

The aiming point was to be marked by 25 aircraft of the Pathfinder Force, namely 2 Mosquitoes equipped with Oboc, 11 aircraft (Halifaxes and Stirlings) equipped with H2S and 12 "backers up" (Lancasters) carrying no special equipment. These were timed to attack as follows:-

| <u>Time</u> | <u>Oboc-aircraft</u> | <u>H2S Aircraft</u> | <u>Backers-up</u> |
|-------------|----------------------|---------------------|-------------------|
| Zero | 1 | | |
| Zero + 1 | | 3 | |
| Zero + 2 | | 2 | 2 |
| Zero + 3 | 1 | | 1 |
| Zero + 4 | | 2 | 1 |
| Zero + 5 | | | 1 |
| Zero + 6 | | 1 | 2 |
| Zero + 7 | | | 1 |
| Zero + 8 | | 1 | 1 |
| Zero + 9 | | | 1 |
| Zero + 10 | | 1 | 1 |
| Zero + 11 | | | 1 |
| Zero + 12 | | 1 | |

The actual technique to be employed by the Pathfinders depended on prevailing cloud conditions. If these were suitable, all specially equipped aircraft were individually to mark the aiming point with red marker bombs dropped in salvos of four, the "backers up" following with salvos of 4 green marker bombs dropped on the position of the red markers.

If, however, the cloud were too thick for this procedure, the Mosquitoes nevertheless drop their red marker bombs, but the H2S aircraft were each to release a bundle of flares (red with green stars) in such a position that the Main Force, bombing on them on a heading of 90°M, would hit the aiming point. Whichever plan were adopted, all H2S aircraft were to drop one bundle of preliminary warning flares (green stars) on track 16 miles W. of the target.

The Main Force, consisting of Lancasters of 1 and 5 Groups, and Halifaxes 4 Group, were to aim at the centre of the cluster of ground markers, approaching on any desired heading, or, alternatively, at the release point flares, which were to be approached on an exact heading of 090°M. The flares would be burning at 17,000 feet... Aircraft were to keep above 18,000 feet en route to the target, but if the marker bombs were seen, they might descend to 15,000 feet (but not lower) to release their bombs. The following loads were specified for Main Force aircraft:-

Lancasters:- 1x4000 lb. H.C. + 1080 x 4 lb. incendiaries.
Halifaxes:- 3x1000 lb. G.P. + 1080 x 4lb. incendiaries.

Sorties

| | | | |
|----|-----|---|------------|
| 4. | (a) | No. of aircraft despatched..... | 161 |
| | (b) | " reporting attack on primary area..... | 137(85.1) |
| | (c) | " " alternative area.... | 1(0.6) |
| | (d) | " abortive sorties (technical defect.....17) (sickness of crew..... 1) | ..18(11.2) |
| | (e) | " aircraft missing..... | 5(3.1) |

Weather Experienced

5. Home Bases:- Well broken cloud, light patches in 1 and 4 Groups.

Route:- Variable convection cloud over North Sea, towering to 22,000 feet in places with static; tops lower and cloud more broken overland.

Target:- Very variable amounts of cloud: nil - 9/10ths reported, average 5/10ths.

Visibility moderate to good. No moon.
Wind at 20,000 feet: 260°/30-40 p.p.h.
Surface wind: . . ./10-15 n.p.h.

...../Narrative of Attack

Narrative of Attack.

6. Altogether 161 aircraft were despatched, of which 137(85.1%) reported attack. The conditions of patchy cloud and moderate visibility were sufficiently clear for ground marking alone, but some H2S aircraft also dropped their release-point flares. One Mosquito and 6 of the 10 H2S aircraft released red T.I. markers; these, however, were rather scattered. The "backers-up" had a difficult task in determining where to bomb, and although many of them attempted to aim at the centre of the area marked, the green T.I. markers were not very concentrated either.

The great majority of the Main Force attacked within the planned period. Widespread fires were reported throughout the target area, and these were visible for more than 100 miles on the return journey. Crews were generally agreed that the attack was successful.

1 aircraft became uncontrollable on approaching Cologne and the crew were forced to jettison the bomb load 5 miles W. of the target. 5 aircraft (3.1%) did not return.

Photographic Evidence7. (a) Night photographs taken with bombing

7 photographs only have been plotted. They lie between 7 and 19 miles west of the target. Some 15 further photographs (with bombing) show faint ground detail (open country, with small villages) through cloud-gaps. All the remaining successful photographs are of thick cloud.

Many sticks of incendiaries were reported, and was the probable group of 3 T.I. markers dropped where incendiaries were already burning.

(b) Day reconnaissance

Reconnaissances were undertaken on 27/2/43 and 28/2/43. These cover the results of all raids on Cologne since 20-31/1/42, including those subsequently delivered on 14-15/2/43 and 26-27/2/43, in which 243 and 428 aircraft took part respectively. The resulting information will be incorporated in Night Raid Report No. 277.

Navigational Aids (Gee)

8. Of 149 Gee sorties made, 119 returned useful information. The average range was 250 miles and maximum 300. The route lay over Southern Holland, and a sudden increase in jamming strength was reported 20 miles inside the Dutch coast. This prevented the majority of Navigators from obtaining any fixes further inland. The Eastern Chain was in operation, and its ground stations behaved normally during the raid.

Blind Bombing Aids (Oboc)

| Sortie No. | Target Attacked | Control Stations | | Time Detailed | Time Attacked | Result |
|------------|-----------------|------------------|---------|---------------|---------------|---|
| | | Tracking | Bombing | | | |
| (i) | Primary | Tringham I | Blmer | 2100 | 2059½ | Fair run in G.C. |
| (ii) | Abortive | Tringham II | Blngt | 2103 | - | Slowly faded out of range of tracking station. |

Defences10. (a) Ground Defences

Searchlights were very active, though reports of their number vary considerably. At times they were hampered by the cloud, but many crews observed large and efficiently operated ones. It was noticed during this and several previous attacks at high level that illuminations were obtained by searchlights picking up vapour trails and following them to the target.

Heavy flak was most in evidence on the W. side of the target. As a whole the fire from the heavy guns, which included "seen" and "deterrent" fire, less intense than might have been expected and was not particularly accurate.

Light flak was slight, self-destroying at 12,000 feet.

Several balloons were reported to the S.W. at 10-12,000 feet.

"Scarecrow" flares were seen near Cologne and Julich at about 19,000 feet.

(b) Fighters

Enemy aerodromes were generally fit and a large number of controlled fighters were active, particularly in the vicinity of Luneburg. Only 6 patrols were identified in the area covered by our operations on Cologne.

10 controlled pursuits were heard, 7 of which failed to contact a British aircraft. In one case the fighter secured a visual, but our aircraft took evasive action and was lost. In two other cases the enemy claimed to have shot down the bomber. One success occurred on the return journey over the Dutch coast, near the Hague. The fighter intercepted at 16,000 feet, assisted by an airborne A.I. device. The other claim referred to a combat inland, also on the return journey, in which the bomber was said to be shot down in flames. There were several confirmatory observations of this by returning aircraft.

Altogether, 15 returning aircraft reported interceptions, including 5 attacks, 2 of which resulted in damage. Two of the attacks occurred in the target area at 18,000 and 20,000 feet, and are evidenced that night fighters were operating in a gun-defended area.

Casualties

| | | |
|-----|------------------------------|---------|
| 11. | No. of aircraft missing..... | 5(3.1.) |
| | " " damaged (a) flak..... | 8(4.9.) |
| | (b) fighter..... | 2(1.2.) |
| | (c) other causes..... | 4(2.4.) |

Total Damaged.....14(8.4.)

Two of the missing aircraft were destroyed by fighters, as already discussed. There were many additional observations of aircraft shot down and it seems probable that they occurred at Roermond, Bitterfeld and Cologne. The causes of loss are not known, but there is no evidence that any of the three were due to flak.

The enemy seems to have relied chiefly on night fighters as a method of defence on this occasion, and our loss of five bombers was rather less than might have been expected for this target.

MINING

12. 13 Halifaxes of 6 Group were despatched to lay mines in the Rotterdam. Rain and snow were encountered off the Danish coast, together with 10/10ths cloud down to 300 feet. 8 aircraft were unable to pinpoint, and returned early, the remaining 5 reached their target, laying 9 mines. No opposition was encountered and no damage or casualties were sustained. This mining area is reached without crossing land and is usually visited at very low cost.

LEAFLETS

13. 1 Wellington Ic of 91 Group, manned by a pupil crew, dropped leaflets in the Paris area and returned without incident.

APPENDIXTiming of AttackI. Pathfinder Force

| | <u>'Oboe aircraft'</u> | <u>H2S aircraft</u> | <u>Backers-up</u> |
|---------------|------------------------|---------------------|-------------------|
| (Zero-1 min.) | 1 | 1 | - |
| Zero + 3 | - | 2 | 3 |
| Zero + 4 | - | 2 | - |
| Zero + 5 | - | - | 1 |
| Zero + 6 | - | - | 2 |
| Zero + 7 | - | - | 1 |
| Zero + 8 | - | - | 3 |
| Zero + 9 | - | 1 | - |
| Zero + 12 | - | - | 2 |
| Zero + 14 | - | - | 1 |
| | <u>1</u> | <u>6</u> | <u>13</u> |

Main Force

| | |
|--|------------|
| No. of aircraft attacking early (11)..... | 3 |
| No. of aircraft attacking within planned period..... | 108 |
| No. of aircraft attacking 0-5' late..... | 6 |
| | <u>117</u> |

Bomb Loads

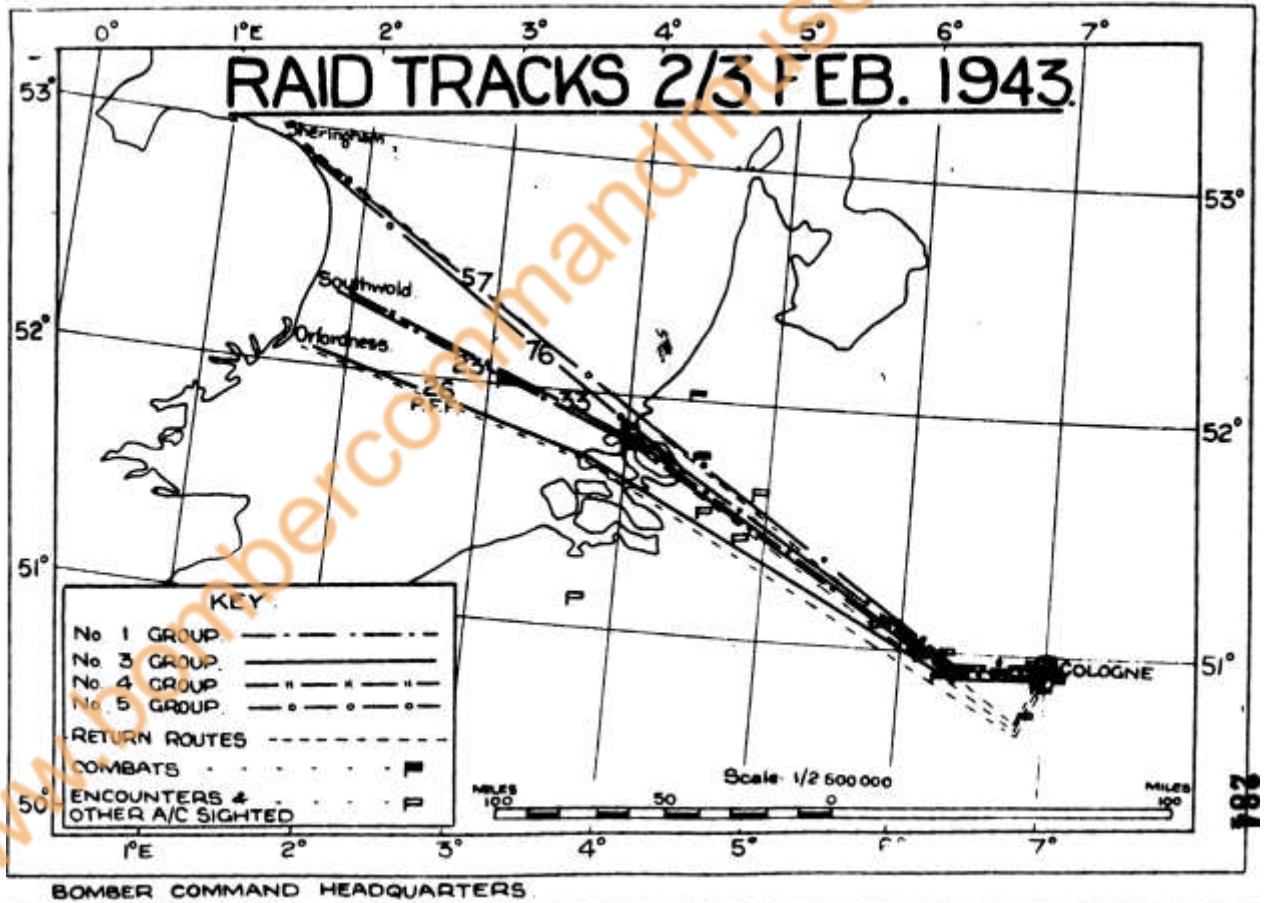
II. (of aircraft reporting attack on primary)

| | |
|--|------------|
| No. of aircraft carrying T.I. markers only..... | 1 |
| " flares + T.I. markers..... | 6 |
| " flares + T.I. + H.E. + 4lb. incendiaries..... | 13 |
| " H.E. + 4 lb. incendiaries..... | 117 |
| | <u>137</u> |

MM/VF.
BC/S. 26342/2/ORS.
29th March, 1943.

| Target | Group | Type | Sorties | A/C Reporting attack on | | abortive sorties | | Missing | Damage | | | Interceptions | | Results |
|----------------------|-----------|-----------|---------|----------------------------|-----------|------------------|----------------------|---------|------------------|----------|---------------|---------------|--------------|--|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | Flak | fighter | not in action | attacked | not attacked | |
| COLOGNE | B(P.F.F.) | Mosquito | 2 | 1 | - | - | 1 | - | - | - | - | - | - | (2) (a) (k) 214.3 242.2 0.4 1.9 5.7 7.7 = (including 1174,000 lb.) |
| | B(P.F.F.) | Halifax | 2 | 1 | - | 1 | - | - | - | - | - | 1 | 1 | |
| | B(P.F.F.) | Lancaster | 13 | 13 | - | - | - | - | 2 | - | - | 1 | - | |
| | B(P.F.F.) | Stirling | 8 | 5 | - | - | 2 | - | 1 | 1B+1 | 1B | 1AC | 1 | |
| | B | Lancaster | 3 | 3 | - | - | - | - | - | - | - | - | - | |
| | 1 | Lancaster | 26 | 23 | 1 | - | 2 | - | 1 | 1 | - | - | 2 | |
| 4 | Halifax | 33 | 27 | - | - | 2 | 3 | 1 | - | - | - | 3 | | |
| 5 | Lancaster | 74 | 64 | - | - | 1 | 6 | 3 | 1.C +2 | - | 2.C +1 | 1 | 5 | |
| BOMBING TOTAL | | | 161 | 137 | 1 | 4 | 14 | 5 | 1B +1AC +6 | 1B +1 | 3AC +1 | 5 | 10 | |
| RAF REPORT | 6 | Halifax | 13 | 5 | - | 7 | 1 | - | - | - | - | - | 1 | 9 times |
| RAF REPORT | 91 | Halifax | 1 | 1 | - | - | - | - | - | - | - | - | - | |
| T O T A L | | | 175 | 143 | 1 | 11 | 15 | 5 | 1B +1AC +6 | 1B +1 | 3AC +1 | 5 | 11 | |

* Damaged by both flak and fighter.



BOEMER COMBAND REPORT ON NIGHT OPERATIONS -3/4th FEBRUARY, 1943.HAMBURG: Minelaying (N.France): LeafletsSUMMARYHamburg

1. The meteorological forecast predicted the probability of considerable heavy cloud and icing, both en route and at the target selected, namely, Hamburg. This forecast proved accurate and the force of 263 aircraft, including 11 of the Y-type, which set out, and entered cloud to 23,000 feet, electrical storms and severe icing in the frontal belt over the North Sea. Many aircraft were unable to climb above the cloud and were forced to turn back, while others abandoned their mission on account of technical defects brought about by the extreme cold. Nevertheless, 125 aircraft (47.9%) reported attacking the target: the aid of skymarker flares. Observation of results was however impossible and nothing was seen apart from scattered fires below cloud. Little new damage was revealed by subsequent daylight reconnaissance, but reports from ground sources indicate that some success was achieved. 14 aircraft attacked alternative targets.

It is probable that night fighters were mainly responsible for the loss of the 16 aircraft which failed to return, though the very difficult conditions may have been a contributory factor. A further 29 aircraft were damaged.

Minelaying

6 of 8 Wellingtons from 1 and 5 Groups laid 12 mines off Lorient and St. Nazaire. 1 aircraft was lost.

Leaflets

4 Wellingtons of 92 Group, dropped leaflets in the areas of Vichy and Nancy and returned without incident.

Meteorological Forecast

2. Home Bases:- Fog patches will develop in the north, but should not become general before midnight. In the south there will be little cloud, with moderate visibility. 1, 4 and 5 Groups will have poor visibility at dusk, improving towards midnight to 1 mile. 2, 3, 6, 31, 92 and 93 Groups should be fit all night, with little cloud and visibility not less than 2 miles. 91, 92 and 93 Groups may have visibility troubles towards dawn.

Germany:- A minor cold front will lie about 11° E. from north to south at midnight. Along this front there will be a belt of cloud, possibly in the form of solid wall towering to great heights. Over the North Sea coastal strip there will be high convection cloud. Good clearances elsewhere, especially in Ruhr. France:- Occasional showers, general tops 12-15,000 feet, isolated tops to 20,000 feet. Hamburg:- (a) 1300 hours Variable cloud above 2,000 feet, generally -7/10ths, tops 12-15,000 feet, occasionally 10/10ths at 1,500 feet, generally 20,000 feet, with showers and low stratus (probably about 600 feet) frequently drifting across the target. (b) 1400 hours:- Frontal belt of instability rain about 04° E., with 10/10ths cloud, tops 1,500 feet, tops 12-15,000 feet, over a distance of about 100 miles N. of sea. (c) 1500 hours:- 10/10ths stratocumulus, thickening in places, with large cumulo-nimbus to 20,000 feet or higher, patches of low stratus at 600 feet, high icing index in all cloud. (d) 1600 hours:- Risk of rain and cloud at 1,000 feet (tops 15-20,000 feet), rain at 1,500 feet, freezing level 1,000 feet. These conditions will prevail mainly in frontal zone from E. coast of England to 03° E. at 1900 hours, further E. on return.

...../N.Italy

N.Italy:- Little cloud, good visibility. Alps covered with cloud to great heights.

N.W. France:- Layer cloud with some breaks. Lorient:- 4-7/10ths at 2,000 feet, falling below 1,000 feet in showers.

Prisians:- 5-8/10ths at 1,500-2,000 feet, occasionally 10/10ths with tops 15,000 feet. Low stratus east of 05°E.

Wind at 15,000 feet: E.N.W./45-50 m.p.h. in N. North Sea, increasing to 70-80 m.p.h. towards W. Alps.

HAMBURG

Plan of Attack

3. Zero hour.....2100 hours

Period of Attack

Pathfinder Force.....2100-2115 hours
Main Force.....2102-2120 hours

Route Briefed: All Groups Egmond-Hoya-HAMBURG-Lunenburg-Hoya-Egmond.

(for routes taken, see route map.)

All H2B equipped aircraft of the Pathfinder Force were to drop:-

(a) one bundle of red steady flares at 52°49'N. 09°09'E., to indicate the turning point.

(b) one bundle of green steady flares on track 16 miles short of the target. They were to mark the target by one of the following methods, given in order of priority:-

(a) Illumination If cloud conditions were such that the ground could be seen throughout most of the raid, a stick of illuminator flares was to be dropped across the target at 5 second intervals, to enable the supporting P.P.F. aircraft to lay a concentration of ground markers.

(b) Ground Marking If cloud were likely to obscure the target from time to time during the attack, salvos of 4 or 6 green marker bombs were to be dropped to mark the target.

(c) Sky Marking If the target were obscured by cloud and likely to remain obscured for the greater part of the attack, the specially equipped aircraft were to mark the release point by dropping a bundle of flares (red with green stars) in such a position that aircraft aiming their bombs on them on a heading of 30°mag. would hit the aiming point.

Captains were to use their discretion to decide what method to use.

The other Pathfinders (i.e. those not equipped with H2B) were to drop salvos of 4 green marker bombs with maximum precision on the aiming point, if method (a) were employed. But if the green ground-markers were dropped, the back-up were to reinforce these by aiming their own green markers at the estimated centre of the ready concentration. In either instance, the back-up were each to release a short stick of flares at 5-second intervals immediately after dropping their marker bombs.

If the sky-marking method was used, the back-up were not to release their marker-bombs or their flares, but were to aim their H.E. bomb at the release point flares on an accurate heading of 30°mag.

The timing of the Pathfinder Force was to be as follows:-

...../over

| | <u>H₂S aircraft</u> | <u>Backers-up</u> |
|---------------|--------------------------------|-------------------|
| Zero hour | 4 | - |
| Zero + 1 min. | - | 5 |
| Zero + 2 | 1 | - |
| Zero + 3 | - | 2 |
| Zero + 4 | 1 | - |
| Zero + 5 | - | 2 |
| Zero + 6 | - | 2 |
| Zero + 7 | 1 | - |
| Zero + 8 | - | 2 |
| Zero + 10 | 1 | 2 |
| Zero + 11 | - | 1 |
| Zero + 13 | 1 | 1 |
| Zero + 15 | 1 | 1 |
| | <u>10</u> | <u>18</u> |

The Main Force was to attack from zero + 2 to zero + 20 minutes. Flying on any heading, they were to aim their bombs as accurately as possible at the green marker bombs dropped by the Pathfinders. If sky-markers were used, they were to be bombed on a heading of 30°M.

Sorties

| | | |
|----|---|------------|
| 4. | (a) No. of aircraft despatched..... | 263 |
| | (b) " reporting attack in primary area..... | 126(47.9%) |
| | (c) " " alternative area..... | 12(4.5%) |
| | (d) " abortive sorties (technical defect.....61) (weather.....48) | 109(41.4%) |
| | (e) " aircraft missing..... | 16(6.1%) |

* 2 of these aircraft also attacked alternative areas.

Weather Experienced

5. Home Bases:- Green: little cloud, visibility good or moderate.

Route:- Much convection cloud, tops to 15,000 feet, to 22,500 feet in frontal zone between 3° and 4°E., giving electrical storms and icing.

Wind at 20,000 feet: 290°/40 m.p.h.

Target:- Generally 9-10/10ths convection and layer cloud, tops between 7,000 and 15,000 feet.

Visibility: good above cloud.

No moon.

Surface winds: S. 1. 10 m.p.h.

Narrative of Attack

6. 126 aircraft (47.9%) of a force of 263 reported attack. 5 of the 11 H₂S equipped aircraft reached the target and, since 10/10ths cloud made ground marking impracticable, skymarker flares were dropped. These were rather scattered, but seem to have been recognised and bombed by most crews. 4 T.I. marker bombs were also dropped, but were ineffective owing to thick cloud. Observations of results was not possible. Scattered fires were seen through the cloud.

14 aircraft, including 2 which had already attacked the primary, bombed alternative areas, viz: Hoyz(3), Bremen, Verden, Gorinchen, Schiedan, Gilzerigen A/D (2), Eindhoven A/D, Kleppenburg, Moppen, Luneburg and 25 miles S.E. of Rotterdam.

Severe icing compelled many aircraft to return early. 16 aircraft (6.1%) did not return.

...../Photographic Evidence

Photographic Evidence

8. (a) Night photographs taken with bombing

About 60 films were returned, none of which have been plotted. All show cloud in the bombing frame.

(b) Day Reconnaissance

A reconnaissance covering the results of this operation and that on the night 30/31st January, revealed little fresh damage. A large building concerned with the manufacture of edible oils and fats is partly gutted. A block of flats has been disintegrated by an H.E. incident, and some houses have also been destroyed.

Intelligence Reports

9. A reliable source stated that damage was caused to the Steinwerfer end of the Elbe Tunnel.

Blind Bombing Aids (H₂S).

10. 7 Stirlings of 7 Squadron and 4 Halifaxes of 35 Squadron were equipped with H₂S. 4 Stirlings and 1 Halifax completed their task successfully. In all cases the target response was clearly seen and recognised, and navigators reported that the outline corresponded very closely to that given on the map. All but one navigator were able to recognise the River Elbe and the dock system.

1 other aircraft identified the target, but did not actually make the run-up because of engine failure.

3 aircraft returned early, 2 with engine trouble and one due to failure in the rear turret. The remaining two aircraft failed to complete their task owing to technical faults in the equipment. All Y type aircraft returned to base.

It is apparent that unserviceability of the equipment is still a very limiting factor in the success of operations involving Y type aircraft.

Navigational Aids (Gee).

11. The route lay over the area of Northern Holland where effective jamming has been experienced previously. Electrical storms caused additional trouble, and only 115 out of 204 sorties returned useful information. The average range was 222 miles and the maximum 274. The B signal lasted some time after A and C had faded. Interference took the form of 'waving or rippling grass.' The Eastern Carolina frequency was used.

Defences

12. (a) Searchlights and Flak.

In the target area some searchlights exposed but were unable to penetrate the thick cloud. There was, however, a considerable amount of flak, both heavy and light. Flak was also encountered at various places en route and especially at Hoyta (a turning point) and at Wenzendorf (16 miles short of Hamburg.) At both of these latter places P.P.F. flares were released. Eighteen of our returning aircraft were damaged by flak.

(b) Fighters

Overhead wireless traffic disclosed considerable activity by controlled night fighters. In areas covered by our operations, twenty-two unsuccessful pursuits were overheard. Three other pursuits developed into combats, two of which were also reported by returning crews. After the third attack the night fighter pilot was heard to claim a victory, stating that the British aircraft was crashing in flames.

Returning crews reported five attacks, five approaches and three followings, of which one attack and one approach have been mentioned above as probably made by G.C.I. fighters. The other four attacks were each made without warning. The first intimation our crews had of an attack was enemy tracer hitting our aircraft.

Owing partly to the large number of aircraft returning early and partly to the difficult navigation conditions, our crews only achieved a low concentration of aircraft

/..... over Hill

over Holland and north-east Germany, where fighters were most active.

Casualties

| | | |
|-----|------------------------------|-------------------|
| 13. | No. of aircraft missing..... | 16 (6.1%) |
| | " damaged (a) flak..... | 18 * |
| | (b) fighter..... | 4 * |
| | (c) not enemy action..... | 8 |
| | | <u>29 (11.1%)</u> |

* (including 1 a/c damaged by both fighter and flak).

Eleven aircraft were seen to crash en route to or from the target. One of these was probably shot down by flak (at 5240 N. 0650 E.) and four by night fighters. There were no observations confirming the claim of the enemy controlled fighter mentioned above. The presumed loss took place in the Amherst region.

The missing Wellington of 3 Group received three fixes and was last heard off the coast of Belgium near Ostend. The cause of loss is unknown.

At least one aircraft was seen to fall in the target area and it seems probable that this was caused by flak. Overheard wireless traffic referred to an aircraft crashing near Stade, without giving any cause.

Of the sixteen missing aircraft, it therefore appears probable that at least five were shot down by night fighters and at least two by flak. In the prevailing cloud conditions, which appeared to render flak generally ineffective but which made surprise attacks by fighters possible, it seems probable that many of the losses unaccounted for were due to fighter activity.

Of the 109 abortive sorties, 48 were caused by the very bad weather experienced chiefly in the frontal zone, where static and icing were encountered in the clouds. Many aircraft were unable to climb and, although there is no evidence that icing was the sole cause of loss of any of the missing aircraft, the lack of manoeuvrability and climbing power due to icing and the reduction in concentration would make our aircraft easier targets for the defences. 8 Stirlings of 3 Group were missing out of 66 despatched and a further 8 were damaged by flak. These aircraft bombed from an average height of 13,000 feet, compared with 17-19,000 feet for the remainder of the force. Possibly, the Stirlings are less able than other types to climb above the bad weather conditions, and were therefore more seriously affected by them. The losses were not much above normal having regard to the weather conditions.

MINELAYING.

14. 8 Wellingtons of 1 and 3 Groups were despatched at dusk to lay mines off the west coast of France. 10-10ths cloud with icing was encountered over the Channel, but this dispersed southwards, clearing to 3/10ths at Lorient, and nil at St Nazaire. Visibility was moderate to good, although there was no moon. 6 aircraft reached their targets, each laying 2 mines. At Lorient light flak was fired from the shore and from 5 ships in the estuary. A night fighter was seen and searchlights were used as track indicators. One aircraft did not return from this area, but the cause of loss is unknown. No other damage or casualties were sustained.

LE FLAYS.

15. 4 Wellingtons of 92 Group, manned by pupil crews, dropped leaflets in the area of Vichy and Nancy, and returned without incident.

APPENDIX.

