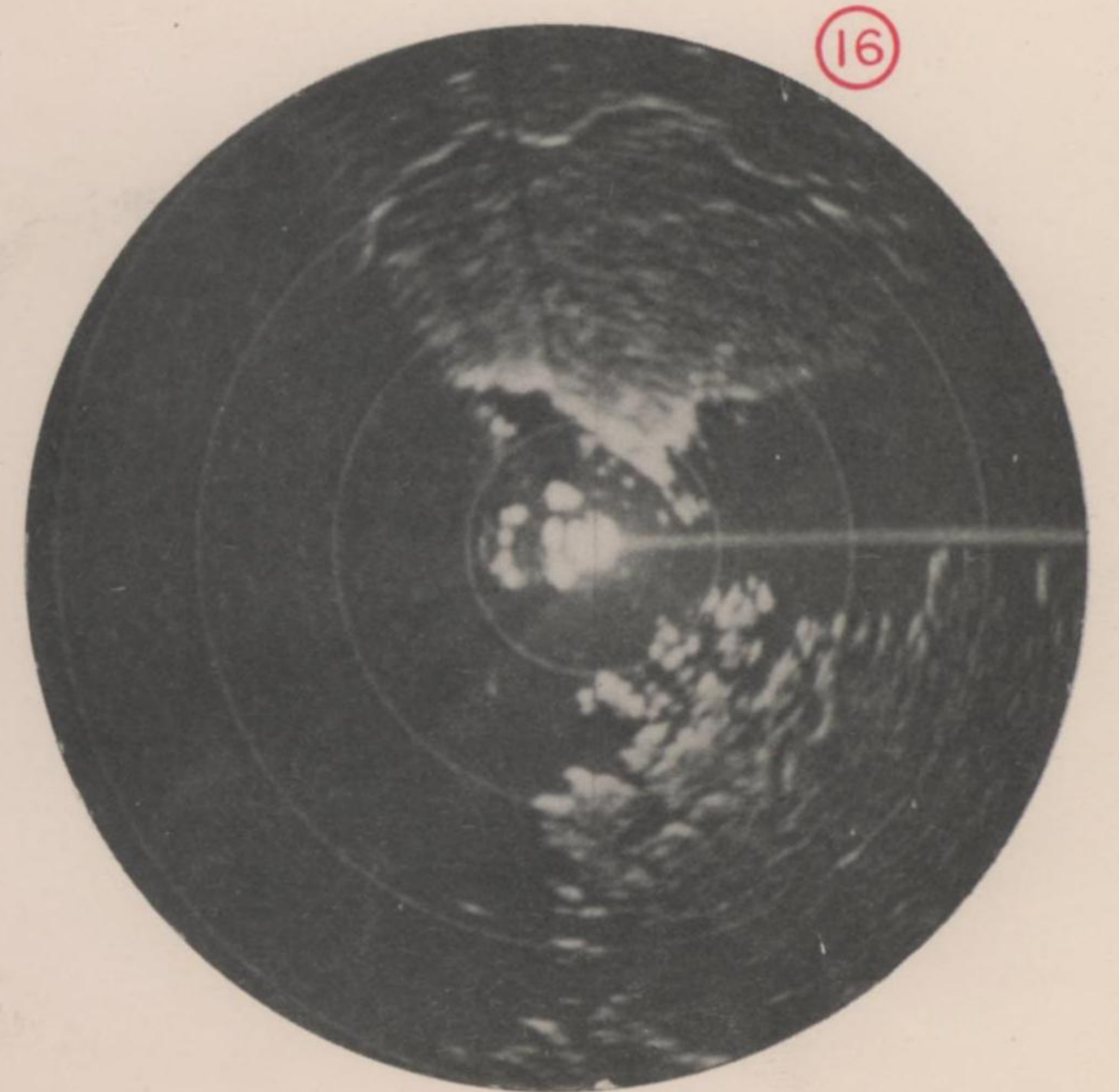
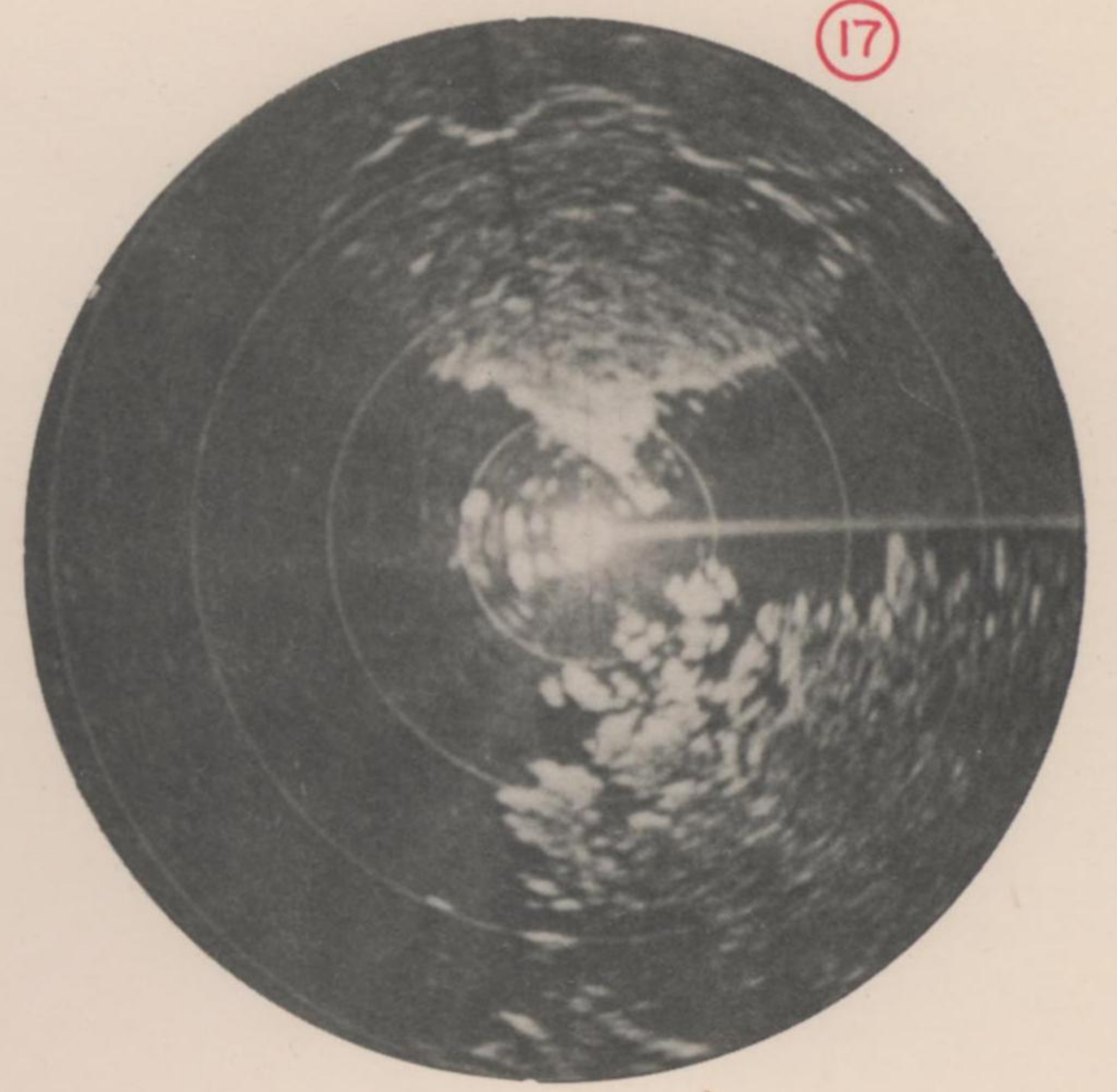
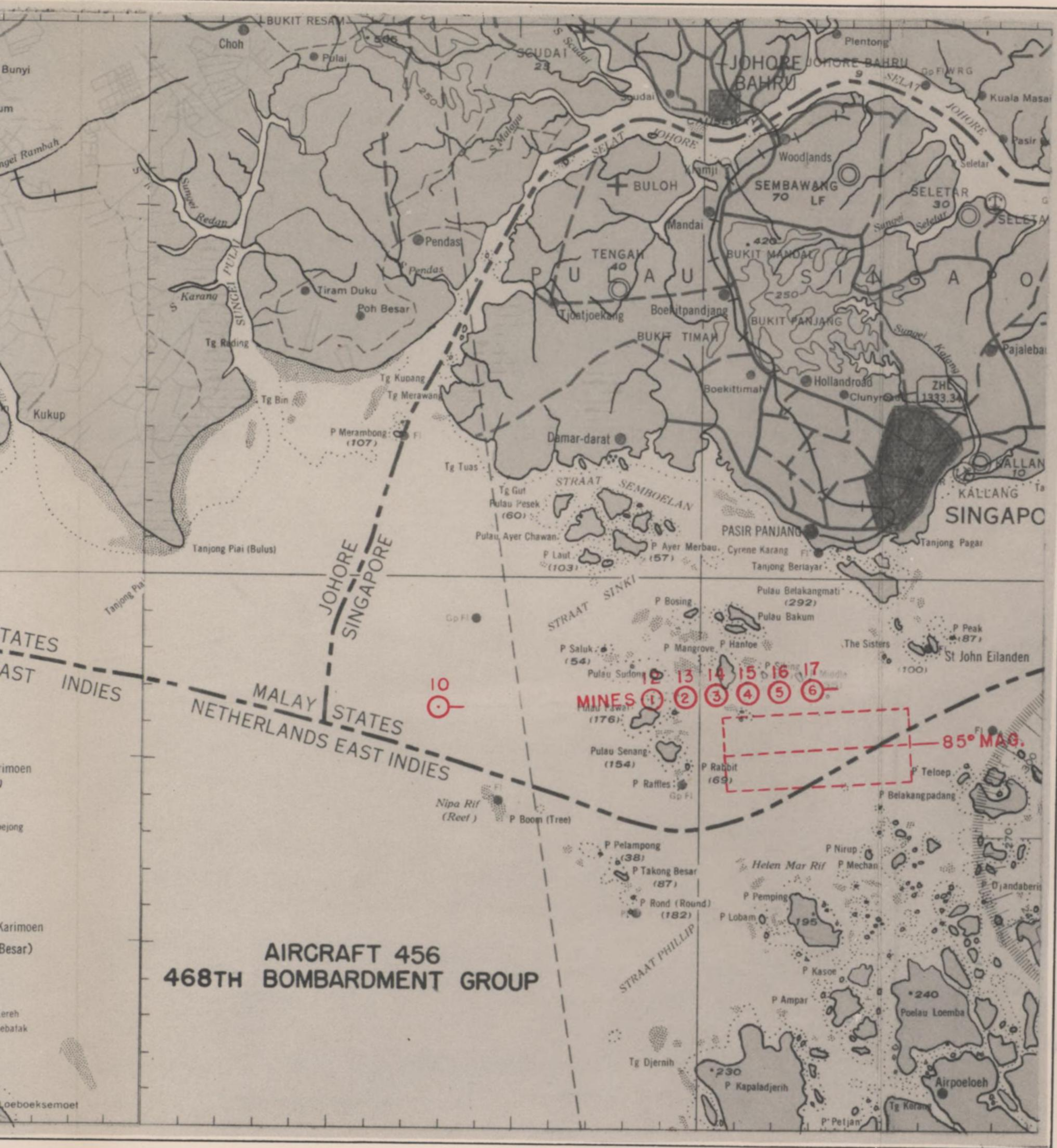
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R92.2 SHEET B

RADAR PHOTOGRAPH ANALYSIS
SINGAPORE AREA - MALAY STATES
31 - MINING OF APPROACHES TO HARBOR & NAVAL BASE
INNER MAIN STRAIT FIELD



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500 - 2/1/45

ALL SWEEPS 20 MILES, HEADINGS 120°MAG.,
UNLESS OTHERWISE INDICATED

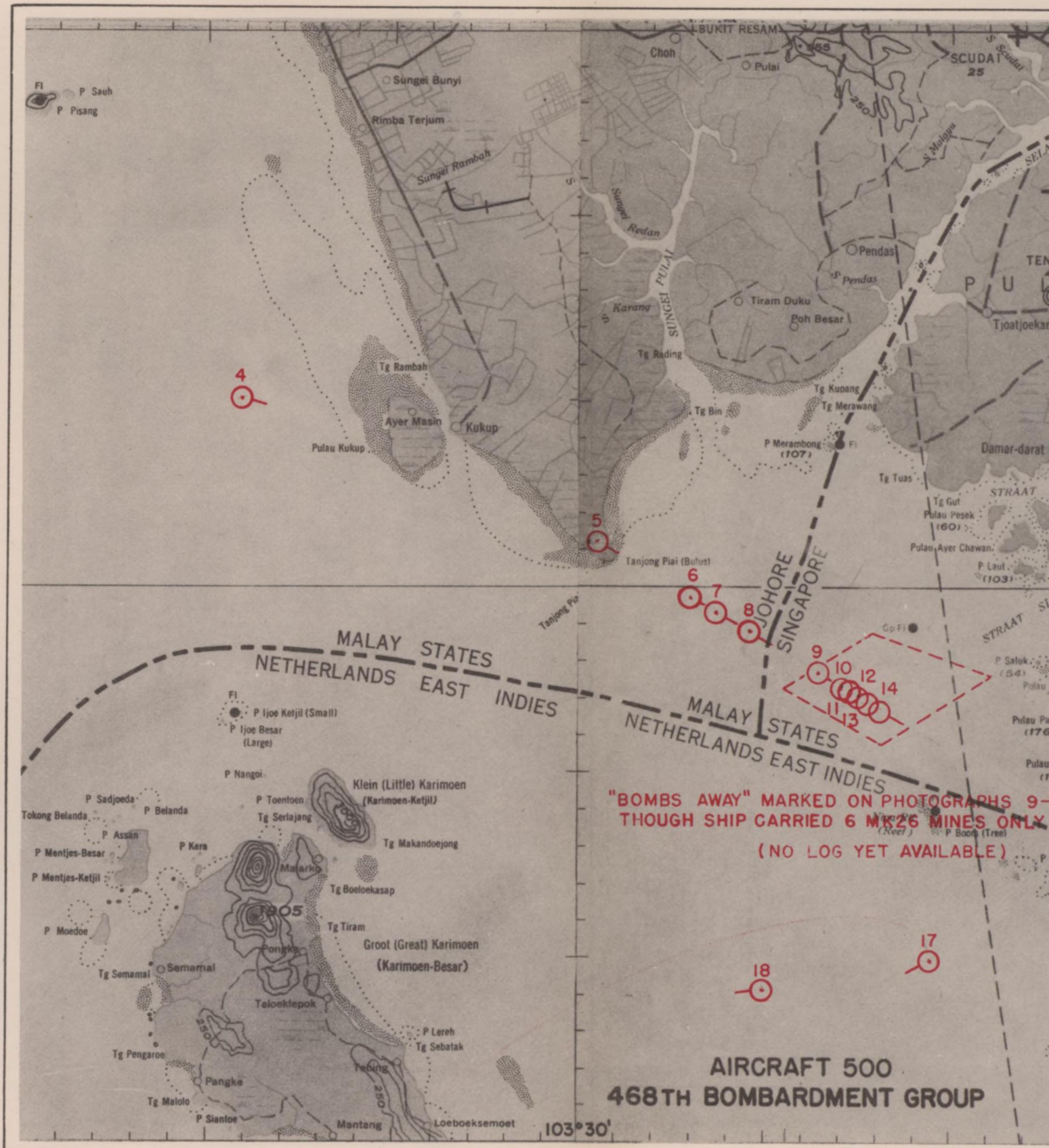
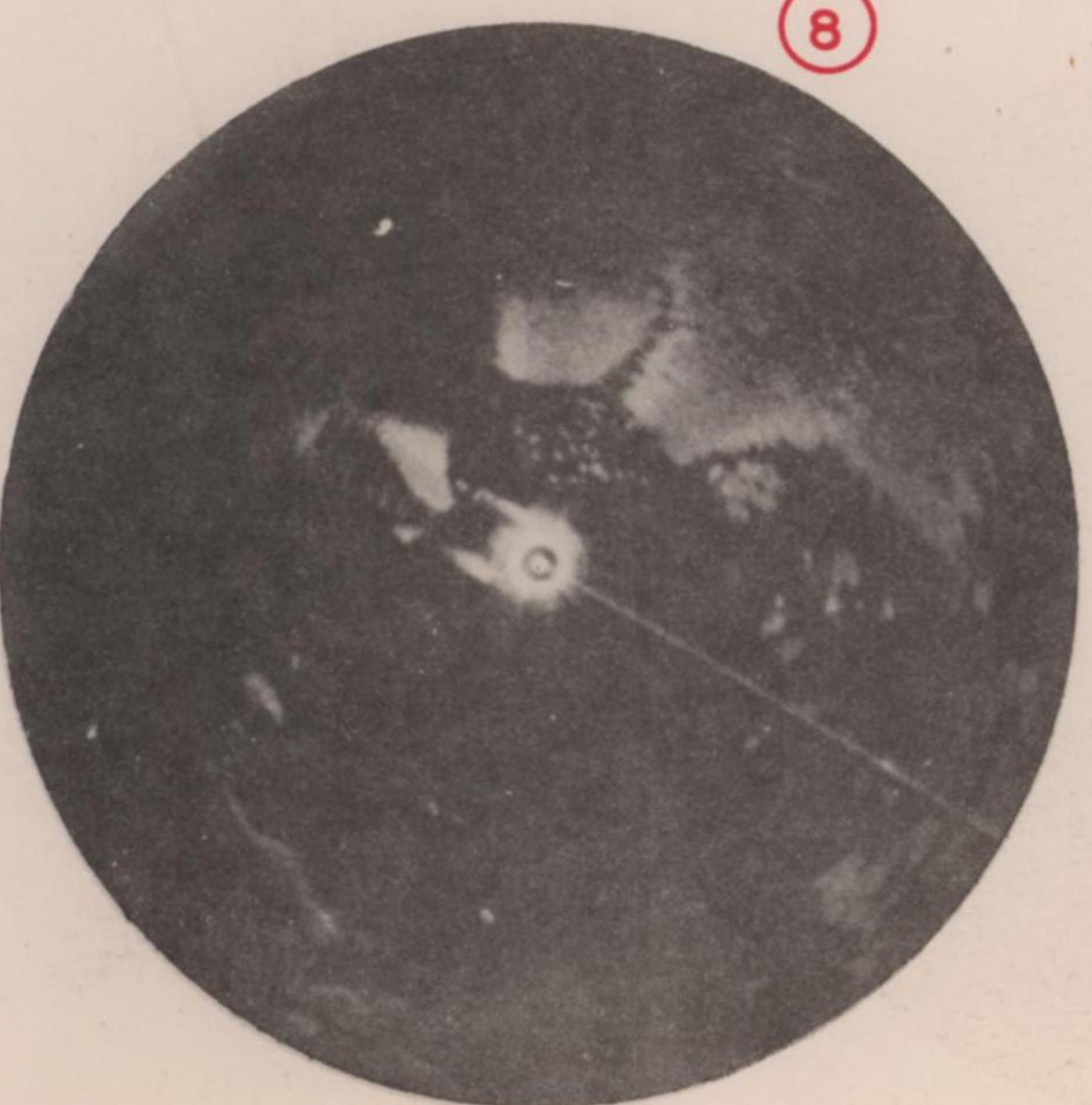
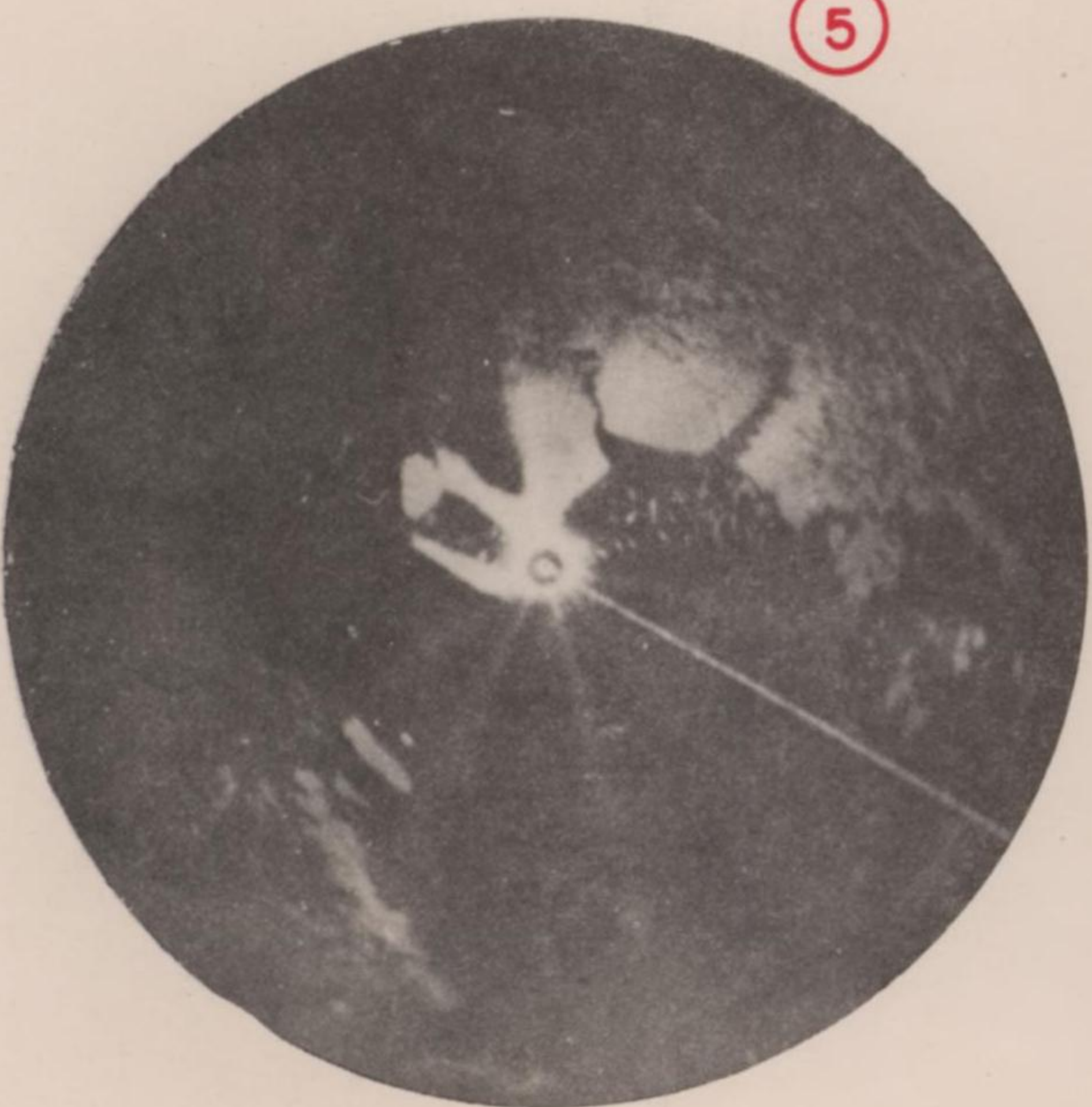
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RADAR PHOTOGRAPH ANALYSIS
SINGAPORE AREA - MALAY STATES
MISSION NO. 31 - MINING OF APPROACHES TO HARBOR

OUTER MAIN STRAIT FIELD



106° MAG.



"BOMBS AWAY" MARKED ON PHOTOGRAPHS 9-
THOUGH SHIP CARRIED 6 MINE MINES ONLY
(NO LOG YET AVAILABLE)

AIRCRAFT 500
468TH BOMBARDMENT GROUP

PREPARED BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BO

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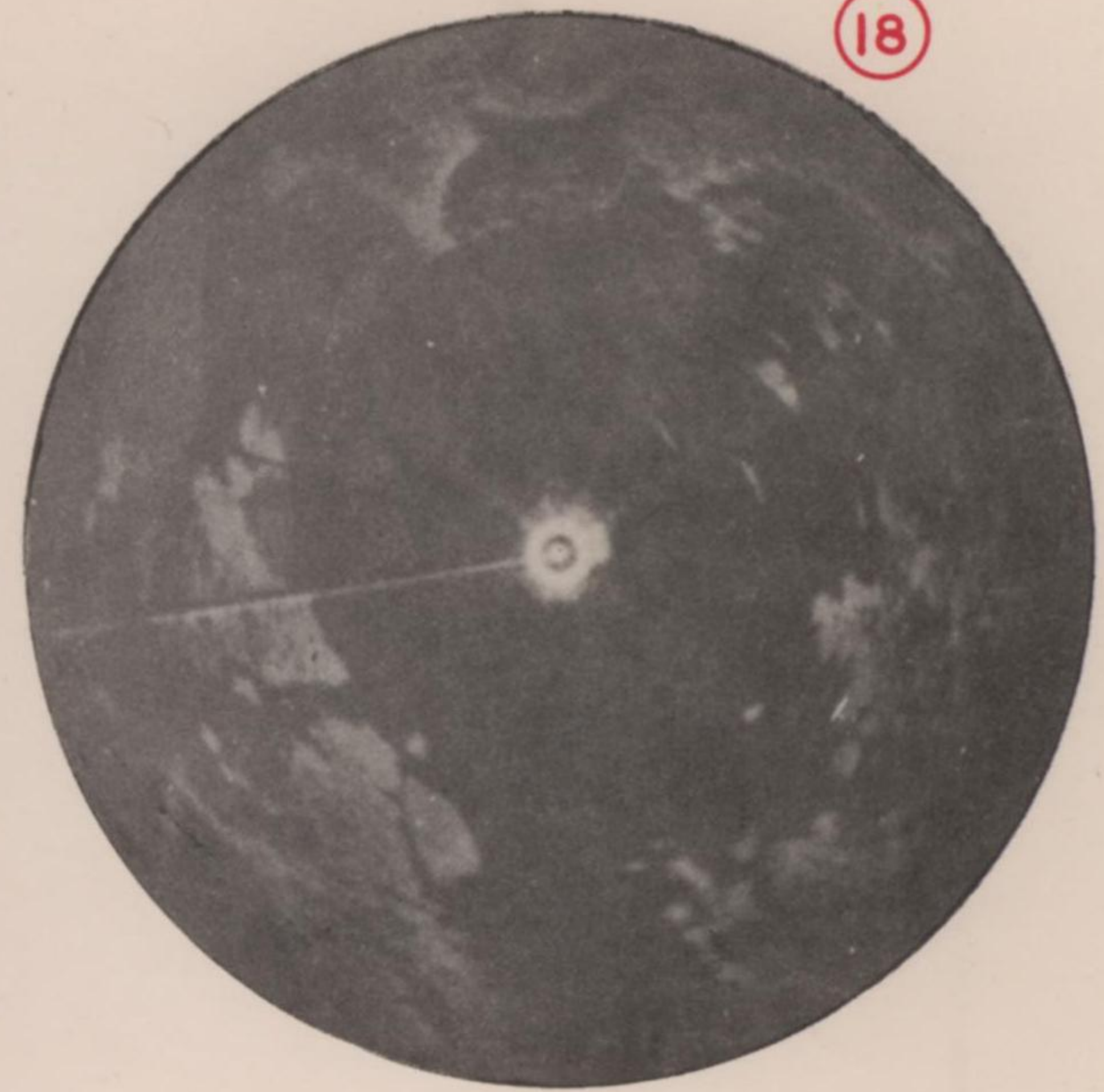
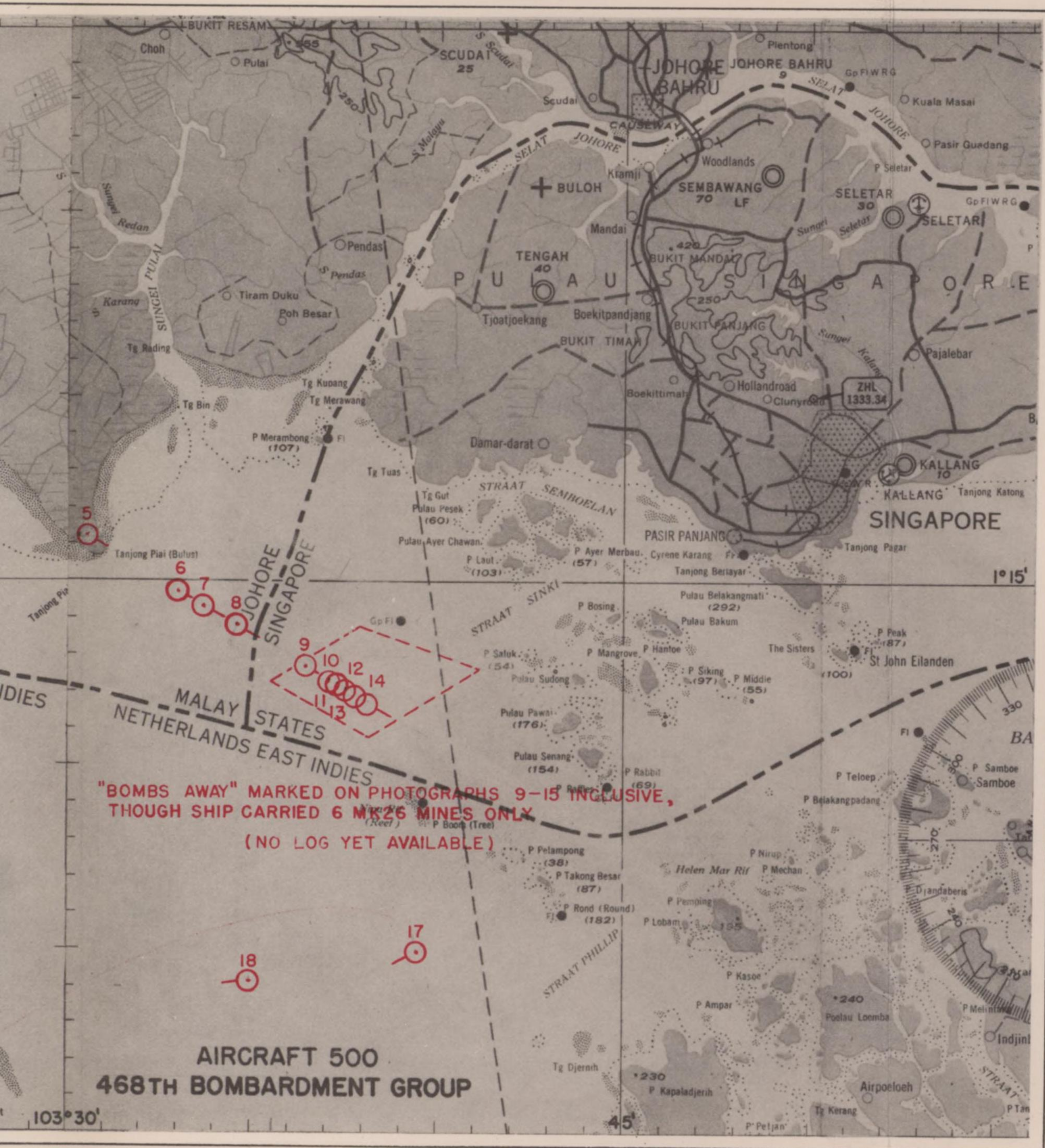
R 92.2 SHEET D