Timing of Attack

| | | |
|----------------|-------------------------|-------------------------|
| I | <u>Pathfinder Force</u> | (zero hour: 2100 hours) |
| | H2S aircraft | Backers-up |
| Zero + 2 mins. | 1 | 1 |
| Zero + 3 | 1 | |
| Zero + 4 | 1 | 1 |
| Zero + 6 | 1 | |
| Zero + 7 | | 1 |
| Zero + 9 | | 1 |

| | <u>H₂S aircraft</u> | <u>Backers-up</u> |
|----------------|--------------------------------|-------------------|
| Zero + 10 mins | 1 | 1 |
| Zero + 11 | | 2 |
| Zero + 23 | 5 | 1 |
| | | <u>8</u> |

Main Force

| | |
|---|------------|
| No. of aircraft attacking early (7-0')..... | 5 |
| " within planned period (2102-2120)..... | 101 |
| " late (0-7')..... | 9 |
| | <u>115</u> |

II

Bomb Loads (of aircraft reporting attack on primary).

| | |
|---|------------|
| No. of aircraft carrying flares + T.I. markers..... | 4 |
| " flares + T.I. + H.E..... | 13 |
| " H.E. only..... | 4 |
| " 4 lb. incendiaries only..... | 88 |
| " H.E. + 4 lb. incendiaries..... | 69 |
| | <u>128</u> |

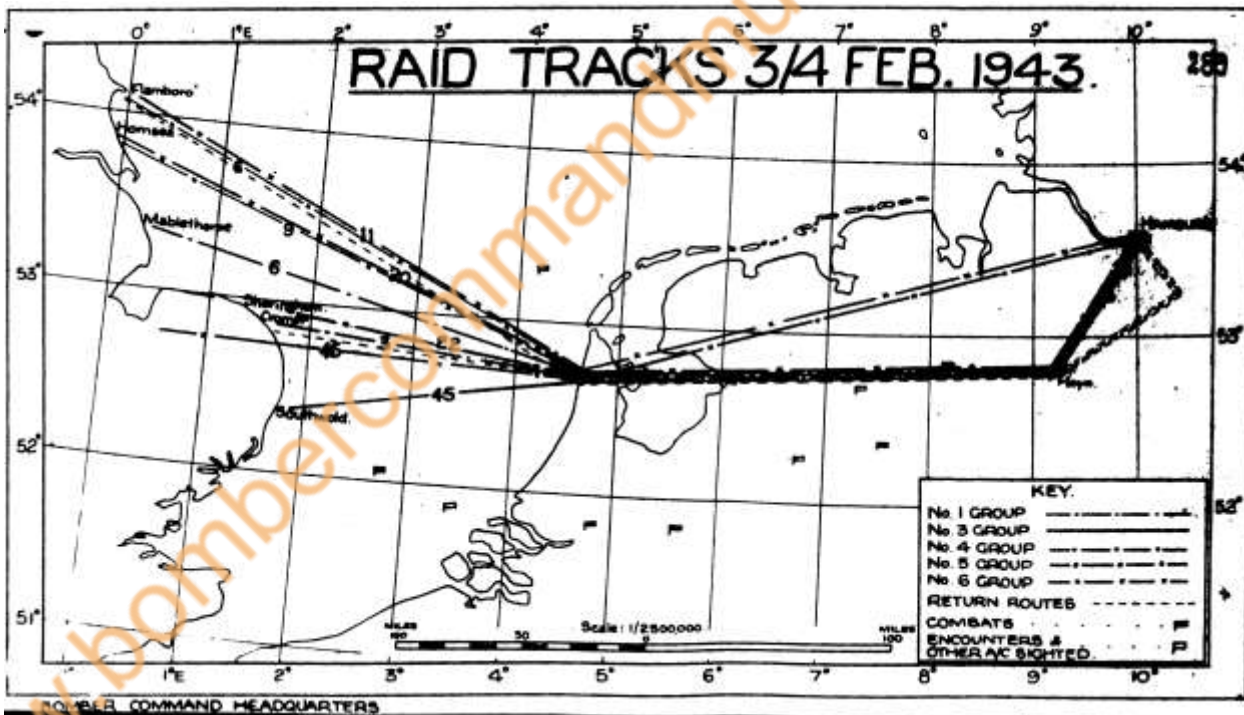
MIN/VF/PVD.
 IC/S. 26342/2/ORS.
 4th April, 1943.

www.bombercommandmuseumarchives.ca

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results | | | | | | | | | | | |
|---------------------|-------------------------|----------|------------|-------------------------|----------------|------------------|----------------------|-----------|--------------------------|---------------------------------------|-------------------------|---------------|--|---------------|--|------|------|--------|-------|-----|------|-----|------|-------------------------|--|
| | | | | prim. area | alt. area | over on. ter.it. | not over on. territ. | | flick | fighter | not on action | att-acked | not att-acked | | | | | | | | | | | | |
| BOMBERS | 8 P.P.P. | Londoner | 9 | 8 | - | - | 1 | - | 1.0 | - | - | - | <table border="1"> <tr><td colspan="2">Tons of Bombs</td></tr> <tr><td>H.R.</td><td>Inc.</td></tr> <tr><td>122.5*</td><td>221.2</td></tr> <tr><td>4.0</td><td>27.7</td></tr> <tr><td>7.6</td><td>38.5</td></tr> <tr><td colspan="2">*(including 374,000 lb)</td></tr> </table> | Tons of Bombs | | H.R. | Inc. | 122.5* | 221.2 | 4.0 | 27.7 | 7.6 | 38.5 | *(including 374,000 lb) | |
| | Tons of Bombs | | | | | | | | | | | | | | | | | | | | | | | | |
| | H.R. | Inc. | | | | | | | | | | | | | | | | | | | | | | | |
| | 122.5* | 221.2 | | | | | | | | | | | | | | | | | | | | | | | |
| | 4.0 | 27.7 | | | | | | | | | | | | | | | | | | | | | | | |
| | 7.6 | 38.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | *(including 374,000 lb) | | | | | | | | | | | | | | | | | | | | | | | | |
| | 8 P.P.P. | Halifax | 10 | 5 | - | 5 | 2 | - | - | - | 1B | - | | | | | | | | | | | | | |
| | 8 P.P.P. | Starling | 7 | 4 | - | 2 | 1 | - | - | - | - | - | | | | | | | | | | | | | |
| | 8 | Londoner | 1 | - | - | - | 1 | - | - | - | - | - | | | | | | | | | | | | | |
| | 8 | Halifax | 4 | 3 | (1*) | - | 1 | - | 1 | - | - | - | | | | | | | | | | | | | |
| | 8 | Starling | 2 | - | - | - | 2 | - | - | - | - | - | | | | | | | | | | | | | |
| | 1 | W.II.III | 10 | 1 | - | - | 8 | 1 | - | - | - | - | | | | | | | | | | | | | |
| | 1 | W.II.III | 3 | - | - | 1 | 2 | - | - | - | - | - | | | | | | | | | | | | | |
| | 1 | W.II.IV | 10 | 3 | 1 | 1 | 4 | 1 | - | - | - | - | | | | | | | | | | | | | |
| | 1 | Londoner | 12 | 6 | - | - | 6 | - | - | - | 1.0 | - | | | | | | | | | | | | | |
| 3 | W.II.III | 7 | 3 | 3 | 1 | 1 | 1 | - | 1 | - | - | | | | | | | | | | | | | | |
| 3 | Starling | 57 | 26 | 7(+1*) | 4 | 12 | 8 | 1.0 | 1.0 | - | - | | | | | | | | | | | | | | |
| 4 | Halifax | 45 | 25 | 1 | 2 | 15 | 2 | 1 | - | 3.0 | - | | | | | | | | | | | | | | |
| 5 | Londoner | 40 | 23 | 1 | - | 15 | 1 | 1.0 | 1.0 | - | - | | | | | | | | | | | | | | |
| 6 | W.II.III | 21 | 6 | - | - | 15 | - | - | - | 1.0 | - | | | | | | | | | | | | | | |
| 6 | Halifax | 25 | 13 | - | - | 5 | 2 | 2 | - | - | - | | | | | | | | | | | | | | |
| BOMBER TOTAL | | | 263 | 126 | 12(+2*) | 16 | 93 | 16 | 1.0 +16 | 2.0 1.0 +1 | 13 6.0 | | | | | | | | | | | | | | |
| W.II.III | 1 | W.II.III | 3 | 2 | - | - | - | 1 | - | - | - | 4 mines | | | | | | | | | | | | | |
| W.II.III | 3 | W.II.III | 5 | 4 | - | 1 | - | - | - | 1.0 | - | 8 mines | | | | | | | | | | | | | |
| W.II.III | 92 | W.II.III | - | 4 | - | - | - | - | - | - | - | | | | | | | | | | | | | | |
| TOTAL | | | 275 | 138 | 12(+2*) | 17 | 93 | 17 | 1.0 +16 | 2.0 1.0 +1 | 13 7.0 | | | | | | | | | | | | | | |

* Weighed by flick and fighter. *Part of load dropped on primary and part on alternative.

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 4/5th FEBRUARY, 1943.

TURIN: LORIENT: Spezia: Bochum:Ruhrort:Minelaying(Lorient)

SUMMARY

TURIN

1. Good weather favoured the first attack of the year on Turin and enabled ground marking to be employed. The P.F.F. dropped their markers punctually and accurately and, despite slightly increased flak opposition, 156 (82.9%) of the force of 188 aircraft reported attack. A fair concentration of bombing was achieved, and reconnaissance revealed that 415 acres of Turin are now devastated. In this latest raid, the Fiat works and other industrial buildings sustained direct hits.

6 aircraft (3.2%) attacked alternative targets.

3 Lancasters (1.6%) failed to return.

LORIENT

No Pathfinders took part in the raid on Lorient, the sixth within three weeks. Instead, specially selected crews, carrying full incendiary loads, were detailed to raise fires 40 minutes before the arrival of the Main Force, consisting mainly of Wellingtons. The method proved successful and 120 (93.6%) of the 128 aircraft despatched reported attack. The town and docks were left ablaze.

From night photographs, it is estimated that probably 70% of the entire force bombed within three miles of the aiming point. While the town and docks of Lorient form only a small part of this area, they undoubtedly received the greater part of this concentration, suffering heavy damage.

Only one aircraft (0.8%) was lost.

SPEZIA

The effects of proximity-fused 4000 lb. bombs were tested by 4 Lancasters of 8 Group in an attack on the Italian naval base at Spezia. Three aircraft reached their target, which was not blacked out, and easily identified the aiming point. From photographs returned it is estimated that two of the bombs burst at 190-300 ft. and 340-600 ft. respectively.

Reconnaissance revealed considerable roof damage to industrial buildings.

No damage or casualties were sustained.

BOCHUM: RUHRORT

2 Mosquitoes of 8 Group carried out nuisance raids against Bochum and Ruhrort. Both returned undamaged after successfully attacking their targets.

MINELAYING

1 Wellington of 3 Group laid 2 mines off Lorient shortly before our bombers attacked the town. It returned safely.

Meteorological Forecast

2. Home Bases:- Fine. Local fog late at night. All bases should be fit for take-off at dusk, the majority remaining available to 0200 hours, probably later; 1 and 5 Groups expect visibility troubles, but diversions should be fairly easy both N. and S. of these areas. Winds at high levels (10-20,000 feet) will increase by 10-20 m.p.h. towards base on return.

Germany:- N.Sea coastal strip: variable but mainly large amounts of convection cloud, tops above 15,000 feet. Inland: layer cloud with few breaks.

N.Italy:- Fine, cloudless ~~but hazy~~. 8/10ths alto-stratus over Alps, 17-20,000 feet, no cloud below. This alto-stratus is probably lenticular and should not extend to Turin, except possibly as broken medium cloud. En route, cloud should be very well broken to the Alps. Wind at 20,000 feet: 310°/40 m.p.h..

W.France:- Very well broken layer cloud. Lorient: well broken convection, tops not generally above 10,000 feet and flattening out below that height. Wind at 20,000 feet: 330°/40 m.p.h.

TURINPlan of Attack

3. Zero hour 2130 hours.

Period of Attack..... 2132-2150 hours.

Route:- Cabourg - Aix-les-Bains - TURIN - same return.

20 aircraft of P.F.F. were detailed to go ahead of the main force and to drop one bundle each of red steady flares over the Lac du Bourget to act as a navigational aid. On reaching the target, these aircraft were to carry out one of the following marking techniques, according to the cloud conditions prevailing at the time:-

- (1) If visibility were good, 7 H₂S - equipped aircraft were to illuminate the target at zero to zero + 3 by dropping sticks of flares at 10 sec. intervals across the city from N.W. to S.E. These were to be supplemented at zero + 1 by similar flares dropped by 3 of the "backer-up" aircraft. All 13 of the "backer-up" aircraft were then to drop salvoes of red T.I. markers, bursting at 3000 ft. The main force of 168 aircraft was then to bomb in the centre of the concentration of these red markers.
- (2) If cloud conditions were such as to render illumination impracticable, the specially equipped aircraft were to act as ground markers, dropping red T.I. markers instead of flares. "Backer-up" aircraft were then to drop their markers on those already on the ground.
- (3) If cloud conditions prevented ground marking, the sky-marking technique was to be used. All P.F.F. aircraft were to make a left hand turn and to return on a reciprocal course for 4 minutes. They were then to approach the target on the same track and at zero + 7 to drop single bundles of green warning flares at position 4509N 0728E. These were to be followed at zero + 10 by release-point flares (red with green stars) dropped by the specially equipped aircraft and fused to ignite at 10,000 ft. Main force aircraft were to bomb these flares on an exact heading of 125°M. If neither the red ground markers nor the red and green release-point flares were seen, crews were instructed to bomb on E.T....

Timing

Illumination

4 at zero
3 at zero + 3

...../Ground markers

| | |
|-------------------|-----------------------------------|
| Ground markers | 3 at zero + 1 (also illuminators) |
| | 2 at " + 4 |
| | 2 at " + 6 |
| | 2 at " + 8 |
| | 2 at " + 10 |
| | 1 at " + 12 |
| | 1 at " + 14 |
| Skymarking method | 2 at zero + 10 |
| | 1 at " + 11 |
| | 1 at " + 12 |
| | 1 at " + 14 |
| | 1 at " + 16 |
| | 1 at " + 18 |

| | | |
|-----|---|------------|
| (a) | No. of aircraft despatched..... | 188 |
| (b) | " reporting attack on primary area.... | 156(82.9%) |
| (c) | " " alternative area.. | 6(3.2%) |
| (d) | " abortive sorties (technical defect..... | 21) |
| | (icing..... | 1) |
| | (late take-off..... | 1) |
| (e) | " aircraft missing..... | 3(1.6%) |

Experienced

Home Bases:- Little cloud, moderate visibility, locally 1-2,000 yards in rural areas.

Route:- 8-9/10ths strato-cumulus, tops 7-9,000 feet. 9-10/10ths over tops 17-20,000 feet, base 16,000 feet. Peaks clear on south side. Light in cloud. Winds at 10-12,000 feet: in north, 300-320°/30-40 m.p.h. in south, 330-350°/20-30 m.p.h.

Target:- Only traces of cloud. Moderate to good visibility. No moon. Wind at 12-17,000 feet: 320-350°/20-30 m.p.h.

Results of Attack

156 aircraft (82.9%) reported attack. Weather conditions over the target good, and the Pathfinders dropped their flares and marker bombs correctly and early. Some marker flares were observed near the Fiat factory in the west, and a cluster fell close to the centre of the city. A concentration of incendiaries was aimed at these points, and many large fires were started in the city area, particularly in the western suburbs. Returning aircraft reported that the town was rapidly becoming obscured by smoke and that a deep red glow could be observed from the Alps.

6 aircraft attacked alternative targets, viz: Brachy a/d, Montargis a/d, etc., searchlights 25 miles S.W. of Rouen, and area 5 miles N. of Turin and at 4754N. 0232 E.

3 aircraft (1.6%) did not return.

Photographic Evidence

(a) Night photographs taken with bombing (see also accompanying diagram)

| | |
|----------------------------------|----|
| With ground detail, plotted..... | 54 |
| " unplotted..... | 12 |

| | |
|-------------------------------------|----|
| With fire-tracks only, plotted..... | 1 |
| " unplotted..... | 26 |

| | |
|---|----|
| Photographs plotted within 3 miles..... | 24 |
| " between 3 and 5 miles..... | 15 |
| " Outside 5 miles..... | 16 |

| | |
|---|-----|
| No. of aircraft reporting attack..... | 156 |
| No. estimated to have bombed within 3 miles of the aiming point on photographic evidence..... | 57 |

.../The night

The night photographs which have been plotted lie mainly in the west half of Turin, and extend 11 miles north-westwards of the aiming point. Zero hour was planned to be 21.30 hours, with the attack following in the next 20 minutes. The approximate positions of seven groups of T.I. markers have been plotted from the night photographs. Though not on the aiming point, the sample suggests that the markers were placed with fair accuracy on the target, and should have effected a better concentration of attack than was in fact achieved. One marker was also photographed bursting three minutes after zero hour over open country, probably not in the immediate neighbourhood of Turin. Aircraft that bombed within the first 15 minutes after zero hour obtained a much better concentration than those attacking subsequently (most of the remainder are within the next 15 minutes).

| | Plotted within 3 miles | Between 3 and 5 miles | Outside 5 miles |
|--|---------------------------|--------------------------|--------------------|
| A/C attacking between zero hour and zero + 15 | 16 | 12 | 3 |
| A/C attacking subsequently (zero + 16 to zero + 35) | 8 | 3 | 13 |

The photographs leave no doubt that by about 10 minutes after zero hour there was a scatter of incendiaries and isolated fires extending to 12 miles from the aiming point, approximately in the direction of approach. It was probably these that caused many of the aircraft subsequently attacking to book short, although there were reports of T.I. markers 5 or 6 miles north-west of the aiming point. It would not seem that these aircraft attempted to identify the target visually, though flares were burning over Turin, and the illumination was bright enough for photographs of ground detail to be obtained by flarelight.

A considerable number of incendiaries were photographed in the west half of Turin and the adjoining suburbs, especially in the neighbourhood of Collegno. At least 5 or 6 sticks were also recorded at about 11 miles W.N.W. of the aiming point near Casollette, where the night photographs indicate that there was a certain diversion of effort.

There is no evidence of any decoy in action.

Of 41 aircraft plotted within 5 miles, four-fifths recorded heavy flak and one-third light flak, in both cases a considerable increase on earlier figures.

(a) Day reconnaissance

Most of the damage appears to have been caused in the western suburbs of the city, although there is a narrow area of devastation running across the centre area from N.W. to S.E. The Fiat Lingotto works, the Fiat Steelworks and 17 other industrial buildings have sustained direct hits, suffering especially from incendiaries. Many houses in an area already devastated have been destroyed by heavy H.E. incident, probably an 8,000 lb. bomb. The viaduct carrying the Via della Cernaia over the railway has been completely destroyed at one point east of the station, but this may have been caused earlier. The photographs reveal that a block at the N.E. corner of the Istituto d'Igrorie has been gutted; but this damage, together with the destruction of one medium sized industrial building, must definitely be attributed to a previous raid.

Navigation Aids (Geo)

8. 85 out of 160 Geo sorties provided information for analysis. Aircraft used the Southern Chain on the outward journey and the Eastern Chain on the return. The route crossed the French coast just west of Le Havre, where interference was heavy. The average ranges for both the outward and homeward journeys were approximately 180 miles.

Blind Bombing Aids (H₂S)

9. 7 of the 8 Y-type aircraft despatched completed their task successfully, despite some minor technical defects. Navigators readily identified the target, although its outline was rather ill-defined, appearing as scattered patches
...../rather than

rather than the dense mass expected. One photograph was plotted $2\frac{1}{2}$ miles from the A.P. on a bearing of 280° ; no other reliable evidence of the marking accuracy is available.

This was the first operation in which Y-type aircraft were used over France and Italy. As the value of Gec was limited by enemy jamming, the utility of H₂S as a navigational aid was again established. Coastlines and lakes gave excellent pinpoints, and little trouble was experienced with responses from the Alps.

Defences

10. (a) Flak: Searchlights

Reports from crews stated that the flak and searchlight defences in Turin appeared to have increased in quantity, but were still very inaccurate. Only four returning aircraft were damaged by flak, and it would seem that the ground defences are still weak.

(b) Fighters

The moon was down during the operation, but visibility was moderate to good. Several night fighters were seen, both around Turin and en route over France. Seven approaches were reported and one attack.

This attack was made by a F.W. 190 in the Dijon area during the homeward trip. The night fighter was G.C.I. controlled and, although it patrolled for nearly two hours, only this one pursuit was overheard. No evidence of any other controlled night fighter activity in the area of our operations was obtained from enemy wireless traffic.

Casualties

| | | |
|-----|------------------------------|--------|
| 11. | No. of aircraft missing..... | 3(1.6) |
| | " Damaged (a) flak..... | 4 |
| | | 7(3.7) |
| | (b) fighter..... | - |
| | (c) non enemy action.. | 3 |

The three aircraft lost on Turin were all Lancasters. One aircraft (50 Squad. XD527) sent a signal that it was making for Gibraltar, and must be presumed lost in the sea through causes unknown.

Two returning crews reported that they had seen an aircraft crash into the foothills of the Alps near Mont Cenis, but there is no suggestion of a cause. This aircraft was probably the one claimed by the Italians to have fallen in flames.

There is a report from Vichy sources that a British aircraft crashed near Lyons, and this claim is supported by an observation of a fire and explosion on the ground in the same vicinity. There is no evidence to account for the loss of any of these aircraft.

The loss of three bombers (1.6) is about average for an operation on an Italian target.

LORIENT

Plan of Attack

12. Zero hour.....2030 hours.

Route briefed: Lyme Regis/Bridport - direct to LORIENT and back.

No P.P.F. aircraft were detailed for this target, the task of finding and marking being delegated to selected crews from 1,4 and 5 Groups. These aircraft were instructed to carry 100 incendiary loads and to attack between zero and zero + 10, using flares to assist in the identification of the target.

The Main Force, carrying mixed H.E. and incendiary loads, was detailed to
...../approach

(b) Day reconnaissance

A P.R.U. cover obtained on February 16th reveals the vast damage caused at Lorient in the three raids of 4/5th, 7/8th and 13/14th February. Details will be incorporated in Night Raid Report No. 266.

Navigational Aids

17. Of the 101 Gee aircraft despatched, only 30 reported reception over the target. The reason for this low proportion was probably poor propagational conditions. Interference was both variable and intermittent. The Southern Chain was in use until 23.45 hours, when the Eastern Chain was switched on. Carolina frequency was used throughout.

Defences18. (a) Flak: Searchlights

Searchlights were active in conjunction with heavy and light flak. 3 aircraft were hit.

(b) Fighters

The force that attacked Lorient reported a number of sightings of night fighters. There were 7 approaches, mostly in the target area, and one attack. There is no evidence from R/T traffic that any of these night fighters were G.C.I. controlled.

Casualties

19. No. of aircraft missing.....1(0.8%)
 " damaged (a) flak.....3)
 (b) fighter.....*)
 (c) non-enemy action.2)

The missing Wellington was seen to be destroyed by heavy and light flak whilst held in a cone of searchlights over Lorient.

The loss of only 2 aircraft (0.3%) is below average for this target.

SPEZIA

20. The Italian naval base of Spezia, 50 miles S.E. of Genoa, was chosen as the target on which to test the effects of 4,000 lb. bombs carrying a special proximity fuse. 4 P.F.F. Lancasters were detailed for this operation; 3 attacked, the fourth being unable to identify the primary. The town was not blacked out and the aiming-point was clearly identified through the cloud. 3 x 4,000 lb. H.E. specials were seen to burst in the built-up area. All aircraft returned safely, and no damage or casualties were sustained, although fairly accurate light flak was encountered from the target.

Night photographs were returned by three aircraft. In two cases the explosion of the bomb was photographed, together with a considerable area of ground detail, about half a mile west of the commercial port at Spezia. From measurements of the lengths of shadows the height of the two explosions have been estimated at 190-300 ft. and 340-600 ft. above the bases of neighbouring buildings. The third aircraft photographed reconnaissance flares only.

Subsequent P.R.U. cover revealed considerable roof damage to industrial buildings in the neighbourhood of the Gasworks, and a fire incident in the top floor of a large building in the Piazza d'Armi.

BOCHUM: RUHRORT

21. 2 P.F.F. Mosquitoes, equipped with Oboc, carried out nuisance raids against Bochum and Ruhrort respectively. Both dropped 3 x 500 M.C. bombs from 28,000 feet above 7-10/10ths cloud. Both returned safely.

...../over

| Sortie No. | Target | Control Stations | | Track | Time | | Result |
|------------|---------|------------------|---------------|-------|----------|----------|---------------------------------|
| | | Tracking | Bombing | | Detailed | Attacked | |
| (i) | Bochum | Walmer | Triningham I | 178° | 0120 | 0117 | Good, see and Bailey beams w/s. |
| (ii) | Ruhrort | Swingate | Triningham II | 178° | 0120 | 0121 | Good. |

MINELAYING

22. One Wellington III of 5 Group laid 2 mines off Lorient and returned without incident an hour before the port was attacked by our bombers.

APPENDIX I (CURIN)Timing of Attack

| <u>Pathfinder Force</u> | <u>Time</u> | <u>Planned</u> | <u>Achieved</u> |
|-------------------------|-------------|----------------|-----------------|
| | 2130 | 4x (F + TI) | 3x (F) |
| | 2130½ | - | 1x (P) |
| | 2131 | 3 (F + TI) | - |
| | 2132 | - | 1x (TI) |
| | 2133 | 3x(P + TI) | 2x (P) |
| | 2134 | 2 (TI) | 1x+1(F+TI) |
| | 2135 | - | 1 (P) |
| | | | 2x+1(TI) |
| | 2136 | 2 (TI) | 1(F+TI): 1x(TI) |
| | 2137 | - | 1(TI) |
| | 2137½ | - | 1x(T.I.) |
| | 2138 | 2(TI) | 1(TI) |
| | 2139 | - | 1x(TI) |
| | 2140 | 2(TI) | 2(TI) |
| | 2141 | - | 2(TI) |
| | 2142 | 1(TI) | - |
| | 2144 | 1(TI) | 1(TI) |
| | 2145 | - | 1(TI) |
| | 2159 | - | 1(F+TI) |

(x H₂S - equipped)

Main Force

| | |
|--------------------------------------|------------|
| No. of aircraft attacking early (4') | 1 |
| " within planned period | 100 |
| " 0-20' late | 36 |
| | <u>137</u> |

Bomb Loads

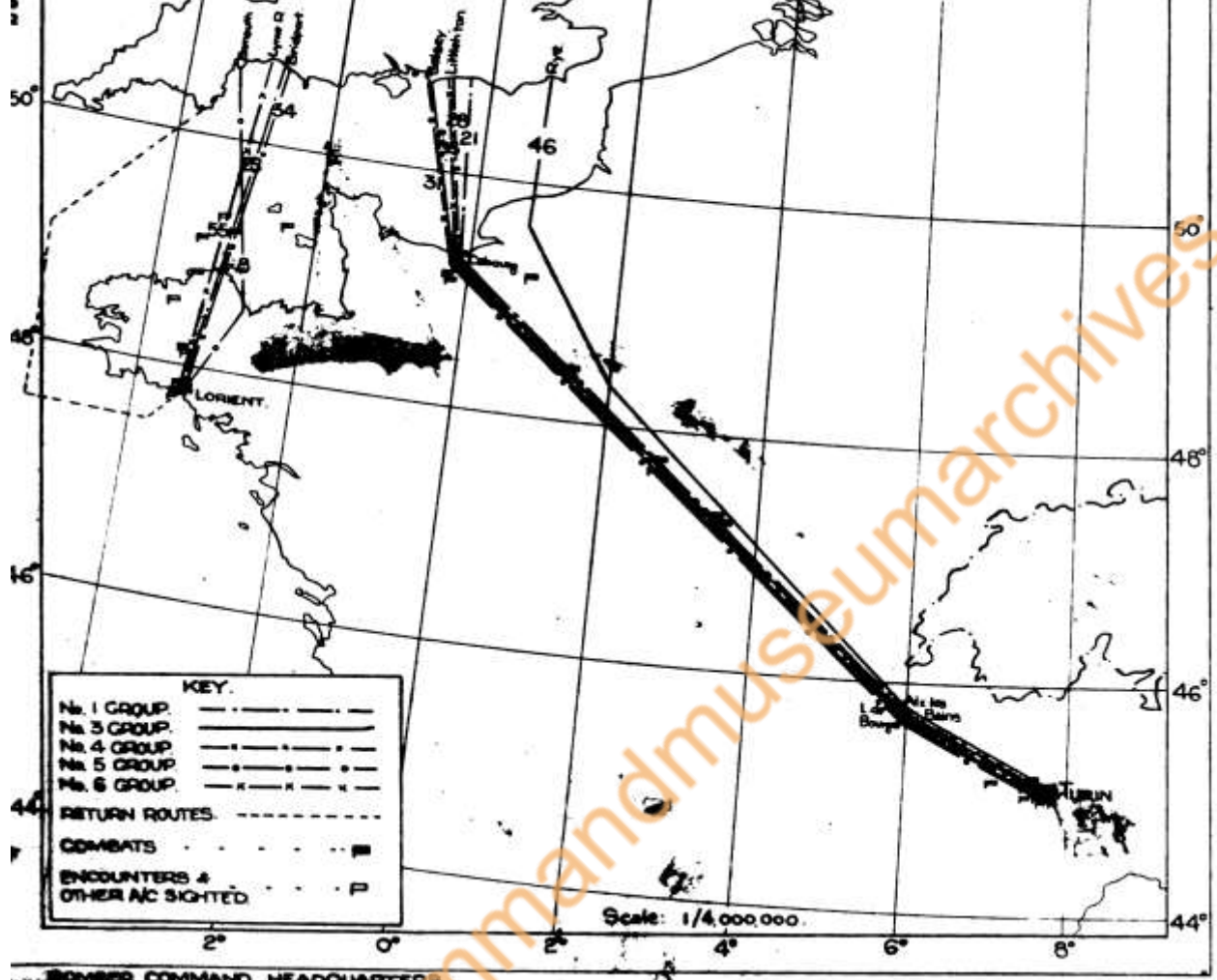
(of aircraft reporting attack on primary)

| | |
|---|------------|
| No. of aircraft carrying flares + T.I. + H.E. | 19 |
| " 4lb. incendiaries | 37 |
| " H.E. only | 10 |
| " H.E. + 4-lb. incendiaries | 90 |
| | <u>156</u> |

APPENDIX II (LORIENT)Timing of AttackSection 1 (Fire-raisers)

| | |
|---------------------------------------|-----------|
| No. of aircraft attacking 15-0' early | 12 |
| " within planned period (2030-2040) | 30 |
| " 0-20' late | 10 |
| | <u>52</u> |

RAID TRACKS 4/5 FEB. 1943.



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FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN 4/5 FEBRUARY 1943 TARGET TURN

SECRET

2 photographs have been plotted outside the area covered by this map.

| | |
|---------|----------|
| OR.S. | No. |
| B.C. | 194 B |
| Date: | Year: |
| 28-4-43 | 57 |
| Ref: | Checked: |
| PH 128 | A.P. |

Photographs taken with bombing.

- ⊙ REF (aircraft detail to forward target)
- △ 1 GROUP
- ◊ 3 GROUP
- 4 GROUP
- ◇ 5 GROUP
- 6 GROUP
- ✈ Aircraft heading
- Level of suburban area
- ✦ Approx position of T1 bombs.

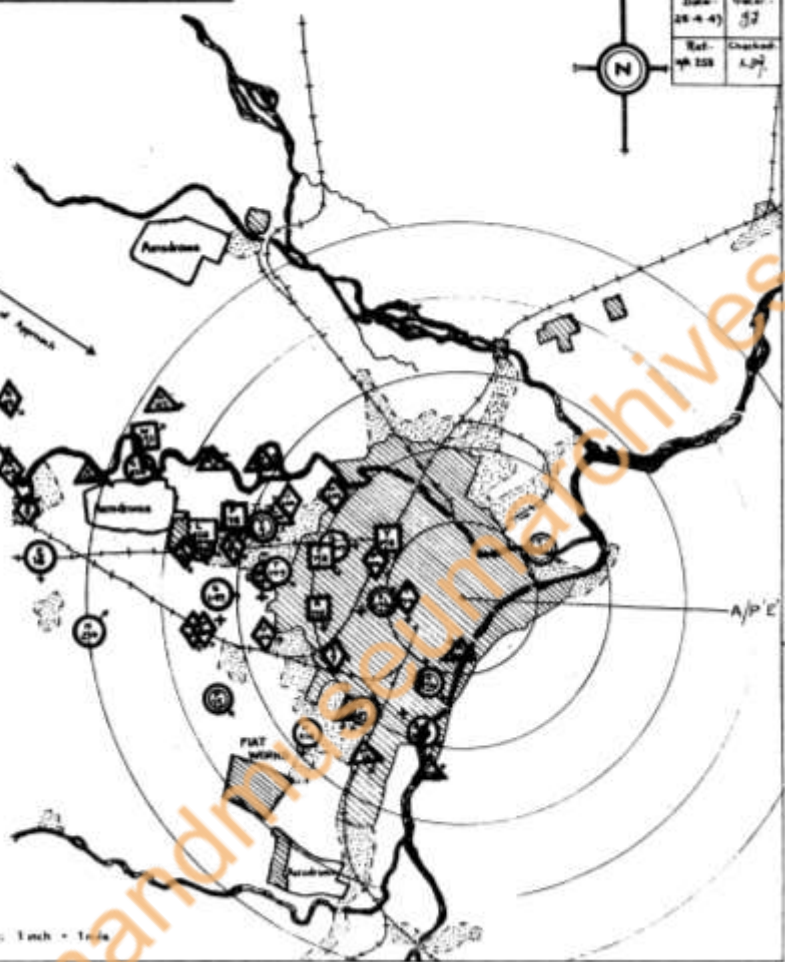
No. of aircraft reporting attack 15th

Photographs (with bombing) of ground detail were returned by 6th aircraft.

The symbol with the broken outline marks a photograph plotted by fire-tracks.

Weather: Only hours of cloud. Visibility adequate to good. Floor below horizon.

Scale: 1 inch = 1 mile



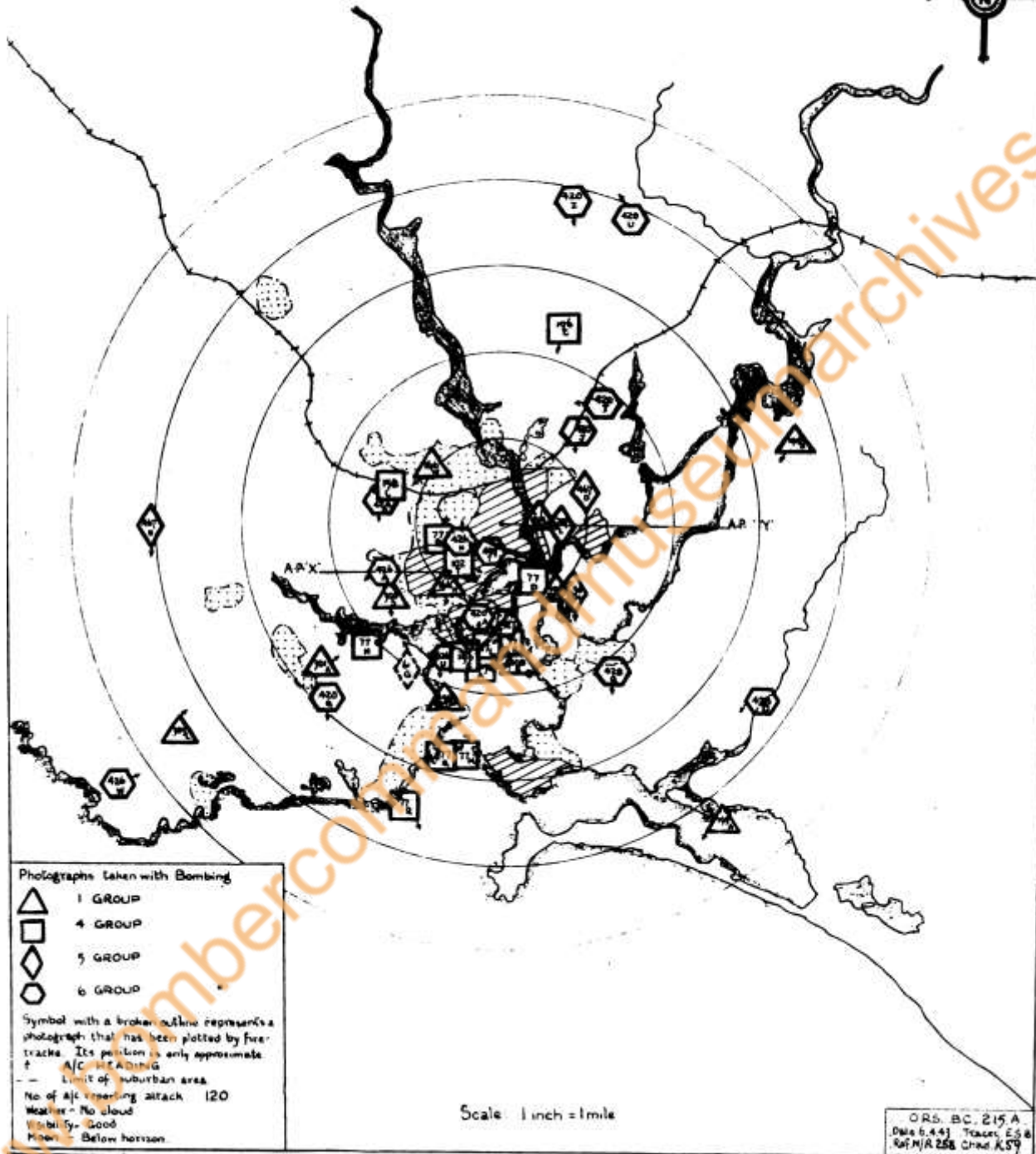
SECRET

FINAL PLOT OF NIGHT PHOTOGRAPHS

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TAKEN 4/5th FEBRUARY 1943

TARGET LORIENT



BOMBER COMMAND REPORT ON NIGHT OPERATIONS 5/6TH FEBRUARY, 1943.Mineslaying (Frisians)SUMMARY

1. 19 Stirlings of 3 Group were detailed to lay mines off the Frisians in the early evening. 11 reached their target, despite low cloud and poor visibility, and 56 mines were laid.

2 aircraft did not return. One of these was seen to crash into the sea off the Norfolk coast on the outward journey.

Meteorological Forecast

2. Midnight fronts: (1) warm from 61°N. 00°E. to 55°N. 06°E. to Straits of Dover to N.W. France (2) high from 64°N. 10°E. to Orkneys, becoming occluded north-westwards and cold to 57°N. 01°E. to N. Yorkshire to S.Wales, then south-westwards.

Home bases:- Much cloud between warm and cold fronts, base about 1,000 feet, with patches below and occasional rain. The cold front will move slowly south-eastwards, giving 8-10/10ths cloud at 600 - 1,000 feet, affecting northern bases for early take-off and southern bases for return. Generally, Operational Groups will have cloud based at 1,000 feet, falling to 600 feet in rain; visibility 1-3 miles. 3 Group may be slightly better, but even there the cloud base is not expected to be above 1,500 feet.

Germany:- Broken layers of cloud in N., strato-cumulus with some good breaks in centre and S. Much layer cloud in E., with sleet or snow showers.

N. Italy:- Fine weather. Alps clear.

W. France:- Much layer cloud in N., decreasing southwards and becoming well broken S. of Nantes. Lorient - St. Nazaire: much cloud, 8-10/10ths at 1,000 feet, moderate visibility. Route would involve flying through rain and cloud down to 600 feet. Gironde: broken cloud, 5-8/10ths with base above 1,500 feet, moderate visibility.

Frisians:- Main cloud base should remain above 1,000 feet until midnight, with occasional rain.

Heligoland Bight:- Cloud base 600 - 1,000 feet, probably with patches below.

Kattegat & E. Denmark:- Much very low cloud, probably below 600 feet, with fog patches at surface.

Sorties

| | | | |
|----|-----|--|----------|
| 3. | (a) | No. of aircraft despatched..... | 19 |
| | (b) | " reporting mines laid in primary area..... | 11 |
| | (c) | " abortive sorties (technical defect.....6)..... | 6. |
| | (d) | " aircraft missing.....; | 2(10.5%) |

Weather Experienced

4. Home Bases:- Much cloud, base locally below 1000 feet, with rain during the night. Moderate to poor visibility. A clearance affected 6 Group area at 0300 hours, spreading S.E. and reaching the Wash by dawn.

Target:- 10/10ths cloud, base 1,000 - 1,500 feet, occasionally falling to 800 feet. Visibility poor. No moon.

Wind at 1-2,000 feet: 230°/40-50 m.p.h. (One aircraft reported 70 m.p.h. at 1,200 feet).

Results

5. 19 Stirlings of 3 Group were despatched towards dusk to lay mines off the Frisians. 11 reached the target area, and 56 mines were laid. 2 aircraft did not return.

Enemy Defences

6. No reports of flak were received. Little activity by enemy night fighters was heard and there was no evidence of any in the areas in which the minelayers were operating. No enemy aircraft were seen, the weather probably being unsuitable for their operation.

Casualties

7. Two aircraft failed to return. One was seen to burst into flames at 1,500 feet and dive into the sea two miles off Cromer. The A.S.R. organised a search, but found no survivors. Since the crash was on the outward journey, this must be regarded as a non-enemy action loss. There is no evidence available to account for the loss of the other aircraft.

MMH/VP.
BC/S. 26342/6/ORS.
5th April, 1943.

| Target | Gp. | Type | Sorties | A/C reporting attack on prim. area | Abort. sorties (over en. coasts) | Missing | Dam. | Interceptions | Mines laid in prim. area |
|-------------------------------|-----|----------|---------|------------------------------------|----------------------------------|---------|------|---------------|--------------------------|
| <u>MINELAYING</u> Frisians | 3 | Stirling | 19 | 11 | 6 | 2 | - | - | 56 |

BOMBER COMMAND REPORT ON NIGHT OPERATIONS - 6/7th FEBRUARY, 1943.Dusseldorf : Minelaying (Frisians etc.): Leaflets.SUMMARY.

1. Dusseldorf. 2 P.F.F. Mosquitoes, equipped with Oboe, were despatched on a nuisance raid against Dusseldorf. 1 attacked the target; the other, experiencing a technical defect, bombed Patmoen. Results were unobserved. Both returned safely.

Minelaying 50 of 72 aircraft from 1,3,4 and 6 Groups laid 107 mines off the Frisians, IJmuiden, Brest, Lorient, St Nazaire and La Pallice. 3 aircraft did not return.

Leaflets. 3 aircraft of 92 Group, manned by April crews, dropped leaflets in the Paris area and returned without incident.

Meteorological Forecast.

2. Home Bases:- Arctic front will pass quickly across England, giving well-broken cumulus with showers in the first half of the night. There is a definite threat of heavier showers with snow late in the night in 6 and 4 Groups, Lincolnshire and East Anglia, but these should be localised. A small bad weather system moving from E-S. E. from N.W. Ireland may affect northern Groups for return; but generally, bases should remain fit all night.

Germany:- Midnight cold front from 62°N. 40°E. to 57°N. 15°E. to Berlin to Bordeaux. Cloud will extend to great heights along this belt; to the southeast, there will be much layer cloud with a few breaks. Between the front and 8 E., including the North Sea coastal strip, cloud will extend to great heights with rain and very low bases. Broken convection cloud will prevail W. of 8 E., but the amount and height of tops will depend on the exact isobarical orientation.

N. Italy:- Fine. Alps probably clear.

N.W. France:- Broken convection cloud to great heights, base 1,500 feet, falling below 1,000 feet in showers. Convection cloud should be well broken inland to N. of frontal belt. Brest-Lorient area should be clear of frontal conditions by 2000 hours. La Pallice by 2100 hours. These areas should be fit for mining, with showers and cloud at 1,000 feet.

Frisians:- At dusk, convection cloud based at 1,500 feet, falling to 1,000 feet in showers. Towards 1900 hours, heavier rain with cloud base well below 1,000 feet. From 2100 hours, wintry showers, cloud at 1,000 feet with good breaks; freezing level near surface late in night.

DUSSELDORF.

3. 2 P.F.F. Mosquitoes, equipped with Oboe, were despatched on a nuisance raid against Dusseldorf. One attacked the primary; the other experienced technical trouble and bombed Patmoen. Both dropped 3 x 500 H.C. bombs from 28,000 feet above 10/10ths layer cloud.

Details:-

| Sortie No. | Control Stations | | Track | Time detailed | Time Attacked | Results |
|-----------------------|------------------|----------|-------|---------------|---------------|--|
| | Tracking | Bombing | | | | |
| (i) Attacked Primary | Trimingham II | Swingate | 30° | 2100 | 2109 | Fair run. 1/2 mile over target. |
| (ii) Attacked Patmoen | Trimingham I | Walmer | 30° | 2100 | 2107 | Ground station defaulted, & was then set up wrongly by 5 miles causing a/c to proceed 10 miles further |

One Mosquito reported being down at 28,000 feet for 12 minutes, and stated that in general there was a considerable amount of fairly accurate heavy flak. At Rotterdam, lights were seen on the ground indicating the bombers' track. Both aircraft

returned undamaged.

MINELAYING.

Sorties.

| | | |
|-----|--|----------|
| (a) | No. of aircraft despatched..... | 72 |
| (b) | " " " reporting mines laid in primary area..... | 50 |
| (c) | " " " " " " " alternative area..... | 1 |
| (d) | " " abortive sorties (weather..... 14) (technical defect..... 4)..... | 18 |
| (e) | " " aircraft missing..... | 3 (4.2%) |

Weather Experienced

Home Bases:- A belt of cloud below 1,000 feet, with local showers of rain, sleet or snow, moved S. over bases during the night, causing a temporary deterioration otherwise, fair or fine.

Frisians and Ijmuiden:- Variable cloud amounts, 5-9/10ths, base 1,000-1,500 feet falling to 800 feet in showers. Occasional tops to 17,000 feet. Static and light drizzle. Visibility moderate.

Frost:- 6/10ths cloud. Very variable visibility - 1,500 yards to 10 miles.

Lorient-St Nazaire:- Little cloud, moderate visibility.

L. Pallice:- 5/10ths cloud, base 3,000 feet. Route over N. France:- 10/10ths cloud, base 1,000 feet, tops 14,000 feet.

The moon was above the horizon and 6% of full.

Results

Of the 72 aircraft of 1,3,4 and 6 Groups despatched to lay mines off the Frisians, Ijmuiden and the west coast of France, 54 reached their targets laying 107 mines. 3 aircraft detailed for the Frisians jettisoned its mines live some miles north of target area on being hit by flak. 3 aircraft did not return.

Defences

All aircraft reported searchlight activity combined with slight flak. There was no evidence of any controlled night fighter activity, and no attacks were reported. A few enemy aircraft were sighted in the Frisians area, and one was seen flashing a beacon near Lorient.

Casualties

| | | |
|-----|--------------------------------------|----------|
| (a) | No. of missing aircraft..... | 3 (4.2%) |
| (b) | No. of aircraft damaged by flak..... | 3 (4.2%) |
| | by fighter..... | 0 |
| | by non-enemy actions..... | 3 (4.2%) |
| | TOTAL DAMAGED..... | 6 (8.3%) |

1 aircraft overshot on landing, and was blown to pieces by the explosion of its mines at sea and brought back. None of the crew were seriously injured. All the other aircraft of damage were slight.

There is no evidence to suggest how the 3 missing aircraft were lost.

LEAFLETS.

3 Whitleys of 93 Group, manned by pupil crews, dropped leaflets in the Paris area and returned without incident.

| Target | Group | Type | Sorties | AC reporting attack on | | Landing sorties | | Missing | Losses | | Interceptions | | Results | |
|-------------|----------|-------------|---------|------------------------|-----------|------------------|----------------------|---------|--------|---------|---------------|-----------|---------------|---------------|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | Flak | Fighter | not I/A | att-acked | not att-acked | P=0.7 HE tons |
| DESSAIGN | 8 P.P.P. | Mosquito | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - |
| THE MALAYAS | | | | | | | | | | | | | | |
| Prison Is. | 4 | Halifos | 7 | 5 | - | 2 | - | - | 1 | - | - | - | - | 12 mines |
| Prison Is. | 4 | Halifos (2) | 4 | 3 | 1* | - | - | - | 1 | - | - | - | - | 12 mines |
| Prison Is. | 6 | Halifos (2) | 23 | 12 | - | 9 | - | 2 | - | - | 1.0 | - | - | 24 mines |
| Prison Is. | 6 | Halifos | 1 | 1 | - | - | - | - | - | - | - | 1 | - | 2 mines |
| Prison Is. | 6 | Halifos | 8 | 7 | - | 1 | - | - | - | - | - | - | - | 14 mines |
| Prison Is. | 6 | Halifos (2) | 1 | 1 | - | - | - | - | - | - | - | - | - | 2 mines |
| Prison Is. | 6 | Halifos (2) | 4 | 4 | - | - | - | - | - | - | - | - | - | 7 mines |
| Prison Is. | 6 | Halifos (2) | 1 | 1 | - | - | - | - | - | - | - | - | - | 2 mines |
| Prison Is. | 6 | Halifos (2) | 6 | 4 | - | 2 | - | - | - | - | 1.0 | - | - | 8 mines |
| Prison Is. | 6 | Halifos (2) | 6 | 4 | - | 1 | 1 | 1 | - | - | - | - | - | 8 mines |
| Prison Is. | 6 | Halifos (2) | 1 | 1 | - | - | - | - | - | - | - | - | - | 2 mines |
| Prison Is. | 6 | Halifos (2) | 5 | 5 | - | - | - | - | - | - | - | - | - | 10 mines |
| Prison Is. | 6 | Halifos (2) | 5 | 2 | - | 1 | 2 | - | - | - | 1.0 | - | - | 6 mines |
| TOTAL | | | 72 | 50 | 1 | 15 | 3 | 3 | 3 | - | 1.0 | - | 1 | 107 mines |
| TOTAL | | | 93 | 53 | - | - | - | - | - | - | - | - | - | - |
| TOTAL | | | 77 | 54 | 2 | 15 | 3 | 3 | 3 | - | 1.0 | - | - | - |

* These 8 AC were not fitted with GPs.

10 mines hitting and live at 53% (30), 07% (6).

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BOEING COMBAT REPORT ON NIGHT OPERATION, 7/8TH FEBRUARY, 1943.

LORIENT: Essen: Hamborn

SUMMARY

Lorient

323 aircraft from all Groups were dispatched towards dusk to attack Lorient, for the seventh time in less than four weeks. In excellent conditions, with no cloud and good visibility, 295 aircraft (91.3%), raiding in two waves with an interval of four hours, delivered an attack of unprecedented concentration, even for this target. Reconnaissance revealed that practically the whole of the town and dock area is now devastated.

7 aircraft (2.2%) did not return.

Essen - Hamborn

2 P.F.F. Mosquitoes, equipped with Oboe, carried out nuisance raids on Essen and Hamborn. No opposition was encountered, and both aircraft returned safely.

Metorological Forecast

Home Bases:- Little cloud, visibility nowhere less than 1-3 miles, except locally in 91 and 93 Groups, where smoke will reduce it to 1-2,000 yards after dusk. Snow showers near east coast.

Germany:- Midnight cold front from 55°N. 16°E. to 50°N. 11°E. to Bordeaux. Convection cloud will prevail to great heights over the North Sea, with snow showers, local thunderstorms, freezing level near surface and high icing index in all cloud. These conditions will penetrate the hinterland of N.Germany, possibly with good breaks S. of 51°N. Cloud should be well broken north of the frontal belt along the Baltic coast and inland E. of 20°E.

N. Italy:- Cloudy. Alps covered.

N.W. France:- Well broken convection cloud, tops below 10,000 feet. Lorient: less than 5/10ths cumulus, tops probably 6,000 feet, certainly at above 10,000 feet. Very good visibility. Wind at 20,000 feet, 50°/50 mph. Little cloud en route.

LORIENT

Plan of Attack

Zero hour.....20.15 hours.

The attack was planned to take place in 2 phases, the timing to be as follows:-

...../Phase 1.

Phase 1.

| | | | |
|--------|---|-----------------------------------|---|
| P.F.F. | } | Finders - 7 at Z - 1 | } Finders and Illuminators to revert to the role of Ground Markers after dropping their flares. |
| | | Illuminators 4 at Z | |
| | | 2 at Z + 2 | |
| | | 2 at Z + 4 | |
| | | 1 at Z + 5 | |
| | | 1 at Z + 8 | |
| | | 1 at Z + 10 | |
| | | Main Force: 9 at Z+3 to zero + 15 | |

Fire raisers - 74 a/c carrying maximum incendiary loads to attack between Z + 3 and Z + 15.

Phase 2

225 a/c with mixed H.E. and incendiary loads to attack between zero + 75 and zero + 105 mins.

The 7 P.F.F. aircraft detailed to act as finders were to drop flares at 8 sec. intervals in long sticks North to South in the following positions:-

| | | | |
|---|-------------|--------|--------|
| 2 | starting at | 4747N. | 0321W. |
| 3 | " | 4747N. | 0322W. |
| 2 | " | 4747N. | 0323W. |

Flares could be dropped on D.R. and Gee, but were to be on time. If the target was positively identified the finders could revert to the role of illuminators.

The illuminators were detailed to drop flares at 5 sec. intervals in short sticks, from North to South between aiming points A and B, if they could definitely identify the target. Both finders and illuminators were then to ground-mark aiming point A with red T.I. markers, bursting at 3,000 feet, and to continue on the same heading for 8 secs. before releasing their incendiaries. The remaining P.F.F. aircraft and the main force of incendiary carriers were to aim at the centre of the concentration of these red ground markers, and attempt to establish fires which would act as beacons for the second phase an hour later.

The second phase of the attack was to be delivered from the north, flares being used for identification if the fires established by Phase 1 were not sufficient. The following aiming points were allotted:-

| | | | | |
|---------|-------------------|-----------|-----|------------|
| 1 Group | } aiming point B. | 3 Group | } Z | 5 Group-A. |
| 4 Group | | (in town) | | 6 Group |

If the target was obscured by cloud, aircraft were to stand off until it could be definitely identified.

Sorties

| | | | |
|----|-----|--|-----------------|
| 4. | (a) | No. of aircraft despatched..... | 323 |
| | (b) | " reporting attack on primary area..... | 295(91.3%) |
| | (c) | " abortive sorties { technical defect.....18 | } ... 21 (6.5%) |
| | | { navigational error..... 1 | |
| | | { late..... 1 | |
| | | { sickness of crew..... 1 | |
| | (d) | " aircraft missing..... | 7(2.2%) |

...../Weather Experience

Weather Experienced

5. Home Bases:- Pine. Mist formed during the night.

Route:- 4-9/10ths cloud, base 2-3,000 feet, tops 5-6,000 feet, occasional tops to 10,000 feet.

Target:- Cloudless. Slight haze. Good visibility.

Moon above the horizon and 12% of full.

Surface wind: light N.E'ly

Narrative of Attack

6. All the Pathfinders completed their task, illuminating the aiming-point from zero - 1 to zero + 10. The T.I. markers were better concentrated than in previous attacks, although a few fell outside the town.

Both sections of the Main Force kept well within their allotted times. In clear weather, crews had no difficulty in identifying the P.P.F. flares and markers, and delivered an attack of unprecedented concentration, even for Lorient. Incendiaries dropped during the first phase caused such fierce fires that the glow was seen by aircraft 100 miles away in the Channel on their way to the second attack. A pall of smoke, rising to 10,000 feet, rendered exact observation difficult as the raid progressed, but numerous fires were observed to be concentrated around all three aiming-points. At least 4 enormous explosions, too great for heavy bomb-bursts, were reported.

295 aircraft (91.3%) reported attack.

7 aircraft (2.2%) did not return.

Photographic Evidence

7. (a) Night photographs taken with bombing (see accompanying diagram).

| | |
|--|-----|
| With ground detail, plotted..... | 65 |
| " unplotted..... | 21 |
| With fire-tracks only, plotted..... | 1 |
| " unplotted..... | 96 |
| Photographs plotted within 3 miles..... | 50 |
| " between 3 and 5 miles..... | 9 |
| " outside 5 miles..... | 7 |
| Number of aircraft reporting attack..... | 295 |
| Number of aircraft estimated in photographic evidence to have bombed within 3 miles of the aiming-point..... | 168 |

The night photographic evidence suggests that about 55% of the aircraft reporting attack bombed within 3 miles of the centre of Lorient. As the diagram shows, the main concentration was on the fully built-up and sky-rocket areas (approximately within 1 mile circle), where the proportion of attacking was about 20%, representing 59 aircraft. Smaller concentrations also occurred about 2 miles N.N.E. and 2 miles N.W. of the aiming point, while about 28% of the effort seems to have been scattered at random over the remainder of the area within the 5 mile circle and immediately outside it. The 24 photographs with bombing which have ground detail but remain unplotted are mostly of poor quality, though the majority are of open country.

Several groups of T.I. markers were photographed and the approximate positions of three have been plotted, two by the aiming point and the third about one mile to the south-east. The fact that incendiaries were light on the target at zero hour suggests that some aircraft attacked early. A few minutes later more incendiaries were photographed, and many sticks were recorded.

were recorded in the target area in the first phase of the attack. At the same time, photographs plotted in outlying areas, such as those taken by P/83, L/83, P/12 and O/425, show these areas to be clear of attack.

The first photographs taken in the second phase of the attack, beginning at zero + 75 minutes, show that fires were then burning and, to judge from the plotted photographs, these served as good guide to aircraft of the second wave, since, for the first 15 minutes, substantially all the bombing seems to have been within the 3 mile circle, where a great concentration of incendiaries was achieved. Again, aircraft plotted in outlying districts seem to have dropped their bombs wildly on areas where no attack had developed previously. There was a tendency for bombing to drift westwards in this second phase and several sticks of incendiaries were photographed near Kerlin Bastard aerodrome.

The effect of the subdivision of the attack into two waves is indicated in the table -

| | No. of A/C attacking | Photographs | | |
|--------------------------|----------------------|----------------|---------------------|-----------------|
| | | Within 3 miles | Between 2 & 5 miles | Outside 5 miles |
| Phase 1. (Z to Z + 15) | 101 | 19 | 4 | 2 |
| " 2. (Z + 75 to Z + 115) | 194 | 31 | 5 | 5 |

It will be seen that, while the proportion of aircraft plotted is rather greater in the first wave than in the second, there is no significant difference in the distribution of the attack in the two periods.

For the aircraft plotted within 5 miles, one-third recorded heavy flak and one-fifth searchlights - and approximately the same proportions hold for the unplotted aircraft. The flak intensity shows a decrease compared with the previous month.

(b) Day reconnaissance

A reconnaissance on 16/2/43 covers the results of three raids on Lorient, delivered on the nights of 4/5th., 7/8th. and 13/14th February. Details of the vast damage revealed, comprising the almost complete destructions of the town and docks, will be incorporated in Night Raid Report No. 266.

Navigation Aids (Gee)

8. Enemy interference was less effective than in the Lorient raid on the 4/5th February, but propagation over England on the outward journey was not satisfactory. Of 295 Gee sorties, 181 (61%) reported reception to the target. The Southern Chain was in operation until 23.15 hours, after which the Eastern Chain was used. The frequency was 44.9 Mc/s.

Six navigators reported the appearance of "ghosts" behind one or more of the pulses.

Defences

9. (a) Flak: Searchlights

Two cones of searchlights were observed co-operating with the guns. A moderate amount of heavy flak was fired from the north of Lorient and light flak from the dock area. The amount of flak increased during the period of attack by our first wave of aircraft. The second wave was fairly actively engaged by flak on arrival at Lorient, but the amount again declined rapidly, possibly due to the presence of night fighters over the target area.

Shortly after the second wave reached Lorient, the following aircraft were

...../observed

observed falling in flames. One of these aircraft had been seen by searchlights, and there were several observations which credited both kills to heavy flak. Six of our returning aircraft reported damage by flak.

(b) Fighters

Intercepted enemy wireless traffic did not reveal any controlled night fighter activity in the area of our operations on Lorient. Numerous sightings of enemy fighters were, however, reported on the outward route. Night fighters were encountered over the sea near the Channel Islands, over Brittany and over the target area. Searchlights and ground lights, used for track indicating, were observed over Brittany.

Four attacks and twenty-one approaches were reported by returning crews. Thirteen of these approaches and one of the attacks took place in the target area. Following this attack, the night fighter was claimed as probably destroyed.

There were no reports of night fighters operating on the return route over the sea, which lay due west without crossing the enemy coast, nearly one hundred miles into the Atlantic.

Casualties

| | | |
|-----|------------------------------|----------|
| 10. | No. of aircraft missing..... | 7(2.2%) |
| | " " Damaged (a) flak..... | 6 |
| | (b) fighter..... | - |
| | (c) not enemy action..... | 6 |
| | Total Damaged | 12(3.0%) |

In addition to the two aircraft mentioned as destroyed by flak over Lorient, it seems probable that one of the two Lancasters missing from the first wave and another aircraft from the second wave crashed near the target area, but there is no satisfactory evidence as to the cause.

There are no observations to account for the other three missing aircraft. The German High Command only claimed to have shot down three aircraft, and it seems possible that the remaining aircraft came down in the sea on the return route.