RADAR PHOTOGRAPH ANALYSIS

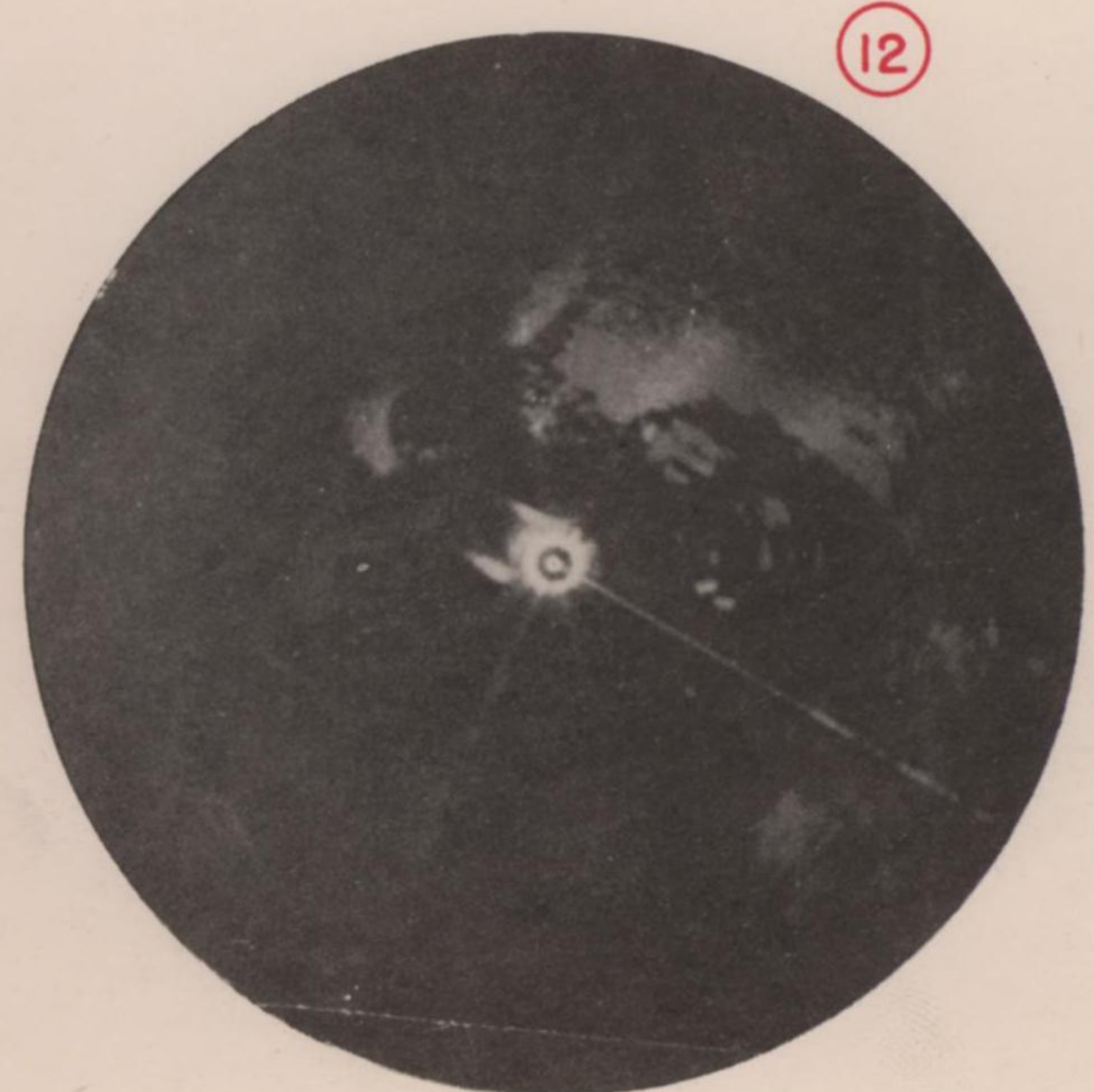
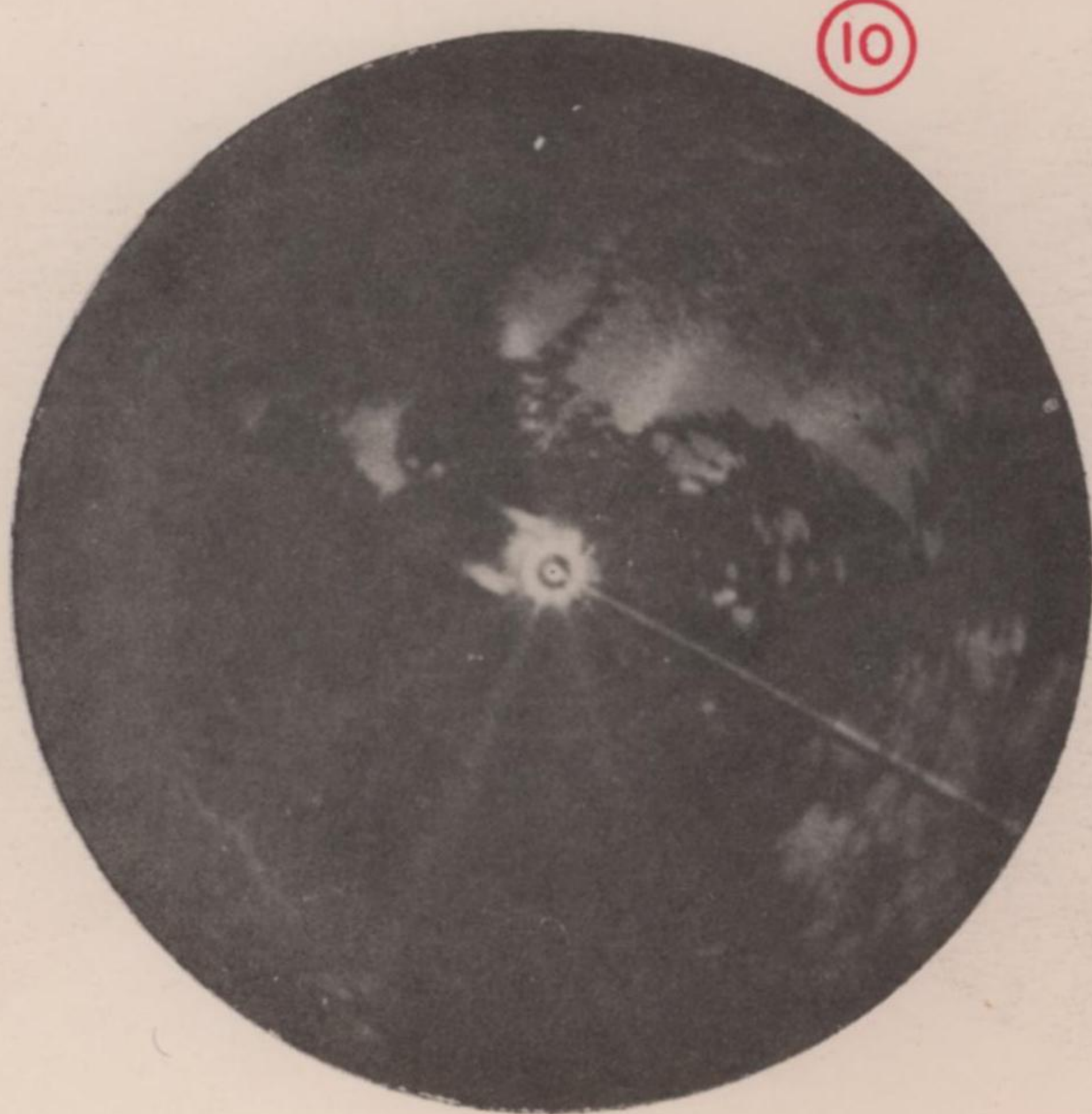
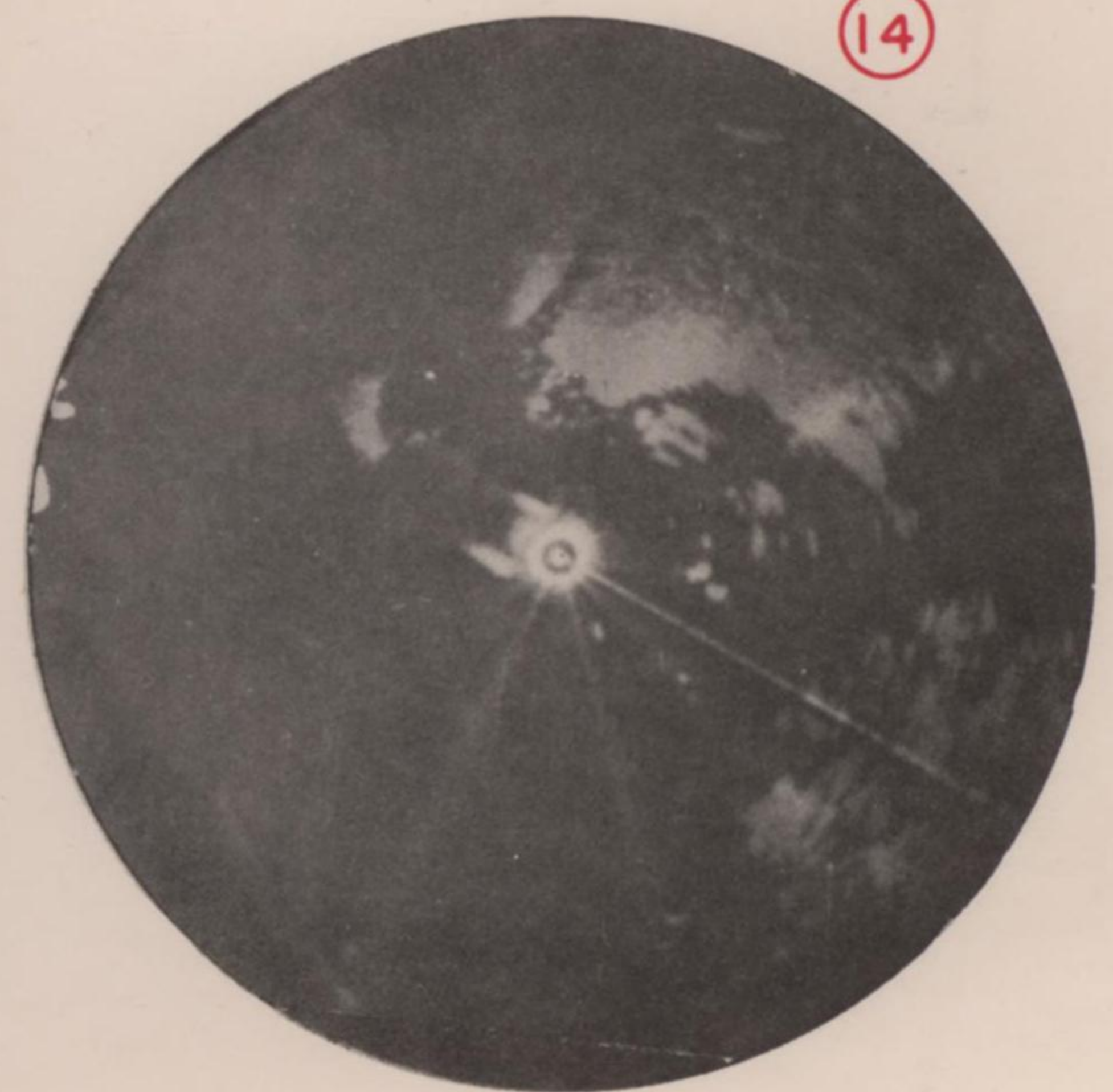
SINGAPORE AREA - MALAY STATES

31-MINING OF APPROACHES TO HARBOR & NAVAL BASE

OUTER MAIN STRAIT FIELD



261° MAG.



RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND

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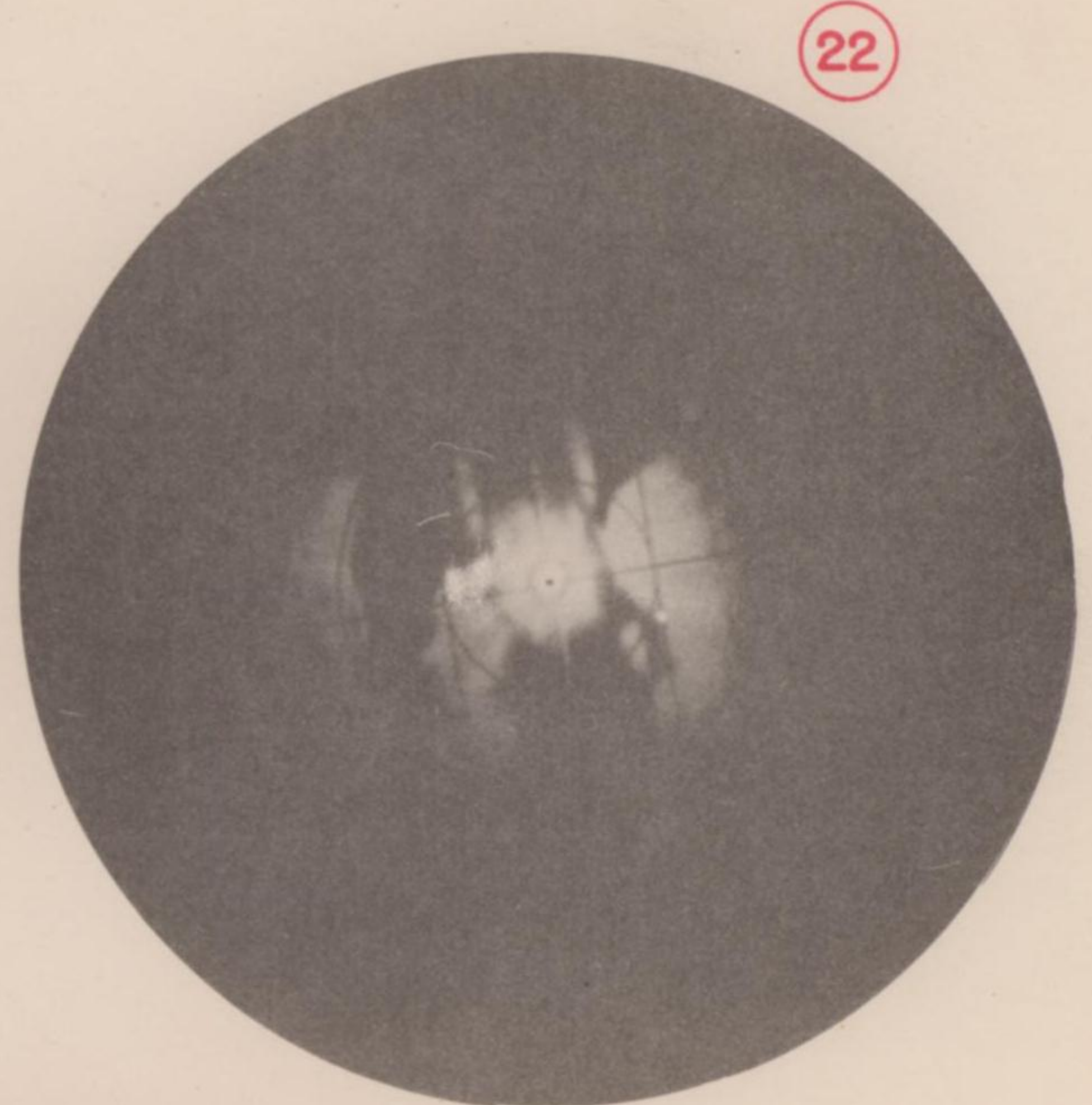
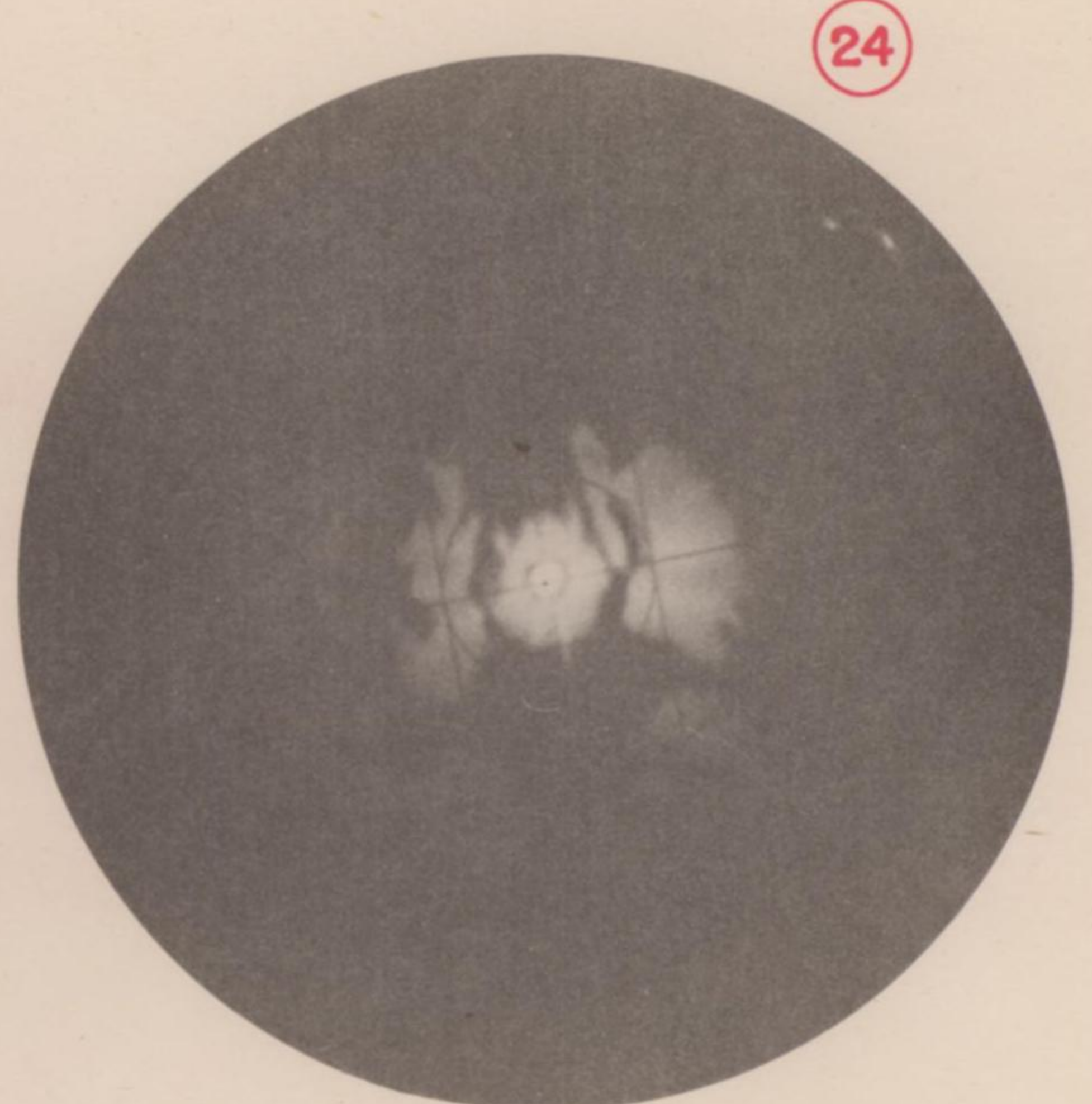
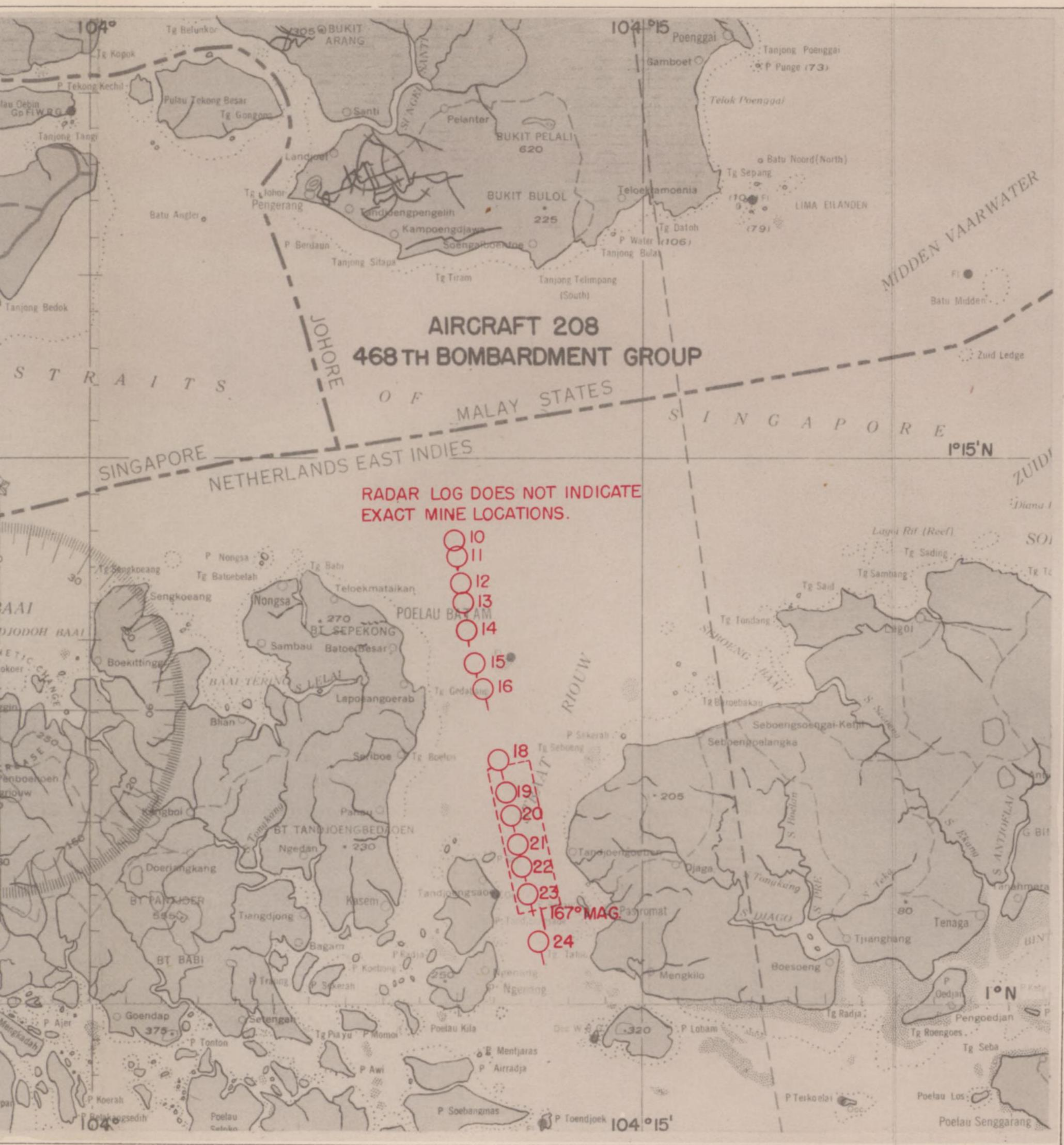
R 92.2 SHEET E

RADAR PHOTOGRAPH ANALYSIS

SINGAPORE AREA - MALAY STATES

31 - MINING OF APPROACHES TO HARBOR & NAVAL BASE

RHIO STRAIT FIELD



BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND

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228-2/1/45

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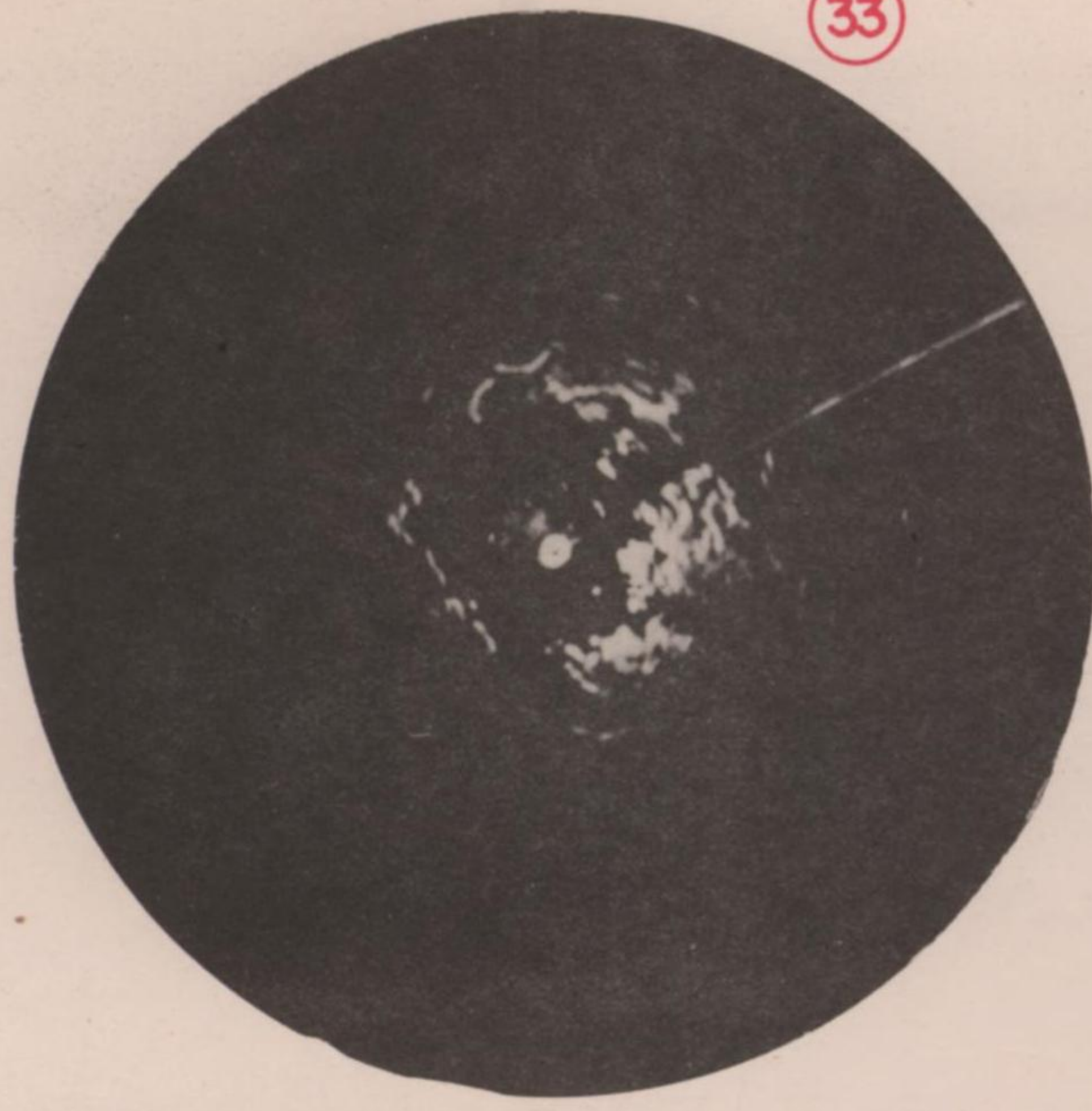
RADAR PHOTOGRAPH ANALYSIS

SINGAPORE AREA - MALAY STATE

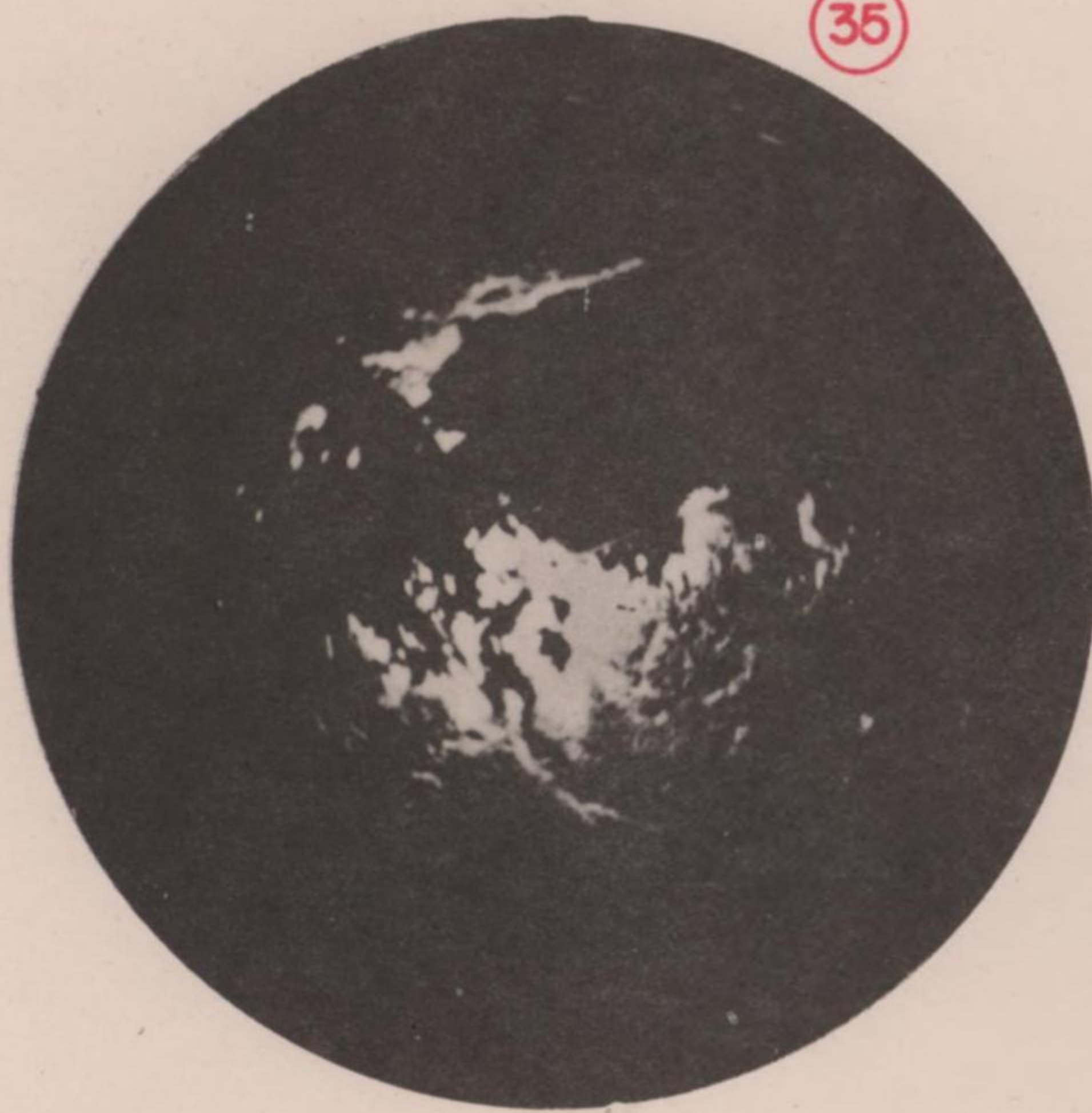
MISSION NO. 31 - MINING OF APPROACHES TO HARBOUR

OUTER MIDDLE CHANNEL FIELD

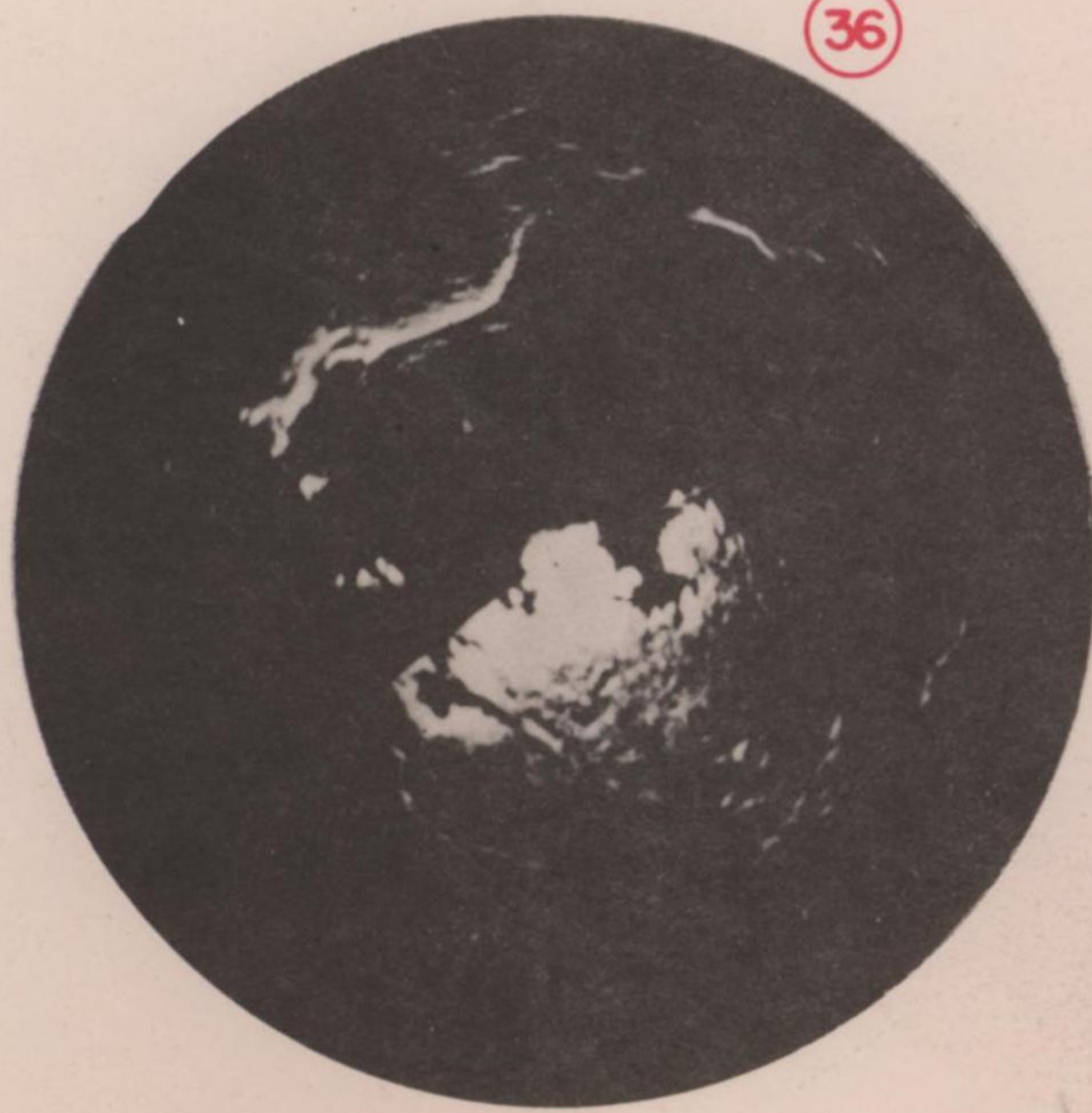
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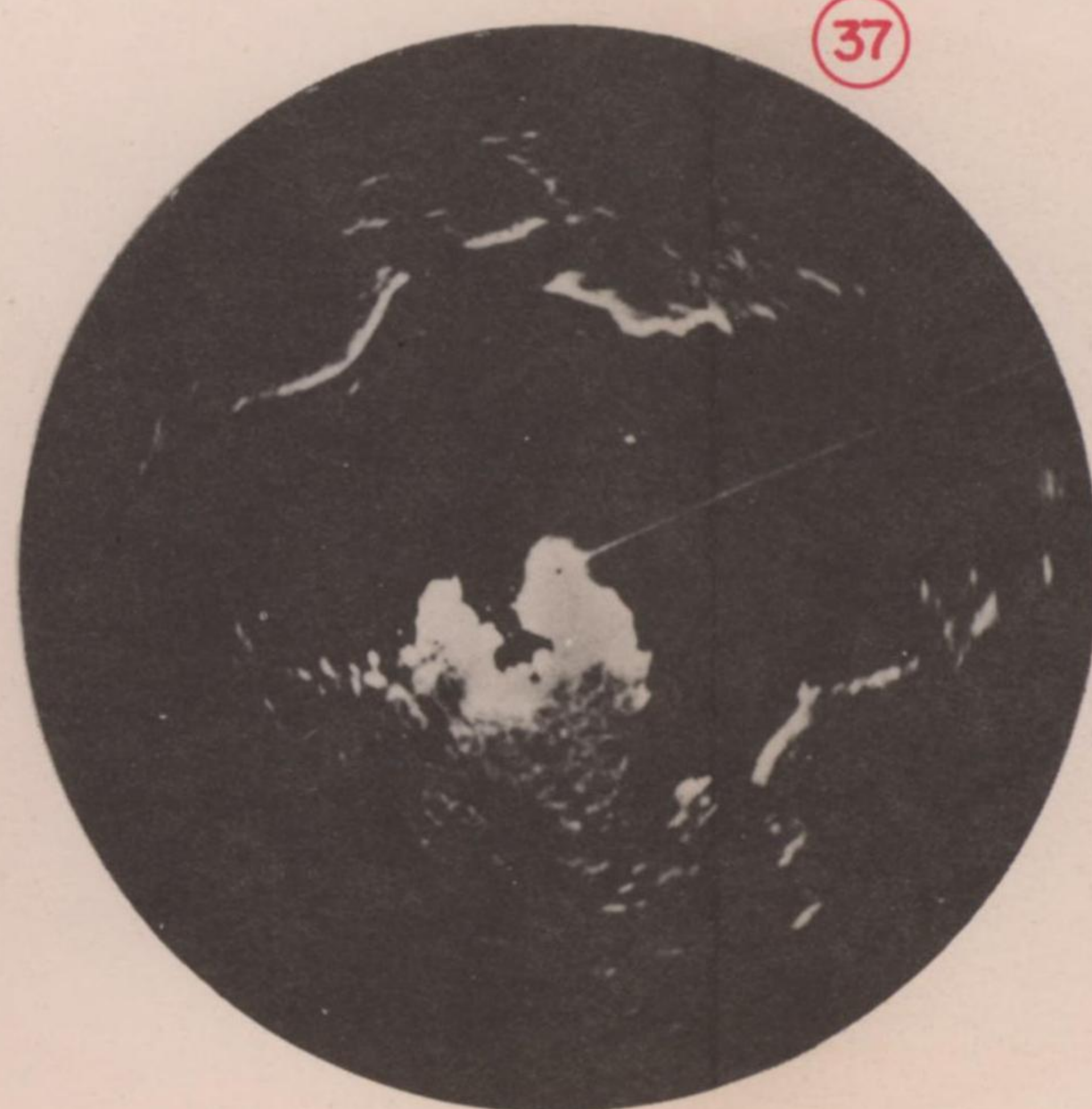
SWEEP 20 MILES HEADING 60° MAG. (NOT SHOWN ON MAP)



SWEEP 20 MILES HEADING 67° MAG.



SWEEP 20 MILES HEADING 64° MAG.



SWEEP 20 MILES HEADING 66° MAG.



SWEEP 20 MILE



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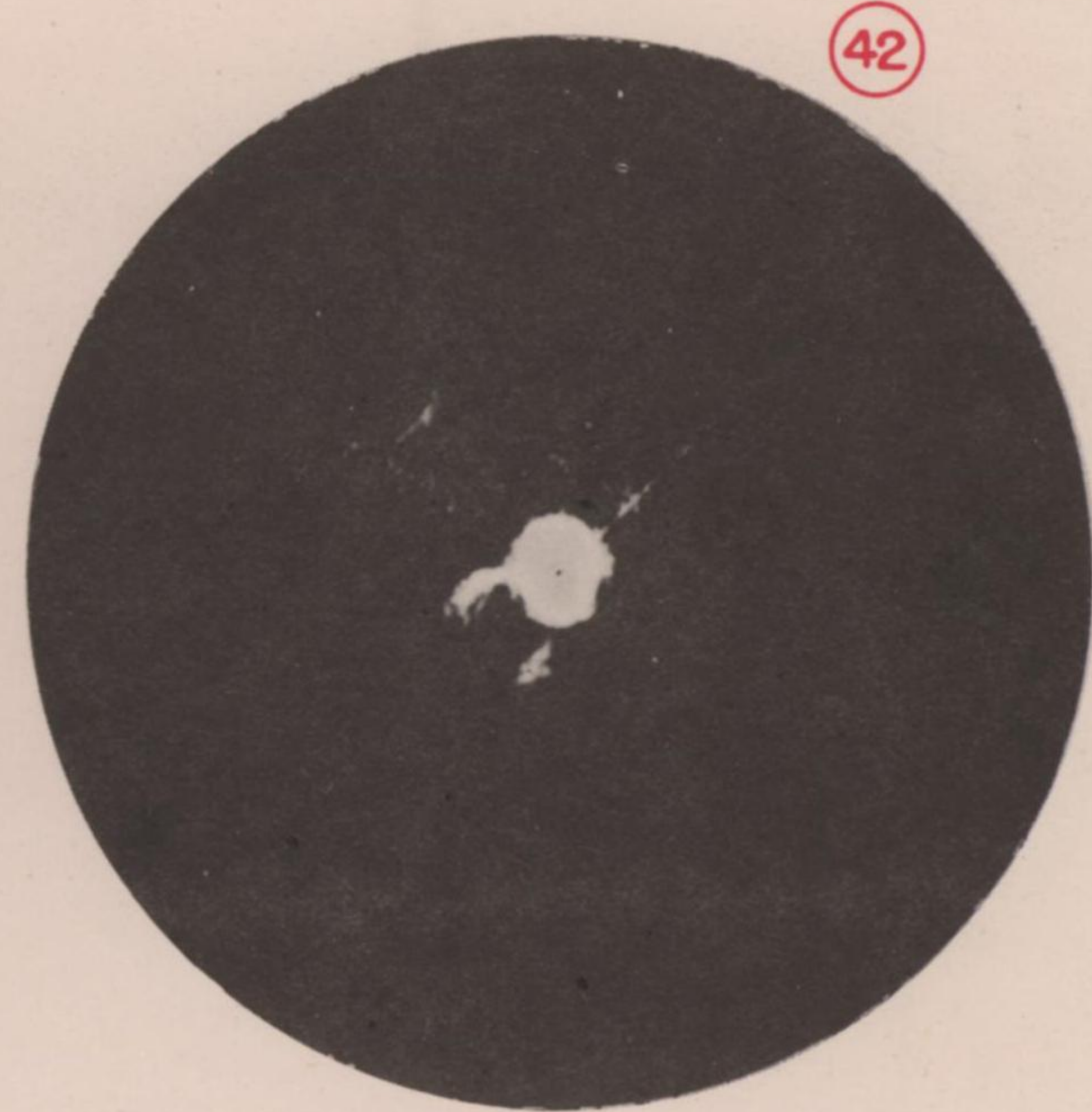
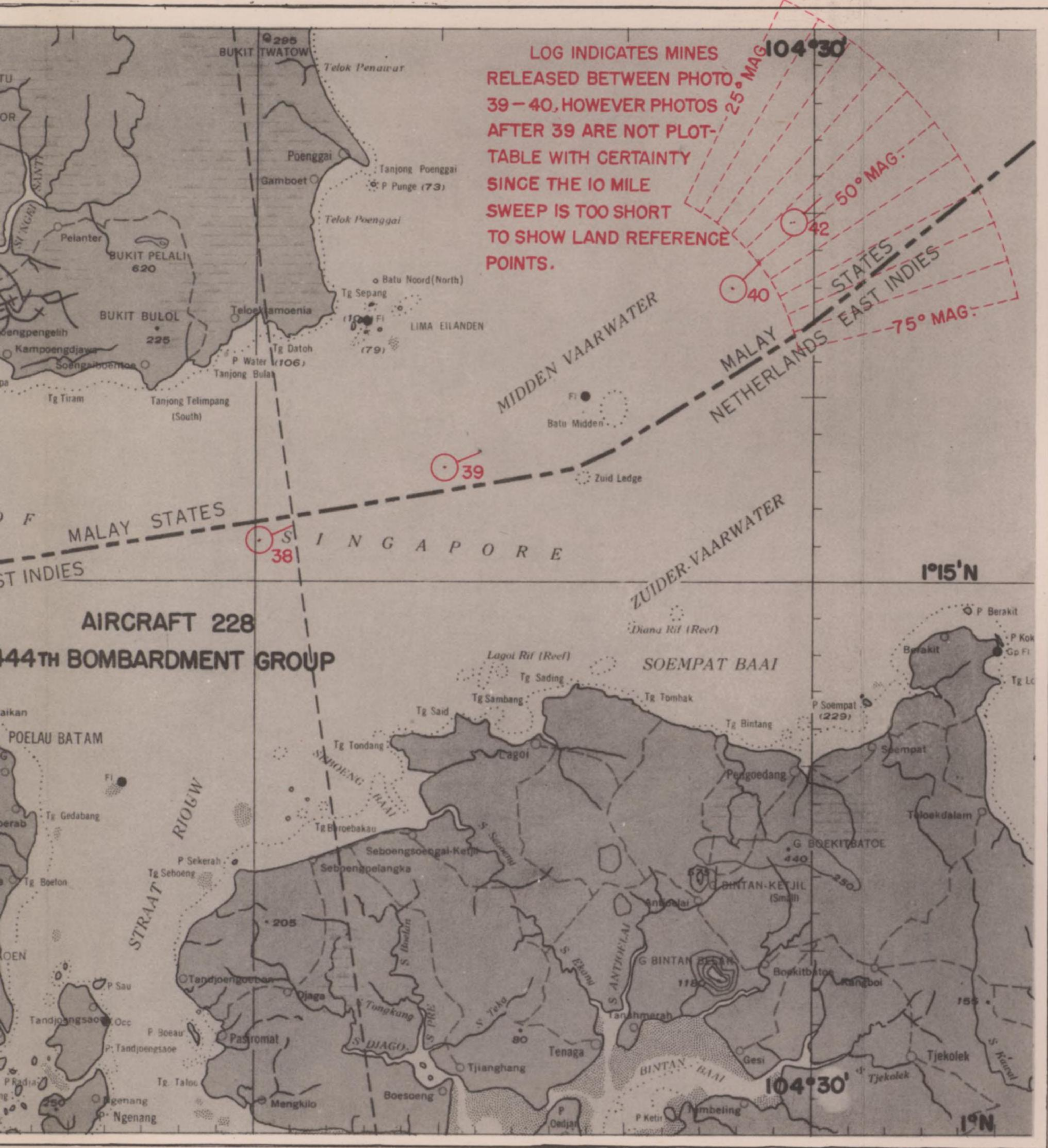
R 92.2 SHEET F

RADAR PHOTOGRAPH ANALYSIS

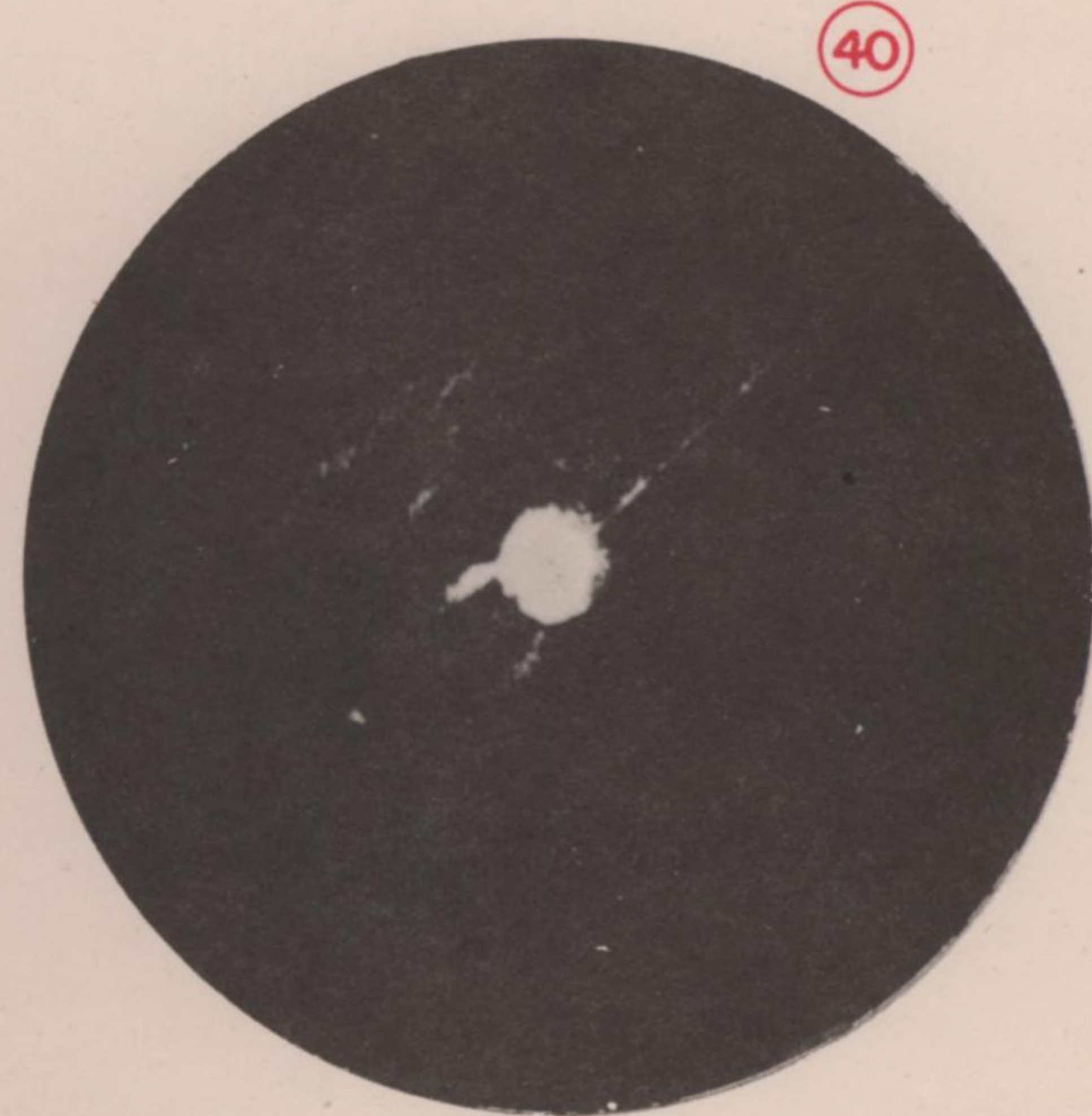
SINGAPORE AREA - MALAY STATES

MINING OF APPROACHES TO HARBOR & NAVAL BASE

OUTER MIDDLE CHANNEL FIELD



SWEEP 10 MILES HEADING 45° MAG. (APPROX)



SWEEP 10 MILES HEADING 45° MAG. (APPROX)



HEADING 66° MAG.



SWEEP 20 MILES

HEADING 65° MAG.



SWEEP 10 MILES

HEADING 66° MAG.

RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND

SECRET

DECLASSIFIED

Authority NWD 760063
By AV NARA Date 11.27.05

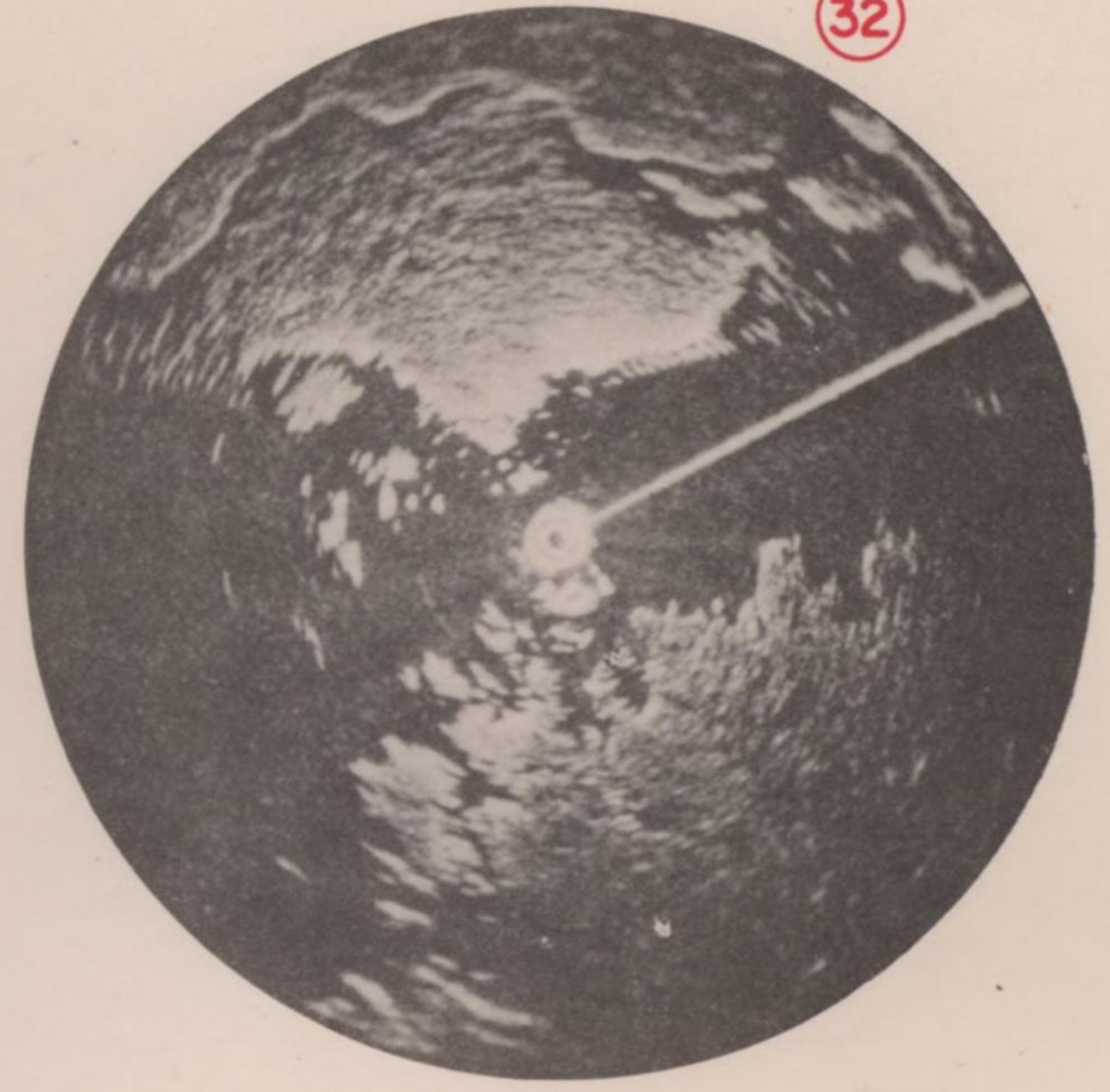
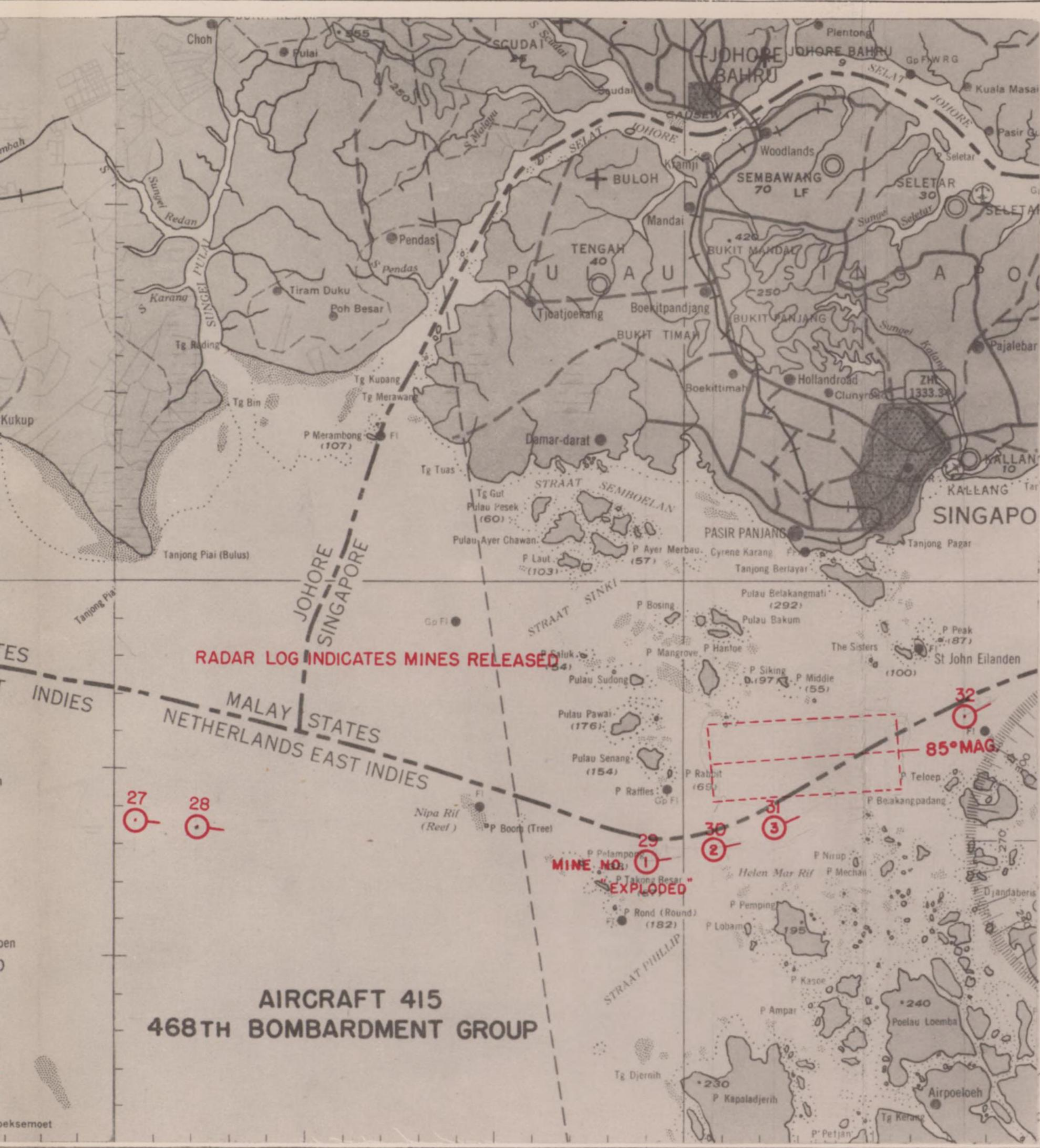
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RADAR PHOTOGRAPH ANALYSIS

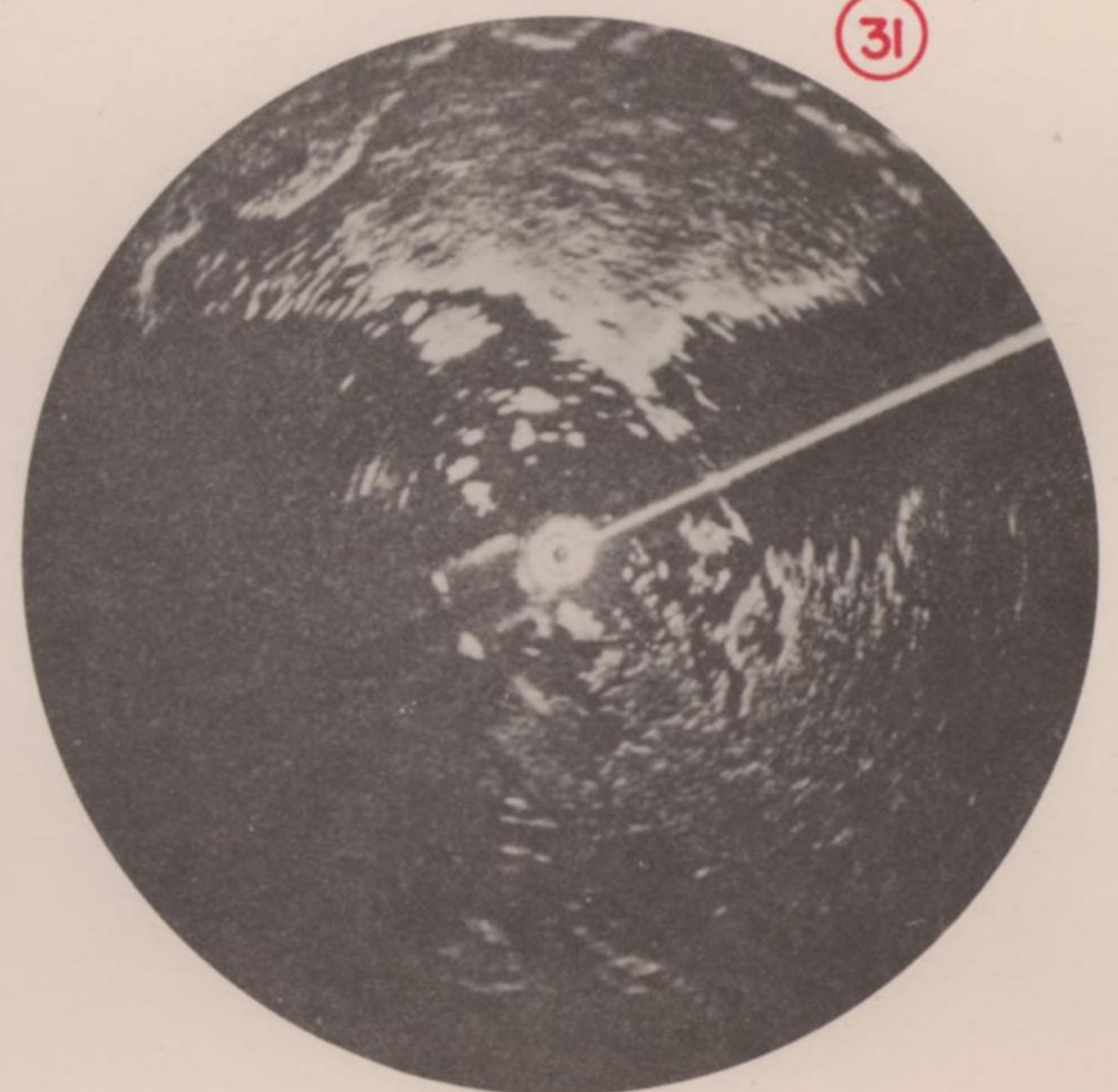
R 92.2 SHEET G

SINGAPORE AREA - MALAY STATES
MINING OF APPROACHES TO HARBOR & NAVAL BASE

INNER MAIN STRAIT FIELD



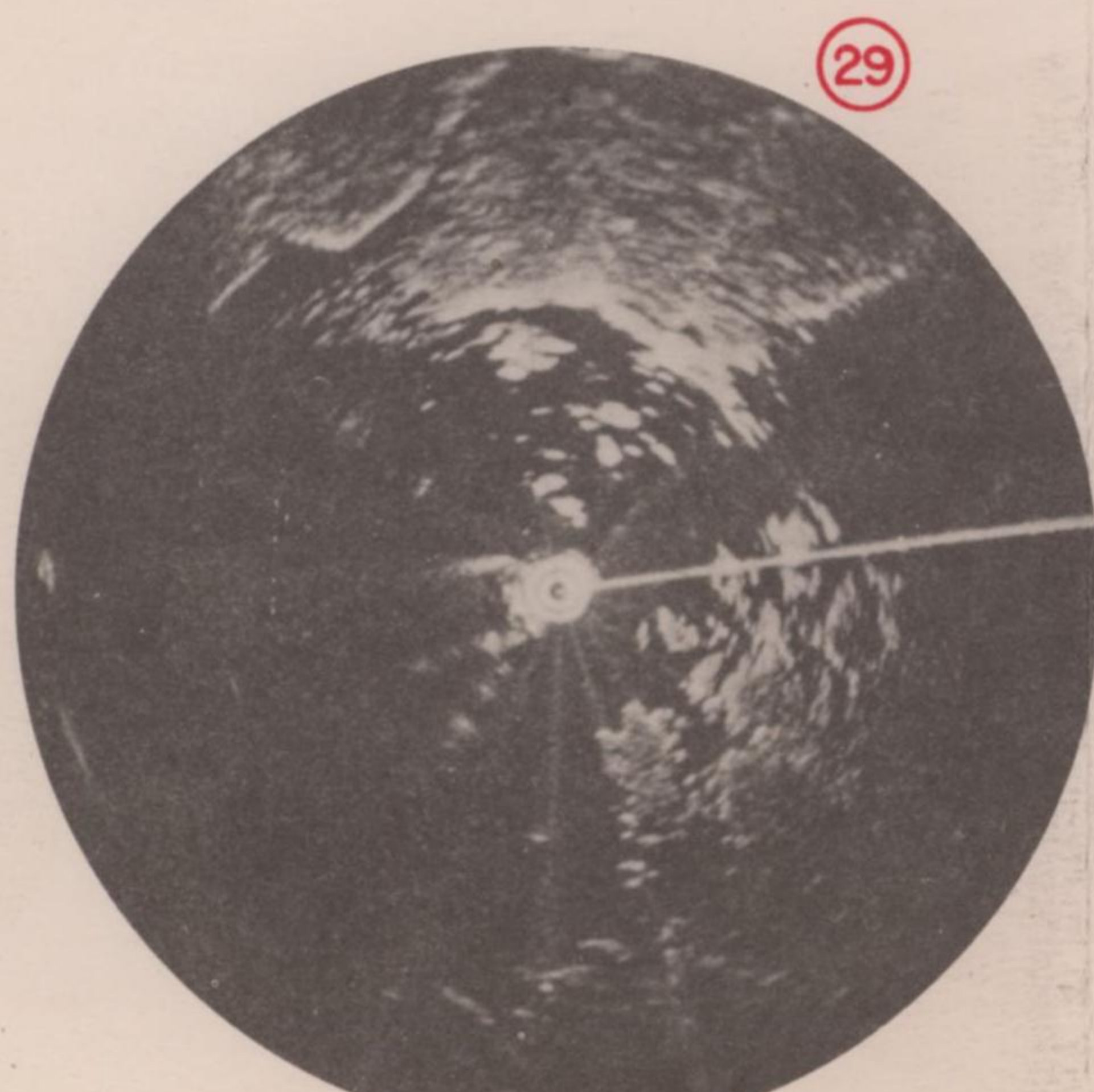
61° MAG.