ESSEN: HALBERN

11. Two P.F.F. Mosquitoes, equipped with Obes, were despatched on nuisance raids against Essen and Halbern respectively. Both attacked their targets, each dropping 3 x 500 lb. bombs from a height of 28,000 feet through 2/10ths cloud. Details:

| Sertie No. | Target | Control Stations | | Track | Time | Time Detailed Attacked | Results |
|------------|---------|------------------|---------------|------------------|------|------------------------|-----------------------------|
| | | Tracking | Bombing | | | | |
| (i) | Essen | Walner | Trimingham I | 178 ^c | 0130 | 0124 | Fair run; accurate release. |
| (ii) | Halbern | Swingate | Trimingham II | 178 ^c | 0130 | 0127 | Fair run; accurate release. |

No opposition was encountered, and both aircraft returned safely.

APPENDIXTiming of AttackI. Pathfinder Force

18 Pathfinders reported attack, at the following times: 2014(2), 2015 (zero hour) (2), 2017 (5), 2018, 2019(3), 2020, 2021, 2023, 2024 and 2025.

Main Force1st Phase (2018 - 2030 hours)

| | |
|--|----------|
| No. of aircraft attacking within planned period..... | 78 |
| " " 0-5' late..... | <u>5</u> |
| | 83 |

2nd phase (2130-2200 hours)

| | |
|--|----------|
| No. of aircraft attacking 15-0' early..... | 7 |
| " " within planned period..... | 183 |
| " " 0-7' late..... | <u>4</u> |
| | 194 |

Bomb Loads

II. (of aircraft reporting attack on primary)

| | |
|---|------------|
| No. of aircraft carrying flares + T.I. markers..... | 7 |
| " " flares + T.I. + 4 lb. incendiaries.... | 11 |
| " " 4 lb. + 4,000 lb. incendiaries..... | 4 |
| " " 30 lb. + 4,000 lb. incendiaries..... | 2 |
| " " 4 lb. incendiaries only..... | 71 |
| " " H.E. only..... | 27 |
| " " H.E. + 4lb. incendiaries..... | <u>173</u> |
| | 295 |

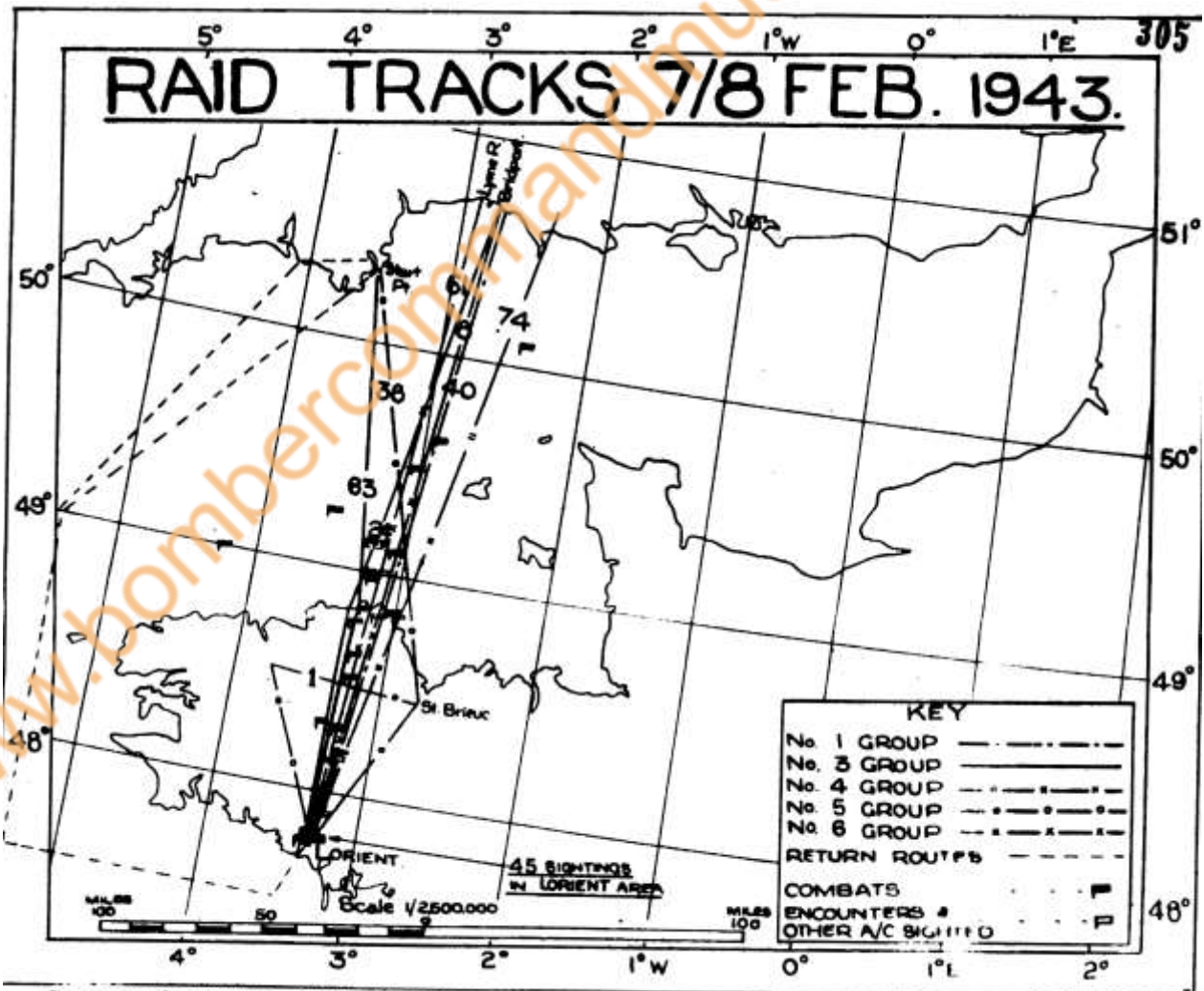
ML/VF.

BC/S. 26342/1/CRS.

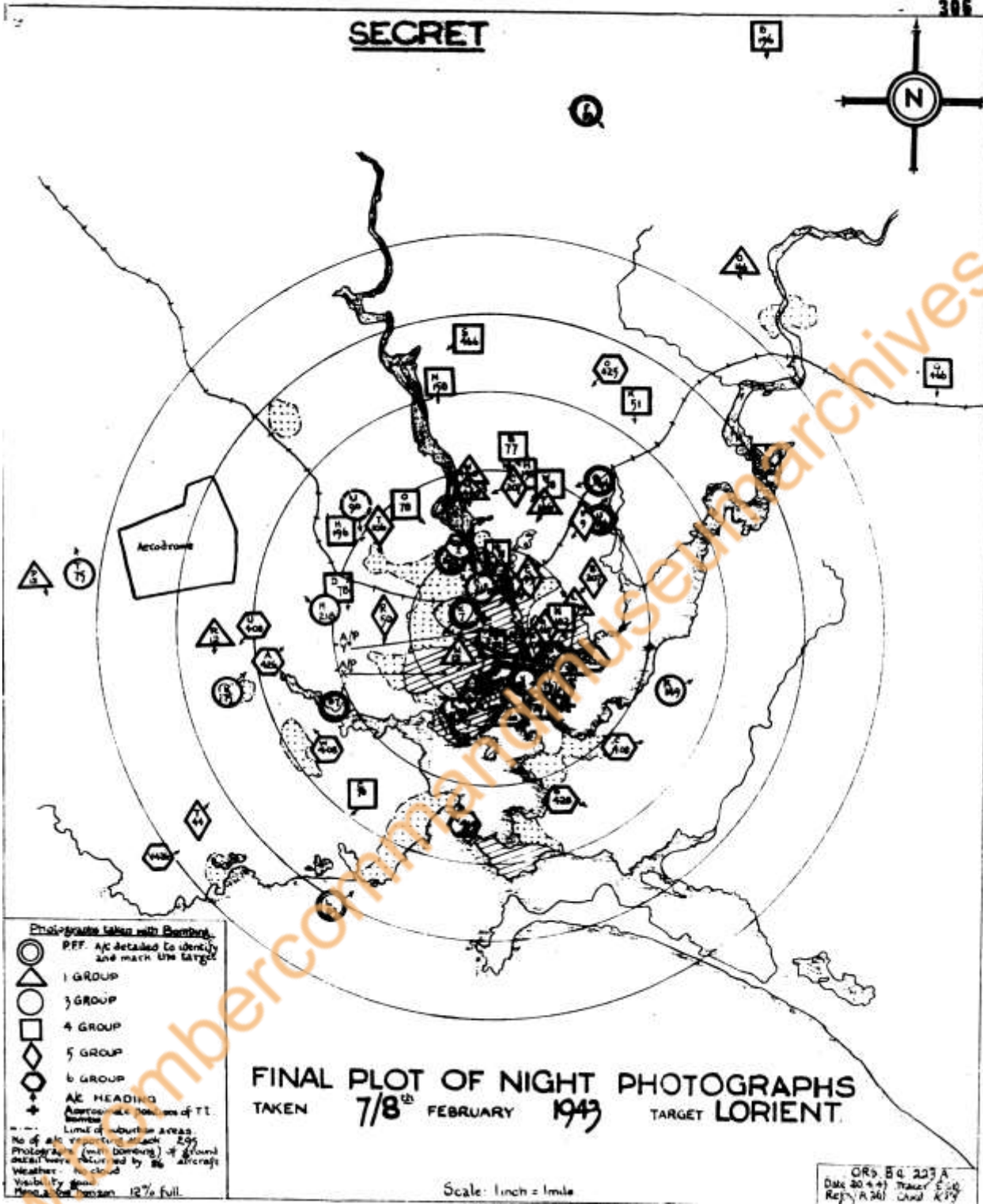
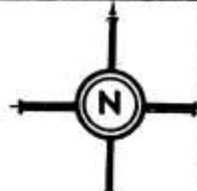
12th April, 1963.

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results |
|--------|-----------|-----------|----------|-------------------------|-----------|------------------|----------------------|---------|------------------|----------------|------------------|---------------|----|---|
| | | | | primary area | alt. area | over en. territ. | not over en. territ. | | Flak Fighter | not en. action | let-acked | not attacked | | |
| LORENT | 8 P.F.P. | Lancaster | 13(-) | 13 | - | - | - | - | - | - | - | 1 | 1 | tons of bombs 255.7 including 59x1,000 lb. + including 6,2,000 lb. |
| | | Halifax | 5(-) | 5 | - | - | - | - | - | - | - | - | - | |
| | 8 | Lancaster | 4(-) | 4 | - | - | - | - | - | - | - | - | - | |
| | 8 | Halifax | 2(-) | 2 | - | - | - | - | - | - | - | - | - | |
| | 8 | Stirling | 6(-) | 6 | - | - | - | - | - | - | - | - | - | |
| | 1 | Lancaster | 20(8) | 19(7) | - | 1(1) | - | - | - | - | - | - | 1 | |
| | 1 | W.III | 14(14) | 12(12) | - | 1(1) | 1(1) | - | - | 1 | - | - | 2 | |
| | 1 | W.IV | 5(5) | 4(4) | - | - | 1(1) | - | - | - | - | - | - | |
| | 1 | W.IV | 7(7) | 7(7) | - | - | - | - | - | - | - | - | - | |
| | 3 | Stirling | 56(41) | 51(36) | - | 1(1) | 4(4) | - | 2(1) | 1x0 | 1 | 1 | 4 | |
| | 3 | W.III | 5(5) | 4(4) | - | 1(1) | - | - | - | - | - | - | 1 | |
| | 6 | Halifax | 56(36) | 52(33) | - | - | 3(2) | 1(1) | 1x0 (1x0) | 1B | - | 1 | 3 | |
| 4 | W.IV | 18(18) | 17(17) | - | - | 1(1) | - | - | - | - | - | 1 | | |
| 5 | Lancaster | 43(32) | 39(30) | - | - | 1(1) | 3(1) | 1(1) | 2 | - | - | 1 | | |
| 6 | Halifax | 13(13) | 15(15) | - | - | 2(2) | 1(1) | - | - | 1 | 1 | 3 | | |
| 6 | W.III | 5(5) | 5(5) | - | - | 6(4) | - | 2(1) | 1x0 | 1 | 1 | 6 | | |
| LORENT | TOTAL | | 323(217) | 295(196) | - | 2(2) | 19(16) | 7(5) | 1x0+5 (1x0+3) | - | 1B+ 2x0+ 3 | 4 | 25 | |
| LOREN | 8 P.F.P. | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| LOREN | 8 P.F.P. | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| LORENT | TOTAL | | 325 | 297 | - | 2 | 19 | 7 | 1x0+5 | - | 1B+ 2x0+ 3 | 4 | 25 | |

Numbers in brackets indicate aircraft in 2nd phase of attack.



SECRET



Photographs taken with Bombers
 PFF. A/C detached to identify and mark the target

○ 1 GROUP
 △ 3 GROUP
 □ 4 GROUP
 ◇ 5 GROUP
 ⊖ 6 GROUP
 + AK HEADING
 + AIRCRAFT POSITIONS OF T.T. SERVICE
 --- Limit of suburban areas
 No of a/c reporting attack 296
 Photographs (with bombing) of ground details were observed by 26 aircraft
 Weather - no cloud
 Visibility good
 Moon a 1st moon 12% full

FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN **7/8 FEBRUARY 1943** TARGET **LORIENT**

Scale: 1 inch = 1 mile

ORs B 4 203 A
 Date 20 4 43 Tracer E 20
 Regt A 261 Unit R 29

www.ember.com/museum/archives.ca

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 8/9th FEBRUARY, 1943

MINELAYING (Danzig Bay and Bornholm)

SUMMARY

1. 6 Lancasters laid mines in their allotted areas in Danzig Bay and off Bornholm Island. All returned safely, without sustaining damage or casualties.

Metecrological Forecast

2. Occluded front at midnight:- probably from 63° N. 05° E. to Oslo to N.W. Denmark to Lincolnshire to S.Wales to 50° N. 09° W. This front will be very active, with cloud to great heights and a broad belt of bad weather.

Home Bases:- A belt of very low cloud and rain will move S.E. across bases during the night. There will be much low cloud with showers S.W. of the front, but to the N. cloud will break and lift. All Groups expect to be fit for early take-off, but 1, 4, 5 and 6 Groups may have rain with 8-10/10ths cloud at 1,000 feet for return before 2400 hours. After midnight, 10/10ths below 1,000 feet is likely, with continuous rain; these conditions may affect 6 Group by 2200 hours. Other Operational Groups should remain fit until 0200 hours, with intermittent rain and cloud based at 1,000-1,500 feet. Wind will freshen considerably in northern bases by midnight, probably reaching gale force. Visibility mainly 1-2 miles, locally 1,500 yards or less.

Germany:- W. of 11° E. and N. of 52° N: much medium cloud, broken low cloud, both decreasing southwards and eastwards and becoming relatively small in amount E. of 12° E. along the Baltic coast and in the middle Rhine. Wilhelmshaven: 10/10ths solid cloud, base 12,000 feet, tops 25,000 feet. Little low cloud. Wind, 290-300°/40-45 m.p.h.

N.Italy:- Variable amounts of cloud.

W.France:- Much layer cloud in N., small amounts in S. Lorient: about 5/10ths strato-cumulus, base 2,000 feet, much medium cloud above; moderate to good visibility.

Frisians:- As for Wilhelmshaven.

Statistics

| | | |
|-----|---|----|
| (a) | No. of aircraft despatched..... | 6 |
| (b) | " reporting mines laid in primary area..... | 6 |
| (c) | " missing..... | 0 |
| (d) | " mines laid..... | 18 |

Weather Experienced

Targets:- Very variable low strato-cumulus, generally 10/10ths at 1,000 feet with poor visibility, but one report of 2-3/10ths, with good visibility. The moon was 12% of full, and rose during the operation.

Results

6 Lancasters of 5 Group were despatched to lay mines in Danzig Bay and off Bornholm Island. All reached their targets and returned safely. 18 mines were laid. / Enemy Defences

Enemy Defences

6. Some light flak was fired near Goteburg in Sweden and from Hel. An attempt by controlled fighters to intercept aircraft in N. Denmark was heard, but no enemy aircraft were seen or encountered.

Casualties

7. None.

MLM/VP.
BC/S. 26342/6/ORS.
5th April, 1943.

| Target | Gp. | Type | Sorties | A/C reporting attack on primary area | Missing | Damage | Inter-ceptions attacked | Results |
|-------------------|--------------|--------|---------|--------------------------------------|---------|--------|-------------------------|----------|
| <u>MINELAYING</u> | | | | | | | | |
| Bornholm | 5 | Lanc.I | 2 | 2 | - | - | - | 6 Mines |
| Gdynia | 5 | Lanc.I | 1 | 1 | - | - | - | 3 Mines |
| Danzig | 5 | Lanc.I | 3 | 3 | - | - | - | 9 Mines |
| <u>MINELAYING</u> | <u>TOTAL</u> | | 6 | 6 | - | - | - | 18 Mines |

BOMBER COMMAND RECORD OF THE OPERATIONS, 9/10th FEBRUARY, 1943.Essen: Ruhrort: Minelaying (. . .)SUMMARYEssen and Ruhrort

1. 2 Mosquitoes, equipped with Oboc, were despatched after midnight on nuisance raids against Essen and Ruhrort. Both attacked their targets from 28,000 feet through 10/10ths cloud. Results were unobserved. Intense and accurate flak was encountered, but both aircraft returned undamaged.

Minelaying

15 of 21 Wellingtons from 1, 3 and 6 Groups laid 30 mines off the Dutch coast and in the Bay of Biscay. No damage or casualties were sustained, and no aircraft was lost.

Meteorological Forecast

2. Home Bases:- Rain and hail showers after dusk, with 8-10/10ths cloud, base 1,000 feet at times, tops 15,000 feet; intervals of very variable cloud with base 2,000 feet, good visibility and less frequent showers inland. Most bases should remain fit all night, although visibility will fall to fog level towards dawn in smokier areas. Moderate to high icing will be encountered in shower cloud; freezing lev 2,000 feet.

Germany:- Cold front at midnight from 63°N. 08°E. to 55°N. 11°E. to Frankfurt to Bordeaux. North sea coast and adjacent plain: convection cloud to great heights, base 1,500 feet, falling below 1,000 feet in heavy squally showers of rain or hail.

Wilhelmshaven (a) 1245 hours. Rain and solid cloud extending above 25,000 feet till 0400 hours, then improving to heavy base conditions with tops generally 15,000 feet, locally 20,000 feet or above. Route: same conditions,

(b) 1600 hours. Timing of passage of front presents great difficulties. The solid cloud from 5,000 to 20-25,000 feet is likely to clear the target area at about 0540 hours. Later consideration is required.

(c) 2200 hours. Cloud clearance at Wilhelmshaven will not take place before 0630 or even 0800 hours.

N. Italy:- Generally cloudy.

France:- As bases, with more frequent hail.

Spain:- Southern area fit for minelaying by 2300 hours; low cloud and icing precipitation in east.

ESSEN AND RUHRORT

2. 2 P.F.F. Mosquitoes were despatched to attack precise targets at Essen and Ruhrort respectively. Both reached their primaries, each dropping 3 x 500 L.C. bombs from 28,000' through 10/10ths cloud.

...../over

| Sortie No. | Target | Control Stations | | Track | Time | | Results |
|------------|---------|------------------|---------------|-------|----------|----------|--|
| | | Tracking | Bombing | | Detailed | Attacked | |
| (i) | Essen | Walmer | Trimingham I | 178° | 0030 | 0041 | Good run |
| (ii) | Ruhrort | Swingate | Trimingham II | 178° | 0030 | 0044 | Good run. House w/s undershot by 1 mile |

as
The wind was not forecast, due to the expected front not having passed. Both aircraft reported heavy flak, intense and accurate considering the height of attack, but no enemy fighters were seen. Both returned safely, without sustaining any damage.

DEBLYDG

Sorties

| | | | |
|----|-----|--|----|
| 3. | (a) | No. of aircraft despatched..... | 21 |
| | (b) | " reporting mines laid in primary area.. | 15 |
| | (c) | " abortive sorties (technical defect.....) | 3 |
| | | (weather.....) | 3 |
| | (d) | " aircraft missing..... | 0 |
| | (e) | " mines laid..... | 30 |

Weather Experienced

4. W.France:- Little or no cloud. Moon above the horizon and 30% of full. Visibility excellent.

then
Ijuiden:- Good weather to target area/6-10/10ths patchy cumulo-nimbus at 500 feet. No moon. Visibility poor.

Results

5. 21 Wellington III's of 1,3 and 6 Groups were despatched on a mining operation, 14 to the Bay of Biscay and 7 to the Dutch coast. 15 aircraft reached their targets, each laying 2 mines.

Enemy Defences

6. W.France:- The only enemy activity was a little heavy flak and a few searchlights near Lorient. No enemy night fighters were encountered.

Ijuiden:- There were no reports of any flak defences in operation.

Enemy wireless traffic did not reveal any controlled fighter activity, nor did our crews report any sightings of night fighters. The weather was bad for flying, with very low cloud base, and it appears probable that these conditions prohibited the use of night fighters.

Casualties

7. All our aircraft returned safely without receiving any damage.

MLJ/WP.
BC/S. 26342/1/ORS.
12th April, 1943.

Mission Report: Humberling (9/10th February 1942)

| Target | Group | Type | Sorties | W/O reporting attack on | | abortive sorties | | Sinking | Damage | | Interceptions | | | Results |
|----------------|----------|-------------|---------|-------------------------|-----------|------------------|--------------------|---------|--------------|---------|---------------|--------------|---|--------------------------------|
| | | | | prin. area | alt. area | over on target | not over on target | | Flak fighter | not 2/A | not looked at | not attacked | | |
| BRUN | 8 P.F.P. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | Bombs Dropped 0.7 tons H.E. |
| WERT | 8 P.F.P. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| BOMBING TOTAL | | | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| REPAIRS | | | | | | | | | | | | | | |
| ROOST | 1 | Well.III | 4 | 3 | - | 1 | - | - | - | - | - | - | - | 6 mines |
| LOOFST | 1 | Well.III | 5 | 3 | - | 2 | - | - | - | - | - | - | - | 6 mines |
| JA. KLEINE | 1 | Well.III | 5 | 5 | - | 2 | - | - | - | - | - | - | - | 6 mines |
| LA. TERRE | 3 | Well.III | 3 | 3 | - | - | - | - | - | - | - | - | - | 6 mines |
| | 6 | Well.III | 4 | 3 | - | 1 | - | - | - | - | 1 | - | - | 6 mines |
| REPLACES TOTAL | | | 21 | 15 | - | 6 | - | - | - | - | 1 | - | - | 30 mines |

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COPY NO. 16

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 11/12TH FEBRUARY, 1943.

WILHELMSHAVEN: Bochum: Hamborn: Minelaying (W. France and Frisians): Leaflets

SUMMARYWILHELMSHAVEN

1. 177 aircraft of 8, 1, 4 and 5 Groups left towards dusk for Wilhelmshaven. 137 (77.4%) reported reaching the target area, which was covered by much layer cloud, with few breaks. Accordingly, the Pathfinders adopted the skymarking technique. A good concentration of fires was observed beneath the cloud, and six minutes after zero hour the Mariensiel Ammunition Depot blew up. Over 100 acres in the vicinity were completely devastated, and much damage was caused throughout the town and docks.

3 aircraft (1.7%) did not return.

BOCHUM: HAMBORN

2 P.F.P. Mosquitoes, equipped with Oboe, were despatched to carry out nuisance raids against Bochum and Hamborn respectively. The former successfully completed its task; the latter returned owing to engine trouble. No damage or casualties were sustained.

MINELAYING

22 out of 34 aircraft of 3 and 6 Groups laid 50 mines off the Dutch Frisians, Brest, La Pallice and the Gironde estuary. All aircraft returned safely.

LEAFLETS

3 out of 5 aircraft of 91 Group dropped leaflets in the Vichy area. All aircraft returned safely.

Meteorological Forecast

2. Home Bases:- Feeble cold front approaching from the west, probably over Ireland and S. Scotland by midnight and affecting northern bases by morning; but the exact location is doubtful. Bases ahead of the front will have 6-9/10ths layer cloud at 1-2,000 feet, with occasional light rain and moderate visibility; but this will increase to 10/10ths at 1,000 feet in the region of the front, covering high ground.

Germany:- Occluded front at midnight from 61°N. 15°E. to 55°N. 16°E. to Prague to 46°N. 11°E. becoming warm to Turin and cold to 46°N. 06°E., then warm again to Wilhelmshaven to S. Norway and northwards. Much layer cloud will prevail everywhere inland over Germany. Wilhelmshaven: 8-10/10ths cloud in two layers, tops of lower layer 6-8,000 feet, bases of very thin higher cloud 12-14,000 feet. Patches of stratus near surface. Similar conditions en route, with isolated cumulus in W. North Sea, tops 8-10,000 feet, freezing level 6,000 feet, icing index moderate. Wind at 20,000 feet: 315°/60 m.p.h. backing to 270° for return.

N. Italy:- Much cloud.

W. France:- 10/10ths layer cloud with coastal drizzle, base 500-1,000 feet in N., lifting S. of 46°N. to 1,000-1,500 feet, with patches below 1,000 feet.

Frisians:- As Wilhelmshaven.

.../WILHELMSHAVEN

WILHELMSHAVENPlan of Attack

3. Zero Hour.....2000 hours.

Route briefed: 54.30N, 0600 E. - WILHELMSHAVEN - 5400 N. 0800 E. -
54.30 N. 0600 E.

Special P.F.F. aircraft were detailed to drop preliminary warning flares (green steady) 19 miles short of the target. On reaching the target, one of three marking techniques was to be used according to cloud conditions.

- (1) Nil - 5/10 cloud 14 H₂S equipped aircraft were to drop flares at 8 sec. intervals N.W. - S.E. across the target and, if the aiming point was visually identified, to ground-mark it with green T.I. markers. 21 "backer-up" aircraft were then to drop their marker bombs and H.E. together in a salvo on the aiming point and to release short sticks of flares across the target to assist the following aircraft.
- (2) 5/10-8/10 cloud The H₂S aircraft were to drop their green T.I. markers in salvo on the estimated position of the aiming point, and the "backer-up" were to aim their T.I. and H.E. at the centre of this concentration.
- (3) 8/10-10/10 cloud Skymarking: H₂S aircraft were to drop release-point flares, red with green stars, in such a position that aircraft of the main force, aiming their bombs at them on an accurate heading of 135°M., would hit the target. If this method was used, the remaining P.F.F. aircraft were to act as main force aircraft.

P.F.F. aircraft were to attack between zero and zero + 20 mins, and the main force of 150 aircraft were instructed to bomb either on the green T.I. markers or the skymarker flares, between zero + 2 and zero + 20 mins.

Timing:-

| | | | |
|----------------------------------|------------------|---------------------|------------|
| P.F.F. H ₂ S equipped | 4 at Z | P.F.F. "Backers-up" | 3 at Z + 1 |
| | 3 " Z + 2 | | 3 " Z + 2 |
| | 2 " Z + 4 | | 3 " Z + 3 |
| | 1 " Z + 5 | | 2 " Z + 4 |
| | 1 " Z + 7 | | 2 " Z + 5 |
| | 1 " Z + 8 | | 1 " Z + 6 |
| | 1 " Z + 10 | | 1 " Z + 7 |
| | 1 " Z + 12 | | 1 " Z + 9 |
| | | | 1 " Z + 10 |
| | | | 1 " Z + 11 |
| | | | 1 " Z + 13 |
| | | | 1 " Z + 14 |
| | | | 1 " Z + 15 |
| P.F.F. Main Force | 4 a/c at Z + 3 | | - Z + 20 |
| Main Force | 150 a/c at Z + 2 | | - Z + 20 |

Sorties

4. (a) No. of aircraft despatched.....177
- (b) " reporting attack on primary area.....137(77.4%)
- (c) " " alternative area..... 1(0.6%)
- (d) " abortive sorties (technical defect.....24)..... 36(20.3%)
(weather.....12)
- (e) " aircraft missing..... 3(1.7%)

...../Weather Experienced

Experienced

Home Bases:- Much layer cloud, base 1,500 feet or above in E., with breaks; very low in S.W., low patches with rain or drizzle in Yorkshire. Visibility moderate.

Route:- Much cloud in several layers, thickest in warm front about 4-5° E. in. icing reported at various levels, light at 22,000 feet, light, moderate or heavy at 12-17,000 feet.

Target:- Much layer cloud, 10/10ths below 10,12,000 feet, broken above 12,000 feet. Visibility good above cloud. Moon above the horizon and 50% of full. Wind at 17,000 feet: 290-310°/45-55 m.p.h. Surface wind: S.W. 15 m.p.h.

Line of Attack

The timing of the Pathfinders was excellent. The first sky-marker flares dropped at zero hour, and some were always visible for the next 15 minutes. The aircraft were more accurate than in previous raids, and this resulted in a high concentration. Most of the Main Force attacked within the first 5 minutes. Results could not be observed but the glow of fires beneath the flares was reflected in the clouds.

At 2006 hours, a gigantic explosion was accompanied by a tremendous flash, lit up the sky and remained for nearly 10 minutes as a huge red glow. This incident was the result of a direct hit on the Mariensiel Ammunition Depot.

1 aircraft unable to reach the primary dropped its bombs on Spiekeroog

3 aircraft (1.7.5) did not return.

Graphic Evidence(a) Night photographs taken with bombing

In the weather conditions which prevailed no photographs with ground were obtained this night. Three P.M.F. aircraft photographed what may be seen on their own T.I. markers bursting.

(b) Day reconnaissance

Sortie D/45 covers the whole of the docks and most of the town, except the west districts, on photographs of excellent scale and quality. Damage noted in K.1479 (Immediate) related to this raid and a raid by U.S.A.A.F. in January. Details are given in K.1483, which includes sorties D/69 and D/70 taken after the raids of 18/19 and 19/20, although it is stated that most damage occurred before the 13th.

The main item is an area of devastation 118 acres in extent, with damage over a much larger area, centred on the Mariensiel Ammunition Depot, which is almost completely destroyed; and stretching to the Commercial Harbour, where the Cable Works and Shipyard, several oil tanks, harbour works and other buildings were damaged. This item, together with the destruction of an oil tank at Sande, is definitely attributable to the raid of the 11/12.

Five large buildings were destroyed near the Kanal Way, and three smaller ones, totalling 7 acres, occurred among residential property near the station during the two later raids.

The rest of the damage consists of scattered incidents which cannot be easily allotted to one raid or the other. In the Naval dockyard the main building and one shed have been demolished, and five other buildings, including the house, damaged. Some 60-70 buildings in the centre of the town, and several houses in other parts, have been destroyed or severely damaged. Hits were also made on the main road near Sande, and the canal embankment wall on the N. Bank of the Hafen was partially demolished.

...../Intelligence reports

Intelligence reports indicate that the damage in the Naval dockyard was caused by the U.S. raid.

Navigational Aids (Gee)

8. Interference of various types was reported, but to no great extent, and the ranges obtained were mainly limited by the disproportionate weakness of the C signal. Of 162 GEE sorties, 123 returned useful ranges with an average of 275 miles and a maximum of 340 miles. The Eastern Chain was in operation on a frequency of 44.9 Mc/s.

Blind Bombing Aids (H₂S)

9. 8 of the 14 Y-type aircraft despatched dropped their skymarker flares according to plan. Some ground markers and illumination flares were also dropped in the hope that they might be seen through the cloud. Navigators reported that the target and bay were easily recognisable, as well as several islands and landmarks en route. More than one navigator detected a convoy in the North Sea.

2 other Y-type aircraft reached the target, but did not drop their flares. One was unable to mark because the bomb doors failed to open, and the other reverted to the role of backer-up, owing to a failure of the special equipment. All Y-type aircraft returned safely.

Defenses

10. (a) Flak: Searchlights

Searchlights were unable to penetrate the cloud, and heavy flak was only moderate in intensity, though a fair amount of light flak was fired at the marker flares. Only three of our returning a/c were damaged by flak.

(b) Fighters

Controlled night fighter activity was overheard on a small scale around Wilhelmshaven. One pursuit was recorded in which the night fighter secured a visual, but did not press home the attack. No claims were heard. There was evidence of controlled fighters patrolling further inland, especially in the Bremen and Hamburg areas.

A large number of sightings of enemy night fighters occurred, 15 approaches and 4 attacks being reported by returning a/c. Several of these encounters were over the sea, especially around a turning point eight miles out and it seems probable that much of the fighter effort was free-lance. Good visibility above heavy cloud rendered conditions favourable for free-lance fighters.

Casualties

| | | |
|-----|------------------------------|---------|
| 11. | No. of aircraft missing..... | 3(1.75) |
| | " damaged (a) flak..... | 3 |
| | (b) fighter..... | " |
| | (c) not enemy action..... | 1 |
| | Total damaged | 4 |

There were no observations of aircraft seen shot down. Two aircraft reported seeing enemy fighters firing tracer, but neither saw the result. There is no definite evidence regarding the cause of our loss of three aircraft. In view of the comparatively weak flak defenses and the large amount of fighter activity, it seems probable that night fighters were the most likely cause of our losses.

The loss of three aircraft out of a force of 177 is about average for this target.

...../Boohun: Hamborn

Bochum: Hamborn

12. 2 Mosquitoes, equipped with Oboe, were despatched to Bochum and Hamborn on nuisance raids. The former successfully attacked its target from 28,000 feet, but the latter had to return early with engine trouble. Details:-

| <u>Sortie No.</u> | <u>Target</u> | <u>Control Stations</u> | | <u>Track</u> | <u>Time</u> | | <u>Results</u> |
|-------------------|---------------|-------------------------|----------------|--------------|-----------------|-----------------|------------------------------|
| | | <u>Tracking</u> | <u>Bombing</u> | | <u>Detailed</u> | <u>Attacked</u> | |
| (i) | Bochum | Walmer | Trimingham I | 178° | 2030 | 2033½ | Excellent |
| (ii) | Hamborn | - | - | - | - | - | Abortive (engine trouble) |

Both aircraft returned undamaged.

Sorties

| | | | |
|-----|-----|---|----|
| 13. | (a) | No. of aircraft despatched..... | 34 |
| | (b) | " reporting mines laid in primary area..... | 22 |
| | (c) | " abortive sorties (technical defect.....) | 12 |
| | | (weather.....) | 8 |
| | (d) | " aircraft missing..... | 0 |
| | (e) | " mines laid..... | 50 |

Weather Experienced

14. Brest:- 10/10ths cloud at 1,000 feet or below, lowering at times to surface. Some drizzle.

La Pallice and Gironde:- 10/10ths strato-cumulus, tops 1,500-2,500 feet, base 600-700 feet.

Dutch Frisians:- Much thin layer cloud above 2,000 feet, fog patches on surface. Visibility fair. Solid cloud en route at 2,500 feet, with rain from 2°E. to 5°E.

The moon was above the horizon and 50% of full.

Results

15. 34 Stirlings and Wellingtons of 3 and 6 Groups were despatched at dusk to lay mines off the Dutch Frisians, Brest, La Pallice and the Gironde estuary. 22 reached their targets, laying 50 mines. All returned safely.

Enemy Defences

16. Sporadic flak was encountered at various points on the Frisians and along the French coast. No aircraft was hit. There is no evidence of fighter activity.

Casualties

17. None.

LEAFLETS

18. 5 Wellingtons of 91 Group were detailed to drop leaflets in the Vichy area. 2 returned early, owing to technical defects; the remaining 3 completed their task without incident. No damage or casualties were sustained.

APPENDIX (Wilhelmshaven)Timing of AttackI Pathfinder Force

All P.F.F. aircraft attacked within the planned period (2000-2020 hrs)

| | <u>H₂S equipped</u> | <u>Backers-up</u> |
|-----------|--------------------------------|-------------------|
| Zero | 1 | 2 |
| Zero + 1 | 2 | - |
| Zero + 3 | 2 | - |
| Zero + 4 | - | 4 |
| Zero + 5 | - | 2 |
| Zero + 6 | 1 | 5 |
| Zero + 7 | 1 | 2 |
| Zero + 8 | - | 2 |
| Zero + 10 | 1 | - |
| Zero + 11 | - | 1 |
| Zero + 13 | - | 2 |
| Zero + 14 | - | 1 |
| Zero + 18 | - | 1 |
| | <u>8</u> | <u>22</u> |

Main Force

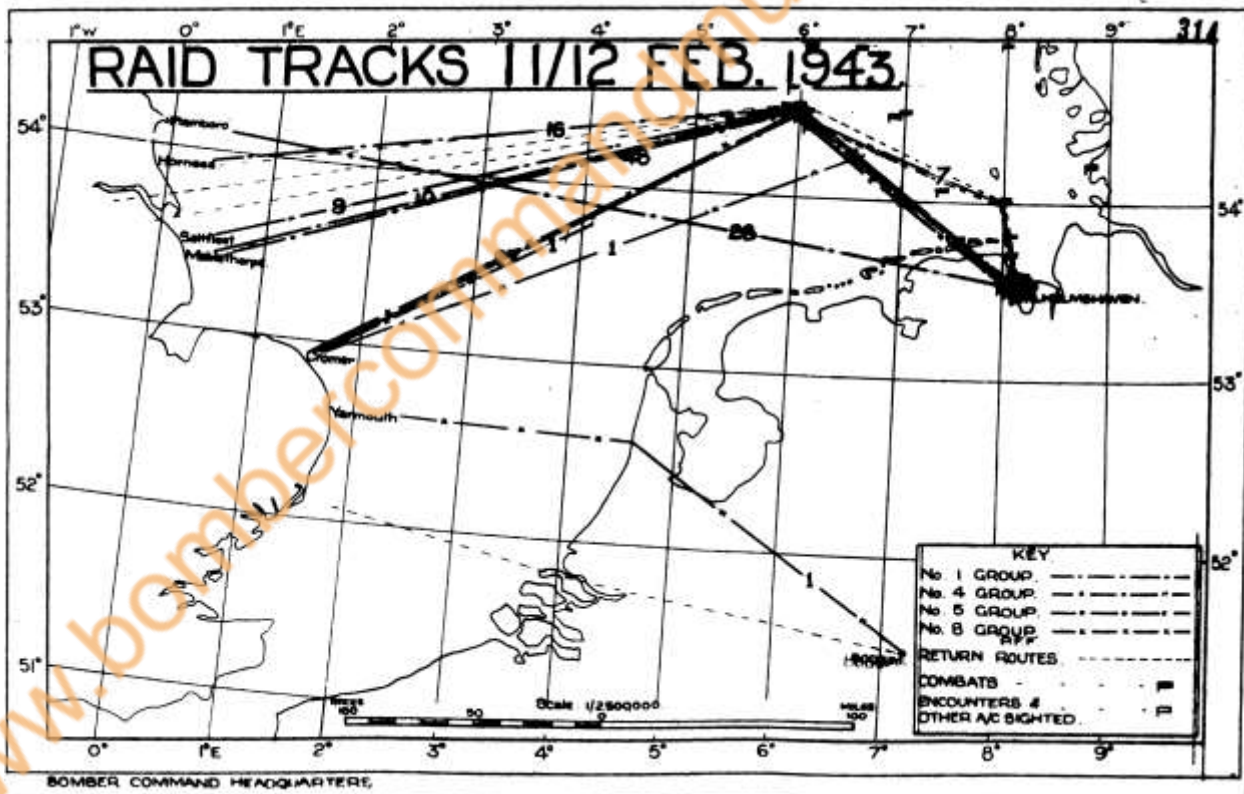
| | |
|---|-----------|
| No. of aircraft attacking 5-0 ⁰ early..... | 9 |
| " within planned period (2002-2020).... | <u>98</u> |
| | 107 |

Bomb LoadsII (of aircraft reporting attack on primary)

| | |
|---|-----------|
| No. of aircraft carrying flares only..... | 2 |
| " flares + T.I. markers..... | 7 |
| " flares + T.I. + H.E..... | 21 |
| " 4,000 lb. I.B. + 30-lb. I.B..... | 3 |
| " H.E. + 4-lb. I.B..... | 39 |
| " H.E. + 30-lb. I.B..... | 9 |
| " H.E. + 4-lb. + 30-lb. I.B..... | <u>56</u> |
| | 137 |

M.M./VF.
BC/S. 26342/2/ORS.
21st April, 1943.

| Target | Group | Type | Sorties | AC reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results |
|-------------------|---------------|-------------|---------|------------------------|-----------|------------------|----------------------|---------|--------|---------|----------------|---------------|--------------|--|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | Flak | Fighter | not en. action | attacked | not attacked | |
| WIMBORNE (W) | 8 P.F.P. | Lancaster I | 16 | 15 | 1 | 1 | 1 | 7 | - | - | - | - | - | Total of Bombs H. E. - 195.7 226.64 5.4 5.0 0.9 1.6 # including 972x, 400lb. |
| | 8 P.F.P. | Halifax | 7 | 3 | - | 1 | 3 | - | - | - | - | - | 1 | |
| | 8 P.F.P. | Stirling I | 8 | 7 | - | - | 1 | - | - | - | - | - | 1 | |
| | 8 P.F.P. | Halifax 2 | 5 | 5 | - | - | - | - | - | - | - | - | - | |
| | 8 | Lancaster I | 3 | 3 | - | - | - | - | - | - | - | 2 | 1 | |
| | 1 | Lancaster I | 42 | 35 | - | - | 6 | 1 | - | - | - | 1 | 2 | |
| 4 | Halifax 2 | 28 | 21 | 1 | - | 6 | - | 1 | - | 12 | - | 2 | | |
| 5 | Lancaster I | 41 | 29 | - | - | 10 | 2 | 2 | - | - | - | 3 | | |
| 5 | Lancaster III | 27 | 19 | - | - | 8 | - | - | - | - | - | 1 | 2 | |
| T O T A L | | | 177 | 137 | 1 | 1 | 35 | 3 | 3 | - | 12 | 4 | 15 | |
| BOCHUM | 8 P.F.P. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| H.MECHEN | 8 P.F.P. | Mosquito IV | 1 | - | - | 1 | - | - | - | - | - | - | - | (P) - |
| BOMBING TOTAL | | | 179 | 138 | 1 | 1 | 36 | 3 | 3 | - | 12 | 4 | 15 | |
| MINE LAYING | | | | | | | | | | | | | | |
| CIRCHE | 3 | Stirling I | 8 | 3 | - | - | 5 | - | - | - | - | - | 1 | 2 Mines |
| LA F.LICE | 3 | Well.III | 2 | 2 | - | - | - | - | - | - | - | - | - | 1 Mine |
| BREST | 6 | Well.III | 6 | 2 | - | 4 | - | - | - | - | - | - | - | 4 Mines |
| FRISLANS | 6 | Well.III | 18 | 15 | - | 3 | - | - | - | - | - | - | - | 30 Mines |
| MINE LAYING TOTAL | | | 34 | 22 | - | 7 | 5 | - | - | - | - | - | - | 50 Mines |
| LE PLAYS VICIN | 91 | Well.III | 5 | 3 | - | - | 2 | - | - | - | - | - | - | |
| T O T A L | | | 218 | 163 | 1 | 8 | 43 | 3 | 3 | - | 12 | 16 | | |



BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 12/13th FEBRUARY, 1943.Dusseldorf: Rheinhausen: Minelaying(Frisians):Leaflets.SUMMARYDusseldorf: Rheinhausen

1. 2 Mosquitoes, equipped with Oboe, were despatched towards dusk on nuisance raids against Dusseldorf and Rheinhausen. Both attacked their targets, each dropping 3 x 500 H.C. bombs from 28,000 feet through 10/10ths cloud. Results were unobserved. Intense and accurate flak was encountered with no searchlight co-operation. Both aircraft returned undamaged.

Minelaying

35 of 38 aircraft from 1,3, 4 and 6 Groups laid 77 mines off the Frisians and in the Heligoland Bight. No aircraft was missing, but one crashed on return, and all members of the crew were killed.

Leaflets

2 Wellingtons of 91 Group dropped leaflets in the Orleans area and returned without incident.

Meteorological Forecast

2. Home Bases:- Variable cloud, not below 1,000 feet, visibility good apart from showers, strong squally winds. Winds and showers may decrease later. Local visibility troubles towards dawn.

Germany:- Midnight fronts: (1) warm from 56°N. 26°E. to 58°N. 18°E. (tip of warm sector) becoming cold to Hamburg to Cherbourg to Brest. (2) cold front, parallel to the above mentioned cold sector and 100 miles N. of it. S. of the fronts there will be much cloud in broken layers; some clearances are possible inland. S. North Sea: violent showers, local thunderstorms with cloud base well below 1,000 feet. Very strong winds near fronts, 70-80 m.p.h.

N. Italy:- Little cloud: peaks of Alps may be clear. Wind at 15,000 feet en route will reach gale force.

W. France:- Much cloud below 1,000 feet.

Frisians:- As home bases. Best time for mining would be 1930-2030 hours.

Skaggerak-Kattegat:- Severe gales, heavy squally showers with cloud to surface.

Dusseldorf: Rheinhausen

| <u>Sortie No.</u> | <u>Target</u> | <u>Control Stations</u> | | <u>Track</u> | <u>Time Detailed</u> | <u>Attacked</u> | <u>Results</u> |
|-------------------|---------------|-------------------------|----------------|--------------|----------------------|-----------------|----------------|
| | | <u>Tracking</u> | <u>Bombing</u> | | | | |
| (i) | Rheinhausen | Triningham II | Swingate | 30° | 2015 | 2023 | Good |
| (ii) | Dusseldorf | " | " | 30° | x | 2037 | Good |

x as seen as possible after sortie (i)

...../MINELAYING

MINELAYING

4. 38 aircraft of 1,3,4 and 6 Groups were despatched in the late afternoon to lay mines off the Frisians and in the Heligoland Bight.

Variable layer cloud, base 2-3,000 feet, tops 4-5,000 feet, was encountered over the target area; this was generally 8-9/10ths, but broke at times to 2-3/10ths. The moon was 60% of full and above the horizon, and visibility was good. Wind at 2,000 feet: 280⁰/60 m.p.h.

35 aircraft reached their targets, laying 77 mines. 2 aircraft returned early, one on account of the weather and the other because of a technical defect.

Some flak was fired from ships and from the island of Schiermonnikoog. Three approaches by enemy fighters were observed, but no attacks developed. None of our aircraft sustained damage from enemy action.

No aircraft was missing, but one crashed on return, all the crew being killed. The cause is unknown.

LEAFLETS

5. 2 Wellingtons of 91 Group dropped leaflets in the Orleans area without incident. Both returned safely.

MM/VF.
BC/S. 26342/2/ORS.
13th April, 1943.

Dusseldorf, Rheinhausen, Minelaying, Leaflets (12/13 February, 1943)

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results |
|-------------------|----------|-------------|---------|-------------------------|-----------|------------------|----------------------|---------|--------|---------|----------------|---------------|--------------|---------------|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | flak | fighter | not en. action | attacked | not attacked | |
| DUSSELDORF | 8 P.F.F. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| RHEINHAUSEN | 8 P.F.F. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| BOHRING TOTAL | | | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| <u>MINELAYING</u> | | | | | | | | | | | | | | |
| FRISIAN IS. | 1 | Well.III | 18 | 13 | - | - | - | - | - | - | - | - | - | 26 Mines |
| | 3 | Stirling I | 2 | 2 | - | - | - | - | - | - | 1 | - | 1 | 12 Mines |
| | 4 | Well.X | 11 | 10 | - | - | 1 | - | - | - | - | - | 1 | 20 Mines |
| | 6 | Well.III | 9 | 7 | - | 2 | - | - | - | 1E | - | - | 1 | 14 Mines |
| HELIGOLAND BIGHT | 6 | Well.III | 3 | 3 | - | - | - | - | - | - | - | - | - | 5 Mines |
| MINELAYING TOTAL | | | 38 | 35 | - | 2 | 1 | - | - | - | 1E+1 | - | 3 | 77 Mines |
| <u>LEAFLETS</u> | | | | | | | | | | | | | | |
| ORLEANS | 91 | Well.X | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| T O T A L | | | 42 | 39 | - | 2 | 1 | - | - | - | 1E+1 | - | 3 | |

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 13/14th FEBRUARY, 1943.LORIENT: Essen: Ruhrort: Leaflets.SUMMARY.Lorient.

1. 466 aircraft were despatched to raid Lorient for the third time within 10 nights. 428 aircraft (91.8%) attacked in two waves, each lasting half an hour. The Pathfinders illuminated the target successfully in excellent weather conditions, and very considerable destruction was caused. The town and docks were left ablaze. 7 aircraft (1.5%) did not return, and 3 more crashed over England.

Essen: Ruhrort.

2 P.P.F. Mosquitoes, equipped with Oboc, carried out nuisance raids on the Ruhr. One attacked Ruhrort, according to plan; the other, detailed for Essen, experienced technical trouble and bombed a railway junction S. of Cruten visually. Despite active opposition from flak, both aircraft returned undamaged.

Leaflets.

16 out of 17 Wellingtons of 91, 92 and 93 Groups dropped leaflets in the areas of Rouen, Limoges and Paris. All returned undamaged.

Meteorological Forecast.

2. Home Bases:- Generally fit at dusk, with well broken strato-cumulus, not below 1,500 feet, and good visibility. For return at 2200-0200 hours, 1,4,5 and 6 Groups will have 6-9/10ths cloud at 1,500 feet with patches at 1,000 feet in showers. Visibility 2-6 miles. Rain may be continuous in 5 Group, necessitating diversion to S. or S.W. Other Groups, including Training Groups, will have 4-8/10ths at 1,500 feet or above.

Germany:- Northern plain, 8-11°E.: broken convection cloud, tops probably below 15,000 feet. Ruhr: broken layer cloud. Central Germany: well broken layer cloud, good visibility. E. Germany: convection cloud with good breaks, probably dispersing to small amounts over the Baltic in the lee of the high ground of Scandinavia. Winds at 15-20,000 feet: E. North Sea, 310°/100 m.p.h. W. North Sea, 320°/60-70 m.p.h.

N. Italy:- Fine. Good visibility. Wind at 15-20,000 feet: 340°/70-80 m.p.h.

W. France:- Small amounts of strato-cumulus, probably less than 5/10ths, base 2,000 feet, tops 4,000 feet; but there is a risk of 10/10ths, even by 2030 hours. Good breaks early. Route: broken strato-cumulus from 2,000 to 4,000 feet, increasing to large amounts at 1,500-2,500 feet by 2200-0200 hours.

LORIENT.Plan of Attack.

3. Zero hour..... 2030 hours.

The attack was planned in 2 phases as follows:-

Weather Experienced

5. Home Bases:- Very variable layer cloud, base 1,500-2,000 feet. Moderate to good visibility.

Route:- Very variable cloud, averaging 5-7/10ths (tops 5,000 feet) to 50°N., thence breaking to 0-3/10ths. Visibility good. Engine icing on ascending through cloud. Average wind: 300°/40-50 m.p.h.

Target:- 0-4/10ths cloud, base 2,000 feet, tops 4,000 feet. Good visibility, apart from local smoke haze on surface. Moon above the horizon and 69% of full. Surface wind: 300°/5-10 m.p.h.

Narrative of Attack

6. 428 aircraft (91.8%) reported attack. The Pathfinders illuminated the target continuously for 15 minutes from zero hour, without achieving any particular concentration near the aiming-point. (Of the 7 plotted by photographic evidence, 1 is shown to have been within 1 mile, and 5 more within 1½ miles). Visibility was so good, however, that the Main Force was able to deliver an accurate attack. Aircraft of the second wave found ground detail obscured by smoke from fires raised by the earlier force; this resulted in a slight scatter of bombing. But 18 large fires were counted in the vicinity of the aiming-point as the first wave of aircraft left, and by zero + 60 minutes the whole target area was reported to be ablaze.

Landmark flares were dropped continuously over l'Île de Groix, although in the excellent conditions these turned out to be superfluous.

7 aircraft (1.5%) did not return.

Photographic Evidence7. (a) Night photographs taken with bombing

| | |
|--|-----|
| With ground detail, plotted..... | 133 |
| " " " unplotted..... | 56 |
| With fire-tracks only, unplotted (no fire plot undertaken) | 112 |
| Photographs plotted within 3 miles..... | 106 |
| " " between 3 and 5 miles..... | 23 |
| " " outside 5 miles..... | 4 |
| " probably of target area..... | 3 |
| " showing sea only..... | 5 |
| Number of aircraft reporting attack..... | 428 |
| Number of aircraft estimated to have bombed within 3 miles of the aiming-point on photographic evidence..... | 250 |

The night photographic cover for this night, obtained under clear weather conditions, is very complete, enabling more photographs to be plotted by ground detail than for any previous operation. Furthermore, a great many of the exposures which show fire-tracks only, would undoubtedly be plotted on the target if a fire-plot were undertaken. The quality of the photographs suggests that conditions over the target were very unfavourable for photography in the second half of the attack, owing to widespread smoke from fires and bomb-bursts. The estimate of 60% for the proportion of aircraft bombing within 3 miles is quite possibly an underestimate.

The attack began a little early, for a few sticks of incendiaries were photographed alight in the target area 5 minutes before zero hour. As the

...../operation

operation developed, a great many sticks of incendiaries and bomb-bursts were photographed over the whole of Lorient, the docks and shipyards. About 12% of the photographs with ground detail have been plotted between 3 and 5 miles, with a small concentration of attack on Port-Louis. Approx. 30% remain uncharted - some of these, however, are of very poor quality and may well be within 5 miles.

Several groups of T.I. bombs were photographed at Lorient. These were successful in drawing the attack. The proportion of dispersed bombing in the second phase of the operation, when aircraft approached from the north, is rather higher than for the first phase. This is no doubt largely due to the fires caused by incendiaries which had fallen as wide as 3 miles or more from the aiming-point, as well as to the smoke-pall which developed over the target when the attack had been under way for some time.

The photographs indicate that flak was slight, showing a general decrease since January. Out of a sample of 116 aircraft plotted within 5 miles, one quarter show heavy flak and one-sixth searchlights.

(b) Day Reconnaissance

Sortie D.34, taken on February 16th, covers the whole town, docks and aeroman pens on good quality photographs, with the exception of the railway station in the north and the east bank of the Scorff, which is partly cloud-covered. Preliminary examination of the photographs reveals that a vast amount of damage was caused during the 3 raids of 4/5th, 7/8th and 13/14th February.

Sortie D.54, taken on the 19th, which again provided full cover, reveals only a small amount of fresh damage. Report No. K.1480 discusses the results of all 4 raids, but it is difficult to distinguish this from previous damage. Broadly speaking, it appears that more than half the total damage was caused in the February raids, chiefly in the first three. The total damage at Lorient and Keroman is so severe that the Town and Docks are virtually destroyed.

In the old Town, which consists of 60-70 acres of closely built-up area, 95% of buildings have lost their roofs and all the public buildings are severely damaged or destroyed. Between the Old Town and the estuary is the Arsenal, and in this area also the greater part of the buildings are totally destroyed, hardly any have completely escaped. Immediately to the south is an area of commercial and residential property, which has been almost completely devastated. Further south still is the area containing the Keroman Peninsula and the island of San Michele. On the latter, 75% of the barracks and other buildings have been demolished, and on the peninsula the main points of damage include the dock railway station, offices, cement stores, cold storage and Plonbard Briquette works. There is no damage to the submarine pens, apart from 4 shallow craters.

To the north of the Old Town lies a residential area which, although sustaining considerable damage, is probably the least affected district. However, it contains the main and local railway stations and the Goods Station, all of which have been damaged.

The Probault Barracks and adjoining residential property have been practically completely destroyed, and the village of Kerquier is about 40% gutted.

To the east of the river Scorff is an area containing workshops and covered slips. The workshops have been damaged in several places and several huts in the Camps des Indo-Chinois are destroyed.

Navigational Aids

8. Both Southern and Eastern Chains were in operation as follows:-

| <u>Time</u> | <u>Eastern Chain</u> | <u>Southern Chain</u> |
|--------------|----------------------|-----------------------|
| To 1700 | 44.9 Mc/s | Off |
| 1700-1930 | Off | 44.9 Mc/s. |
| 1930-2230 | 48.75 | 44.9 |
| 2230 onwards | 44.9 | 48.75 |

Interference due to enemy action was most marked over the Brest Peninsula, but was not serious. A break through occurred when both frequencies were being transmitted at the same time, and reports were received of the reception of double signals. This undoubtedly caused trouble but, of 400 Gee sorties, 225 (56%) reported reception to the target.

Defences

9. (a) Flak: Searchlights

Initially, twenty to thirty searchlights operated in small efficient cones, but as the raid proceeded their co-ordination was reduced. Heavy gun defences were mainly to the north of Lorient, and on Île de Groix. Early arrivals over the target reported considerable and accurate heavy flak, both unseen and in co-operation with searchlights. The volume of flak decreased as the raid proceeded, and this may have been associated with the use of night fighters over the target area. There were several reports of flak defences in operation at various points on the Breton peninsula.

Fourteen of our returning aircraft were damaged by heavy flak, nearly all over the target area. Three Stirlings received flak damage whilst they were held in searchlight cones. In two of these cases each aircraft was hit by at least two bursts.

(b) Fighters

Enemy wireless traffic did not reveal any controlled night fighter activity in the area of our operations on Lorient. There was, however, a very large number of sightings of night fighters en route over Brittany and in the target area. Not one of our returning aircraft was attacked, but there were thirty-eight approaches and five followings reported by our crews. Fourteen of these approaches took place over the target area. There was no evidence of searchlight co-operation over Lorient except in one approach, where the fighter had been orbiting a searchlight to the south east of the target.

All Groups, with the exception of 5 Group, returned over the Breton peninsula and encountered night fighters. The Lancasters of 5 Group took a route out into the Atlantic and home entirely over the sea. There were no reports of night fighter activity on this route.

Casualties

| | |
|----------------------------------|----------|
| 10. No. of aircraft missing..... | 7 (1.5%) |
| damaged (a) flak..... | 14 |
| (b) fighter..... | - |
| (c) not enemy action..... | 7 |
| Total damaged..... | 21(4.5%) |

The first wave consisted of 237 aircraft, five of which were missing, while the second wave had only two aircraft missing out of 229 despatched. There were several observations of aircraft seen to crash. One aircraft of the first wave was coned over Lorient and crashed in flames following:

...../engagement by heavy

engagement by heavy and light flak. A night fighter was probably responsible for another bomber which crashed in flames twenty miles north of Lorient,

It is not possible to state the cause of the other three aircraft missing from the first wave, but crashes were observed near l'Île de Groix, near Rostronen and twenty miles south of Lannion. One Lancaster of the second wave was observed to explode in the air over Lorient without evidence as to cause. The other Lancaster was possibly lost on the outward journey near Pontivy to a night fighter, when searchlights were used as track indicators.

Three of our aircraft crashed on their return. A Lancaster (W4836) of 12 Squadron flew into the ground near Binbrook with its undercarriage down, became a total wreck. There were no survivors and the crash was presumed to be due to enemy action.

There was a collision in the air over Somerset between a Halifax (W1182) of 158 Squadron and a Wellington (BK.460) of 166 Squadron. Both aircraft crashed and became total wrecks. There were no survivors from the Halifax, but four of the crew of the Wellington escaped by parachute.

ESSEN: RUHRORT

11. 2 P.F.F. Mosquitoes, equipped with Oboe, were despatched to carry out nuisance raids against Essen and Ruhrort respectively. The latter aircraft attacked according to plan; the former was prevented from doing so by a technical defect, and visually bombed a railway junction 1,000 yards S. of Gruten. Both aircraft experienced fairly intense flak, especially at Essen, where one shell burst within 100 feet. No damage was sustained, however, and both aircraft returned safely to base. Details:-

| Sortie No. | Target | Control Stations | | Track | Time | | Result |
|------------|---------|------------------|---------------|------------------|----------|----------|---|
| | | Tracking | Bombing | | Detailed | Attacked | |
| (i) | Essen | Swingate | Triningham II | 178 ⁰ | 2100 | 2056 | Failure: mechanical cause prevented bombing; signal being given |
| (ii) | Ruhrort | Walmer | Triningham I | 178 ⁰ | 2100 | 2100½ | Excellent |

LEAFLETS

12. 16 out of 17 Wellingtons of 91, 92 and 93 Groups dropped leaflets in the areas of Rouen, Limoges and Paris. The remaining aircraft returned early with engine trouble. Flak defences were active near Cherbourg, where one of our aircraft was approached by a night fighter, but the enemy aircraft was lost through evasive action. No damage or casualties were sustained.

APPENDIX (LORIENT)

Timing of Attack

I. Phase I

Section 1 18 of the 19 marker aircraft dropped their flares between zero hour and zero + 16 minutes, at the following times: zero, zero + 2(2), zero + 3, zero + 6, zero + 8(3), zero + 9, zero + 10(4), zero + 11, zero + 12, zero + 14, zero + 16.