63° MAG.



DING 95° MAG.



82° MAG.



77° MAG.

RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND

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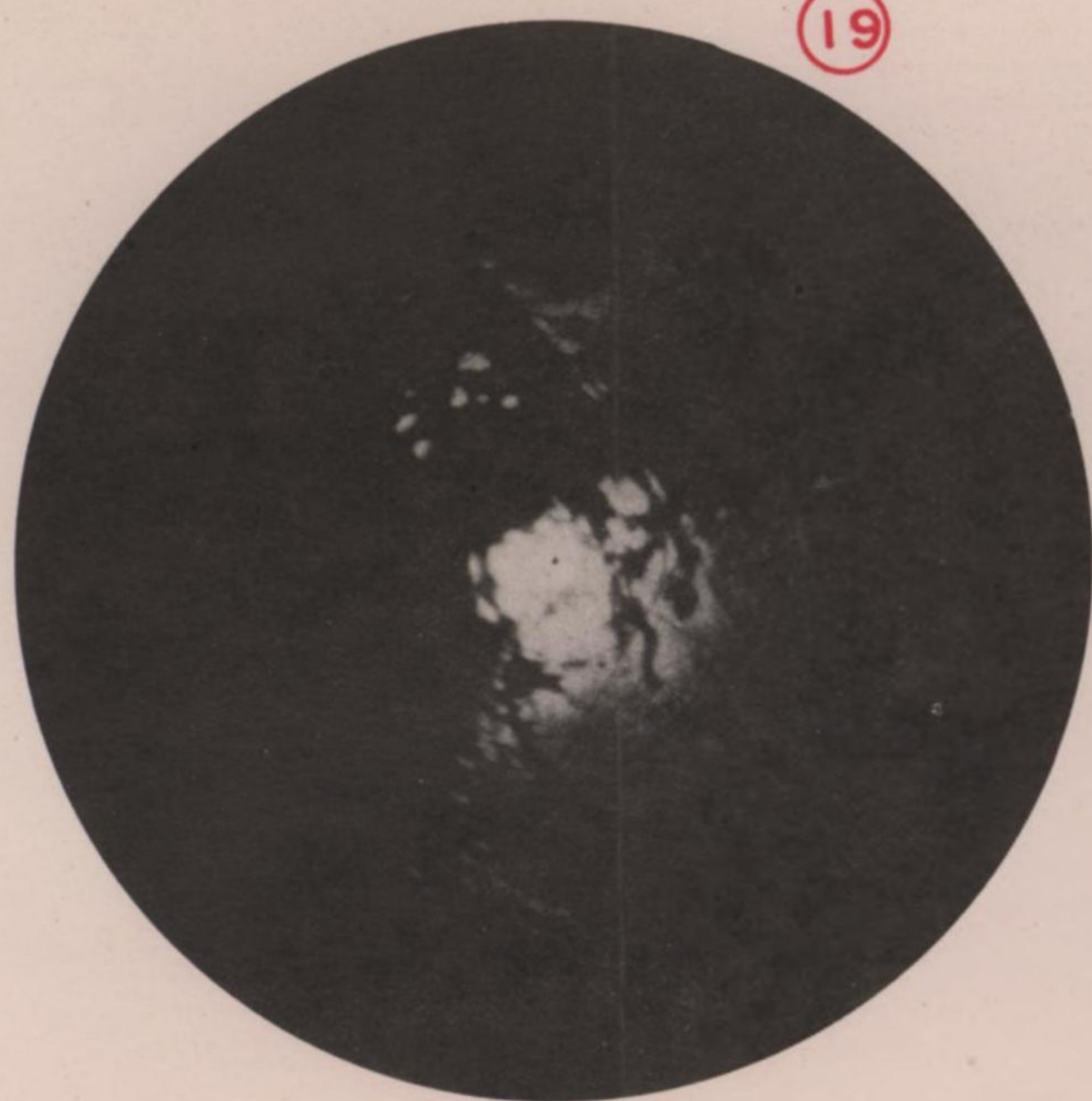
Authority NWD760063
By AV NARA Date 11.27.05

879-2/1/45

ALL ALTITUDES 4500', SWEEPS 20 MILES,
HEADINGS 60° MAG., UNLESS OTHERWISE INDICATED

SECRET
RADAR PHOTOGRAPH ANALYSIS
SINGAPORE AREA - MALAY STATES
MISSION NO. 31 - MINING OF APPROACHES TO HARBOUR

MIDDLE CHANNEL FIELD



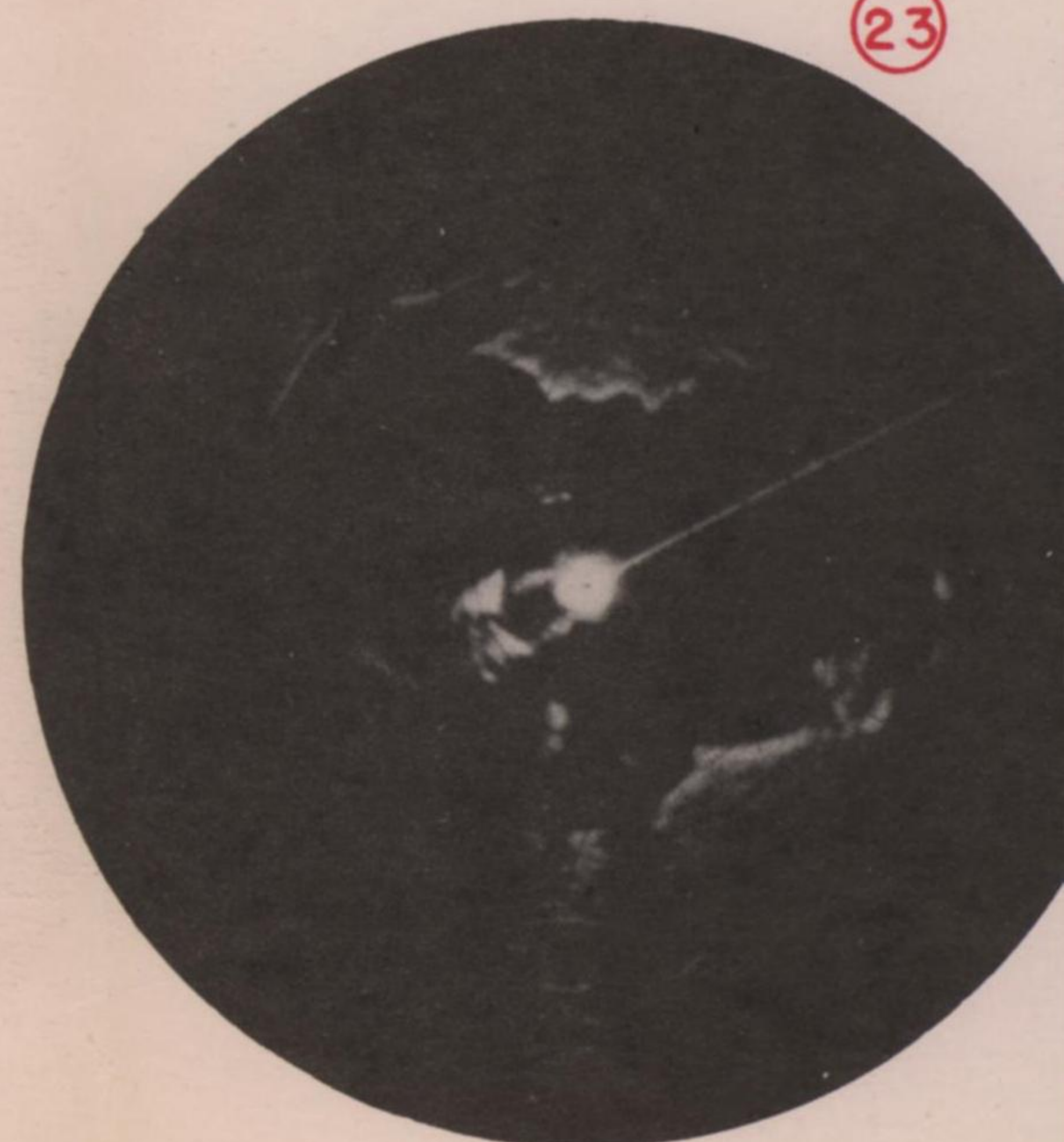
74° MAG.



71° MAG.



71° MAG.



63° MAG.



PREPARED BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION -
SECRET

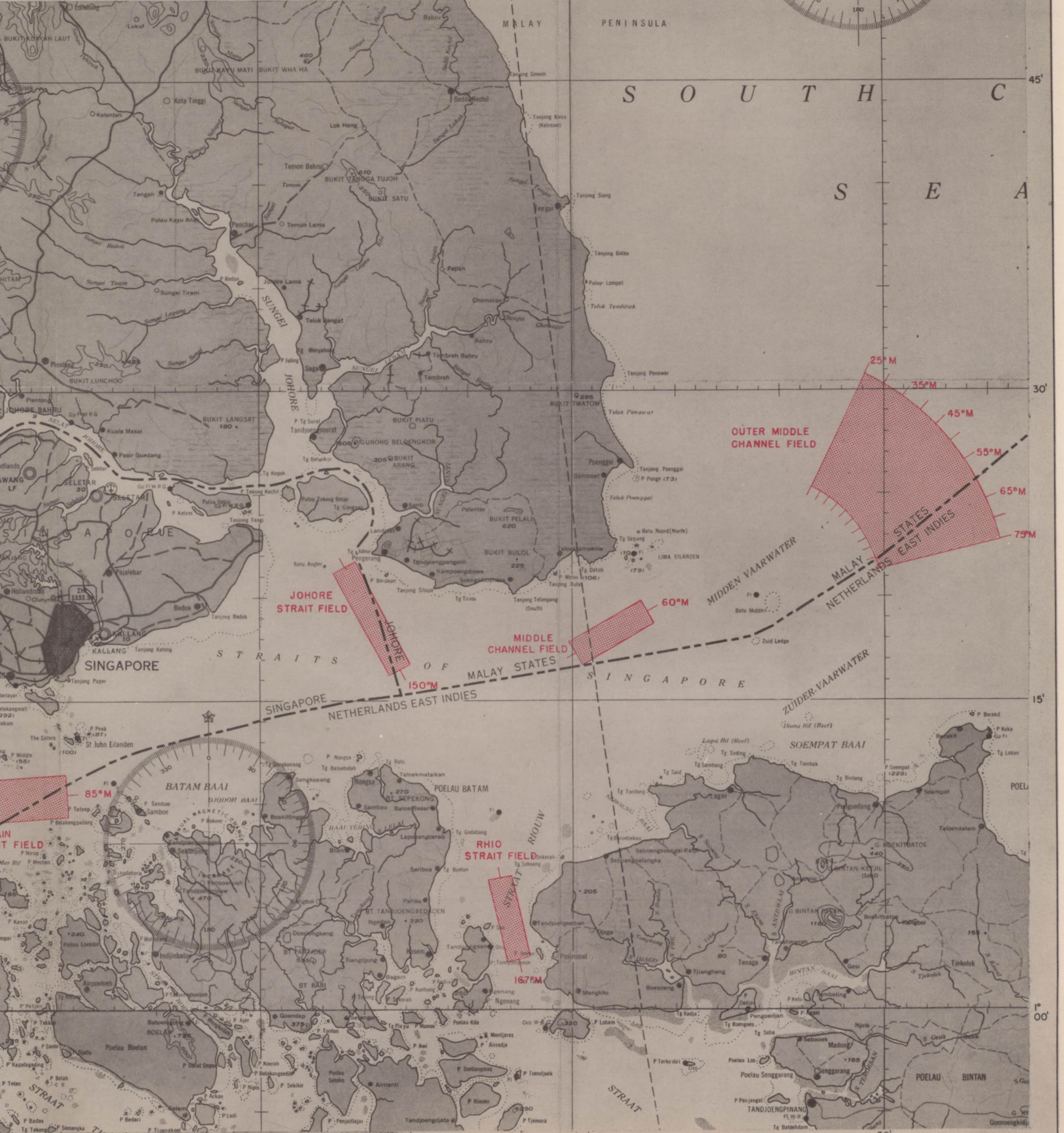
DECLASSIFIED
Authority WWD 760003
By AV NARA Date 11.27.05

SECRET

RADAR PHOTOGRAPH ANALYSIS SINGAPORE AREA - MALAY STATES

NO. 31 - MINING OF APPROACHES TO HARBOR & NAVAL BASE

MASTER PLAN OF MINE FIELDS



PREPARED BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX Bomber Command

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 Authority WWD 760003
 By AV NARA Date 11.27.05

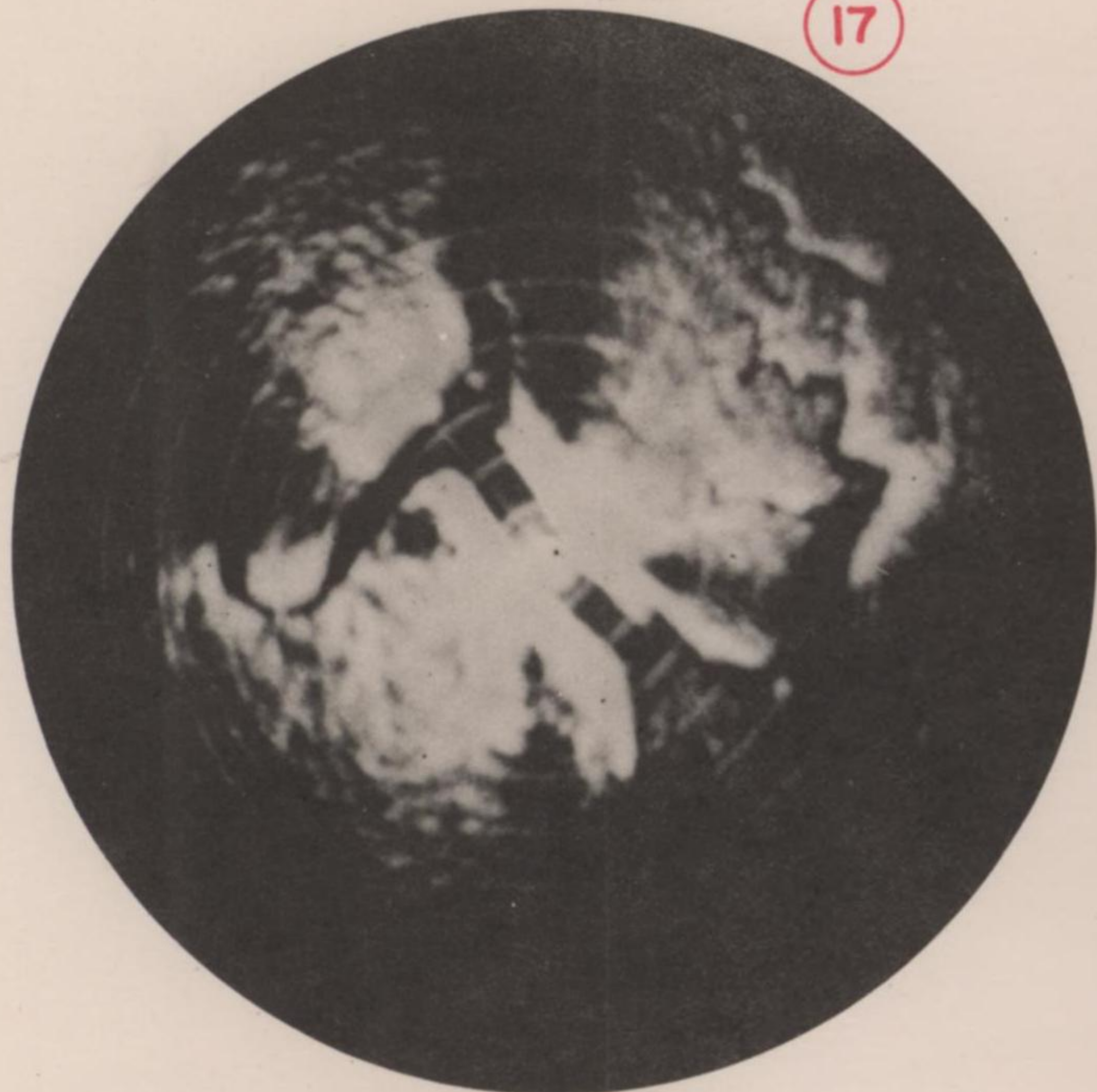
RADAR PHOTOGRAPH ANALYSIS

SAIGON-CAP ST JACQUES AREA

MISSION NO.30-MINING OF HARBOR AND CH

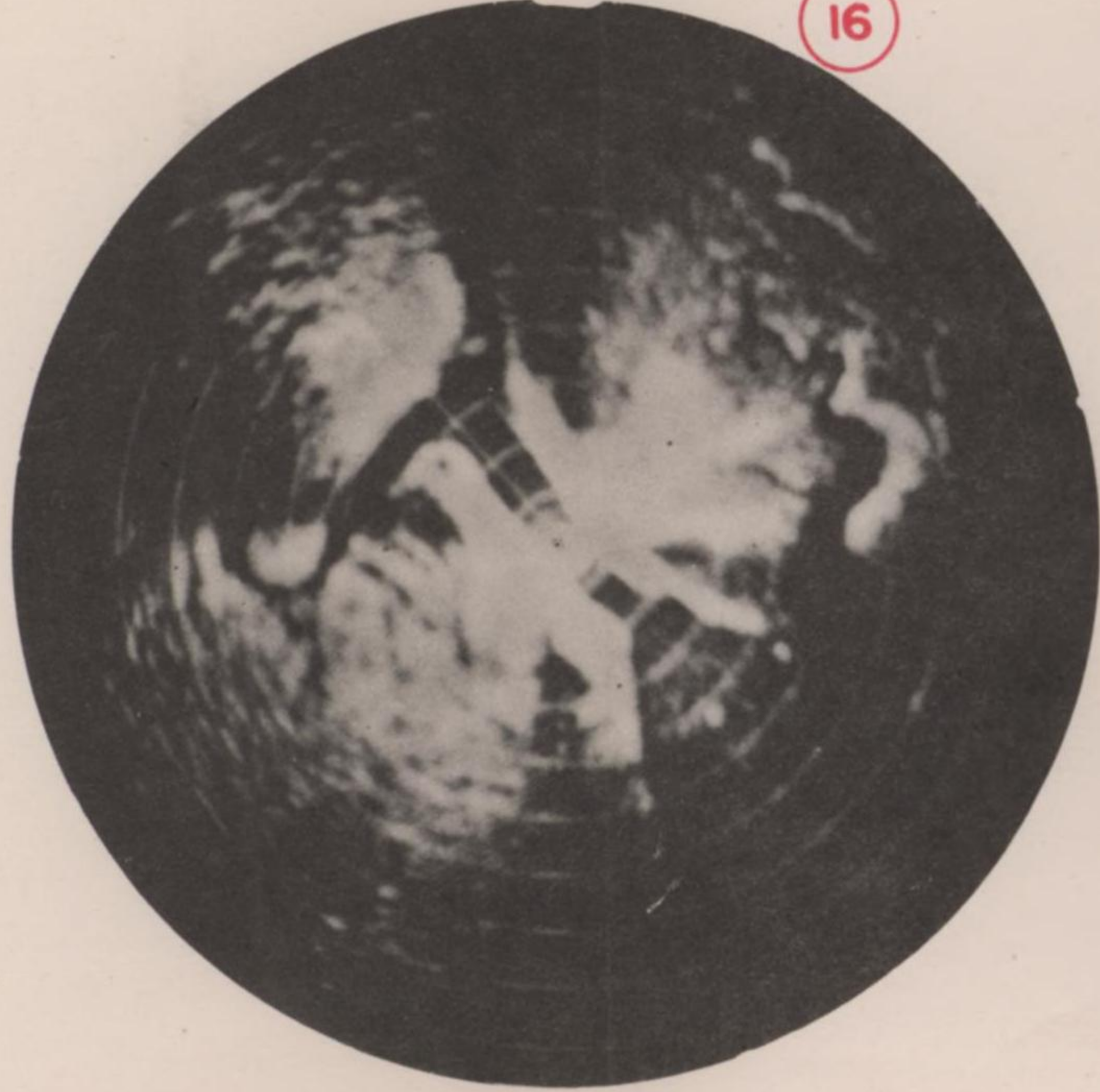
SONG SOIRAP FIELD

ALL ALTITUDES 3100'. SWEEPS 10 MILES. HEADINGS 319° MAG., UNLESS OTHERWISE INDICATED.



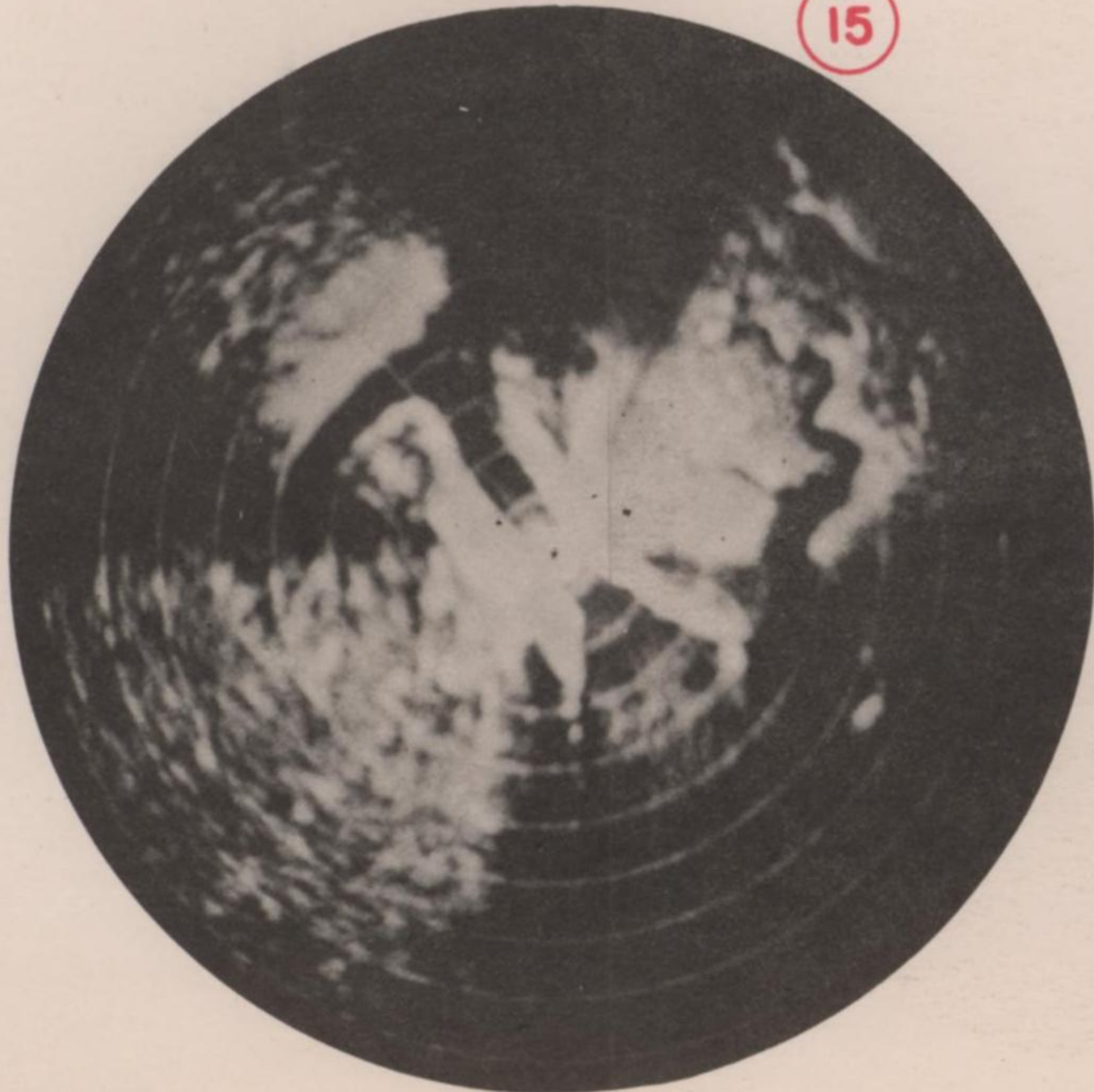
17

321° MAG

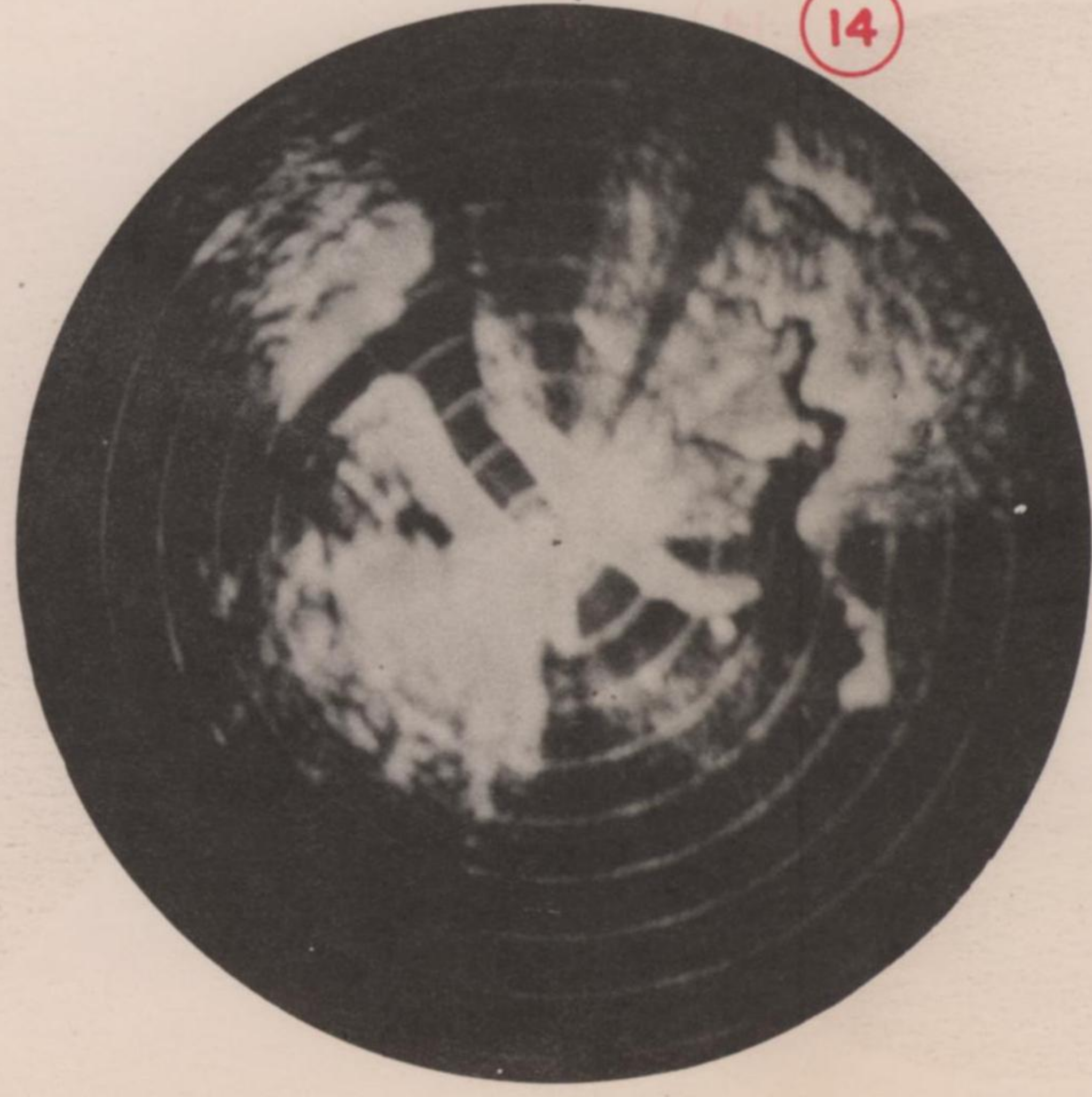
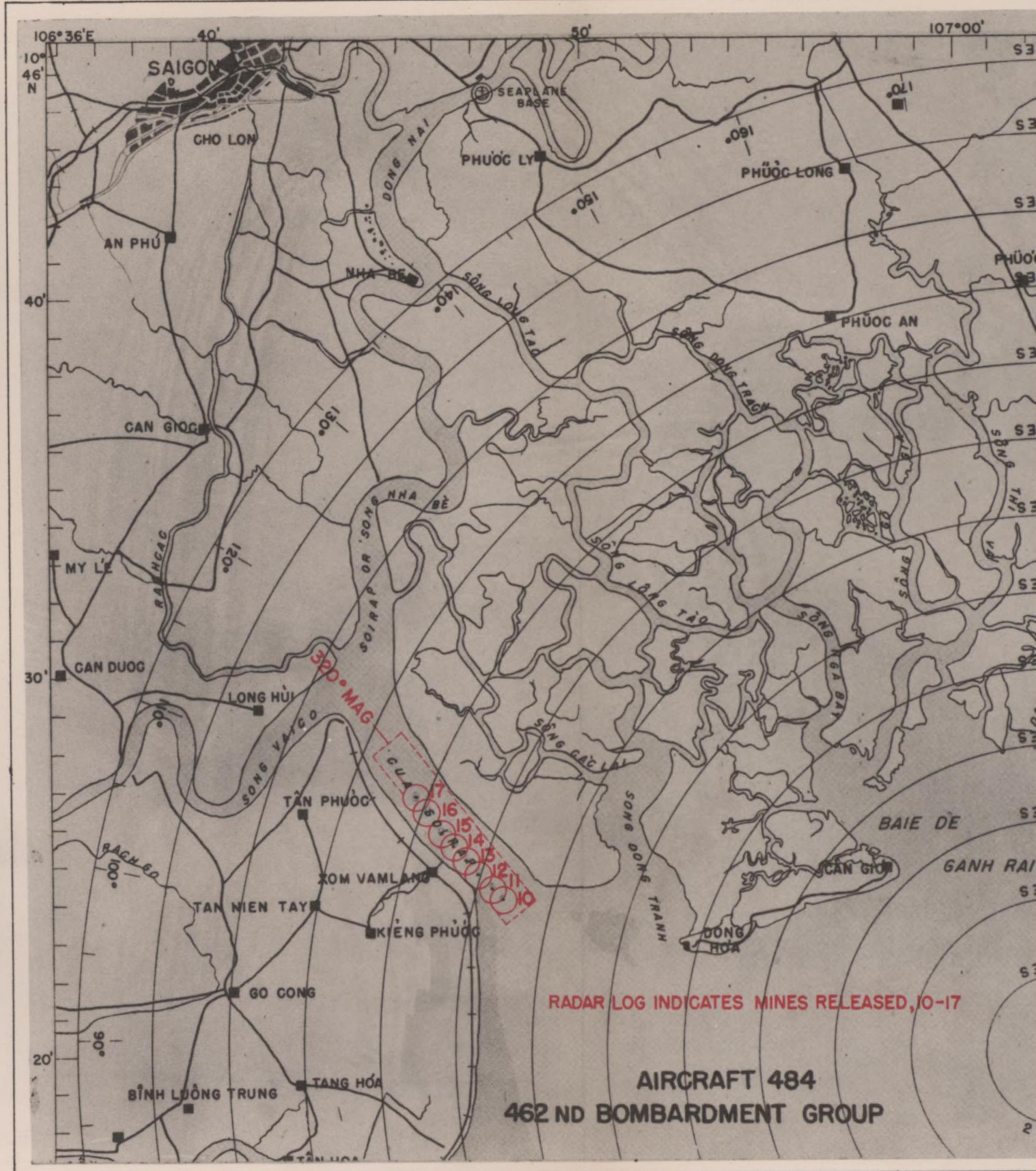


16

321° MAG.



15



14

317° MAG.