The remaining marker dropped its flares at zero + 26 minutes.

...../Section 2

Section 2

| | |
|--|------------|
| No. of aircraft attacking 20-0' early..... | 5 |
| " within planned period..... | 183 |
| " 0-15' late..... | 4 |
| | <u>192</u> |

Section 3

| | |
|---|------------|
| One aircraft attacked 16' early..... | 1 |
| No. of aircraft attacking 5-0' early..... | 6 |
| " within planned period..... | 169 |
| " 0-15' late..... | 40 |
| One aircraft attacked 27' late..... | 1 |
| | <u>217</u> |

Bomb Loads (Lorient)

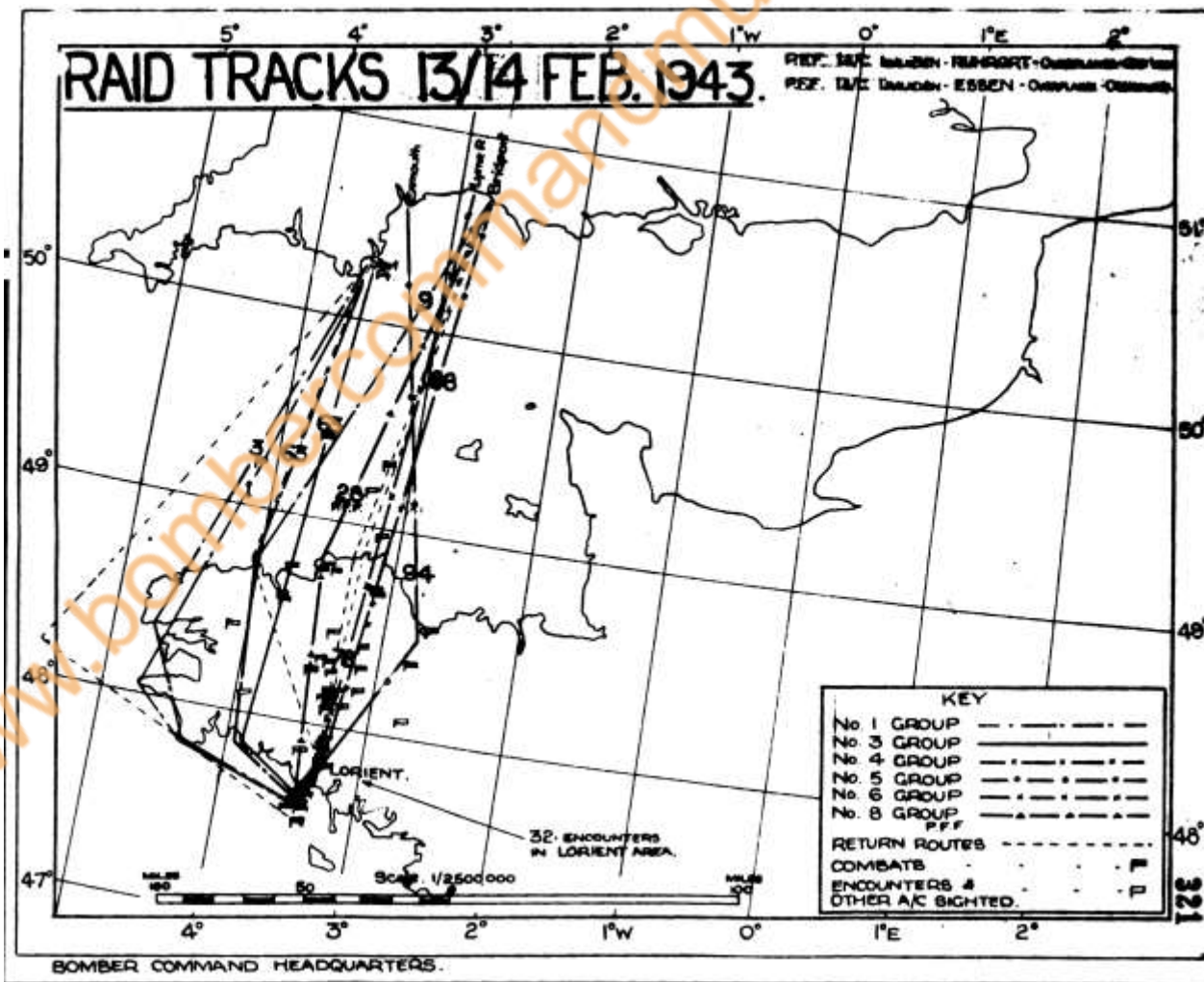
II (of aircraft reporting attack on primary)

| | |
|---|------------|
| No. of aircraft carrying flares only..... | 1 |
| " flares + T.I. markers..... | 1 |
| " flares + T.I. + H.S..... | 3 |
| " flares + T.I. + 4,000 lb. I.B..... | 14 |
| " 4 lb. I.B. only..... | 58 |
| " H.E. only..... | 52 |
| " H.E. + 4 lb. I.B..... | 63 |
| " H.E. + 4 lb. + 30 lb. I.B..... | 155 |
| " H.E. + 30 lb. I.B..... | 28 |
| " 4 lb. + 30 lb. I.B..... | 50 |
| " 30 lb. I.B. + 4,000 lb. I.B..... | 3 |
| | <u>428</u> |

MLM/VF.
EC/S. 26342/6/ORS.
23rd April, 1943.

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results | |
|-----------|----------------|--------------|---------|-------------------------|-----------|------------------|----------------------|---------|---------|---------|---------|---------------|--------------|---|---|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | flak | fighter | not R/a | attacked | not attacked | | |
| LORIENT | 8 P.F.F. | LANCASTER I | 14 | 14 | - | - | - | - | 1 | - | - | - | 2 | Tons of Bombs H.E. 529.6* (61), 3 A including 528,000 lb. 724,000 lb. (A) 7.6 11.9 (M) 4.0 3.0 (2M) | |
| | 8 P.F.F. | HALIFAX 3 | 6 | 5 | - | - | - | 1 | - | - | - | - | - | | |
| | 8 | LANCASTER I | 3 | 3 | - | - | - | - | 1 | - | - | - | - | | |
| | 8 | STIRLING I | 2 | 2 | - | - | - | - | - | - | - | - | 2 | | |
| | 1 | LANCASTER I | 44 | 43+1M | - | - | - | - | 1 | - | 1E | - | 11 | | |
| | 1 | Well.III | 29 | 26 | - | - | - | 2 | 1 | - | 1E | - | 4 | | |
| | 3 | Well.IV | 13 | 13 | - | - | - | - | - | - | - | - | 4 | | |
| | 3 | STIRLING I | 58 | 54 | - | - | - | 3 | 1 | 2d0 +3 | - | - | - | | 4 |
| | 3 | Stir. III | 6 | 6 | - | - | - | - | - | - | - | - | - | | 1 |
| | 3 | Well.III | 5 | 4 | - | - | - | - | 1 | - | - | - | - | | - |
| | 4 | HALIFAX II | 29 | 27+1M | - | - | - | 1 | - | - | 1A0 | - | - | | 8 |
| | 4 | HALIFAX I | 37 | 37 | - | - | - | - | - | - | 1E | - | - | | 3 |
| | 4 | Well.X | 22 | 22 | - | - | - | - | - | - | - | - | - | | 1 |
| | 5 | LANCASTER I | 53 | 47 | - | - | - | 6 | - | - | - | - | - | | 2 |
| 5 | LANCASTER III | 50 | 47 | - | - | - | 1 | 2 | 1 | - | - | - | 2 | | |
| 6 | HALIFAX II | 24 | 18 | - | - | - | 6 | - | 2 | - | - | - | - | | |
| 6 | Well.III | 71 | 60 | - | - | - | 1 | - | - | 2d0 +1A | - | - | - | | |
| | TOTAL | | 466 | 428+2M | - | - | 1 | 28 | 7 | 2d0 +12 | - | - | 44 | | |
| ESSEN | 8 P.F.F. | Messersch IV | 1 | - | 1 | - | - | - | - | - | - | - | - | (A) 0.7 tons H.E. | |
| ESSEN | 16 P.F.F. | Messersch IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (M) 0.7 tons H.E. | |
| | BOMBING TOTAL | | 468 | 429+2M | 1 | 1 | 28 | 7 | 2d0 +12 | - | - | - | 44 | | |
| GLASFLETS | 91 | Well.III | 3 | 3 | - | - | - | - | - | - | - | - | - | | |
| BOURN | 91 | Well.X | 2 | 2 | - | - | - | - | - | - | - | - | - | | |
| LEHAGES | 92 | Well.III | 4 | 4 | - | - | - | - | - | - | - | - | - | | |
| PARIS | 93 | Well.III | 7 | 6 | - | - | 1 | - | - | - | - | - | - | | |
| PARIS | 93 | Well.X | 1 | 1 | - | - | - | - | - | - | - | - | - | | |
| | LEAFLETS TOTAL | | 17 | 16 | - | - | 1 | - | - | - | - | - | - | | |
| | TOTAL | | 485 | 445+2M | 1 | 1 | 29 | 7 | 2d0 +12 | - | - | - | 45 | | |

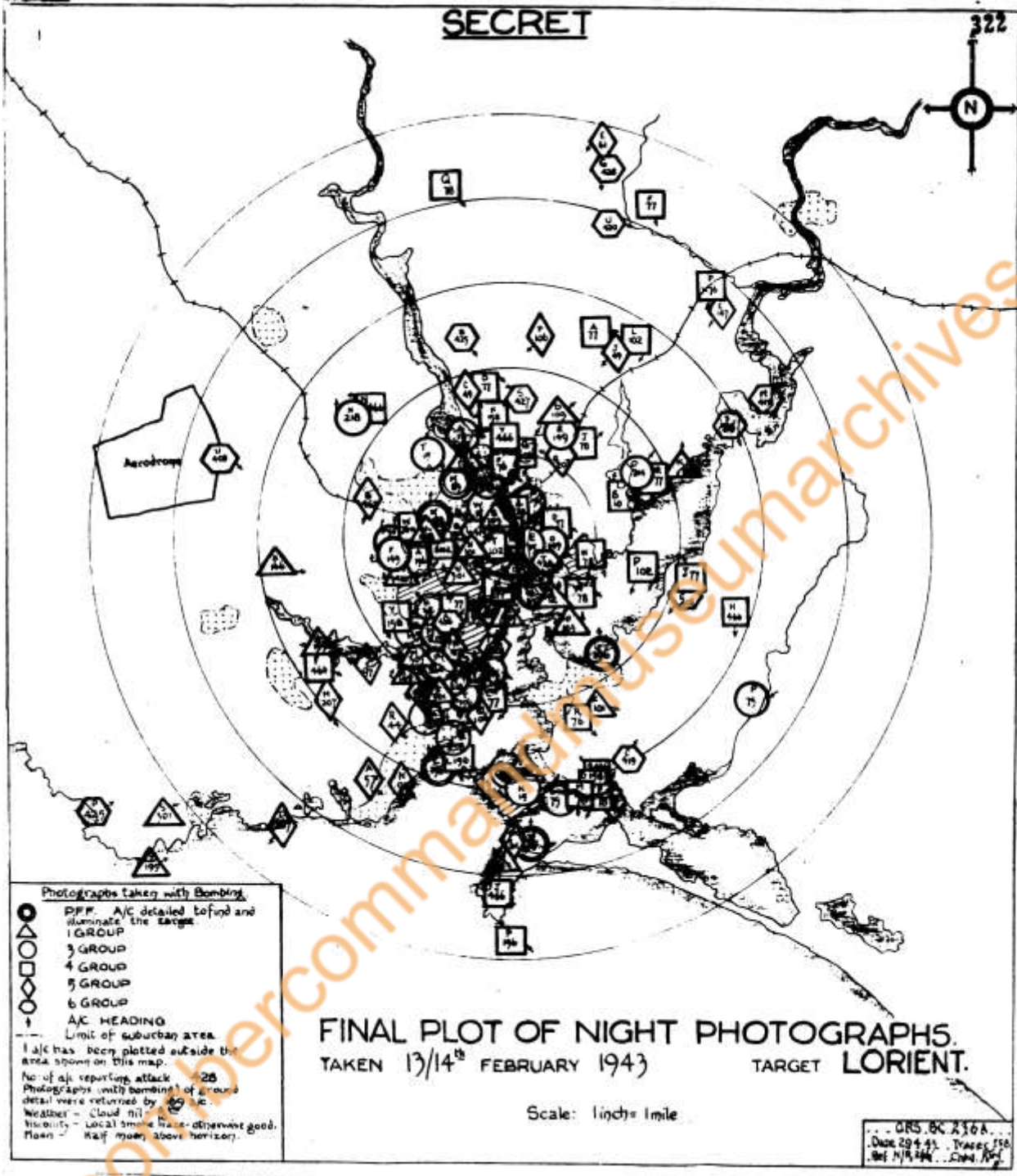
* Result unknown



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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 14/15TH FEBRUARY, 1943.

COLOGNE: MILAN: Spezia

SUMMARYCologne

1. 243 Stirlings, Halifaxes and Wellingtons set out to attack Cologne for the second time within a fortnight. The target was covered with 10/10ths cloud, but, above this, visibility was excellent. 13 H2S-equipped aircraft dropped skymarker flares in 3 or 4 clusters, scattered over a distance of 5 to 6 miles, and these were easily recognised by the Main Force, which reported a good concentration of bombing. Results could not be observed, and no plottable night photographs were returned. A reconnaissance covering the effects of this, one previous and one subsequent raid revealed widespread damage, including the gutting of 7½ acres of Pohlis A.G. (Machinery).

208 aircraft (85.6%) reported attack. 9 aircraft (3.7%) did not return, but our gunners claimed to have destroyed 3 fighters and probably 3 more, as well as damaging several others.

Milan

142 Lancasters of P.F.F., 1 and 5 Groups were despatched to Milan, which had not been raided by night since 24/25th October, 1942. A most successful ground-marking attack was delivered, and reconnaissance revealed very considerable damage, including the total or partial destruction of at least 27 factories.

122 aircraft (86.0%) reported attack. 2 aircraft (1.4%) did not return.

Spezia

4 P.F.F. Lancasters tested the effects of 4,000 lb. bombs fitted with a special proximity fuse by dropping 4 of them on the Italian naval base at Spezia. Reconnaissance revealed severe local destruction, and minor roof damage scattered over a wide area. All our aircraft returned undamaged.

Meteorological Forecast

2. Home Bases:- S. and S.W. will have much low cloud at about 1,000 feet, with occasional drizzle; this may spread to 2 and 3 Groups. Further N., broken cloud above 1,000 feet; moderate visibility, apart from very local smoke troubles. All Operational Groups will be fit for early take-off and for return until midnight. Afterwards a deterioration is likely as a result of the cold front but (Pampa-2025 hours) a number of bases should be available for return at 0330 hours. No diversions S. of 51°N.

Germany:- Cold front at midnight in Wilhelmshaven area, giving thick medium cloud to 25,000 feet. Ruhr and Rhine areas: much low cloud to 8-10,000 feet, well broken medium cloud above. Essen: 6-9/10ths, base 1,500, tops about 5,000 feet. Possibly 10/10ths. Cologne: 9/10ths cumulus, tops 5,000 feet. Well broken layers above.

...../N.Italy:-

N. Italy:- Little or no cloud, moderate good visibility. Alps uncertain (Pampa returned with engine trouble); probably much cloud, some peaks likely to be clear. Winds at 15-20,000 feet: Channel area, 290°/60 m.p.h. veering to 360°/50 m.p.h. and then to 020°/55-60 m.p.h. on direct route; over Central France, 340°/45-50 m.p.h.

COLOGNE

Plan of Attack

3. Zero hour: 0315 hours.

Route briefed: Noordland - 5056N. 0605E. - COLOGNE - same return.

As it was expected that there would be 10/10ths cloud over the target, the attack was planned accordingly. 15 H2S-equipped aircraft of P.F.F. were first to drop one bundle each of green steady warning flares at position 5056N. 0630 E. in order to indicate the correct line of approach. These aircraft were then to drop release-point flares, red with green stars, in such a position that aircraft of the main force, bombing them on a heading of 095 M. at an I.A.S. of 165 m.p.h., would concentrate on aiming point "A". If cloud conditions allowed, these flares were to be dropped at 12,000 feet but in any case they were to be clear of the cloud. The total bomb load was to be in a proportion of 2/3rds incendiaries to 1/3rd H.E. The timing of the attack was to be as follows:-

22 a/c of P.F.F. (including 15 Y a/c).....zero - zero + 15.

228 main force aircraft.....zero + 1 - zero + 16.

Sorties

4. (a) No. of aircraft despatched.....243
 (b) " reporting attack on primary area.....208(85.6%)
 (c) " " alternative area.... 4(1.6%)
 (d) " abortive sorties (technical defect19)
 (intercepted by E/A..... 2).... 22(9.0%)
 (cause unknown.....1%)
 (e) " aircraft missing..... 9(3.7%)

1 aircraft crashed soon after take-off-no survivors,

Weather Experienced

5. Home Bases:- Up to 2200 hours: much low stratus below 1,000 feet S. of Thames-Govern, patches of low cloud with showers in Yorkshire.

2200-0200 hours: all operational and training bases fit, with occasional light rain in Yorkshire.

From 0200 hours: a cold front advanced S.E.'wards over England, reaching Humber-Carlisle Bay by 0500 hours, but giving only light rain in Yorkshire with cloud not below 1,500 feet. At the same time, low stratus with drizzle spread backwards into 91 and 92 Groups.

Visibility was good. Strong westerly winds.

Route:- Much strato-cumulus, tops generally 6,000 feet, breaking at times over sea to 5/10ths. Winds: at 10,000 feet, 290-300°/50-60 m.p.h.: at 6-10,000 feet, 290°/40 m.p.h.

Target:- 10/10ths cloud, tops 6-10,000 feet.
 Very good visibility above cloud.
 Moon above the horizon and 77% of full.
 Surface wind: $\sqrt{20}$ m.p.h.

...../Narrative of attack

Narrative of Attack

6. The Y aircraft dropped their first sky-markers punctually at zero hour, and the timing of the whole Main Force was excellent. Flares were visible for the next 15 minutes. Crews' observations indicate that they were in 3 or 4 clusters, scattered over a distance of 5 to 6 miles, but there is no photographic evidence to determine their accuracy. The enemy is believed to have fired up some coloured flares to the north of the target as a decoy.

All but 14 of the Main Force aircraft attacked within the planned period. Results could not be observed, but a considerable glow was reflected on the cloud.

208 aircraft (85.6%) reported attack. 4 aircraft attacked alternative targets, in the areas of Roermond, Turnhout, Grotenrath and Overflakkee Island.

9 aircraft (3.7%) did not return.

Photographic Evidence

7. (a) Night Photographs

None of the photographs taken with bombing showed any ground detail. The target was entirely obscured by cloud.

(b) Day Reconnaissance

Reconnaissance were undertaken on 27th and 28th February 1943. Considerable scattered damage was revealed throughout Cologne, especially in the South. At least 11 factories were hit and two-thirds of the Pohlig (A.G.) were destroyed. The effects of this and two other major raids on the nights of 2/3rd, and 26/27th February are detailed in a single summary which will be incorporated in Night Raid Report No. 277.

Navigational Aids (Gee)

8. The Eastern Chain was used on the Carolina frequency. The route lay across/heavily-jammed Scheldt estuary and the average range obtained on Gee was only 220 miles. K of 77 Squadron obtained the maximum range - 292 miles. Of the 221 Gee aircraft despatched, 166 used Gee successfully. There was no consistent trend in the reports of the relative signal strengths.

Blind Bombing Aids (H2S)

9. 8 Stirlings of 7 Squadron and 6 Halifaxes of 35 Squadron were equipped with H2S. 3 aircraft experienced difficulty with the special equipment; 4 attacked on the sky-marker flares. The remaining 11 operated according to plan. 10/10ths cloud made photography impossible and there is therefore no direct check on the accuracy of the sky-markers, but reports indicate that, with the exception of one or two to the north, a good concentration was achieved. From the navigational aspect, the equipment proved very valuable in view of the difficult weather conditions. Many good landmarks were recognised, and once again a convoy was observed in the North Sea.

Defences

10. (a) Flak: Searchlights

The heavy gun-defences at Cologne were reported to be firing both predictor-controlled flak at individual aircraft and barrage around the P.F.F. marker flares. Up to 30 searchlights were in operation, but they were unable to pierce the cloud and were apparently used to illuminate it, thereby possibly assisting the night fighters present over the target area.

...../Flower Flak

Heavy flak was also encountered over the Dutch and Belgian coastal region.

Eighteen of our returning aircraft were damaged by heavy flak. Most of this damage was minor and was sustained in or near the target area.

(b) Fighters

The night fighter activity, in the area of our operations, was on a large scale, favoured no doubt by the bright ^{moon} and good visibility above the clouds. Our returning crews reported details of over eighty interceptions, which occurred as follows:-

| | Attacks | Approaches | Followings |
|-------------|---------|------------|------------|
| OUT | 9 | 20 | 3 |
| Target area | - | 10 | - |
| Home | 10 | 27 | 4 |
| | 19 | 57 | 7 |

Enemy wireless traffic revealed controlled fighter activity, although the R/T traffic was only fragmentary and subject to marked interference.

There were at least twelve pursuits and probably six successes.

Despite the large number of interceptions and combats, only four of our returning aircraft were damaged by enemy fighters. Our gunners had one of their most successful nights and claimed damage to 15 fighters, as follows:-

| | |
|--------------------|----|
| Destroyed | 3 |
| Believed destroyed | 3 |
| damaged | 5 |
| Believed damaged | 4 |
| Total | 15 |

Casualties

| | | |
|-----|------------------------------|-----------|
| 11. | No. of aircraft missing..... | 9 |
| " | " damaged (a) flak..... | 18* |
| | (b) fighter..... | 4* |
| | (c) not enemy action..... | 3 |
| | Total damaged | 24 (9.6%) |

* including 1 damaged by both flak and fighter.

Enemy wireless traffic revealed that six of our aircraft were probably shot at by controlled fighters and, in view of the large amount of fighter activity, this claim appears reasonable. Over Cologne, there were observations of one aircraft probably shot down by heavy flak. Nothing is known as to the cause of loss of the other two missing aircraft.

Three of our aircraft crashed in this country and became total wrecks. A Halifax (158 Q) crashed soon after take-off and there were no survivors. The port outer engine of another Halifax (466 U) caught fire when nearing base. The pilot lost control and the aircraft crashed, killing one member of the crew. A Wellington (466 G) ran short of petrol in the main tanks; in changing over to the reserve tank supply the engine cut, the aircraft crashed, killing one member of the crew and seriously injuring three others. It is presumed that none of these three crashes was due to enemy action.

A missing rate of 9.7% is rather low for this target. A striking feature was the exceptionally high number of attacks and approaches reported, compared with the number of aircraft missing. Our gunners, in day/night fighters, had a successful night, but this would not account entirely for the lack of success in enemy combats. The moonlit cloud below the bombers, which

...../would

would have reduced fighters attacking from below easily visible, was no doubt a contributory factor.

MILAN

Plan of Attack

12. Zero hour.....2230 hours

Route briefed:- Croyaux - Troyes - Lac Bourget - MILAN - Lac Bourget - Colbeurg.

10 P.F. aircraft, none of which carried special equipment, were detailed for this target. They were to drop two lots of navigational flares en route, green over Lac du Bourget and red at position 4555N. 0834E. On reaching the target, 4 aircraft were to locate the aiming-point using, if necessary, single bundles of white flares for searching purposes, and to illuminate it with flares dropped at 8-second intervals. All P.F. aircraft were then to ground-mark the aiming-point by dropping T.I. red markers with maximum precision at regular intervals throughout the attack. When the initial illumination had ceased and the aiming-point was no longer visible, the T.I. markers were to be aimed at the centre of the concentration of these already on the ground. If neither the aiming-point nor the T.I. markers were visible, fresh illuminator flares were to be dropped and the aiming-point remarked with T.I. bombs.

The main force, of approximately 145 aircraft from 4 and 5 Groups, was instructed to bomb the concentration of red ground-markers.

Timing:- 10 a/c of P.F. to attack between 2230-2250

| | | |
|--------------------|---|-----------|
| 38 a/c of 4 Group | } | 2232-2250 |
| 107 a/c of 5 Group | | |

Sorties

13. (a) No. of aircraft despatched.....142
 (b) " reporting attack on primary area.....122(86.0%)
 (c) " abortive sorties (technical defect.....18)... 18(12.6%)
 (d) " aircraft missing..... 2(1.4%)

Weather Experienced

14. Route:- 9-10/10th strato-cumulus, tops 5,000 feet, over Channel and France. This broke just N. of Genoa, but the northern slopes of the Alps were covered with a layer of medium cloud, tops 17-18,000 feet, with icing. No cloud over Lombardy Plain.

Winds at 15,000 ft. N. of Alps 290°/50 m.p.h.
 S. of Alps, 310°/30-50 m.p.h.

Target:- Cloudless. Good visibility.

Moon above the horizon and 77% of full.

Surface wind very light, possibly N.S.W.

Narrative of Attack

15. All the Pathfinders reached the target. The first flares were dropped punctually, but afterwards the timing was poor, the illumination and marking being spread over more than half an hour. Photographic evidence, however, shows that the flares were well placed, 3 aircraft being plotted within 1 mile of the aiming-point and 5 within 2 miles. One Pathfinder, being unable to identify the point of release, held its flare but attacked on base already visible with its H.E.

All but 7 of the Main Force attacked within the planned period (zero + 2 to zero + 30). The ground (1) was marked, in good weather, an attack
 .../of

of great concentration was delivered. Visibility was such that crews were able to see buildings disintegrate. The fires could be seen for 100 miles on the return journey.

122 aircraft (96.0%) reported attack. 2 aircraft (1.6%) did not return.

Photographic Evidence.

16. (a) Night Photographs

| | |
|--|-----|
| With ground detail, plotted..... | 69 |
| " " unplotted, very probably Milan.. | 6 |
| " " unplotted..... | 1 |
| With fire-tracks only..... | 37 |
| Photographs plotted within 3 miles..... | 59 |
| " " between 3 and 5 miles..... | 9 |
| " " outside 5 miles..... | 1 |
| Number of aircraft reporting attack..... | 122 |
| Number of aircraft estimated to have bombed within 3 miles of the aiming-point on photographic evidence..... | 100 |

Extensive photographic cover of the target was obtained under clear conditions. As the plot of night photographs shows, by far the greater part of the aircraft reporting attack bombed Milan, the estimate for the proportion attacking within 3 miles being 83%. Furthermore, of the 10 aircraft plotted outside 3 miles, all but one are only just outside, and plotted on, or near, suburban areas, while many of the films showing fire-tracks only were undoubtedly exposed over Milan. The greater part of the attack was concentrated into 30 minutes following zero hour (2230), and the photographs taken within this period show many sticks of incendiaries and fires alight in the target area. Towards the end of the attack, smoke and light from established fires made conditions unsuitable for successful photography.

The flak on this night was moderate. Of the aircraft plotted within 5 miles, the films of approximately two-thirds recorded heavy flak, while the quarters show searchlights.

(b) Day Reconnaissance

A reconnaissance carried out on 19th February covered the whole of Milan on small scale prints, but only the eastern and western outskirts and the more distant suburbs on large scale prints. Nevertheless, enlargement of the small scale prints enabled an adequate damage assessment to be undertaken.

No large areas of devastation can be observed, but many isolated incidents resulting from both fire and H.E., are scattered throughout the town. The damage is very considerable, and the district has completely escaped. The most affected areas are centre on the Port Roman Goods Station in the south-east, and the Scala Pardini Goods Yard in the north-west. The metropolis suffered comparatively lightly.

At least 27 factories, including 3 "priority" works and many other unidentified industrial buildings, have been wholly or partly destroyed. 3 railway sheds, connected with bus or tram depots, have been partly gutted, and several hits occurred on railway lines.

Intelligence Reports

17. Ground sources report that the Bersaglieri Barracks were hit, 200 service personnel being killed and 300 others injured.

Navigational Aids (Gee)

18. The Carolina frequency was used on the Eastern Chain to 23.45 hours then on the Southern Chain till 0245 hours, when the Eastern Chain was again put on for homing. The average outward and homeward ranges were 210 and 270 miles respectively. C of 83 Squad., using a trailing aerial, obtained the maximum range of 470 miles on return. 104 of the 135 Gee aircraft participating in the raid made successful use of Gee. Light interference was encountered at the French coast and in the Paris area.

Defences

19. (a) Flak: Searchlights

Between forty and seventy searchlights were deployed in a circle around Milan. Fifteen to twenty heavy guns were firing, but the flak was reported as only slight to moderate in intensity. The light flak defences which appeared to have been reinforced co-operated occasionally with the searchlights. The general impression of crews, however, was that the ground defences were still rather weak and appeared to lack co-ordination. There were several reports of a type of rocket flak or flare which was fired up from the ground and somewhat resembled a German chandelier flare.

(b) Fighters

Enemy wireless traffic did not reveal any evidence of controlled fighter activity covering our route. Our returning crews, however, reported twelve approaches by fighters over France, half on the outward and half on the homeward journey. There were sightings of fighters near the target, but only one attack developed, ten miles to the west of Milan. The crew of the Lancaster (101X) claimed to have destroyed the fighter, and there were several confirmatory observations.

Casualties

| | |
|----------------------------------|--------|
| 20. No. of aircraft missing..... | 2 |
| damaged (a) by flak..... | 2 |
| (b) by fighter..... | 1 |
| (c) not enemy action..... | ▼ |
| Total damaged | 3(2.2) |

The engine of a Lancaster caught fire on the homeward journey near Le Grasset and, although the aircraft flew on for about five minutes, it finally crashed in flames. There is no evidence of the cause.

The other aircraft probably crashed in the target area, but again there is no evidence as to cause.

The loss of two aircraft out of a force of 142 is about normal for our recent raids on Northern Italy.

Spezia

Results

21. 8 Lancasters of 8 Gr up were despatched to attack Spezia, in order to test further the effects of 4,000 lb. H.C. bombs fitted with a special proximity fuse. All the aircraft easily identified the target by the light of their flares in clear weather and attacked between 2250 and 2330 hours, from

8-11,000 feet.

8-11,000 feet. A smoke screen was in operation round the harbour, but all four bombs were observed to explode near the aiming-point. Our aircraft returned undamaged.

Photographic Evidence

22. (a) Night Photographs

Only one photograph has been plotted; it shows that the bomb exploded above the quayside at a height of approximately 190 feet. The other 5 films show tracer but no ground detail.

(b) Day Reconnaissance

Damage is seen apparently from two closely associated incidents each side of the Main Gate in the Canale di Circonvallazione and on the M.A.S. base in the Vecchio Porto. In the former area, two long sheds are completely destroyed and 5 buildings have their top stories gutted or have sustained considerable roof damage. These include the C-in-C's office and the A.S. office. In the M.A.S. base, 2 large buildings are devastated and one multi-bay shed has been gutted. The Customs House has a hole in the roof. Smoke is seen rising from 3 points on the Capora Mole. Minor roof damage is scattered over a wide area, including the fitters' shop at Rarsenale.

Enemy Defences

23. 15-20 searchlights were operating around the town, in co-operation with a few light and heavy guns. None of our aircraft was hit.

APPENDIX I (COLOGNE)

Timing of Attack

I. Pathfinder Force

All 13 P.F. aircraft attacked within the planned period (2015-2030), at the following times: 2015, 2016, 2017, 2018, 2020(2), 2021, 2023, 2025(2+1*), 2027* and 2028. All were equipped with H2S, but these marked with an asterisk experienced technical difficulties and bombed on the skymarker flares.

Main Force

1 aircraft attacked 12 minutes early
 2 aircraft attacked 1 minute early
 181 aircraft attacked within planned period (2016-2031)
 11 aircraft attacked 0-10 minutes late
 195

Bomb Loads

II (of aircraft reporting attack on primary)

13 aircraft (P. .P.) carried flares + H.E.
 54 aircraft carried H.E. only
 2 aircraft carried 4-lb. incendiaries only
 4 aircraft carried H.E. + 4-lb. incendiaries
 5 aircraft carried H.E. + 30 lb. incendiaries
 82 aircraft carried 4-lb. + 30 lb. incendiaries
 50 aircraft carried H.E. + 4-lb. + 30-lb. incendiaries.
 208

APPENDIX II (MILAN)Timing of AttackIII. Pathfinder Force

8 a/c dropped their flares within the planned period (2230-2250), at 2230, 2231, 2238(2), 2239, 2242(2) and 2245.

5 a/c dropped their flares 0-15' late, at 2251(2)*, 2254, 2255 and 2305.

* 1 of these aircraft, being unable to identify the release-point, brought its flares back.

Main Force

102 aircraft attacked within the planned period (2232-2250).

7 aircraft attacked 0-12' late
109

Bomb Loads

IV. 13 aircraft (P.P.F.) carried flares + G.I. + H.E.
54 aircraft carried 4-10. incendiaries only
2 aircraft carried H.E. only
20 aircraft carried H.E. + 4-10. incendiaries.
10 aircraft carried H.E. + 30-40. incendiaries
33 aircraft carried H.E. + 4-10. + 30-40. incendiaries
122

APPENDIX III (SPEZIA)Timing of Attack

V. The 4 aircraft despatched attacked at the following times: 2256, 2257, 2310 and 2330.

Bomb Loads

VI. Each aircraft carried one 4,000 lb. G.P. bomb + 32 flares.

MM/VF.
BC/S. 26342/4/ORS.
17th May, 1943.

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Enter options | | Results |
|---------|-----------|------------|---------|-------------------------|-----------|------------------|---------------------|---------|-------------------|--------------------|---------|---------------|--------------|---|
| | | | | primary area | alt. area | over on territ. | not over on territ. | | flak | fighter | not F/A | attacked | not attacked | |
| COLOGNE | B.P.F.F. | Halifax Y | 6 | 6 | - | - | - | - | 1* | 1* | - | 2 | 1 | Tone of Bombs H.E. Inc. 207.7 297.6 including 11 x 4,000 lb) (A) 4.5 8.4 (M) 7.8 15.2 |
| | B.P.F.F. | Star. I | 8 | 7 | - | - | 1 | - | 2 | 1,0 | - | 1 | 2 | |
| | B | Halifax Z | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| | 8 | Star. I | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| | 1 | Well. III | 19 | 14 | - | - | 5 | - | 2 | - | - | 2 | 8 | |
| | 1 | Well. IV | 8 | 7 | - | - | 1 | - | 1 | 1B | - | 2 | 2 | |
| | 3 | Star. I | 51 | 42 | 2 | - | 4 | 3 | 5 | 1B | - | 6 | 20 | |
| | 3 | Star. III | 7 | 7 | - | - | - | - | - | - | - | - | - | |
| | 3 | Well. III | 3 | 3 | - | - | - | - | - | - | - | - | - | |
| | 4 | Well. Y | 20 | 18 | - | - | - | 2 | 1,0* | - | 1E | - | 7 | |
| | 4 | Halifax II | 31 | 27 | - | - | 3 | 1 | - | - | 1E | - | 10 | |
| | 4 | Halifax Z | 31 | 26 | 2 | - | 1 | 2 | - | - | - | 2 | 2 | |
| | 6 | Well. III | 35 | 30 | - | - | 4 | 1 | 2 | - | - | 2 | 5 | |
| | 6 | Halifax II | 19 | 16 | - | - | 3 | - | 3 | - | 1E | 2 | 8 | |
| 6 | Halifax Z | 1 | 1 | - | - | - | - | - | - | - | - | - | | |
| COLOGNE | TOTAL | | 243 | 208 | 4 | - | 22 | 9 | 1,0+ 16+1* | 2B+1 1,0+ 2* | 2E | 19 | 64 | |
| MILAN | B.P.F.F. | Lanc. I | 13 | 13 | - | - | - | - | - | - | - | - | - | (P) 109.8 163.4 including 500,000 lb) (A) - - (M) 0.9 3.5 |
| | 1 | Lanc. I | 40 | 33 | - | - | 1 | 1 | 1,0 | - | - | 1 | 7 | |
| | 5 | Lanc. I | 59 | 45 | - | - | 3 | 6 | 1 | 2 | - | - | - | |
| | 5 | Lanc. II | 6 | 5 | - | - | 1 | - | - | - | - | - | 8 | |
| | 5 | Lanc. III | 28 | 26 | - | - | 1 | 1 | - | - | - | - | - | |
| MILAN | TOTAL | | 142 | 122 | - | 5 | 13 | 2 | 2 | 1,0 | - | 1 | 15 | |
| SPELLE | B.P.F.F. | Lanc. I | 4 | 4 | - | - | - | - | - | - | - | - | - | (P) 7.1 - |
| BOMBING | TOTAL | | 389 | 334 | 4 | 5 | 35 | 11 | 1,0+ 18+ 1* | 2B+ 2,0+ 1* | 3E | 20 | 79 | |

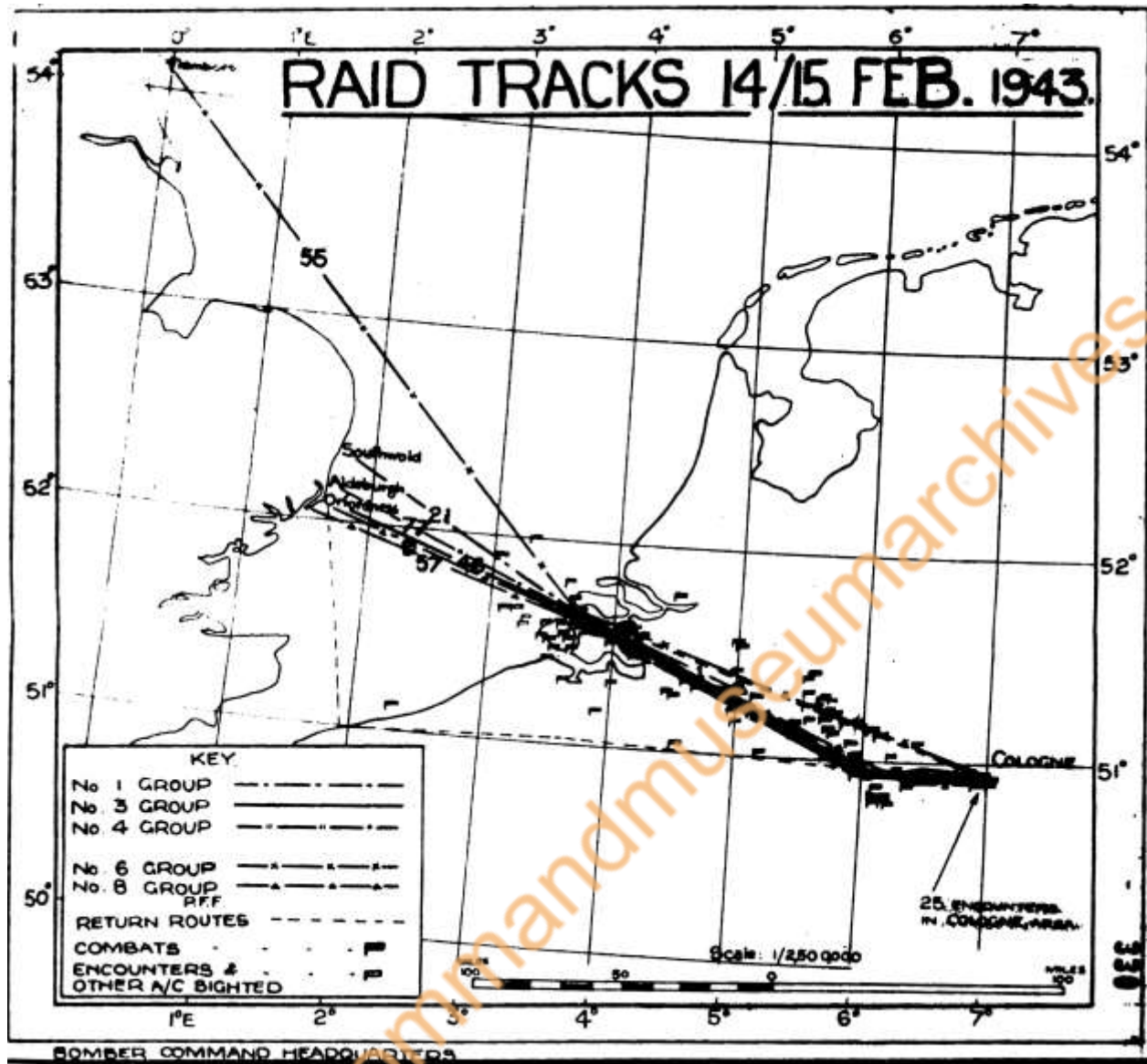
* Damaged by both Flak and Fighters.

NOTES

RAID TRACK FOR MILAN WAS NOT AVAILABLE

PLOT OF PHOTOGRAPHS FOR COLOGNE WAS NOT AVAILABLE

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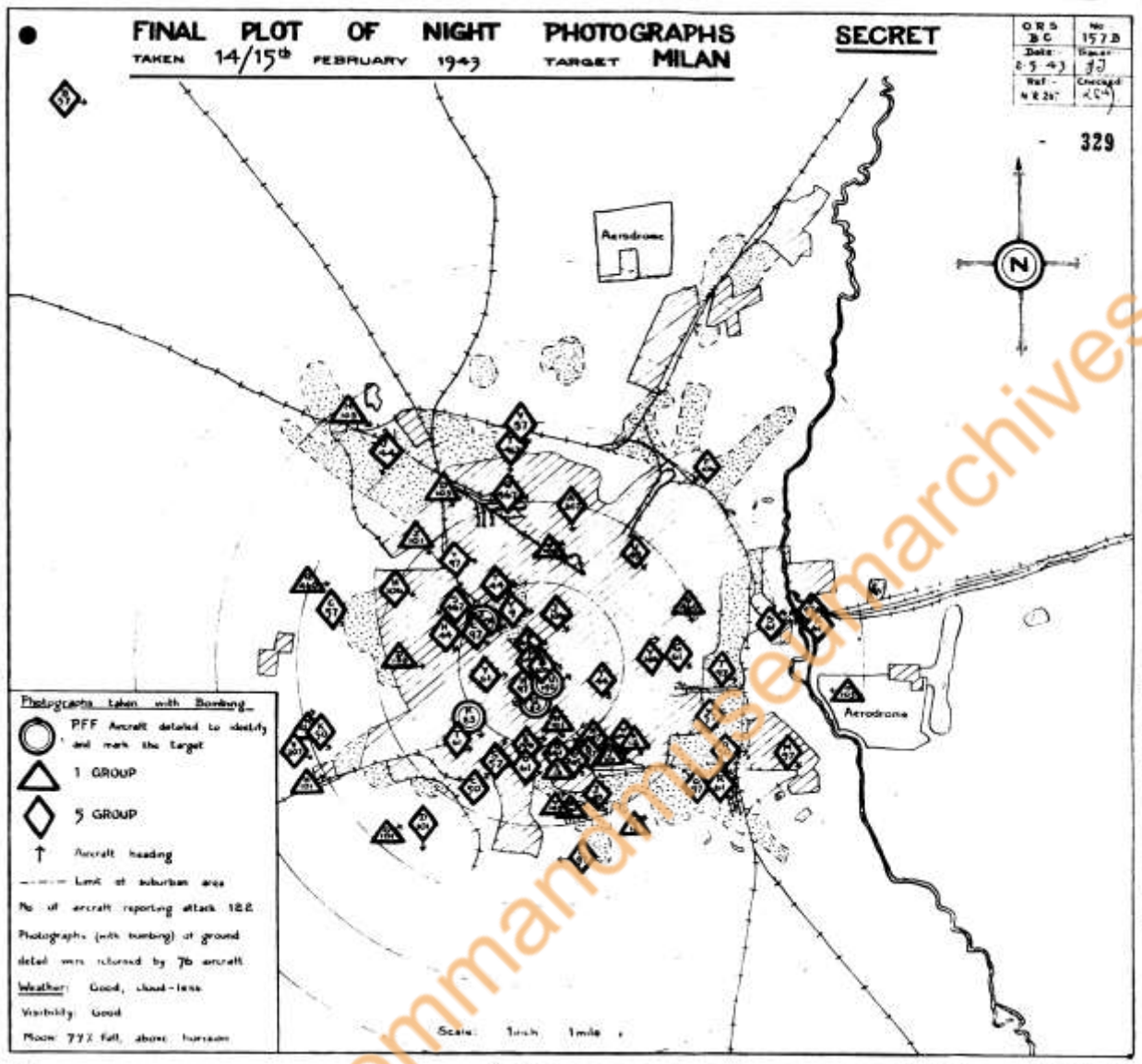


FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN 14/15th FEBRUARY 1943 TARGET MILAN

SECRET

| | |
|------------------|--------------------|
| ORD 3 C | No. 157 B |
| Date: 15-43 | Drawn: J.D. |
| Ref: N.E. 257 | Checked: (C.A.) |

329



Photographs taken with Bombing

- PFF Aircraft detailed to identify and mark the target
 - △ 1 GROUP
 - ◇ 5 GROUP
 - ↑ Aircraft heading
 - Limit of suburban area
- No. of aircraft reporting attack 122
 Photographs (with bombing) of ground detail were released by 76 aircraft
Weather: Good, cloud-less
Visibility: Good
 Moon 77% full, above horizon

Scale: 1 inch 1 mile

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 15/16th FEBRUARY, 1943.St. Troind: Rheinhausen: Essen: Minelaying(Gironde): LeafletsSUMMARYSt. Troind

4 Mosquitoes, equipped with Oboc, carried out a calibration test, using as target the Blackshirt Cadet School at St. Troind in Belgium. All reported attack, and one stick of bombs is known to have hit the target. No enemy opposition was encountered, and all aircraft returned safely.

Rheinhausen: Essen

2 Mosquitoes, equipped with Oboc, were despatched on nuisance raids against Rheinhausen and Essen. Both attacked their targets and returned undamaged.

Minelaying

4 Stirlings of 3 Group laid 12 mines in the Gironde estuary. All returned safely, although one was hit by flak.

Leaflets

2 Wellingtons of 93 Group dropped leaflets in the Paris area without incident.

Meteorological Forecast

2. Home Bases:- Variable cloud, mainly small amounts, base 1,000 feet and tops 15-20,000 feet in occasional squally showers from wind from Irish Sea and off Norfolk coast. Stormy winds, gusts of gale force most of night; no visibility troubles apart from local misty showers.

Germany:- Occluded front at midnight from Brussels to Hamburg to 50°N. 16°E. to 61°N. 20°E. to 60°N. 24°E., becoming cold to 55°N. 22°E. to Munich to W. Alps to Bordeaux. Between the occluded and cold sectors of the front there will be variable convection cloud with some good breaks. North Sea coastal plain: much convection cloud to great heights, heavy rain or hail showers, local thunderstorms, freezing level 1,500 feet. Ruhr: 6-9/10ths thick convection cloud, 1,500 to 20,000 feet or higher. Wind at 15-20,000 feet: 70-80 m.p.h. over North Sea, 80-100 m.p.h. between fronts.

N. Italy:- Increasing amounts of medium cloud. Alps covered.

E. France:- Convection cloud to great heights N. of cold front, heavy rain or hail showers, local thunderstorms. Front will pass Gironde area about 2100 hours giving conditions similar to those at home bases for an hour or two, followed by heavier convection cloud (tops below 10,000 feet) and more frequent showers.

W. Frisians:- 7-10/10ths thick convection cloud, base 1,000-1,500 feet, frequent heavy showers.

E. Frisians and Kattegat:- 8-10/10ths cloud, base 600-1,000 feet, very frequent sleet and hail showers, almost continuous north-westerly gale.
.../Freezing level

Freezing level everywhere 1,500-2,000 feet, with high icing in ex in all shower cloud.

St. Trond

3. 4 P.F.F. Mosquitoes carried out a calibration test, the Cadet School at St. Trond, in Belgium, being selected as the target. 2/10ths thin cloud prevailed over the target area and the moon was above the horizon and 84% of full. All the aircraft reported attack from 26,000 feet and reconnaissance shows that one stick of bombs hit the target squarely. Intelligence sources report that 8 Blackshirts were killed.

No enemy opposition was encountered, and all our aircraft returned undamaged. Details:-

| Sortie No. | Control Stations | | Time | | Results |
|------------|------------------|---------------|----------|----------|--------------------------------------|
| | Tracking | Bombing | Detailed | Attacked | |
| (i) | Walner | Triningham I | 0500 | 0505 | Good. Missy on tracking |
| (ii) | Swingate | Triningham II | 0510 | 0512 | Excellent. |
| (iii) | Walner | Triningham I | 0520 | 0522 | Good. Ground Ray slipped 0.01 miles. |
| (iv) | Swingate | Triningham II | 0530 | 0532 | Good. |

RHEINHAUSEN: ESSEN

4. 2 P.F.F. Mosquitoes carried out nuisance raids on Rheinhausen and Essen, attacking from 28,000 feet through 10/10ths cloud. Heavy flak was encountered, without searchlights, but both aircraft returned undamaged. Details:-

| Sortie No. | Target | Control Stations | | Track | Time | | Result |
|------------|-------------|------------------|---------------|-------|----------|----------|--------------------------------|
| | | Tracking | Bombing | | Detailed | Attacked | |
| (i) | Rheinhausen | Swingate | Triningham II | 178° | 0300 | 0302 | Good |
| (ii) | Essen | Walner | Triningham I | 178° | 0300 | 0310½ | Good. 1 through engine trouble |

MINELAYING

5. 4 Stirlings of 3 Group laid 12 mines in the Gironde estuary. Visibility was good, with 2-3/10ths cloud at 2,000 feet. The moon was above the horizon and 84% of full.

Light flak and individual searchlights were reported operating from various points on the Atlantic coast. Machine-gun fire was also encountered from small ships in the Gironde Estuary and from Ile d'Oleron. One Stirling was hit by light flak at 800 feet after illuminated by searchlights in the Gironde Estuary.

There is no evidence of any night fighter activity in the area of our minelaying operations. None of our aircraft is missing.

LEAFLETS

6. 2 Wellingtons of 93 Group dropped leaflets in the Paris area and returned without incident.

ML/VF.
BC/S. 26342/2/CRS.
14th April, 1943.

| Unit | Group | Type | Sorties | J/C repetition attack on | | abortive sorties | | Missing | Losses | | | Interceptors | | Results |
|-----------------------------|----------|--------------------|---------|-----------------------------|--------------|--------------------|--------------------------|---------|--------|---------|------------|-----------------|--------|---------------|
| | | | | prim. area | alt. area | over en- terit. | not over en. ter. it. | | Fok | Fighter | not Fok | not attacked | | |
| ST. TRONDI | 8 P.P.F. | Mosquito IV | 4 | 4 | - | - | - | - | - | - | - | - | - | 2.2 tons H.E. |
| ST. TRONDI | 8 P.P.F. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| ST. TRONDI | 8 P.P.F. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| BOMBING TOTAL | | | 6 | 6 | - | - | - | - | - | - | - | - | - | |
| <u>ST. TRONDI</u> G/CODE | 3 | Stirling I | 4 | 4 | - | - | - | - | 1B | - | - | - | - | 12 Mines |
| <u>ST. TRONDI</u> G/CODE | 93 93 | Col. III Col. X | 1 1 | 1 1 | - - | - - | - - | - - | - - | - - | - - | - - | - - | |
| T O T A L | | | 12 | 12 | - | - | - | - | 1B | - | - | - | - | |

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 16/17TH FEBRUARY, 1943.LORIENT: Minelaying (W.France): LeafletsSUMMARYLorient

1. 377 aircraft from all Groups were despatched at dusk to raid Lorient again. In excellent conditions, 362 aircraft (96.0%) reported attack. The Pathfinder flares and markers were somewhat scattered, partly because some Main Force crews dropped their bombs before time, but little difficulty was experienced in identifying the aiming-points in the bright moonlight. Our aircraft attacked in two overlapping phases, each of about 20 minutes. The weight of the effort fell on the docks and Keroman peninsula, extensive areas of which had been burnt out in previous raids. Reconnaissance suggested that the damage was considerably increased by this attack. 2 aircraft (0.5%) did not return.

Minelaying

27 out of 32 aircraft laid 68 mines off the French Atlantic coast, from Brest to St. Jean de Luz. All returned safely.

Leaflets

3 out of 4 aircraft dropped leaflets in the Paris area. All returned undamaged.

Meteorological Forecast

2. Home Bases:- Warm front at midnight from $64^{\circ}\text{N. } 05^{\circ}\text{W.}$ to Blacksod, then south-westwards. Scattered snow showers near east coast, otherwise generally little cloud, very well broken, with moderate visibility, but fog patches towards dawn. Bases should be fit all night, although smoke troubles will reduce visibility to less than 1 mile locally after midnight.

Germany:- W. of 9°E. : much convection cloud, tops probably above 15,000 feet. Good visibility. E. of 9°E. : little cloud, good visibility.
S. Germany: broken convection cloud, some clear areas.

N. Italy:- Little cloud. Alps covered to great heights.

W. France:- Broken cloud, base 2,000 feet, tops 5-6,000 feet. Good chance of $5/10$ ths or less in north, more cloud with higher tops in south; freezing level 2,000 ft, slight showers possible. Wind at 15-20,000 feet: $360^{\circ}/80$ m.p.h. decreasing southwards to 55 m.p.h. at Lorient. Stronger winds at higher levels.

LORIENTPlan of Attack

2. Zero hour.....2045

Six P.F.F. aircraft were to act as initial illuminators, dropping long sticks of flares at 10 sec. intervals in the following positions:-

..../over

Narrative of Attack

6. The Pathfinders dropped their first flares at 2044 and their first marker bombs at zero hour, but before this a few crews of the Main Force had released incendiaries. The markers were well timed, but scattered. The great majority of both sections of the Main Force attacked well within their planned period, and fresh fires were started in the Keroman dock areas, which had been extensively damaged in previous raids. Two exceptionally large explosions, with thick black smoke, were reported, one near the centre of the town.

362 aircraft (96.0%) reported attack. 2 aircraft (0.5%) did not return.

Photographic Evidence7. (a) Night Photographs (see accompanying diagram)

329 films were examined, 20 of which afforded no evidence of the position of the aircraft at bombing. Details of the remainder are given in the table below. No systematic fire plot was undertaken.

| | With ground Detail | With fire-tracks only | Total |
|-----------------------|-----------------------|--------------------------|------------|
| A. Plotted:- | | | |
| Within 3 miles | 54 | 12 | 66 |
| Between 3 and 5 miles | 29 | - | 29 |
| Outside 5 miles | 12 | - | 12 |
| B. Unplotted | 31 | 171* | 202 |
| Total | 126 | 183 | 309 |

Number of aircraft reporting attack.....362
 Number of aircraft estimated, from the evidence of
 photographs with ground detail, to have bombed within
 3 miles of the aiming point.155

(* This is the total number of exposures made with bombing which record no ground detail, but fire-tracks. In previous Night Raid Reports the corresponding figure referred to the estimated number of such films in which the bombing picture might be plotted by light-tracks. This estimate, based on the extent of the photographic cover and the size of the sample of plotted photographs, was often approximately two-thirds of all the photographs showing light-tracks.)

Extensive photographic cover, with a relatively large number of plotted photographs, was obtained on this raid. While several aircraft attacked the shipyards and submarine pens on the Keroman Peninsula, where many sticks of incendiaries and many fires were seen burning, it is nevertheless estimated that about 57% of aircraft bombed more than 5 miles from the aiming point. This was largely due to two diversions:- (i) The Kerlin Eastward airfield attracted a number of aircraft, probably owing to the well-marked ^{dispersal} points and tracks, and (ii) a group of 11 T.I. markers caused a diversion in the Kerbriant-Kerblaisy area. The latter diversion is fully dealt with in Interpretation Report N.S. 54 which allocated to this area 6 small sticks of 30 lb. I.B., at least 10 sticks of 4 lb. I.B. and 9 x 4,000 lb. H.C. bombs. Eighteen aircraft have been plotted in this area, either by ground detail or by fire-tracks".

Flak was slight, showing a general decrease in comparison with raids on this target earlier in the month and in January. Less than a quarter of the films show heavy flak and a very small number light flak. About one sixth of 73 aircraft plotted within 5 miles show searchlights on their films.

...../Day Reconnaissance

(b) Day Reconnaissance

A reconnaissance was carried out on 19th February. By this time the town and docks of Lorient had been almost completely destroyed. Details of the vast damage caused in the eight previous attacks were published in Night Raid Report No. 266. There are no isolated incidents which may definitely be attributed to the attack under consideration; it can only be presumed, in view of the accuracy made evident by the night photographs, that many buildings and installations already damaged suffered more or less complete destruction.

Navigational Aids

8. The Southern Chain was in operation on the Virginia frequency until 2300 hours, when the Eastern Chain was used. Only 92 of the 334 Gee aircraft despatched received Gee over the target. This was due to abnormally poor propagational conditions rather than to strengthening of the interference in this area.

Defences9. (a) Flak and Searchlights

The ground defences were similar to those encountered during our previous raid on this target on 13/14th February, 1945. (See Night Raid Report No. 266). Fifteen of our returning aircraft were damaged by flak. One aircraft was hit by light flak over Brest, and another by heavy flak over Lannion, but most of the damage was caused by heavy flak in or near the target area. One Lancaster (101 E) received a direct hit from a heavy shell which passed through the aircraft without exploding.

(b) Fighters

Enemy wireless traffic did not reveal any controlled night fighter activity in the area covered by our operation on Lorient. Many fighters were, however, seen in the clear moonlight. There were reports of 6 attacks, 41 approaches, including 12 in the target area, and 11 followings. Searchlights assisted one fighter in the target area, but our aircraft took violent evasive action and escaped undamaged. In two other encounters over Brittany, searchlights were seen track-indicating previous to the sighting of enemy fighters. One attacked a Halifax (102 E), which suffered only minor damage, and claimed to have shot the fighter (a Ju. 88) down in flames. This claim was confirmed by an independent observation. In none of the other encounters did our aircraft sustain any damage, and it appears that the enemy night fighters did not press home their attacks. As on the previous raid, all Groups with the exception of 5 Group returned over the Breton peninsula. The Lancasters of 5 Group followed a return route out into the Atlantic and home entirely over the sea. They thus avoided night fighter activity on their homeward route.

Casualties

| | | |
|-----|------------------------------|----------|
| 10. | No. of aircraft missing..... | 2(0.5%) |
| | " damaged (a) flak..... | 15 |
| | (b) fighter..... | 1 |
| | (c) not enemy action..... | 3 |
| | | 19(5.0%) |

The missing Lancaster of 1 Group was almost certainly shot down in the target area. Numerous reports relate that it was engaged by heavy flak and then exploded in the air, pieces of the aircraft falling in flames.

The missing Wellington of 3 Group crashed in France and was burnt out. All the crew were interned. The cause is unknown.

...../A Missing

A missing rate of 0.5% is low even for Lorient, and is unusual in that there was considerable activity by night fighters, operating in favourable conditions of bright moonlight and good visibility.

MINELAYING

Results

11. 32 Stirlings and Wellingtons of 1, 3 and 4 Groups were detailed to lay mines off the French Atlantic coast, from Brest to St. Jean de Luz. In favourable conditions, with well broken layer cloud above 2,000 feet and good visibility, 27 reached their targets, laying 68 mines. 2 other aircraft jettisoned their mines live in enemy waters, one off St. Malo on being attacked by an enemy fighter and one in St. Brieux Bay on account of engine trouble. The 3 remaining aircraft returned early on experiencing technical difficulties. None of our aircraft was missing.

Enemy Defences

12. There were reports of flak defences in operation at various points on the coast, especially near Lorient. Two of our aircraft received minor damage from light flak. A Wellington (305X) of 1 Group was attacked by a fighter off St. Malo, but shook it off after jettisoning its mines. The enemy aircraft was claimed as probably damaged. It seems likely that our main attack on Lorient attracted the bulk of the enemy defences, so that our minelaying aircraft were left comparatively free.

LEAFLETS

13. 3 Wellingtons of 93 Group dropped leaflets in the Paris area; a fourth had to return early owing to a technical defect. One fired on by an enemy fighter which failed, however, to join combat; otherwise, the operation was completed without incident. All our aircraft returned safely.

APPENDIX

Timing of Attack

I. Pathfinder Force

All P.F. aircraft dropped their markers between zero and zero + 16, at the following times: 2045, 2046(2), 2047, 2049(2), 2050(3), 2051, 2052, 2055, 2056(2), 2057(3), 2058(2), 2100 and 2101.