PREPARED BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION -

SECRET

SECRET

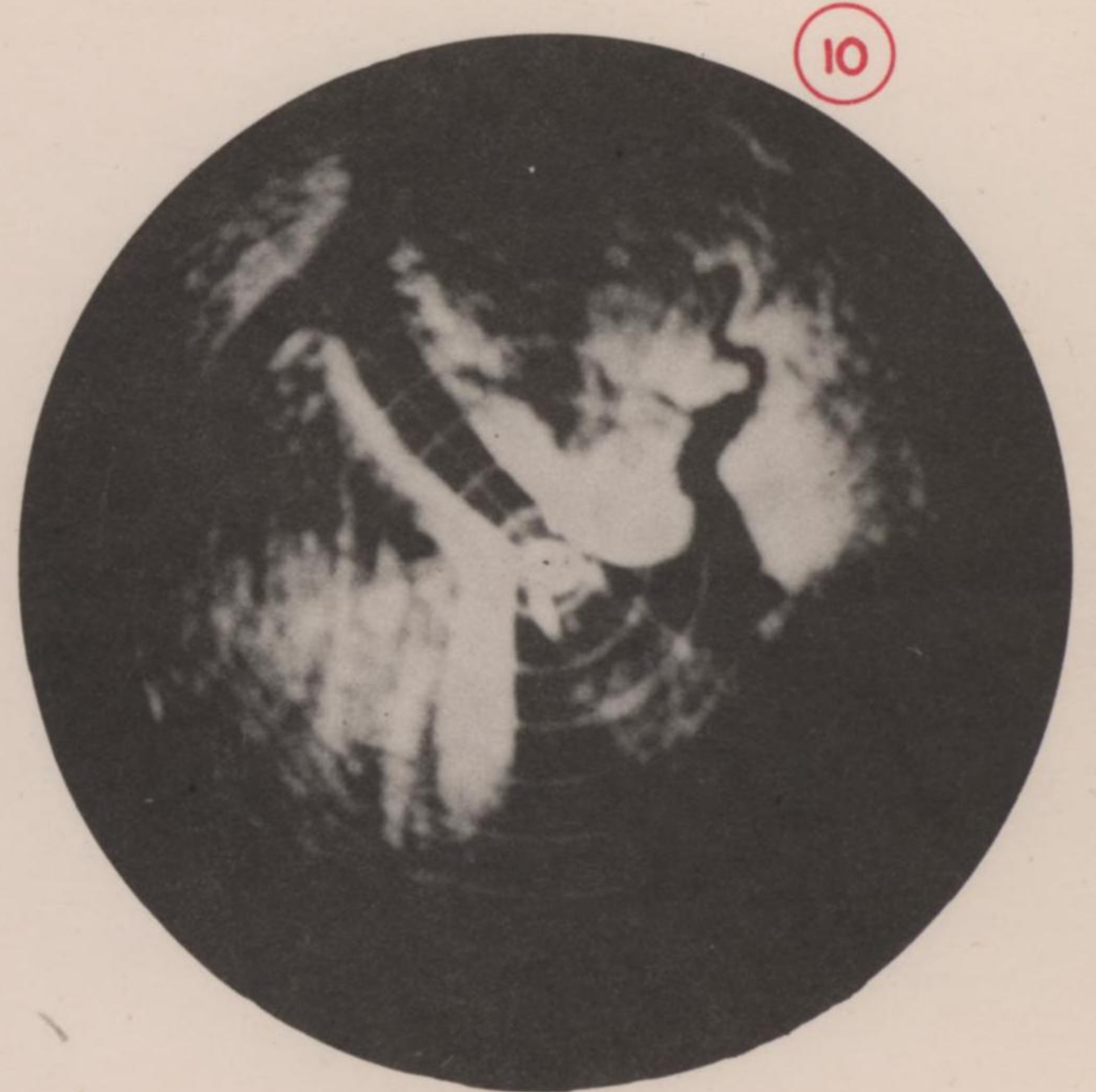
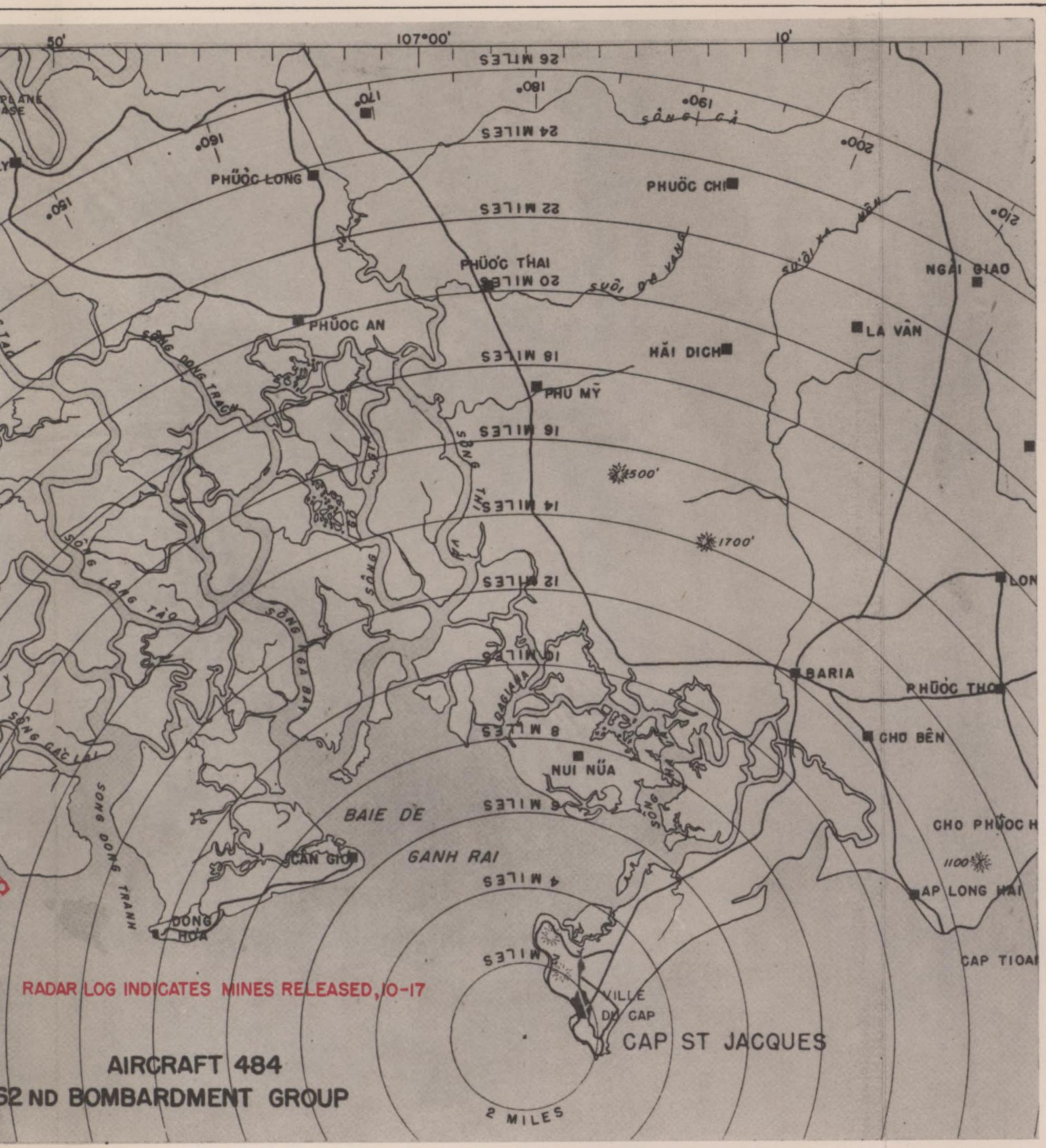
R 85.2 SHEET A

RADAR PHOTOGRAPH ANALYSIS

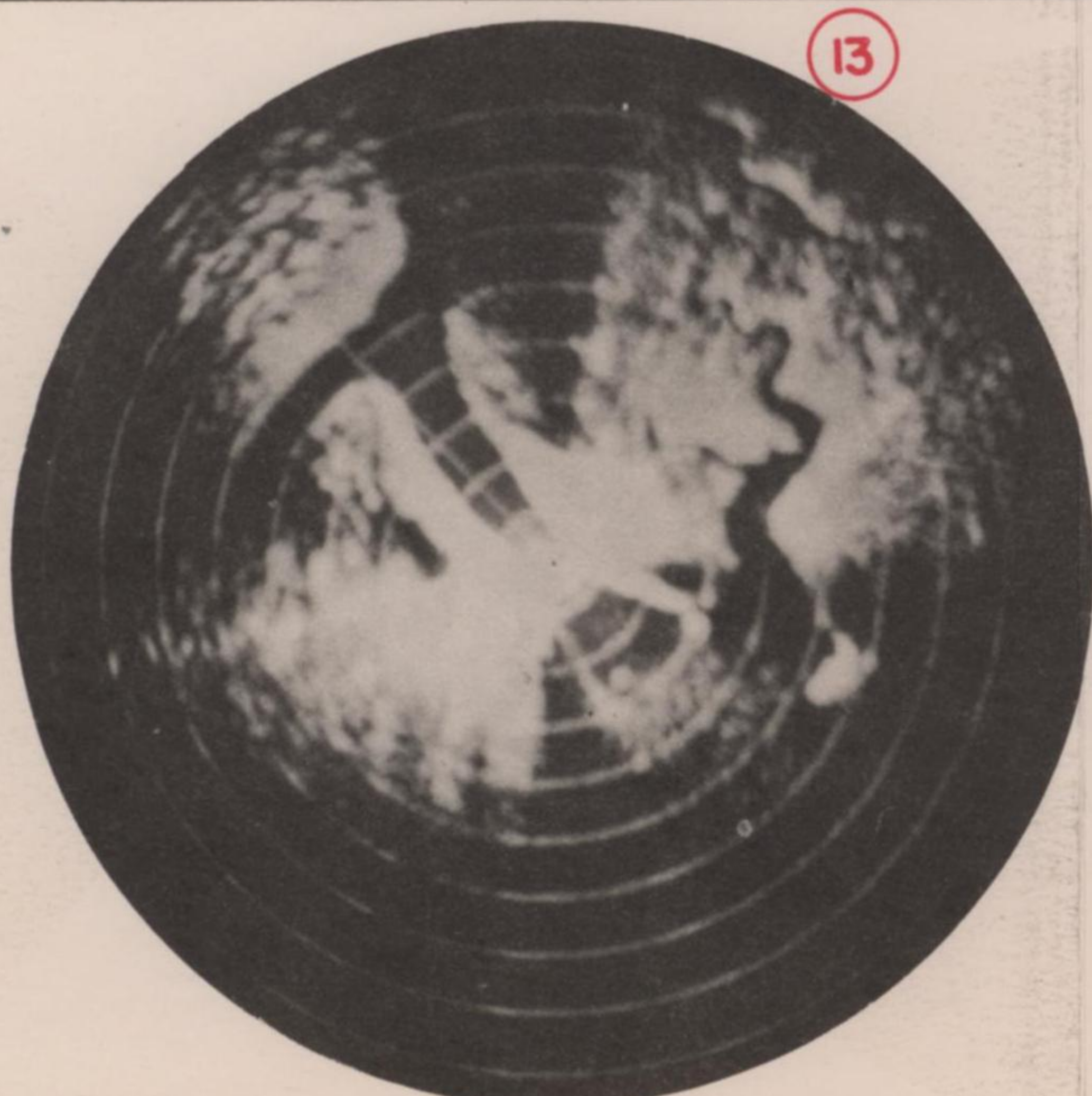
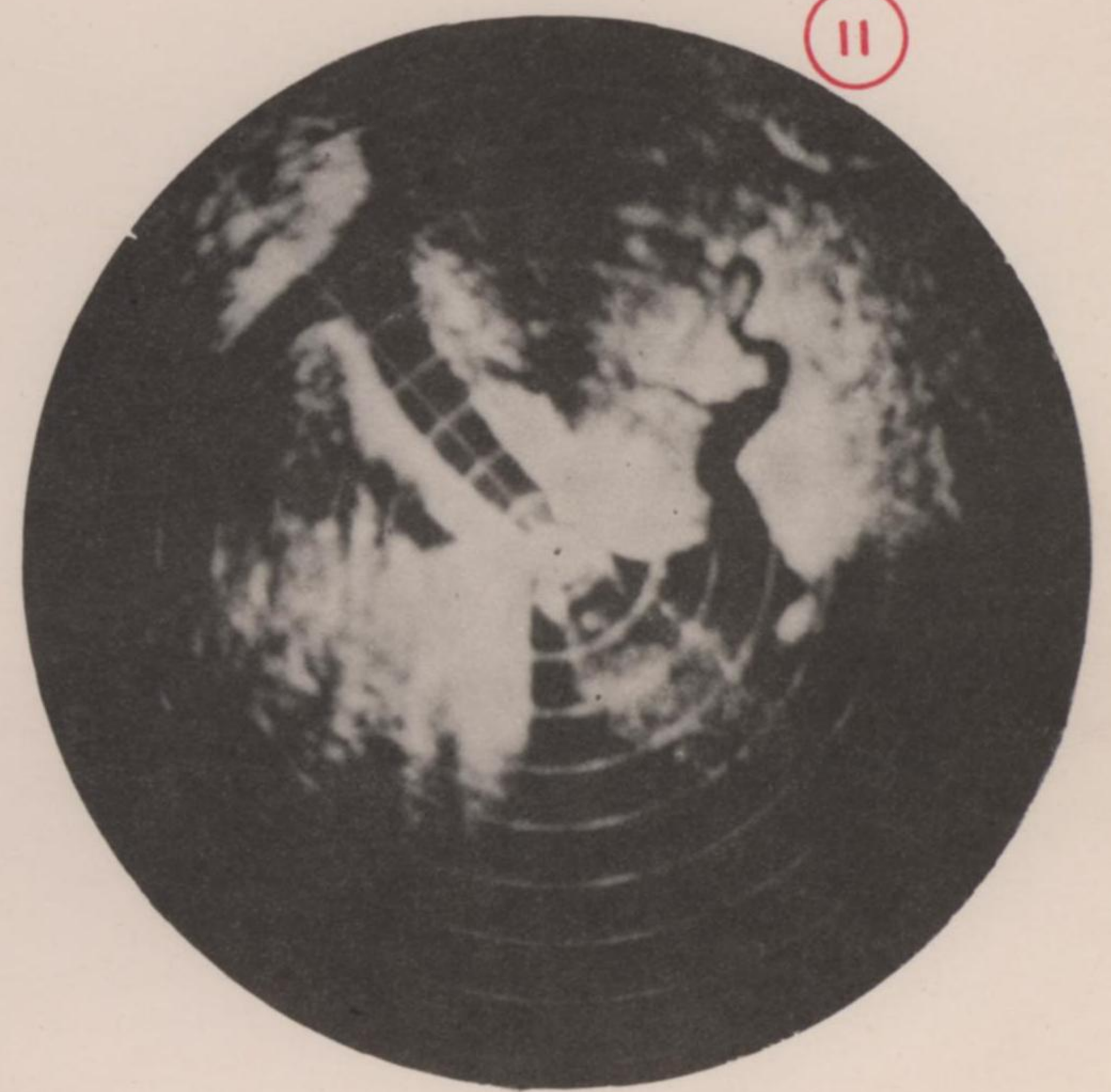
SAIGON-CAP ST JACQUES AREA

MISSION NO.30-MINING OF HARBOR AND CHANNELS

SONG SOIRAP FIELD



320° MAG.



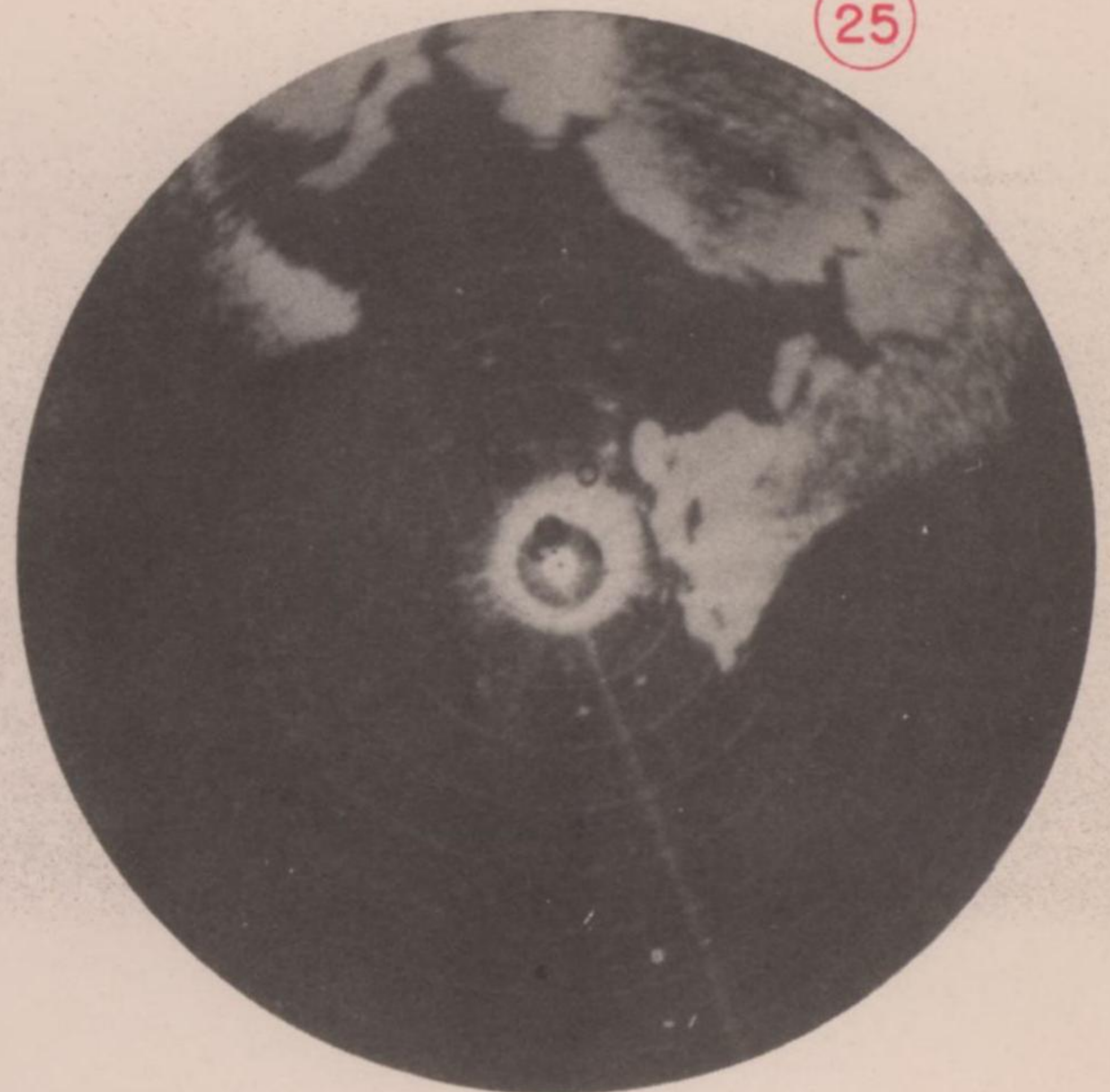
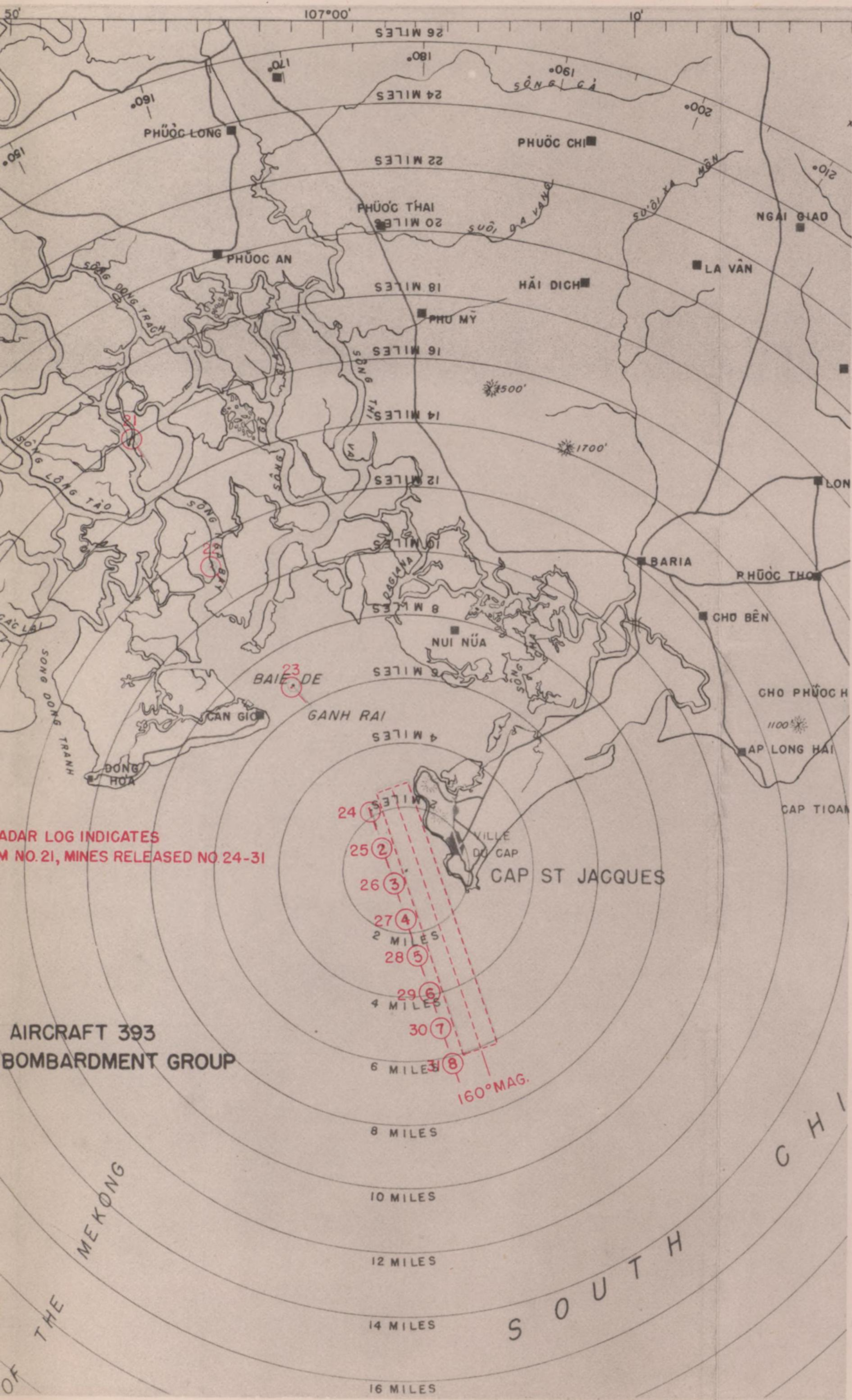
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Authority NWD 760063
By AV NARA Date 11.27.05

SECRET

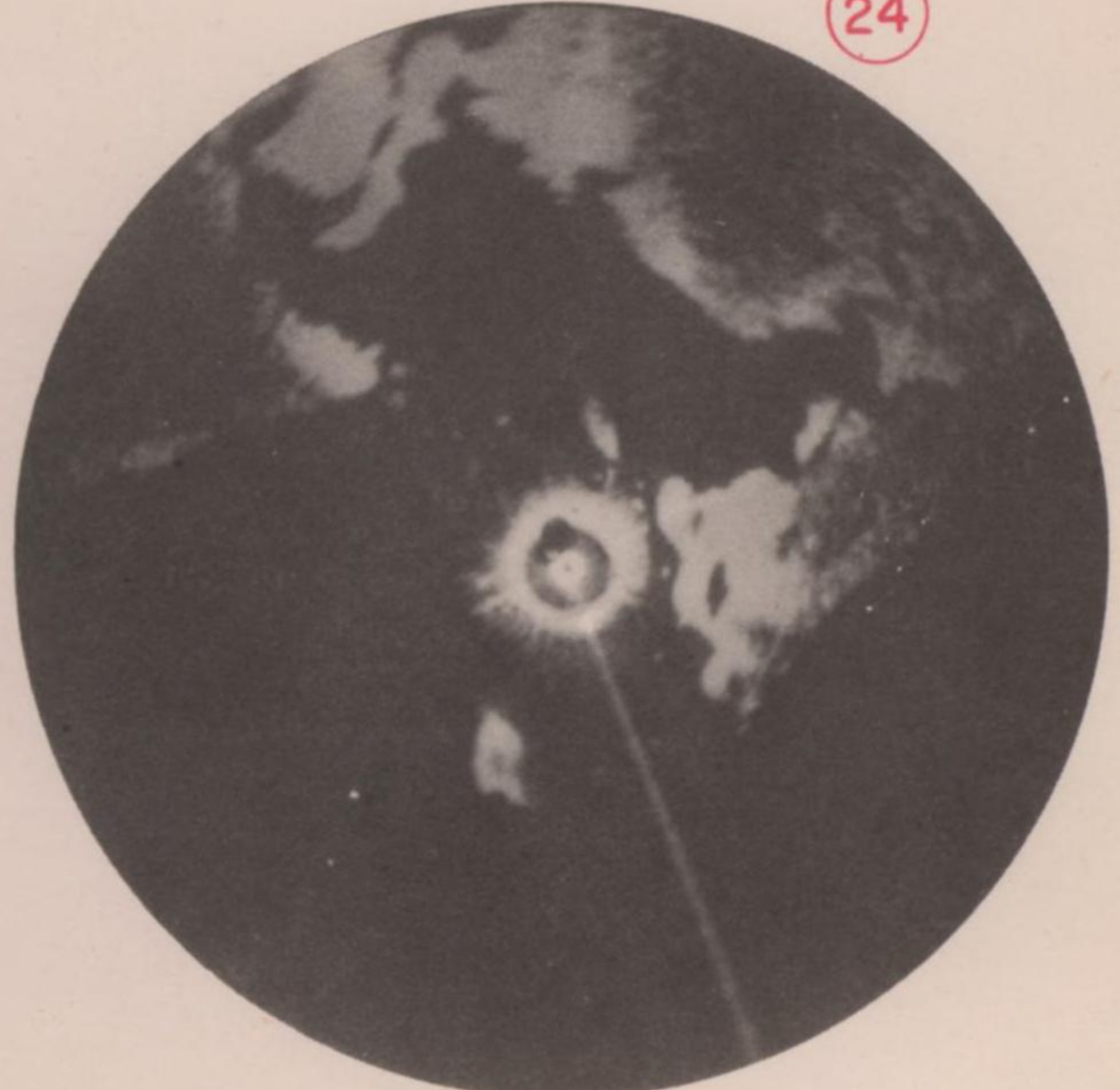
R 85.2 SHEET B

RADAR PHOTOGRAPH ANALYSIS
AIGON-CAP ST. JACQUES AREAS
N NO. 30 - MINING OF HARBOR & CHANNELS

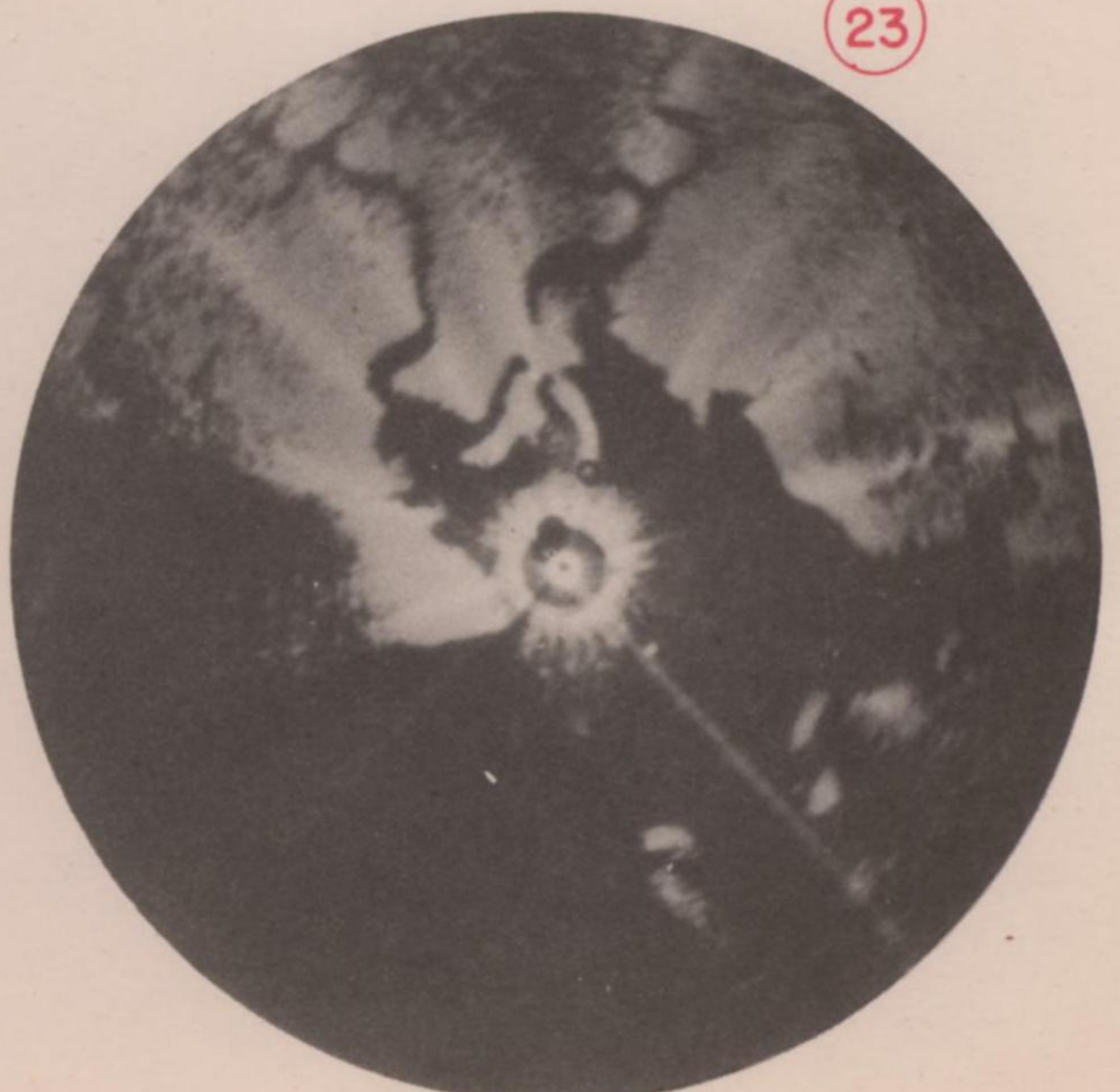
CAP ST. JACQUES FIELD



160° MAG.



160° MAG.



137° MAG.

INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND
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454-25/1/45

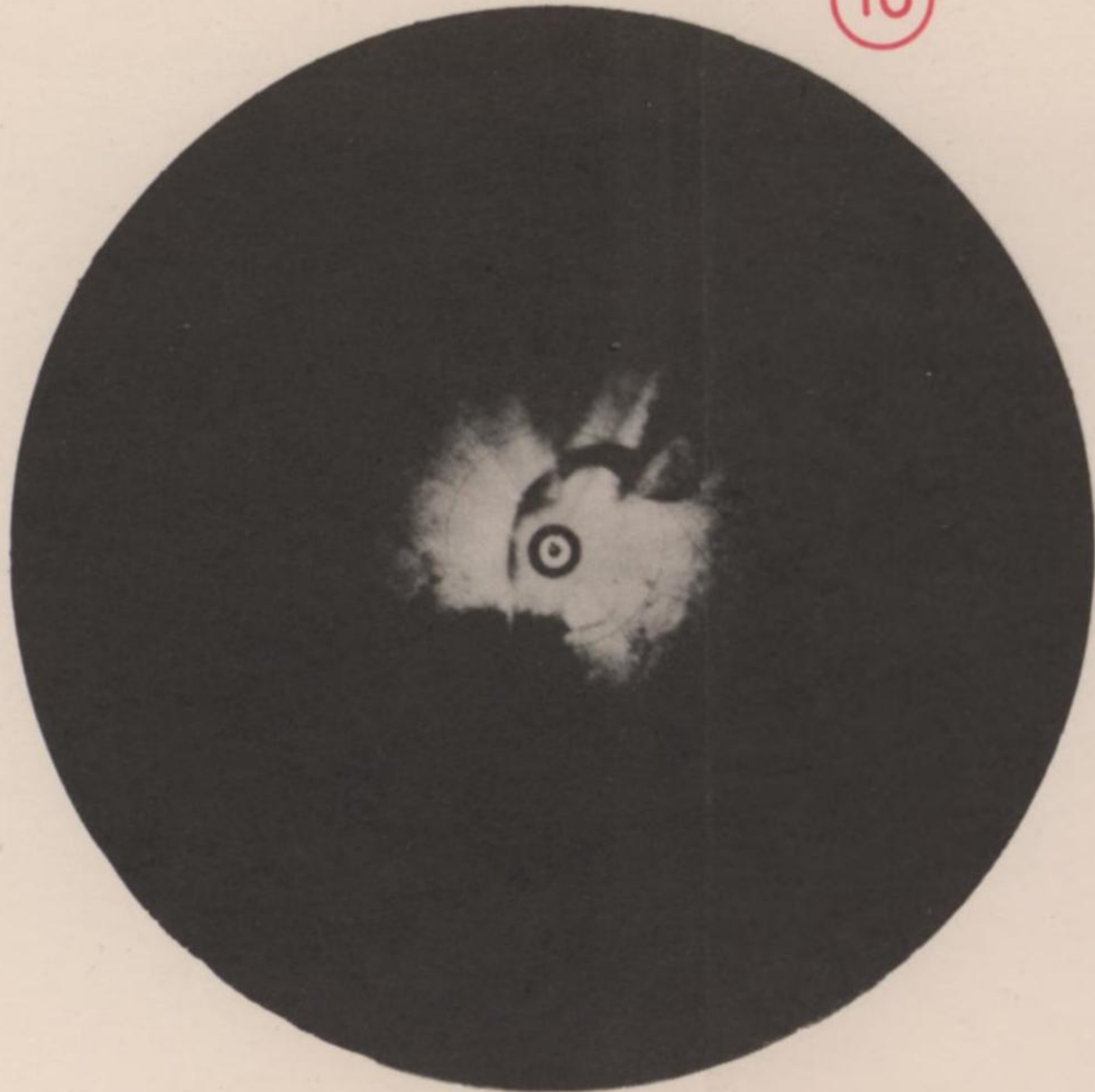
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RADAR PHOTOGRAPH ANALYSIS
SAIGON - CAP ST JACQUES AREA

MISSION NO. 30 - MINING OF HARBOR AND C

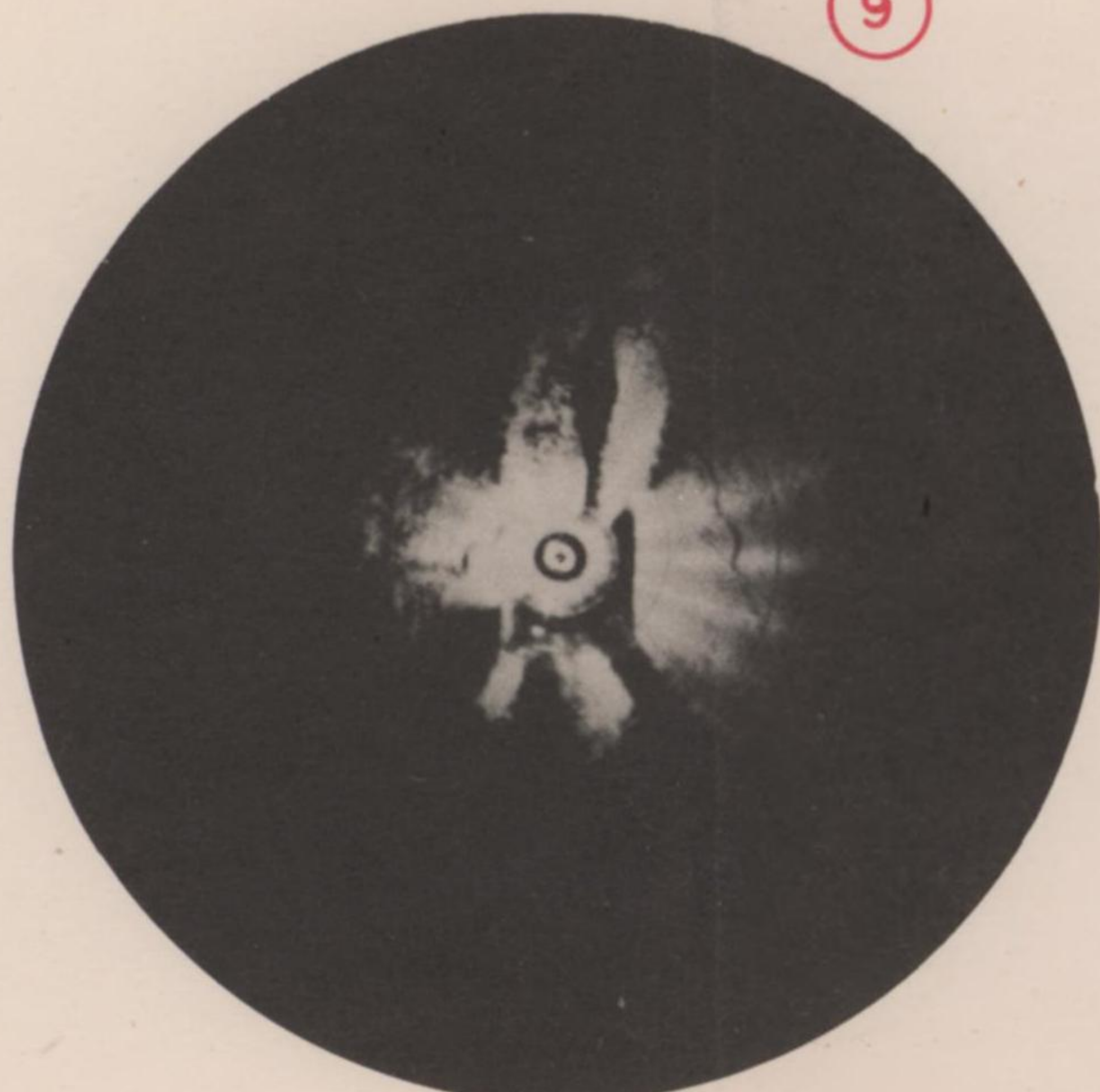
SONG SOIRAP FIELD

ALL ALTITUDES 2000'. ALL SWEEPS 10 MILES
HEADINGS 324°MAG., UNLESS OTHERWISE SPECIFIED.



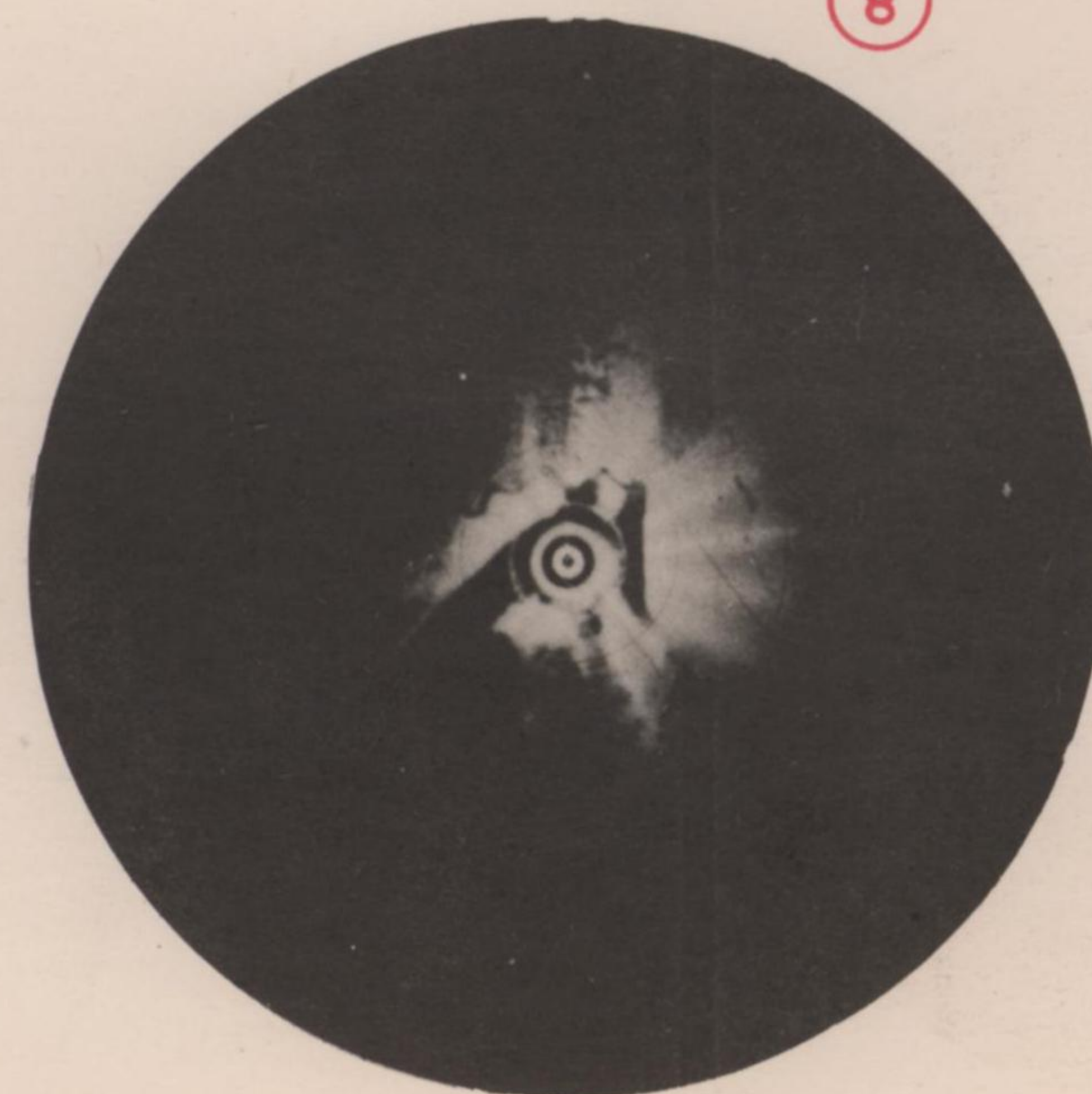
10

24°MAG.



9

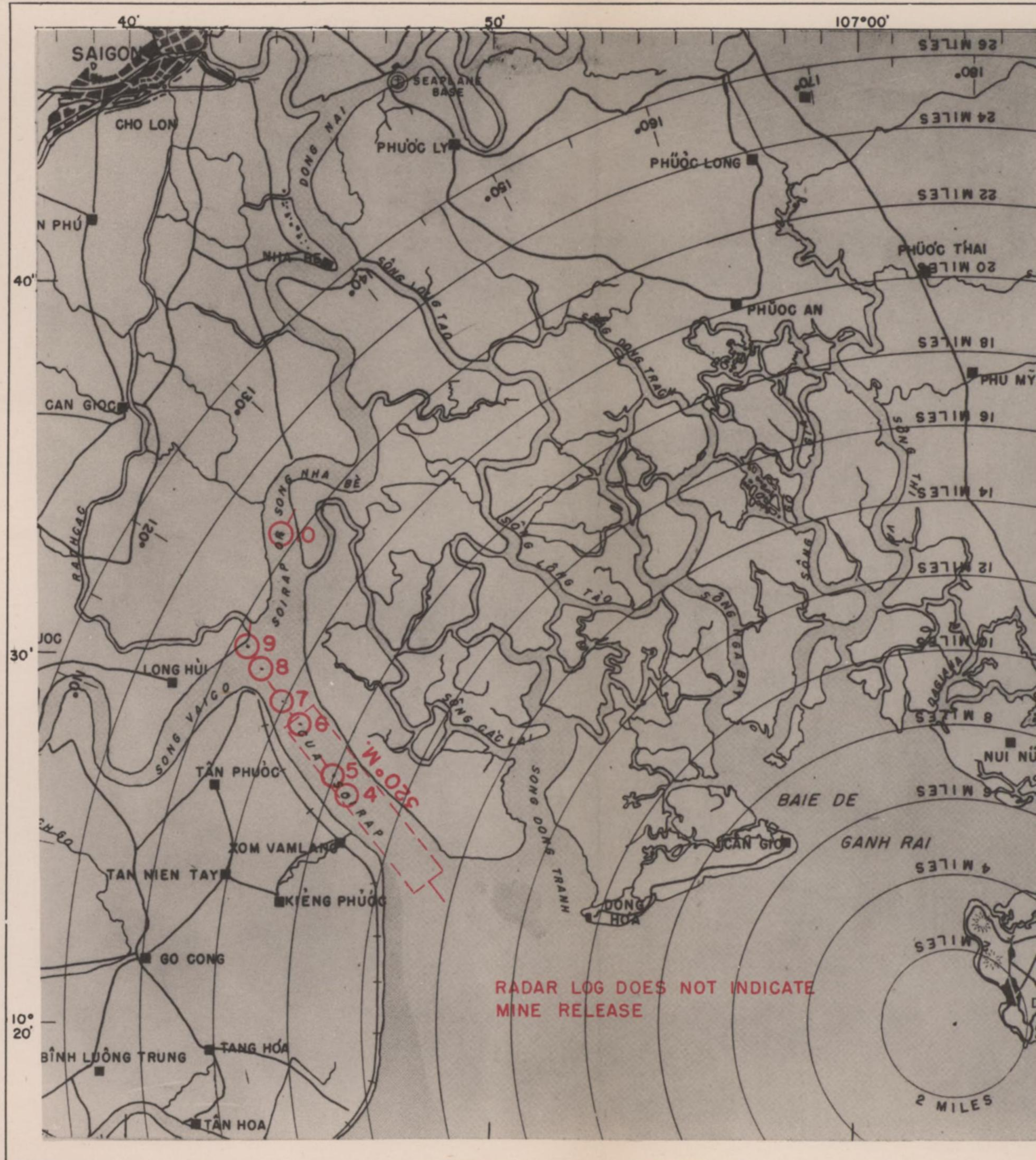
6°MAG.



8



7



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Authority NWD 760003
By AV NARA Date 11.27.05

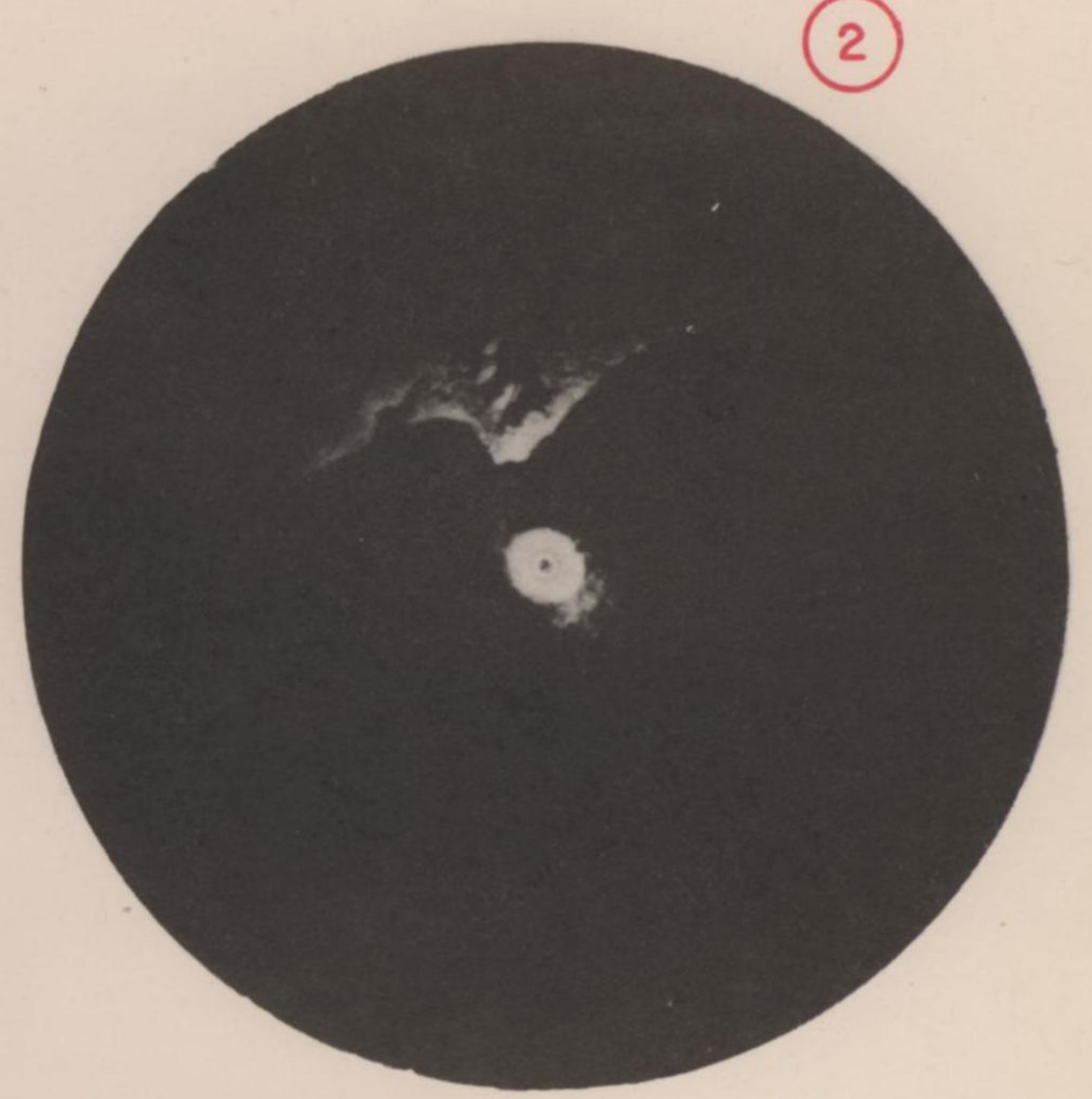
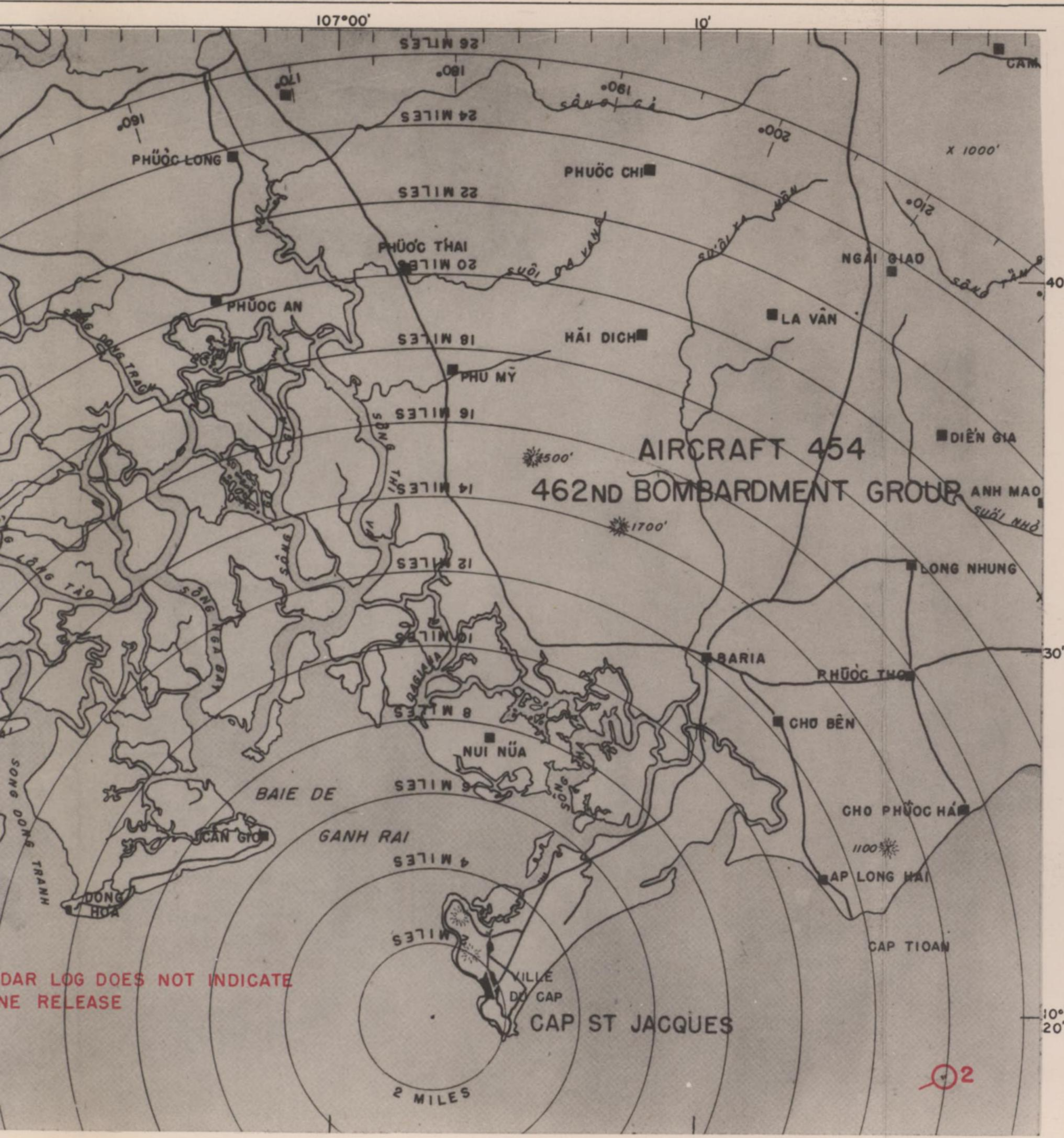
SECRET

R85.2 SHEET C

RADAR PHOTOGRAPH ANALYSIS SAIGON - CAP ST JACQUES AREAS

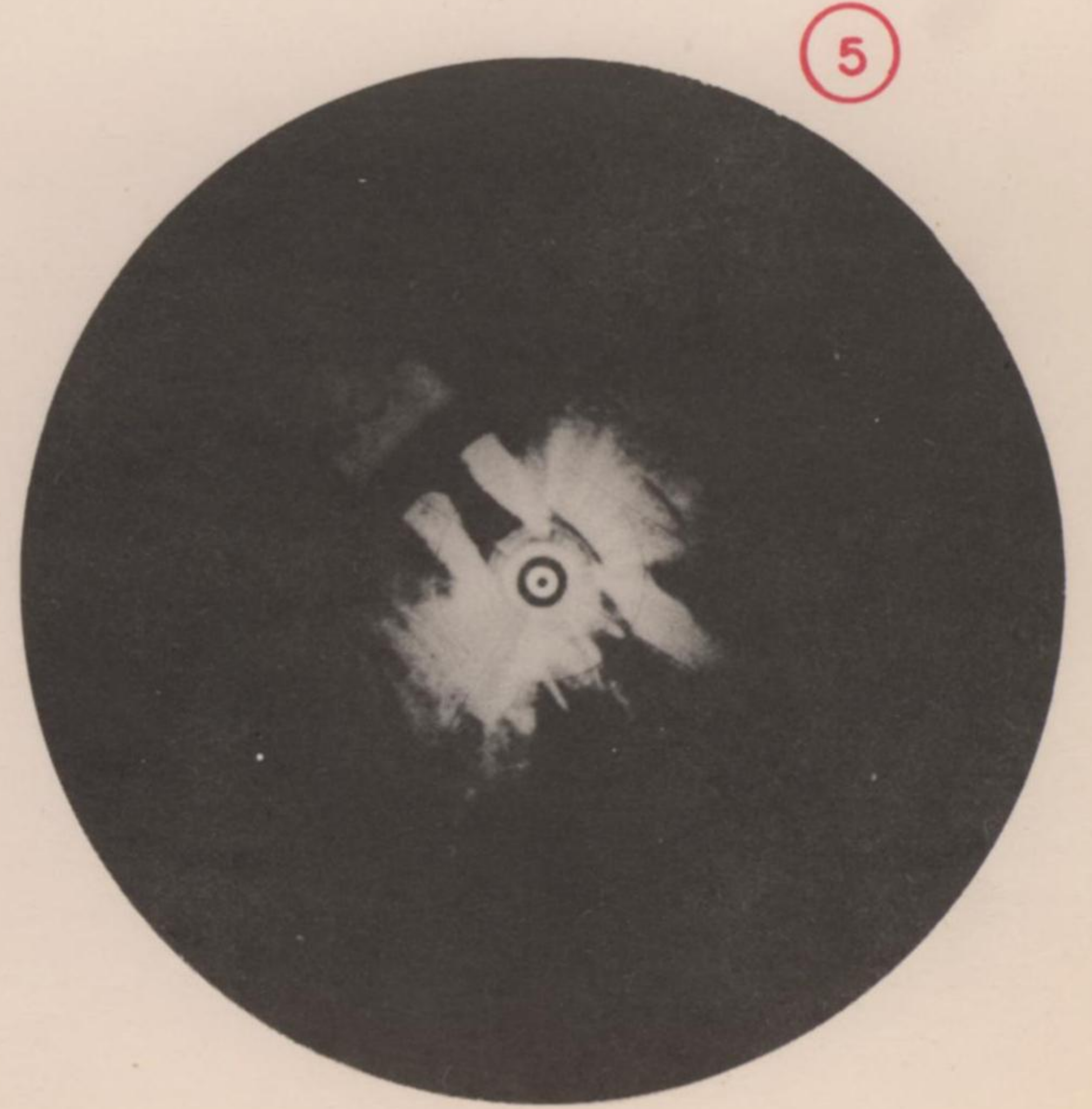
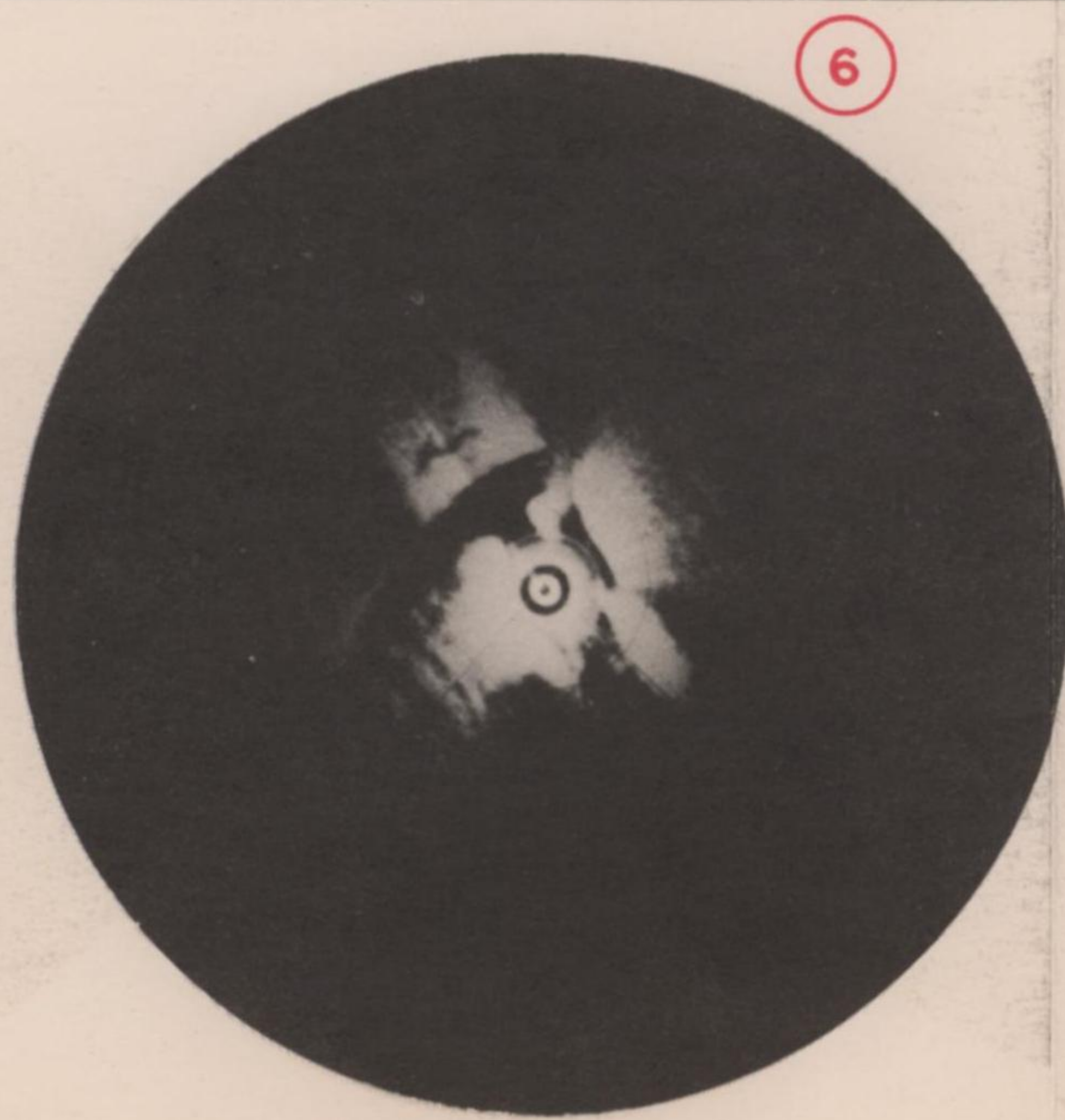
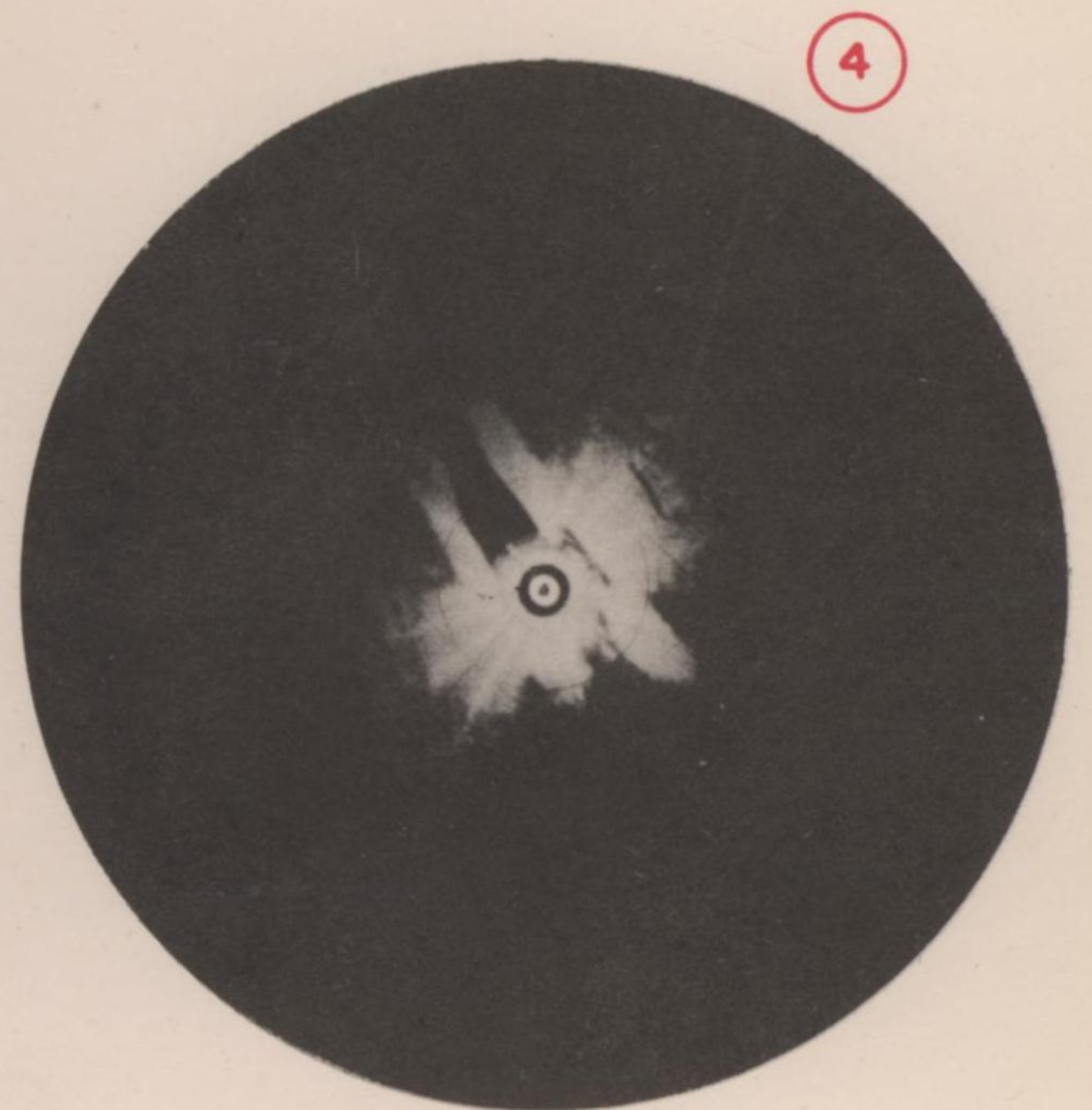
MISSION NO. 30 - MINING OF HARBOR AND CHANNELS

SONG SOIRAP FIELD



20 MILE SWEEP

244° MAG.



RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND
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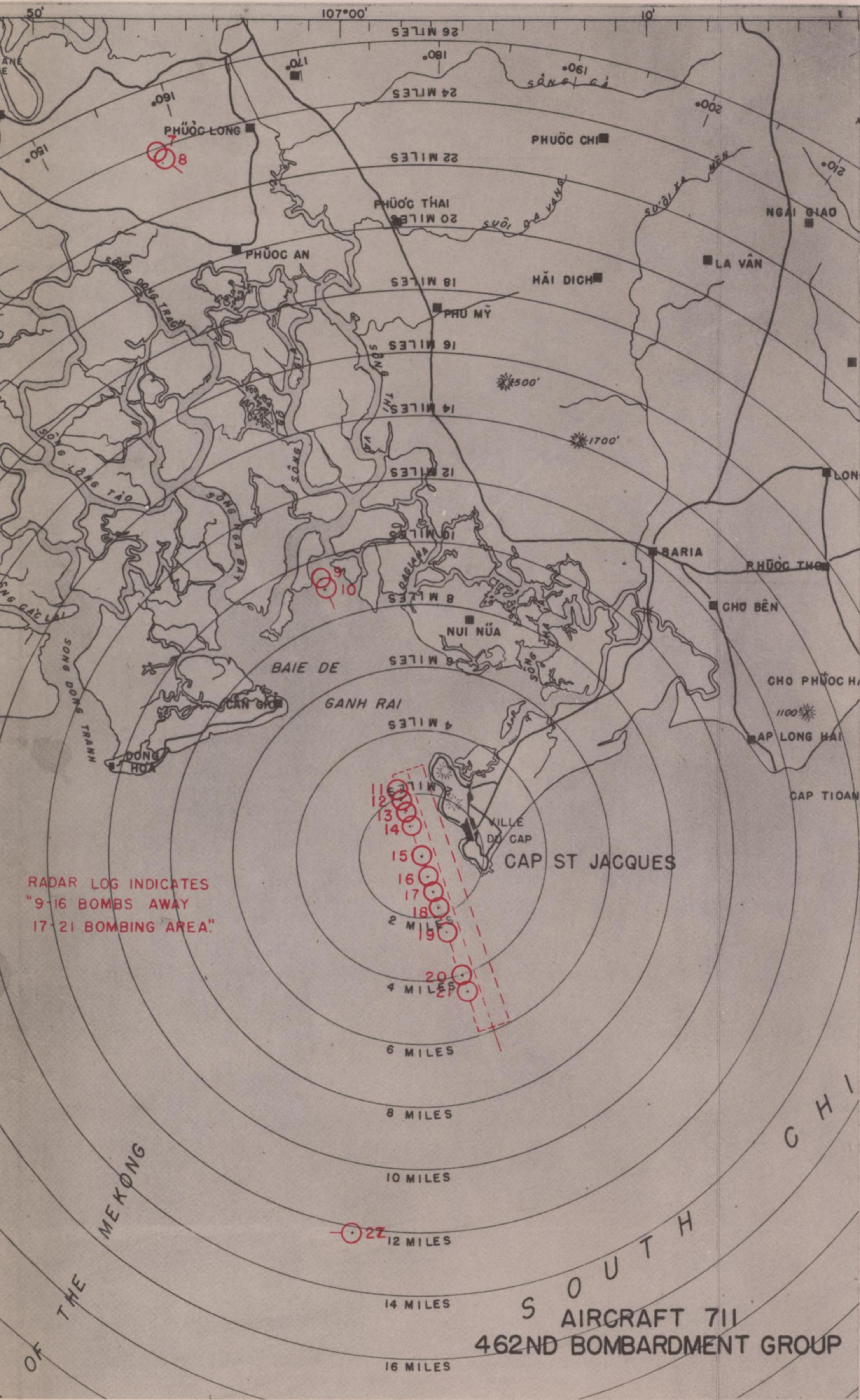
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Authority NND 760063
By AV NARA Date 11.27.05

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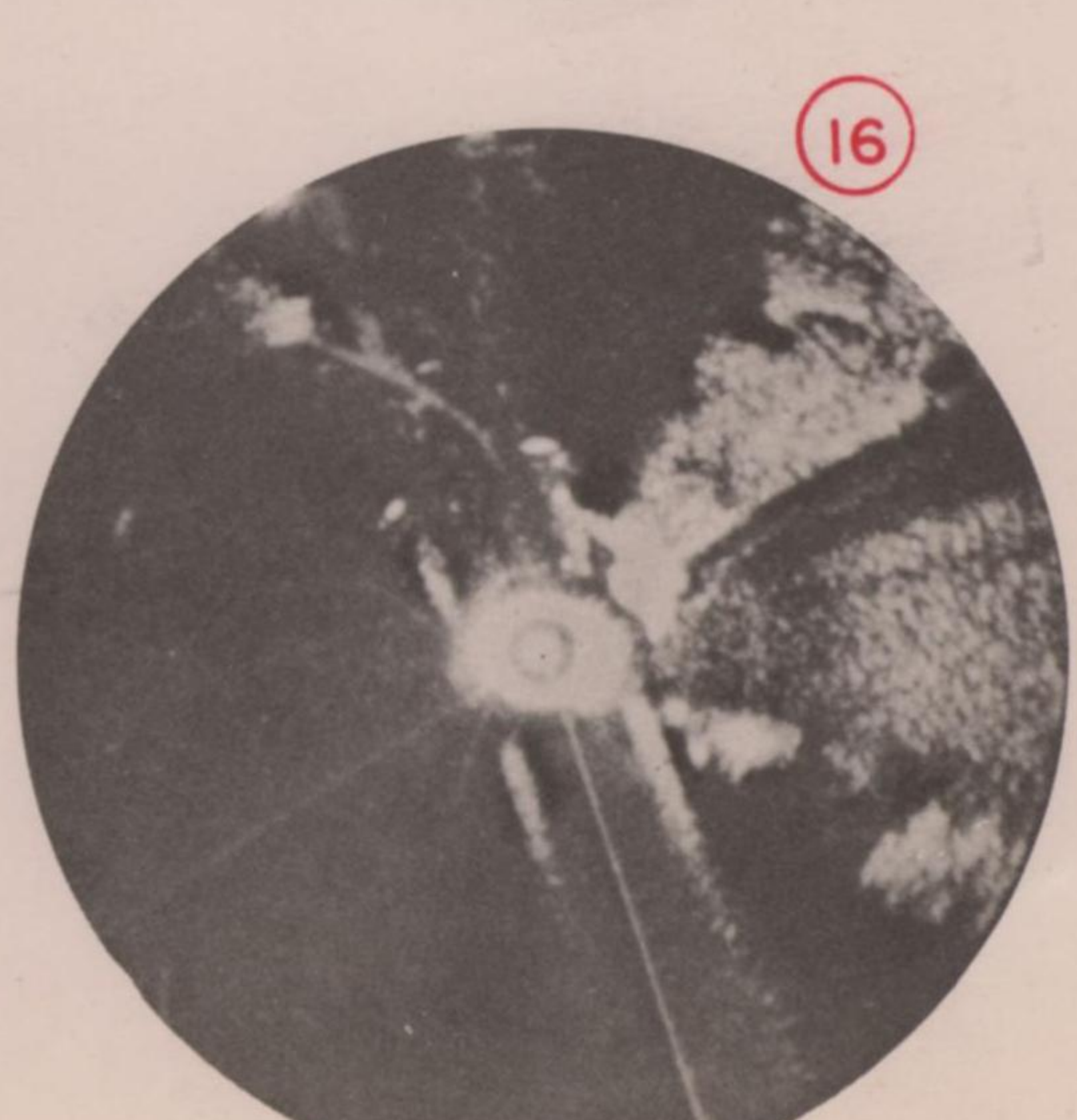
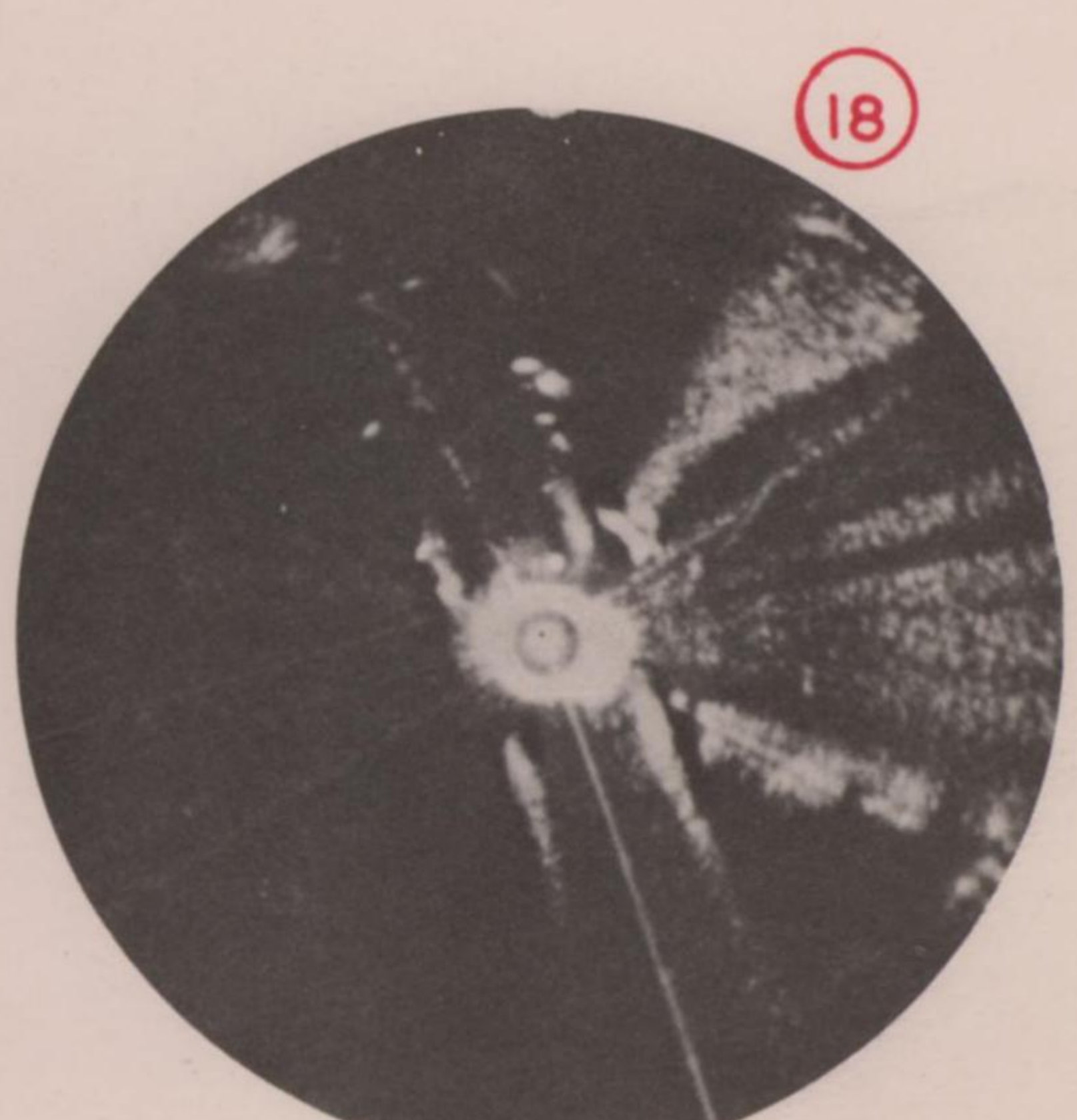
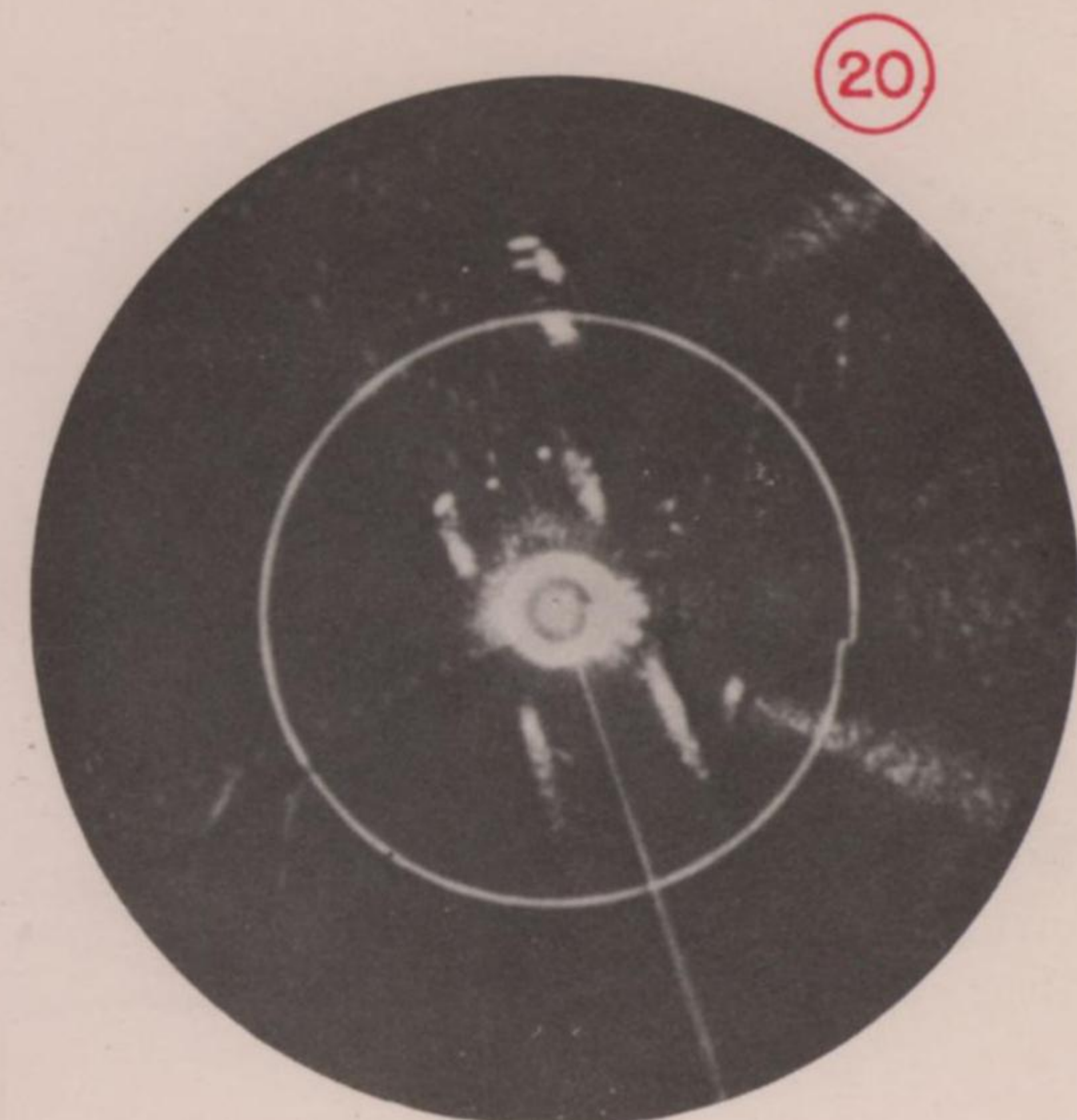
R 85.2 SHEET D

RADAR PHOTOGRAPH ANALYSIS
SAIGON-CAP ST JACQUES AREAS
IN NO. 30-MINING OF HARBORS & CHANNELS

CAP ST JACQUES FIELD

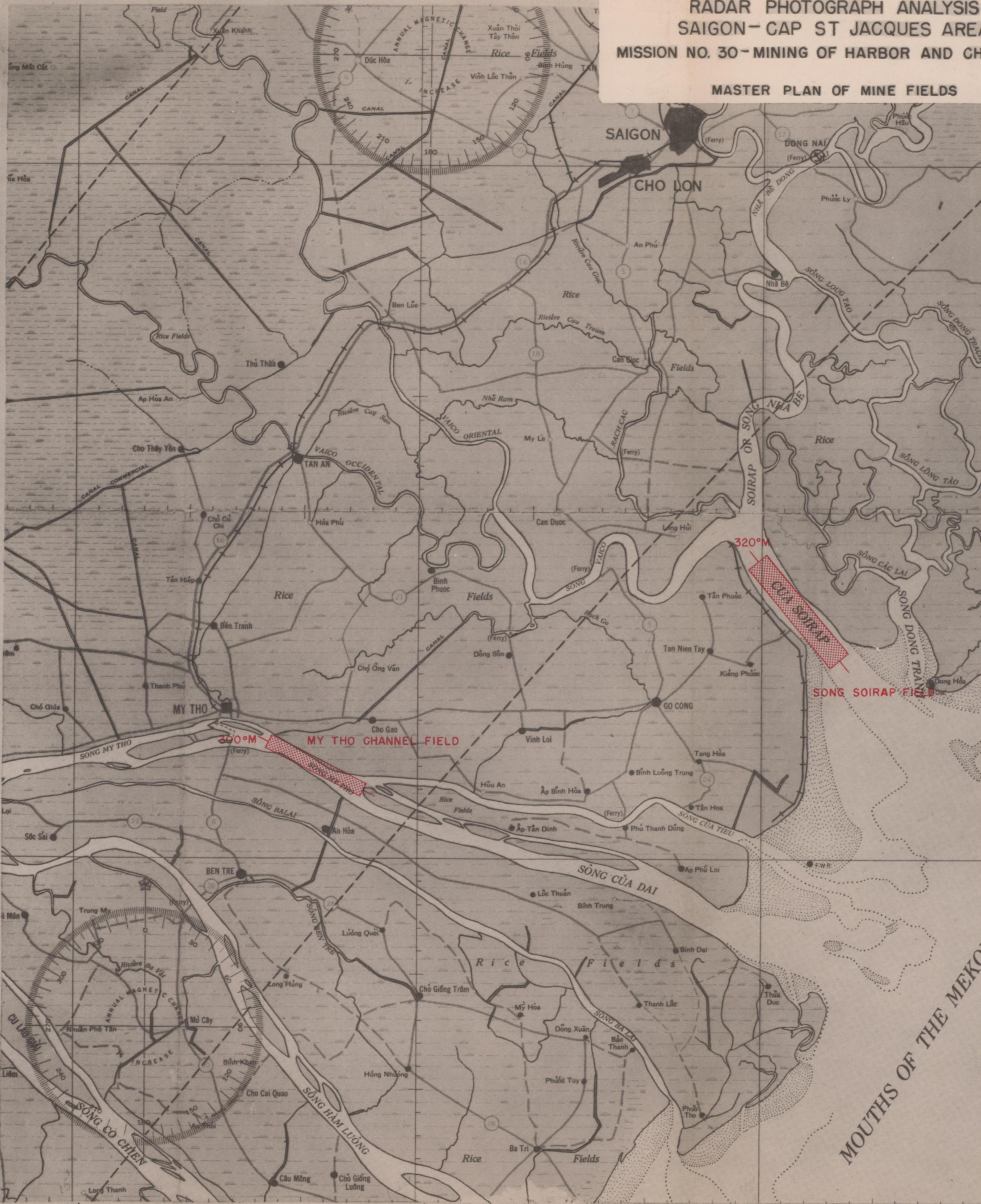


272°MAG. 50 MILE SWEEP



SECRET
RADAR PHOTOGRAPH ANALYSIS
SAIGON-CAP ST JACQUES AREA
MISSION NO. 30-MINING OF HARBOR AND CH

MASTER PLAN OF MINE FIELDS



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By AV NARA Date 11.27.05

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RADAR PHOTOGRAPH ANALYSIS
SAIGON-CAP ST JACQUES AREA
PLAN NO. 30-MINING OF HARBOR AND CHANNELS

R 85.2 SHEET E

MASTER PLAN OF MINE FIELDS



RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND 107°

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Authority WWD760063
By AV NARA Date 11.27.05

417-25/1/45

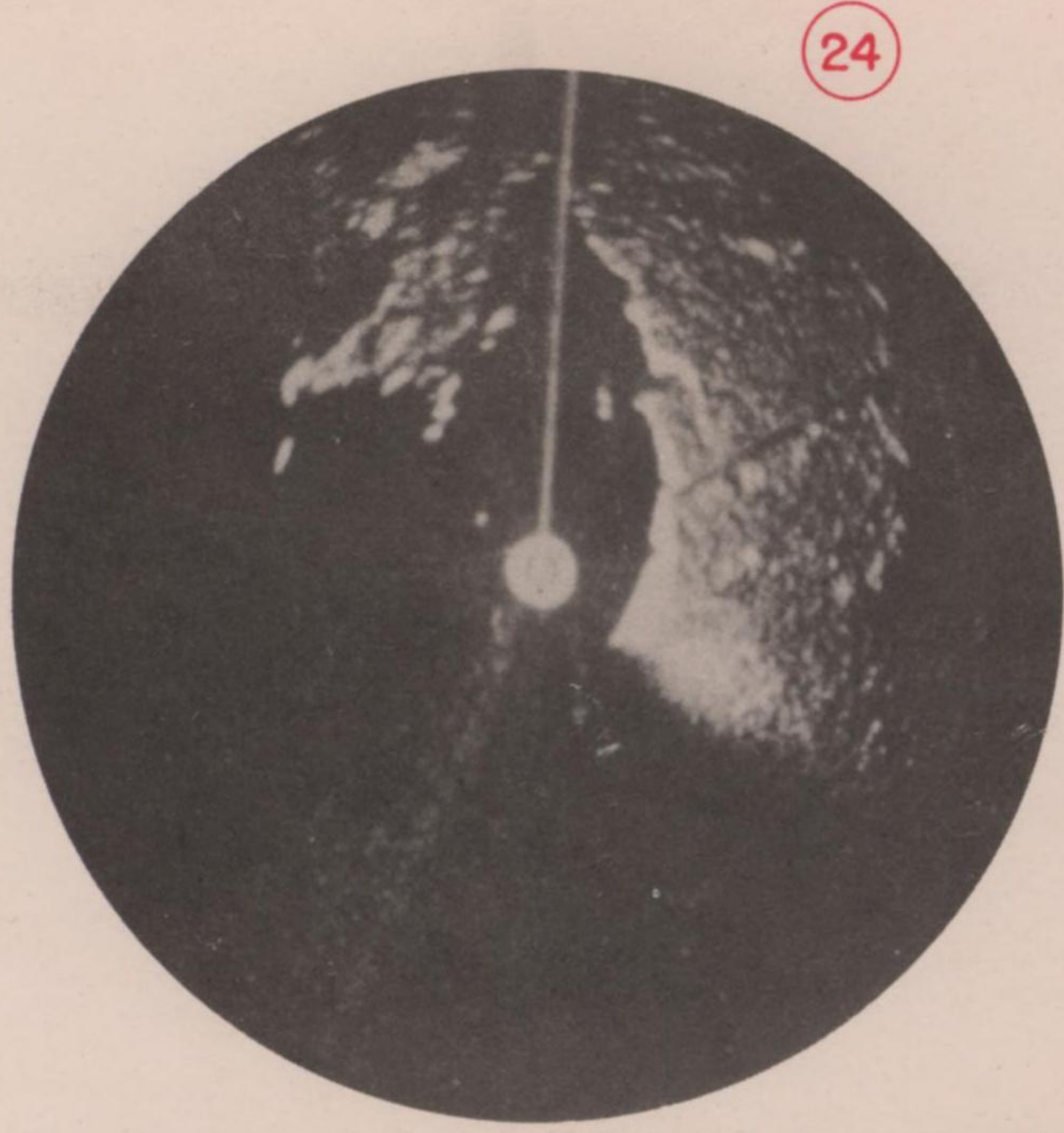
ALL ALTITUDES 6000'. SWEEPS 10 MILES AND HEADINGS 0° MAG. EXCEPT WHERE OTHERWISE INDICATED.

SECRET

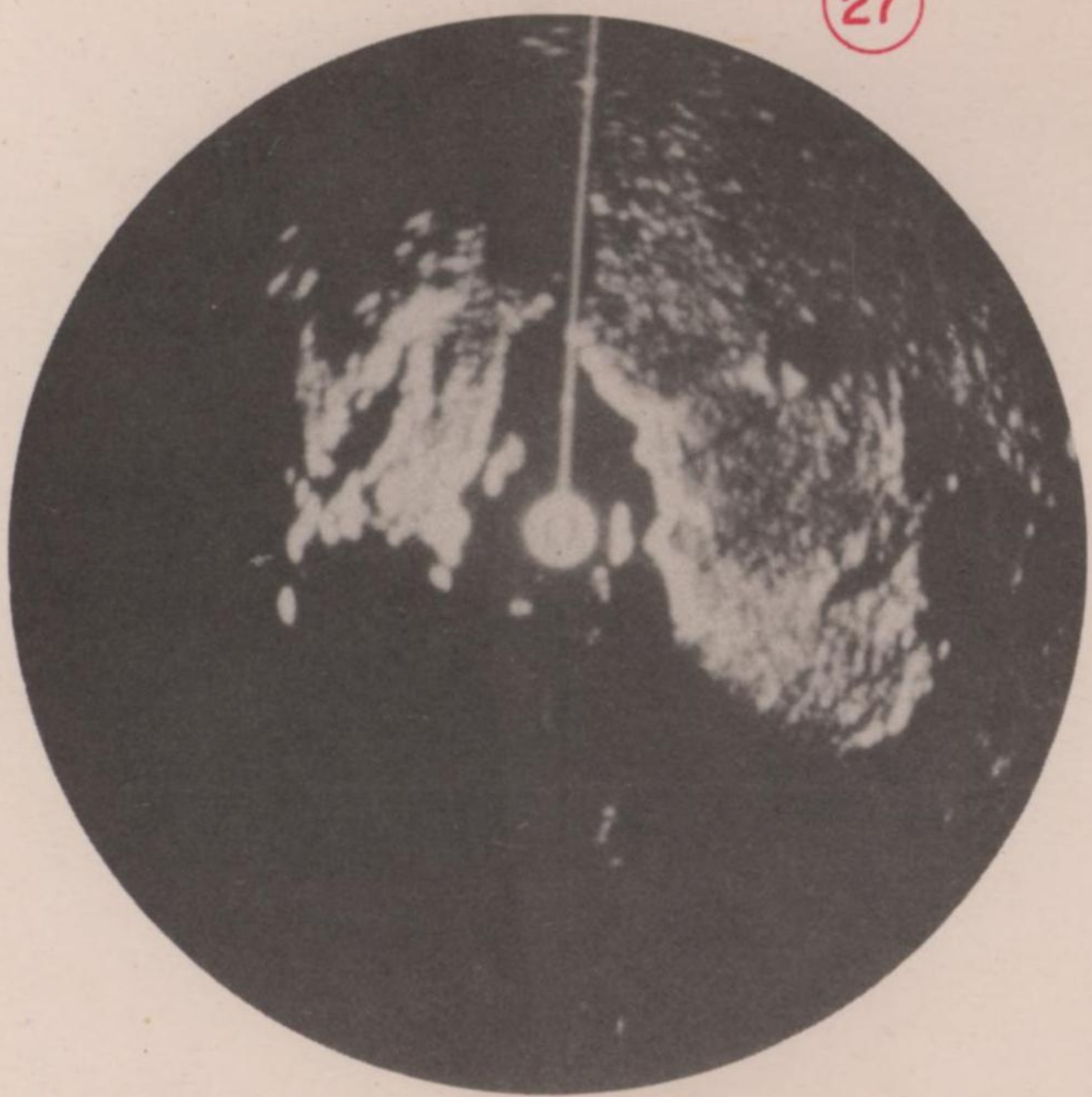
RADAR PHOTOGRAPH ANALYSIS

PANANG AREA-MALAY STATES

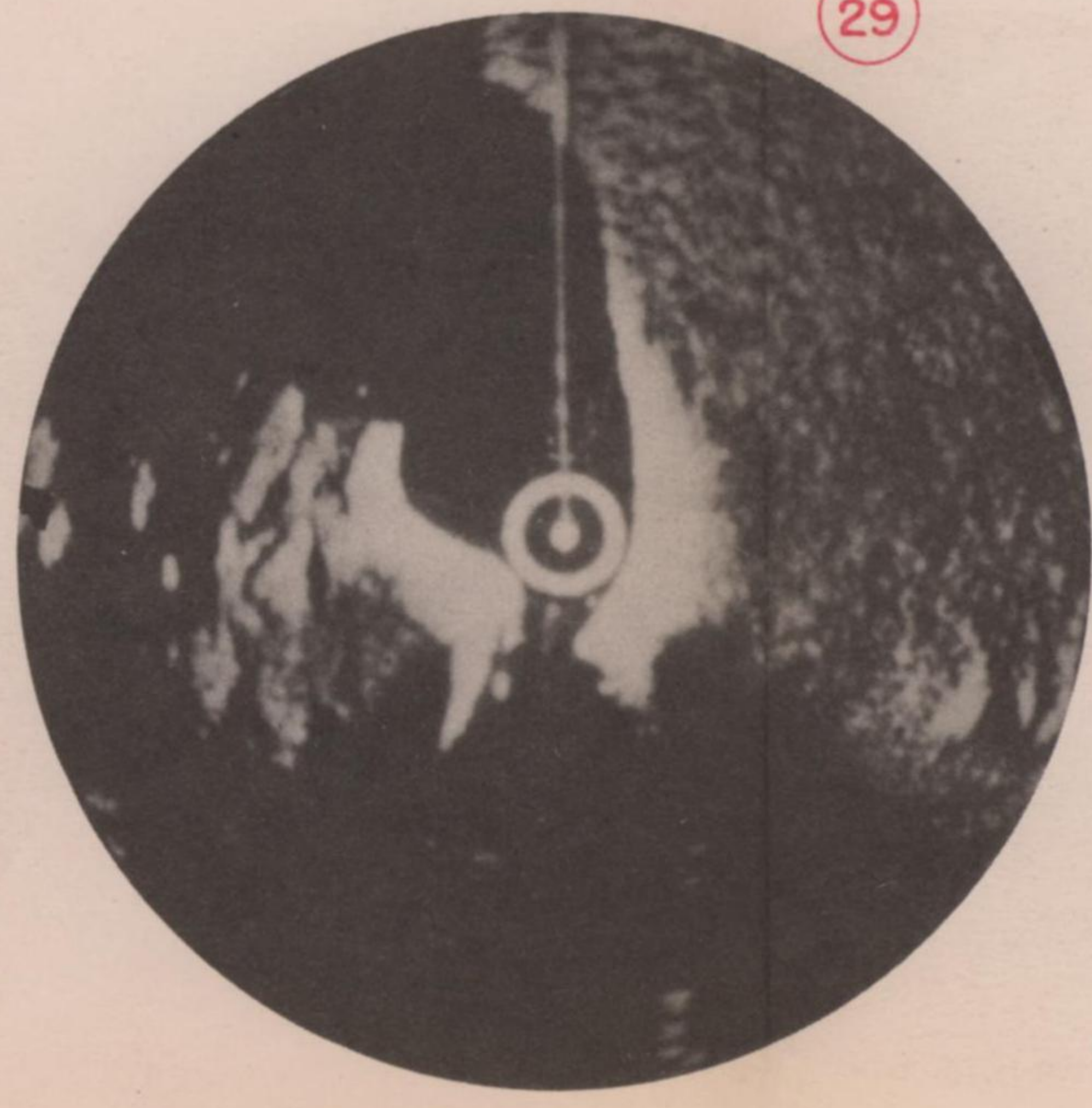
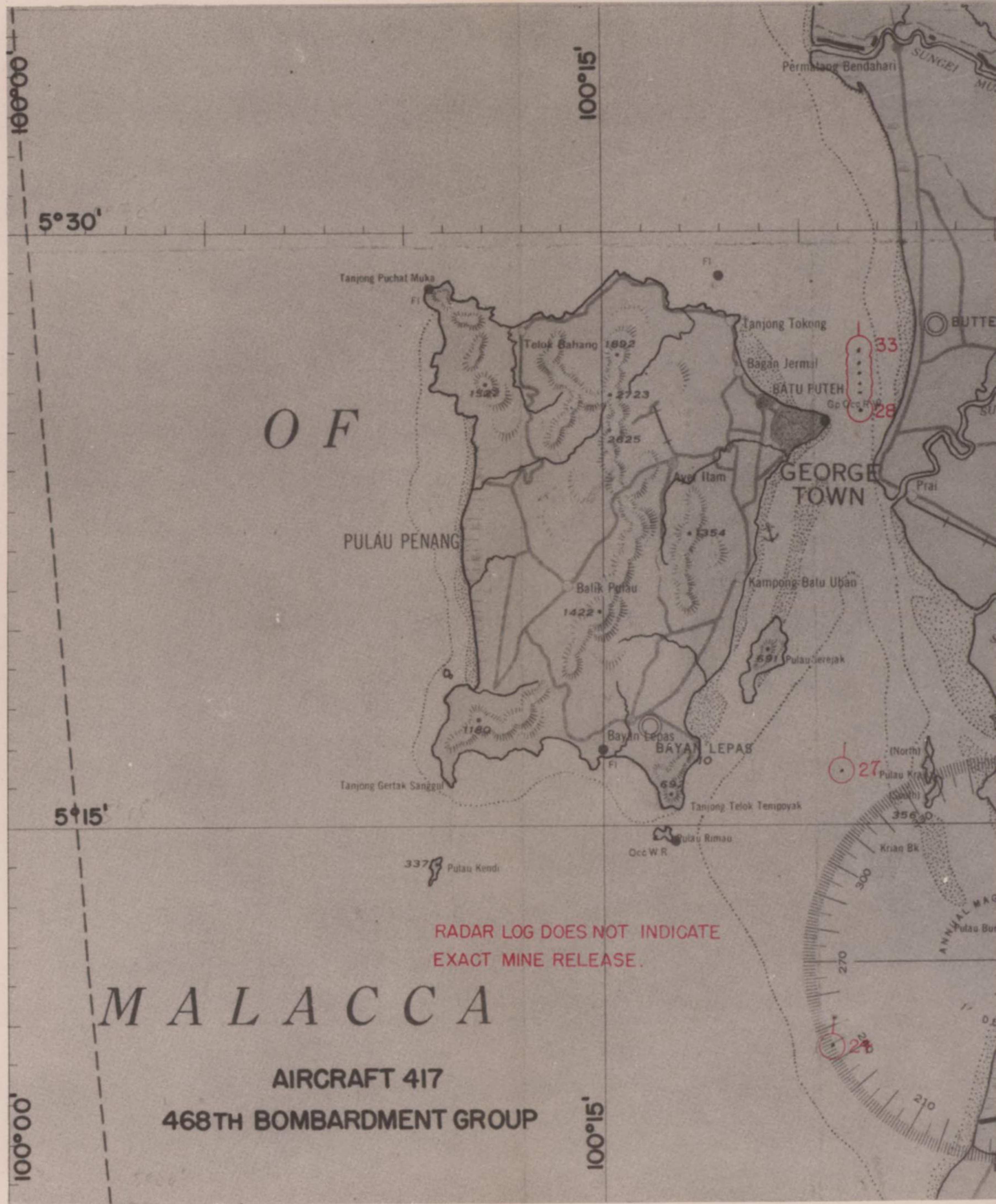
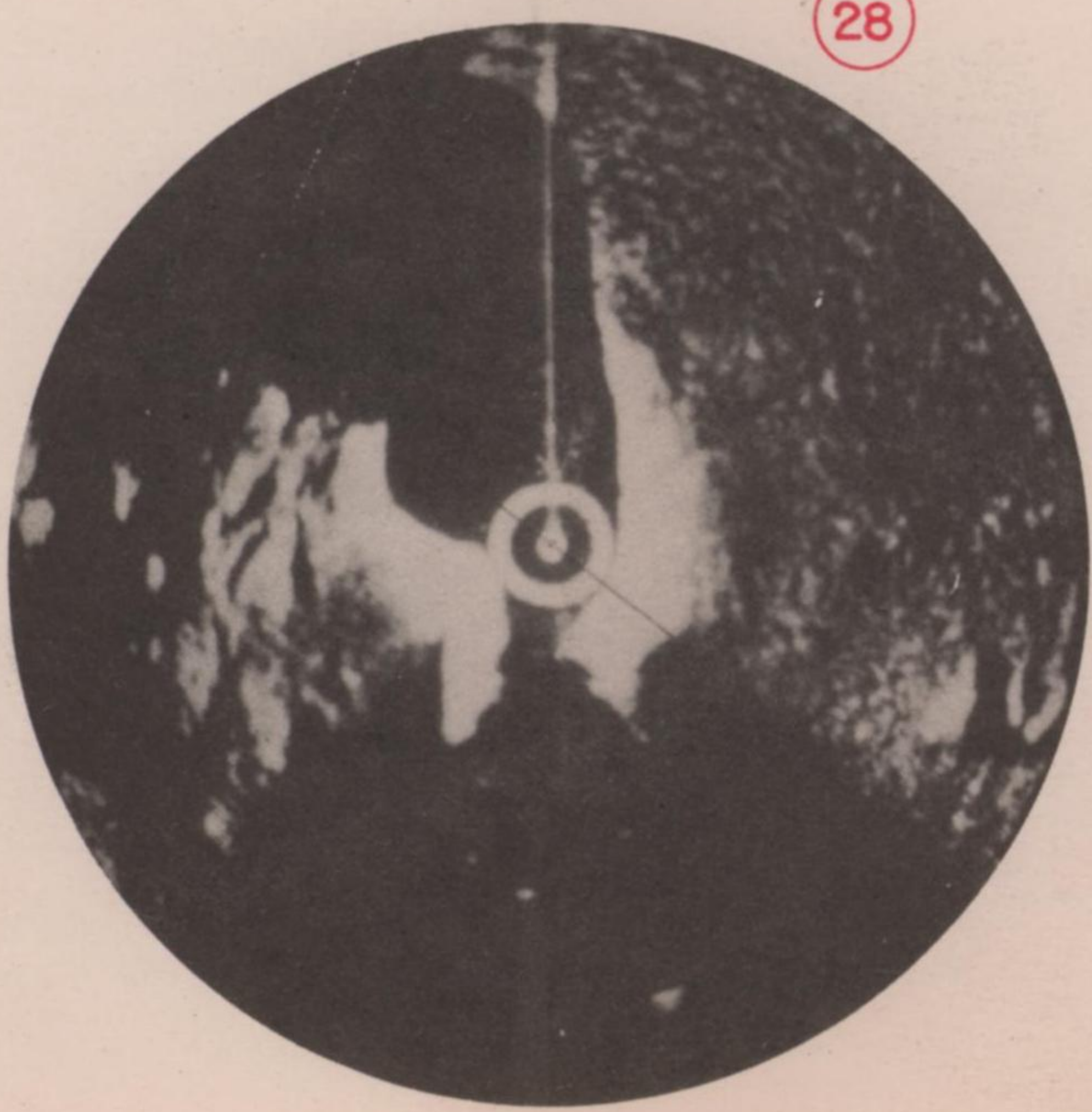
MISSION NO.31-MINING OF APPROACHES TO



HEADING 4° MAG. SWEEP 20 MILES



HEADING 4° MAG. SWEEP 20 MILES



PREPARED BY RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION
SECRET

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Authority NWD760063
By AV NARA Date 11.27.05

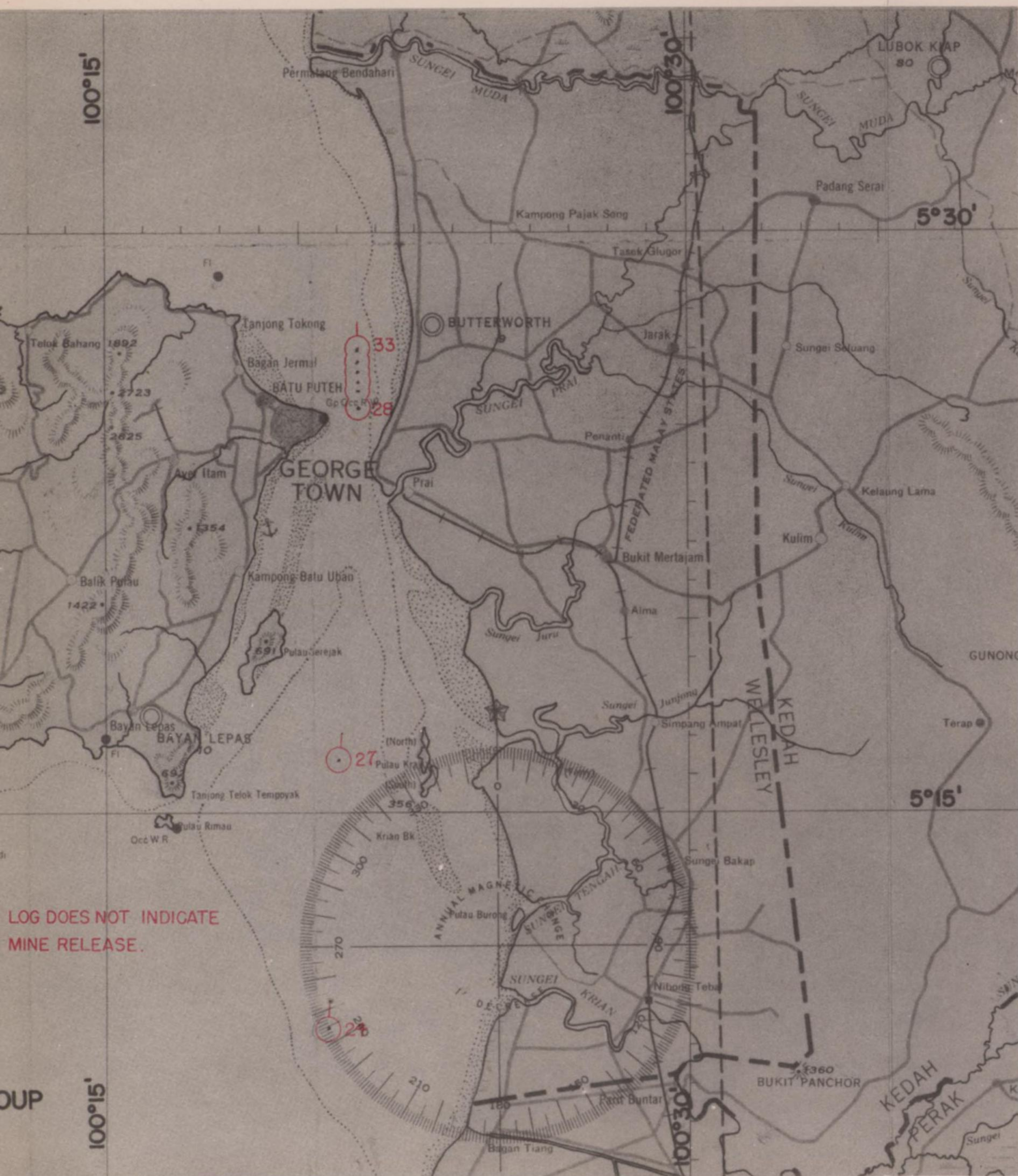
SECRET

R 92.1 SHEET A

RADAR PHOTOGRAPH ANALYSIS

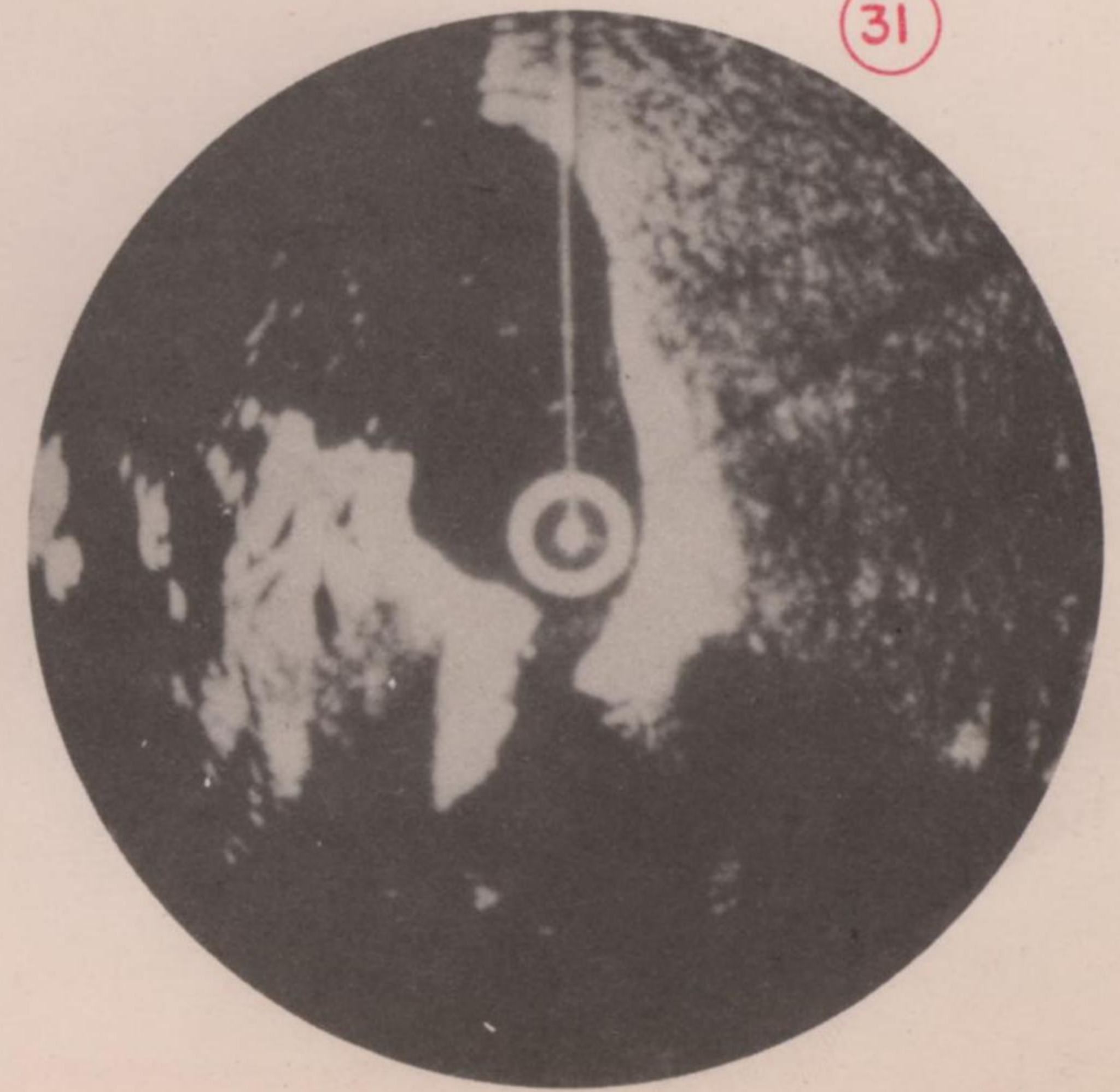
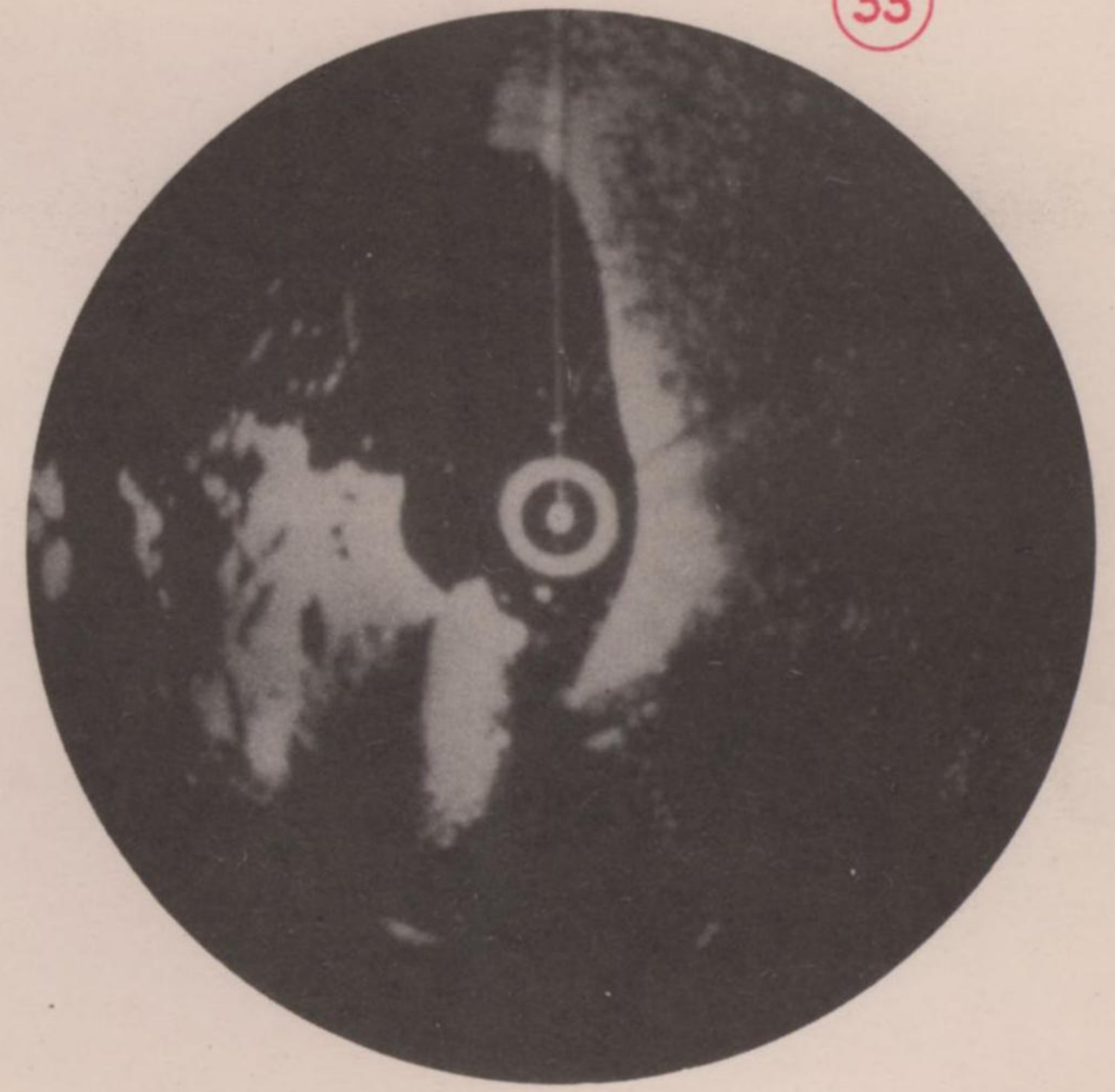
PANANG AREA-MALAY STATES

MISSION NO.31-MINING OF APPROACHES TO HARBOR



LOG DOES NOT INDICATE MINE RELEASE.

DUP



RADAR INTELLIGENCE, TARGET UNIT, INTELLIGENCE SECTION - XX BOMBER COMMAND
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Authority NWD760063
By AV NARA Date 11.27.05

S E C R E T

ANNEX

G

RCM INFORMATION

* * * * *
* Prepared by: *
* * * * *
* RCM Section *
* * * * *
* XX Bomber Command *
* * * * *

S E C R E T

S E C R E T

SECRET

Auth: Dep Com 20th AF

Initials: MOP

Date 6 Feb. 45

TWENTIETH AIR FORCE
Office of the Deputy Commander IB and C
APO 493

6 February 1945

SUBJECT: RCM Report - Combat Missions No. 30, Camranh Bay,
and No. 31, Singapore, 25 January 45 - Night.

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

CAMRANH BAY
Mission # 30

A. General

Four RCM search aircraft equipped with bottom-mount D/F antennas were scheduled for this mission, however, one search aircraft ground aborted due to an aircraft malfunction.

RCM observers searched for Early Warning Radar enroute to and from the target and for Radar Fire Control Equipment while in the target area. Search was complete from 38 to 3000 Mc.

Tail gunners using APG-15 were to notify the RCM observers upon an attack by night fighters. In this way, RCM observers could check possible night fighter radar frequencies.

B. Results

1. Radar intercepts were infrequent and at no time strong enough to obtain D/F cuts, however, due to the black out conditions existing at the target area, it is possible that radar warning was given.

Following are the radar intercepts made on this mission:

- (1) 69/505/49 Rangoon Radar - weak-intercepted by one search aircraft
- (2) 100/785/14 Strongest at 97° E 14° N intercepted by one search aircraft

-1-

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- (3) 154/510/5 On momentarily at approximately 108° 06' E 10° 55' N-intercepted by two search aircraft
- (4) 197/1070/5 Radar appeared to be located in Camranh Bay. May be either MK1 Model 2 or shipborne MK2 Model 1. Intercepted by two search aircraft.

2. A careful check on the following known radar sites was made, however, no radar intercepts were reported.

Great Coco 197 Mc
Rangoon 80 Mc
Mergui 198 Mc
Andaman Island 97-100 Mc

No night fighter radar intercepts reported.

C. Equipment

1. The remote controlled retractable D/F antenna failed to operate due to a broken idler gear.
2. Tuning unit TN-16 inoperative due to burned out tubes, cause as yet undetermined.

SINGAPORE
Mission # 31

A. General

Four RCM search aircraft with bottom-mount D/F antennas participated in this mission. RCM observers searched for Early Warning Radar enroute to and from the target and for Radar Fire Control Equipment while in the target area. Upon fighter intercepts, possible night fighter frequencies were to be monitored.

B. Results

1. Radar intercepts were again infrequent, with the first tracking intercept being the MK 1 Model 1 100 Mc. radar located at Penang. It would seem natural that this radar site would alert the Malay Peninsula and especially Singapore. However, no blackout was observed by aircraft enroute to the Singapore area, either on the Western or the Eastern side of the Malay Peninsula and the Singapore area required approximately 15 minutes after the arrival

-2-

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of the first B-29 before land areas were blacked out. In addition to the Penang radar site, two MK 1 Model 1 radar sites located in the Singapore area were in operation.

2. Naval radar and possible Radar Fire Control Equipment in the target area:

4. As this was a mining operation, the search aircraft were in the target area at altitudes from 2000 to 5000 feet. This altitude is low for heavy anti-aircraft fire but any radar fire control equipment, either land based or shipborne, would undoubtedly have been in operation. It is possible that radar was being used to determine position of aircraft data as only three to four questionable search lights were reported and these were located at Singapore town.

B. Approximately ten intercepts were made in the 150 and 200 Mc. band, all typical of Naval MK 1 Model 3 and MK 2 Model 1 type radar.

Possible MK 1 Model 3 and MK 2 Model 1 intercepts logged in target area:

197/1000/10
191/740/6
151/500/8
211/495/13
140/995/4
161/480/Double Pulsed 10 Usec
198/1000/6

Occasional maximum signal strength was noted coincident with radar operators reporting Naval vessels near by.

C. Radar intercepts with similar characteristics gave the appearance of lobe switching on the pulse analyzer. However, it was possible by using the D/F antenna to "Null" out one of the "Beating" signals.

D. While in the target area, three D/F cuts on a 198/1000/10 MK 2 Model 1 radar were obtained which intersect at $104^{\circ} 3' E$ $1^{\circ} 22' N$. Radar scope pictures show eight Naval vessels at this position while the anti-aircraft report shows that fourteen B-29 aircraft passed over this same location, ranging in altitude from 3000 to 5000 feet., with a time interval between aircraft of three minutes. No fire was encountered from the Naval vessels. However, two of the fourteen aircraft reported meager and inaccurate fire, the origin of fire reported as: Bakum Island ($01^{\circ} 14' N$ $103^{\circ} 46' E$) and Singapore town ($01^{\circ} 18' N$ $103^{\circ} 51' E$).

-3-

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E. Three D/F cuts locate a 197/1000/8 radar site at approximately $103^{\circ} 45' E 1^{\circ} 28' N$. This intercept may possibly be MK 2 Model 1 Shipborne radar, with the naval vessel located in the Johore Strait near the dry dock area.

3. Radar Sites D/F'ed:

*A. 100.5/470/16 Penang Radar. Eight good D/F cuts intersect at $100^{\circ} 12' E 5^{\circ} 29' N$. Two other sets of cuts were obtained on this radar site but due to navigational error the points of intersection are of no value.

B. 78/500/50: This radar site was D/F'ed but errors in navigation again nullify the points of intersection. A correction factor determined from the known position of the Penang radar would locate this 78 Mc. site in the Simpang area ($100^{\circ} 35' E 4^{\circ} 04' N$).

C. 100/510/10: Singapore radar. This radar has been intercepted on previous missions to this area. Three fair D/F cuts intersect at approximately $103^{\circ} 49' E 1^{\circ} 17' N$.

D. 106/495/15: Great Karimoon Island. This radar has been intercepted on previous missions to this area. Three fair D/F cuts intersect at approximately $00^{\circ} 59' N 103^{\circ} 28' E$.

E. 197/1000/8: Possible MK 2 Model 1 shipborne radar. Three cuts intersect near Johore strait near the dry dock area at approximately $103^{\circ} 45' E 1^{\circ} 28' N$.

F. 198/1000/10: Possible MK 2 Model 1 shipborne radar. Three cuts intersect at $104^{\circ} 03' E 1^{\circ} 22' N$ where radar scope pictures show eight Naval vessels. No flak encountered from this site.

G. Two rough cuts suggest a 151/500/8 radar site located on the Northern tip of Great Karimoon Island.

*Exhibits showing the cuts on the radar sites lettered A through G will be included in the monthly Radar Report.

4. An effort was made to intercept the following Radar sites with negative results.

Rangoon 80 Mc. and 68.5 Mc.
Mergui 198 Mc.
Port Blair 97.5-100 Mc.
Car Nicobar 100 Mc.
No night fighter radar intercepts.

Great Coco Island Radar site was possibly intercepted momentarily at 195 Mc.

-4-

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By AK NARA Date 11.27.05

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C. Enemy Countermeasures

Several radio operators reported strong CW interference on the 8 Mc. air-ground frequency. The interfering signal was a repetition of unintelligible code groups with maximum interference approximately four and one-half to five hours after take off.

D. Equipment

1. One PE-218 cut out due to over heating.
2. AN/APA-11

(1) Cut out due to overheating.

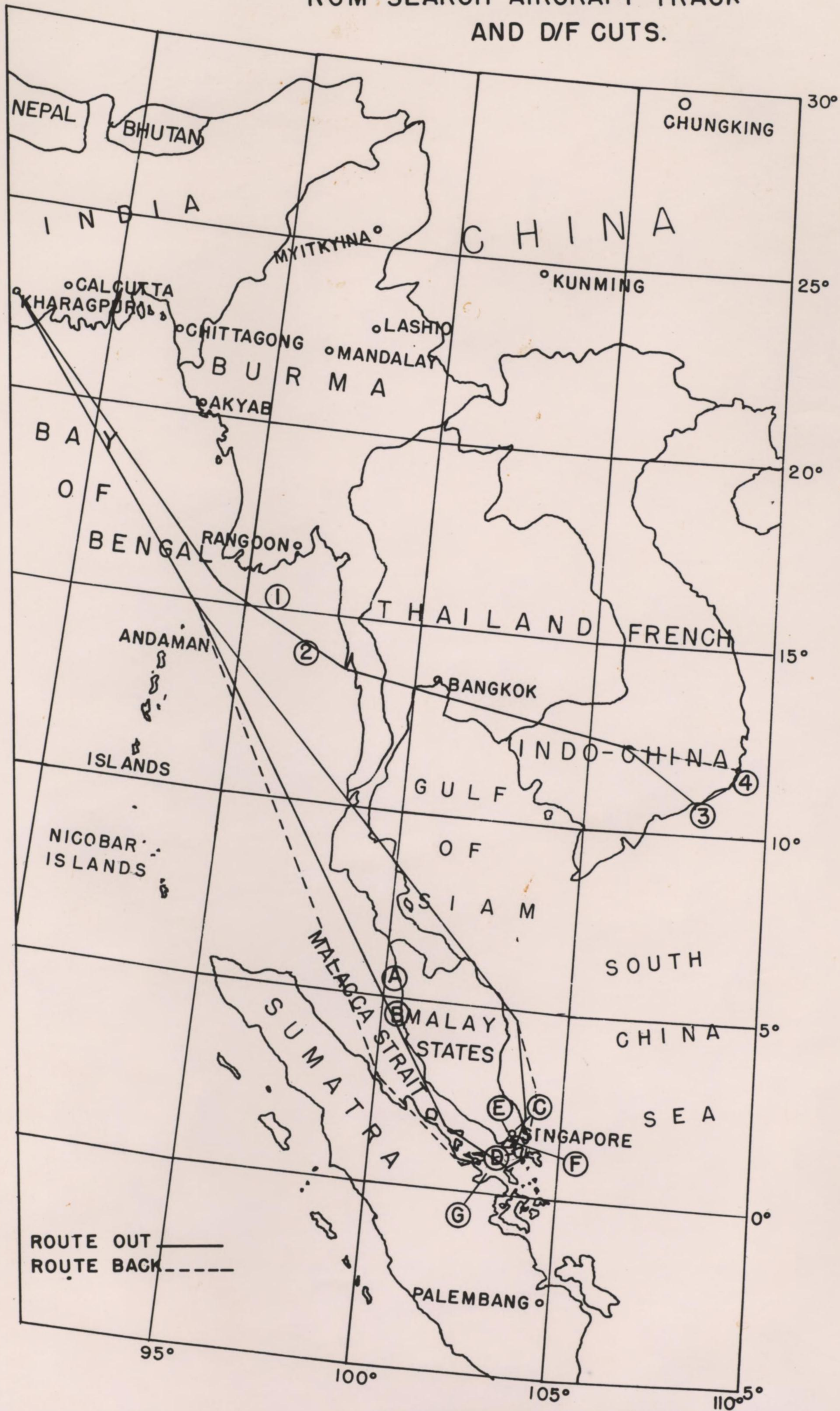
(2) Oscillator ceased operation. The AN/APA-11 became so hot that the packing in the choke ran out. This occurred twice.

For the Deputy Commander:

Leo I. Herman
LEO I. HERMAN
Colonel, Air Corps
Actg. Adj. General

- 1 Incl:
RCM Search Aircraft track and D/F cuts

SECRET
 RGM SEARCH AIRCRAFT TRACK
 AND D/F CUTS.



COMBAT MISSIONS 30 & 31

PREPARED BY: XX BOMBER COMMAND
 COMMUNICATIONS SECT. RGM BRANCH

SECRET

DECLASSIFIED

Authority NND760063
 By AL NARA Date 11.27.05

S E C R E T

ANNEX

H

CENTRAL STATION FIRE CONTROL AND GUNNERY

* Prepared by: *
* * * * *
* Staff Gunnery Officer *
* * * * *
* XX Bomber Command *
* * * * *

S E C R E T

SECRET

HEADQUARTERS
XX BOMBER COMMAND
APO 493

SECRET

Auth: CG XX BC
Initials: W
Date: 3 Feb 45

CONSOLIDATED SPECIALIST MISSION REPORT
OF STAFF GUNNERY OFFICER

Date Prepared: 29 January 1945

Field Order Numbers 30 & 31
Date of Mission: 25 Jan 45

1. On the mission directed by Field Orders 30 and 31 there were no fighter interception. There were seven single engine fighters reported taking off from an airfield near the target area but could not get to altitude in time for an attack.

2. The mission is considered as very satisfactory in regards to gunnery. All guns were test fired.

3. The following statistical data is submitted:

	<u>444th</u>	<u>462nd</u>	<u>468th</u>
a. Ammunition used test firing	1740	2170	1250
b. Ammunition used in combat	0	0	0
c. Malfunctions of CFC system	1	1	4
d. Total turrets on mission	95	130	125
e. Malfunctions of .50 MGS	1	4	4
f. Total Mgs on mission	228	312	300
g. Total airplanes (included in report)	19	26	25
h. Total percent malfunctions CFC 1.7%, calibre .50 machine guns 1%.			

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S E C R E T

ANNEX

I

CAMERAS AND PHOTOGRAPHS

NOTE: Cameras carried were exclusively K-24 (radar) cameras. For details, see Annex F, RADAR, Section B and Table B.

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