Main Force

Phase 1 (2047-2105)

| | |
|------------|------------------------------|
| | 2 aircraft attacked 1' early |
| 154 | " within planned period |
| 2 | " 0-3' late |
| <u>158</u> | |

Phase 2 (2055-2115)

| | |
|------------|----------------------------------|
| | 34 aircraft attacked 15-0' early |
| 147 | " within planned period |
| 2 | " 22-23' late |
| <u>183</u> | |

Bomb Loads

II. (of aircraft reporting attack on primary)/Pathfinder Force

Pathfinder Force

No. of aircraft carrying flares + T.I's & H.E.....16
 " " T.I's + 4,000 lb. gel.....5
 21

Main Force

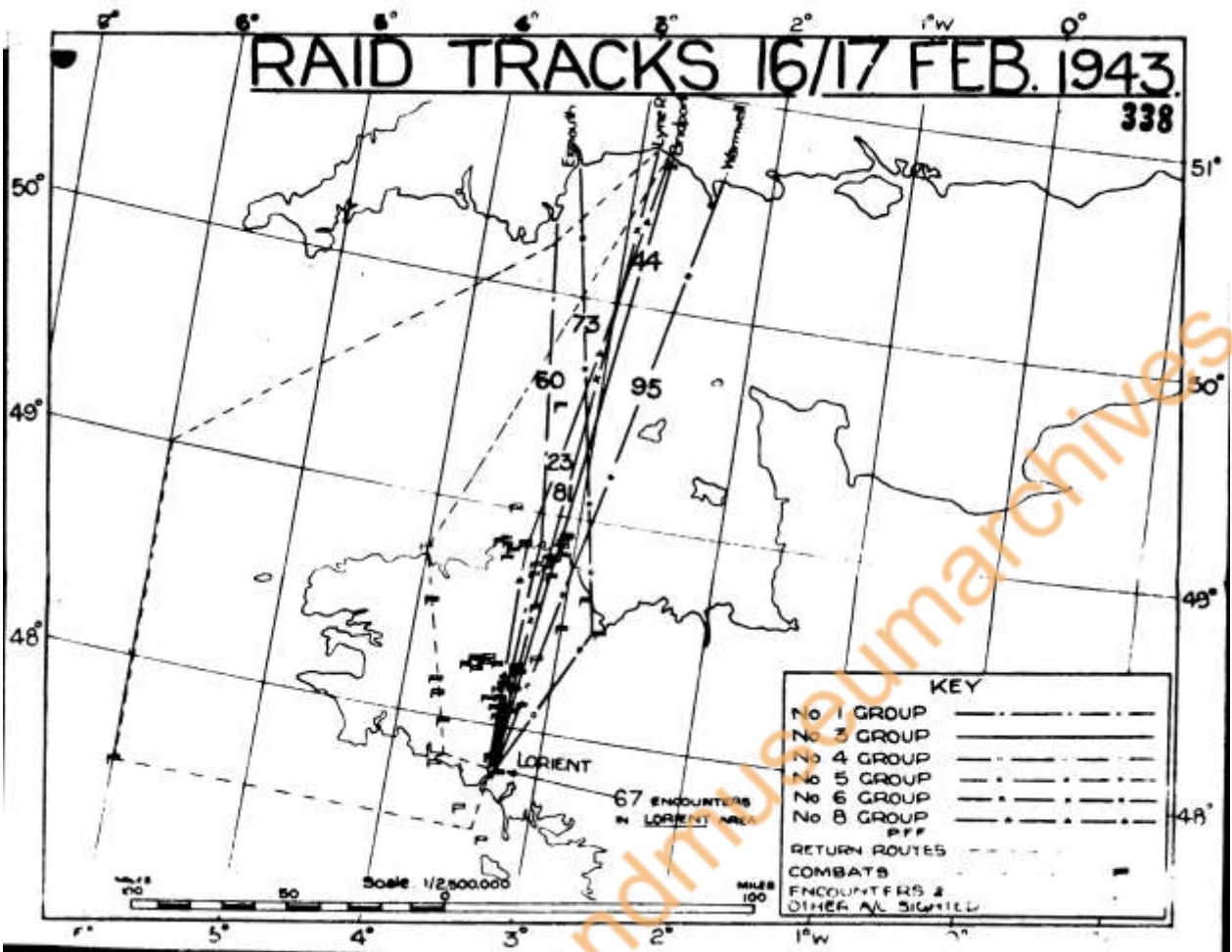
No. of aircraft carrying H.E. + 4-lb. + 30-lb. I.B.....194
 " " H.E. + 4-lb. I.B.....59
 " " H.E. only.....31
 " " 4-lb. + 30-lb. I.B.....27
 " " H.E. + 30-lb. I.B.....24
 " " 4-lb. I.B. only.....6
 341

MLL/VF.
 BC/S. 26342/3/ORS.
9th May, 1943.

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Inter-operations | | Results |
|----------|-----------|---------------|---------|-------------------------|-----------|------------------|----------------------|---------|-------------------|---------|-------------------|------------------|--------------|---|
| | | | | prim. area | alt. area | over on. territ. | not over on. territ. | | Flak | fighter | not E/A | att-acked | not attacked | |
| LONDON | 8 P.F.F. | Lancaster I | 15 | 15 | - | - | - | - | 1 | - | - | - | 1 | Tons of Bombs H.E. Inc. P) 462.4m 535.4+ H) 2.5 2.7 * including 1314,000 lb. + including 521,000 lb. |
| | 8 P.F.F. | Stirling I | 1 | 1 | - | - | - | - | - | - | - | - | - | |
| | 8 P.F.F. | Halifax 2 | 7 | 7 | - | - | - | - | - | - | - | - | 2 | |
| | 1 | Lancaster I | 41 | 38 | - | 2 | 1 | 15+1 | - | - | - | - | 7 | |
| | 1 | Well. III | 18 | 16 | - | 1 | 1 | 14C+1 | - | - | 1 | 1 | 7 | |
| | 3 | Stirling I | 39 | 37 | - | 2 | - | 1 | - | 1E | 1 | 4 | 1 | |
| | 3 | Stirling III | 4 | 4 | - | - | - | - | - | - | - | - | 1 | |
| | 3 | Well. III | 6 | 6 | - | - | - | - | - | - | - | - | 1 | |
| | 4 | Halifax II | 29 | 29 | - | - | - | - | - | - | 14C | - | 9 | |
| | 4 | Halifax 2 | 43 | 42 | - | 1 | - | 1 | 1 | - | - | 2 | 4 | |
| | 4 | Well. III | 2 | 2 | - | - | - | - | - | - | - | - | - | |
| | 4 | Well. X | 16 | 14 | - | 2 | - | - | - | - | - | - | 2 | |
| | 5 | Lancaster I | 40 | 39 | - | 1 | - | 1 | - | 1B | 1 | 4 | 4 | |
| | 5 | Lancaster II | 5 | 5 | - | - | - | - | - | - | - | - | - | |
| | 5 | Lancaster III | 30 | 29 | - | 1 | - | 2 | - | - | - | - | 5 | |
| | 6 | Halifax II | 20 | 19 | - | 1 | - | 1 | - | - | 1 | 2 | - | |
| 6 | Halifax 2 | 4 | 4 | - | - | - | - | - | - | - | - | - | | |
| 6 | Well. III | 54 | 52 | - | 1 | - | 4 | - | - | - | - | - | | |
| 6 | Well. X | 3 | 3 | - | - | - | - | - | - | - | - | 3 | | |
| LONDON | TOTAL | | 377 | 362 | - | 1 | 12 | 2 | 15+ 14C 413 | 1 | 15+ 15+ 14C | 6 | 52 | |
| MUNICH | 1 | Well. III | 2 | 1 | - | - | 1 | - | - | - | - | - | - | 2 Mines |
| BRUNNEN | 1 | Well. IV | 5 | 4 | - | - | 1 | - | - | - | - | 1 | - | 8 Mines |
| LEVER | 1 | Well. IV | 7 | 6 | - | - | 1 | - | - | - | - | - | - | 12 Mines |
| BRUNNEN | 3 | Stirling I | 5 | 4 | - | - | 1 | - | - | - | - | - | - | 15 Mines |
| ST JAMES | 3 | Stirling I | 2 | 2 | - | - | - | - | - | - | - | - | - | 6 Mines |
| DE WIT | 3 | Stirling III | 1 | - | - | - | 1 | - | - | - | - | - | - | - |
| BRUNNEN | 3 | Stirling I | 5 | 5 | - | - | - | - | - | - | - | - | - | 14 Mines |
| BRUNNEN | 4 | Well. X | 5 | 5 | - | - | - | - | 14C | - | - | - | - | 10 Mines |
| TOTAL | 93 | Well. IV | 32 | 27 | - | - | 1 | - | 15+ 14C+1 | - | - | - | 1 | 66 Mines |
| TOTAL | | | 413 | 392 | - | 1 | 18 | 2 | 15+ 24C 413 | 1 | 15+ 15+ 14C | 6 | 53 | |

RAID TRACKS 16/17 FEB. 1943.

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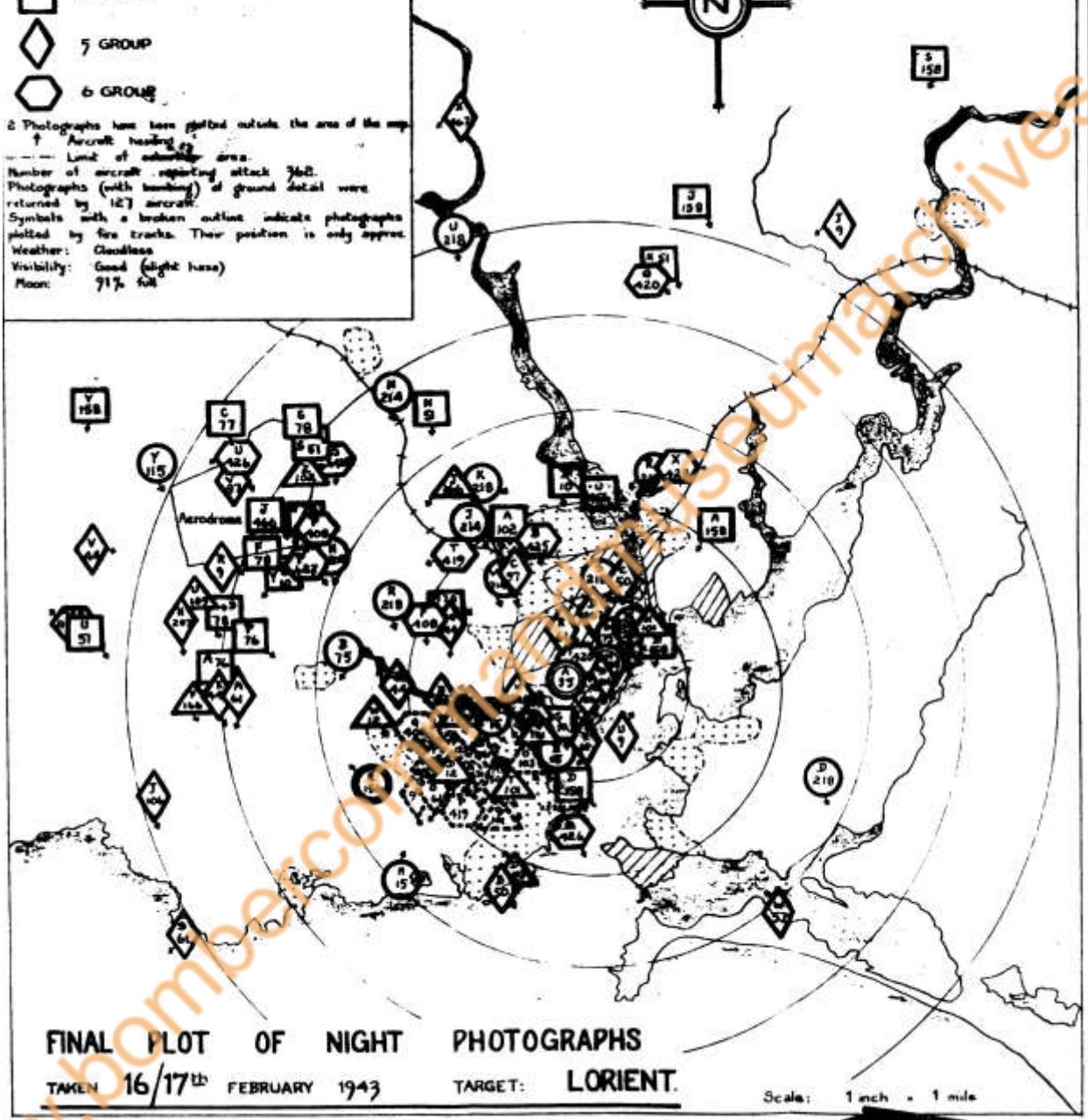
Photographs Taken with Bombing

- P.F.F. Aircraft detailed to identify and mark the target.
- △ 1 GROUP
- 3 GROUP
- 4 GROUP
- ◇ 5 GROUP
- ⬡ 6 GROUP

② Photographs have been plotted outside the area of the map.
 ↑ Aircraft heading
 --- Limit of subsidiary area
 Number of aircraft reporting attack 362.
 Photographs (with bombing) of ground detail were returned by 127 aircraft.
 Symbols with a broken outline indicate photographs plotted by fire tracks. Their position is only approx.
 Weather: Cloudless
 Visibility: Good (slight haze)
 Moon: 91% full

| | |
|--------|----------|
| O.R.S. | No.: |
| B.C. | 1598 |
| Date: | 37 |
| 9-7-43 | |
| Ref: | Crashd.: |
| NY/269 | H.C. |

337
SECRET



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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 17/18th FEBRUARY, 1943.Bochum: Hamborn: Minelaying (U.France)SUMMARYBochum: Hamborn

4. 2 Mosquitoes carried out nuisance raids against Bochum and Hamborn. Both returned undamaged, although heavily engaged by ground defences.

Minelaying

9 of 12 Stirlings from 3 Group laid 32 mines off the W.coast of France. All returned safely, except one which crashed on return. Six of the crew baled out and escaped unhurt, but the captain was killed.

Metecorological Forecast

2. Home Bases:- Midnights fronts: (1) cold from 64°N. 04°E. to Orkney to 55°N. 11°W. (2) warm from 63°N. 10°E. to 55°N. 05°E. to Kent to Brest. A sheet of strato-cumulus cloud is expected to persist over most areas, based generally at 1,000 feet, with patches below and occasional drizzle. Cloud may become broken late in the night. Visibility 2-4 miles in 3,4 and 6 Groups, slowly deteriorating to 1-3,000 yards in 4 Group and S. of 6 Group. Elsewhere, visibility generally 1-3,000 yards, less than 1,000 yards in well-broken cloud and in smoky localities.

Germany:- N.W.: much medium and high cloud, broken low cloud. Central and S.: broken medium cloud, well broken low cloud. E.: variable convection cloud, snow showers. Ruhr: cloudy, broken layer of strato-cumulus at 1,500 feet, with broken layer of alto-cumulus at 3-10,000 feet.

N.Italy:- Probably little cloud. Alps clear. Wind at 15,000 feet on route: N.N.E. 60 m.p.h.

N.W. France:- Much very low cloud, tops 600-1,000 feet, with patches down to surface, covering high ground in Breton Peninsula. Occasional drizzle. S. of Lorient, cloud will gradually lift and break.

BOCHUM: HAMBORN

4. 2 P.F.F. Mosquitoes were despatched towards dusk on nuisance raids against Bochum and Hamborn. The Ruhr was clear of cloud. Both attacked their targets, each dropping 3 x 500 M.C. bombs from above 27,000 feet. Details:-

| Aircraft No. | Target | Control Stations | | Track | Time | | Results |
|--------------|---------|------------------|---------------|-------|----------|----------|---|
| | | Tracking | Bombing | | Detailed | Attacked | |
| i) | Bochum | Walner | Triningham I | 178° | 2030 | 2031½ | Fair: poor tracking signals. |
| ii) | Hamborn | Swingate | Triningham II | 178° | 2030 | 2040 | Fair, despite poor trading signals. Gee and Bailey beams u/s. |

.../The Mosquito

The Mosquito attacking Hanborn was engaged by heavy flak as soon as the bombs were dropped. The aircraft was coned by forty to fifty beams but returned safely. The other Mosquito attacking Bochum was also engaged by searchlights and heavy flak, but the flak fell behind. This aircraft also returned undamaged.

MINELAYING

4. 12 Stirlings of 3 Group set out towards dusk to lay mines off the West Coast of France. Visibility was good in the Bay of Biscay, with broken strato-cumulus above 2,000 feet and 95% moon. 9 aircraft reached their targets, laying 32 mines. The remaining 3 returned early owing to technical defects.

Two of our aircraft returned with flak damage, one caused by light and the other by heavy flak, from coastal defences.

Enemy wireless traffic gave no indication of any controlled night fighter activity in the area of our operations. There were no sightings of night fighters in the Bay of Biscay, but a Stirling was intercepted on its homeward journey over the sea to the west of Guernsey. Our rear gunner opened fire; the enemy fighter dived into cloud and was claimed as probably damaged.

None of our aircraft is missing, but one crashed in England owing to petrol shortage. Six of the crew baled out and escaped uninjured, but the captain was killed.

MLM/VP.
BC/S. 26342/4/ORS.
14th April, 1943.

Bochum: Hanborn: Minelaying (17/18 February 1943)

| Target | Group | Type | Sorties | VC reporting attack on | | abortive sorties | | Missing | Damage | | Interceptions | | Results |
|-------------------|--------|-------------|---------|------------------------|-----------|------------------|--------------|---------|--------|---------|---------------|--------------|---------------|
| | | | | prim. area | alt. area | over sea | not over sea | | Flak | fighter | not R/A | not attacked | |
| BOCHUM | 8 P.O. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| HANBORN | 8 P.O. | Mosquito IV | 1 | 1 | - | - | - | - | - | - | - | - | 0.7 tons H.E. |
| MINE LAYING TOTAL | | | 2 | 2 | - | - | - | - | - | - | - | - | |
| <u>STIRLING</u> | | | | | | | | | | | | | |
| BOCHUM | 3 | Stirling I | 3 | 2 | - | 1 | - | - | - | - | - | - | 6 Mines |
| BOCHUM | 3 | Stirling I | 6 | 5 | - | 1 | - | - | 1 | - | 18 | - | 20 Mines |
| BOCHUM | 3 | Stirling I | 3 | 2 | - | 1 | - | - | 1 | - | - | - | 6 Mines |
| MINE LAYING TOTAL | | | 12 | 9 | - | 3 | - | - | 2 | - | 18 | - | 32 Mines |
| TOTAL | | | 14 | 11 | - | 3 | - | - | 2 | - | 18 | - | 1 |

COPY NO. 16

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 15/19TH FEBRUARY, 1943.WILHELMSHAVEN: Airlaying (France & Frisians): LeafletsSUMMARYWILHELMSHAVEN

195 heavy aircraft were dispatched to Wilhelmshaven. In excellent weather conditions, 181 (92.8%) reported attack, most crews bombing T.I. targets dropped by the Pathfinders. The evidence from night photographs, however, shows that the weight of the attack fell in open country 5 miles W. of town. An effective smoke screen obscured ground detail in the target area and probably misled crews into a false identification of landmarks. Reconnaissance revealed negligible damage.

4 aircraft (2.1%) did not return. 2 enemy fighters are thought to have been destroyed.

MINE LAYING

39 aircraft were detailed to lay mines off the Frisians and the Dutch Atlantic coast. 74 reached their targets, laying 187 mines, including 100 off the Frisians. 2 aircraft did not return from the latter area.

LEAFLETS

9 aircraft set out to drop leaflets in the areas of Paris and Orleans. 8 reached their targets, and one other released its bundles over Chartres. 1 aircraft did not return.

Metereological Forecast

Home Bases:- Warm front at midnight from Blacksed to S.E. England. W. of Blacksed and S. England: generally cloudy, fog patches. N. England: well broken cloud, fog patches late in night. No worries for early take-off, but all operational bases S. of 6 Group expect smoke to reduce visibility to 1,000 yards by midnight, with a gradual deterioration to fog conditions by dawn. In 91 and 92 Groups, visibility will fall to 1,000 yards by midnight. Diversion to 6 Group and S.E.

Germany:- Cold front at midnight from S.E. England to 51°N. 06°E. to 55°N. 25°E. S.E. North Sea: much convection cloud, tops mostly below 15,000 feet, showers, freezing level about 2,000 feet. N. of frontal belt: broken layer and convection cloud. Hamburg area: covered with cumulus and strato-cumulus, base not below 1,500 feet, tops to 20,000 feet, local showers. Wind at 25,000 feet, 310°/120-140 m.p.h. on route: at 15,000 feet, 100°/60 m.p.h. increasing towards Germany to 310°/70 m.p.h. at 20,000 feet, 310°/70 m.p.h. increasing eastwards to 120 m.p.h. In frontal belt, clouds will decrease rapidly to nil in extreme S.

N. Italy:- Cloud amount uncertain, probably nil. Peaks of Alps clear.

W. France:- Clouds decrease rapidly W. of Britain, becoming nil at Bilbao. Wind at 15,000 feet: 310°/60 m.p.h. veering to 360°/30 m.p.h. at Bilbao 40°N., and 040°/60 m.p.h. at all other points.

Frisians:- No Bomber.

...../WILHELMSHAVEN

WILHELMSHAVENPlan of Attack

2. Zero hour: 2030 hours.

36 P.F. aircraft, including 14 equipped with H₂S, were detailed for this target. The specially equipped aircraft were to drop preliminary warning flares (green stars) at position 53°21' 0754E, and were then to groundmark or skymark the target, according to the prevailing cloud conditions.

If skymarking were used, the H₂S aircraft were to drop release-point flares (red with green stars) at 1 min. intervals between zero and zero + 13 in such a position that aircraft of the main force bombing then on a heading of 142°M would hit the target.

If cloud conditions permitted, these aircraft were to groundmark the aiming point with red H.I. bombs and/or skymarkers.

All remaining P.F. aircraft were to attack with the main force between zero + 1 and zero + 16, aiming bombs on the centre of the concentration of release-point flares, or at the red H.I. markers if these were used. It was stressed that crews were to be prepared for either method, and were therefore to approach the target at a height of not less than 16,000 feet. They were further recommended to lose height after bombing, as it was expected that strong headwinds would be met.

Timing:-

14 H₂S aircraft of P.F.F. Z to Z + 13
 14 "backers up" of P.F.F. Z + 1 to Z + 13
 160 w/c of main force Z + 1 to Z + 16

Route briefed: 54°08' 0630E. - WILHELMSHAVEN - 54°30N. 0700E.

(For routes to be used, see rout. map)

Sorties

4. (a) No. of aircraft dispatched 195
 (b) " reporting attack on primary area 181 (92.8%)
 (c) " abortive sorties (technical defect) 10 (5.1%)
 (d) " aircraft missing 4 (2.1%)

Weather Experienced

5. Head winds:- Fine. Smoke, haze and radiation fog developed after dark, affecting around 1/3 of a line Birkbehead - Flanborough and becoming fairly widespread by 2400-2500 hours.

Route and Target:- Practically cloudless. Hazy. Contrails at 17-18,000 feet. Moon above the horizon at 99° of full (elevation 45°, bearing 134°T.) Visibility exceptionally good.

Winds: 8-15, V.P.F., 30°/30-60 mph.
 15-20, w/c, 30° - 50°/30-90 mph.

Narrative of Attack

6. The first green flares (H.I.) carried by Y aircraft were released at 2025 hours followed by those at 2027, 2030, 2035 and 2035½. Many crews reported seeing these flares as red stars, on the whole, to be well placed and a useful guide. With regard to visibility the use of skymarkers unnecessary, no aircraft were lost between 2035 hours. There were several early observations of a glow from the target, and it was likely that the enemy initiated this main technique of defence. It was suspected that glow came at 01.00 on 10/19th 1944.

H.I. markers were used to groundmark the target at 2035 hours (for details see report on 10/19). The main force was then hit, with the exception, the .../... 11

all 1 1/2-5 miles W. or S.W. of the aiming-point. The earliest markers are nearest, and there seems subsequently to have been a progressive placement to W.S. Photographs taken by crews in the main force who headed S.W. provide evidence of an additional scatter of markers up to 8-9 miles W. of the aiming-point. However, as the photographs do not show, crews who had entirely on visual identification achieved better results.

The photographic plot shows that the scatter of markers and fire is rather hazy. There is a tendency to over-concentration in the canal and fire which intersect about 5 miles W. of the aiming-point. It will also be observed that almost all the aircraft were heading towards the target at the time of bomb release. This fact, in conjunction with any claims made by crews looking in this region to have identified ground details near the aiming-point with certainty, indicates that the smoke-screen was effectively obscuring the target area and that many crews were down on the lines of markers for the coastline and the straight stretches of the canal and railway features within the target area. The efficiency of the smoke-screen may have been enhanced by the moonlight into which the crews were heading. Later arrivals also frequent mention of 'haze' and it is suggested that these crews mistook haze for haze.

In support of this it is noted that the only crews who recognised the true nature and position of the aiming-point, namely those which left before 2035 hours, were the only ones to obtain photographs within 5 miles of the aiming-point. This progressively increasing accuracy is mainly due to the fact that 63% of those crews who bombed before 2035 hours obtained photographs within 9 miles, whereas only 30% of those which bombed after that time were so near as this.

Photographic Evidence

(a) Night Photographs (see notes regarding details)

| | |
|--|-----|
| With ground detail, plotted..... | 93 |
| unplotted..... | 4 |
| With fire-tracks only, unplotted (no fire-logs undertaken).... | 43 |
| Photographs plotted within 5 miles..... | 21 |
| between 5 and 9 miles..... | 29 |
| outside 9 miles..... | 43 |
| Number of aircraft reporting attack..... | 161 |
| Number of aircraft estimated on photographic evidence to have bombed within 5 miles of the aiming-point..... | 40 |
| were | |

Nearly all the photographs taken in the 20 minutes following zero hour (2030 hrs.) and there is fairly wide photographic coverage of the country to the west of Wilhelmshaven. As the plot of night photographs shows, the main weight of bombing was centred in open country about 5 miles west of the aiming-point. Several local concentrations of attack developed, e.g. south and west of Accum, round the canal at Sande, at Haren and at two miles further north-east at Adenbury.

The first few aircraft to attack have been plotted in the eastern suburbs 2 miles from the aiming-point - about 1 mile from the start, at first only 5 to 7 miles west of the aiming-point, later moving eastward to the neighbourhood of the canal at Haren and Haren. The majority of the photographs taken in the Haren and Adenbury-accum area are taken in the open country, while incendiary bombs were dropped in the suburbs of Wilhelmshaven. It is evident that the whole of the area, and the whole of the aiming-point, was under attack.

A spot of smoke-screen photographs in operation at about zero hour. It shows a town to the west, and, in the foreground, the trails from individual

...../

generators can be traced often for hours and are not seen to have merged so as to form a complete screen over the target, there can be no doubt that an effective smoke-haze was developed.

(1) Day Reconnaissance

Details of damage caused at Wilhelmshaven by the three R.A.F. raids on 11/12th, 18/19th and 19/20th February, and by the U.S.A.A.F. attack on 27th January, were revealed in a single P.B.M. cover. These have been given in Night Raid Report No. 264. Most of the incidents referred to must be attributed to the first operation, and it is so probable that the raid under consideration resulted in negligible damage.

Navigation Aids (Gee)

d. 203 Gee aircraft operated on this raid, 167 returning; useful information. The average range obtained was 270 miles, the maximum 309 miles. The Eastern Chain was operating on Virginia frequency. Interference appeared to be heavier than on the previous occasions in which this same track was used. The C signal was weakest.

Blind Bombing Aids (H₂S)

9. 8 Stirlings of 7 Squadron and 6 Halifaxes of 25 Squadron set out equipped with H₂S. 2 aircraft reported unserviceable equipment, but only 5 returned early for that reason. The other 5 aircraft reverted to the role of "backers-up" and dropped their I.I.'s visually.

The remaining 6 aircraft completed their task successfully, using the special equipment to aim their bombs accurately. One of these also dropped sky-markers. Photographic evidence shows that the bombers were scattered; the 2 Y-types that have been plotted were both about 2 miles from the aiming-point and 3 1/2 miles apart.

Defences

10. (a) Flak; Searchlights

Between eight and twenty-five searchlights were operating in and around the target area. Occasionally small cones were formed, but in general the bright moon and ground haze restricted their usefulness. Other searchlights were operating from the Frisian Islands and on the mainland from Schillig to the target. In addition to gun co-operation, several searchlights appeared to be track-indicating.

Light flak was fired from ships off the Frisians and in the night. Heavy and light flak batteries were in action at Vangerode, Spiekering and at Schillig. Over the target area, the heavy flak was only moderate in intensity, but heavy crews reported intense light flak from the decks. Nearly all our aircraft bombed from above 17,000 feet, and only three aircraft sustained minor damage.

Photographic evidence was also noted of heavy flak; one-third of the aircraft plotted nothing, and the other two-thirds light flak, while very few shot searchlights.

(b) Night Fighters

Enemy air base traffic revealed the presence of night fighters in the area of the target area. Searchlights were seen to be operating in the interior zones, but there is evidence of at least four aircraft, two of which resulted in victories for the night fighters. Part of this effort was probably directed against our night fighter activities in the darkness.

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... the end

to six miles over land. The crew of a Lancaster sustained the destruction of a Ju.88 and the crew of a Halifax shot down a Ju.110. These combats took place over the sea and the crew of the bomber's crew is supported by our own pilot observation. In the other attacks our gunners drove the fighters away and it is to be hoped that some of our returning bombers sustained no fighter damage.

Statistics

| | |
|------------------------------|---------|
| No. of aircraft missing..... | 2(2.1) |
| " damaged (a) by flak..... | 3 |
| (b) by fighters..... | - |
| (c) by other causes..... | - |
| Total damaged..... | 3(1.55) |

Two of the missing aircraft were probably shot down in the target area. If these were coned by searchlights; intense flak and heavy flak set the aircraft on fire and it crashed in flames. The third aircraft exploded mid-air following a concentration of heavy flak. A third bomber was seen crash in flames near Schilling but the cause is not known.

The fourth aircraft was probably shot down over the sea by controlled fighters off the island of Berkau.

MISPLACING

Statistics

| | |
|--|--------|
| (a) No. of aircraft despatched..... | 89 |
| (b) " reporting minor land in primary area.. | 74 |
| (c) " abortive sorties { technical defect..... | 5 |
| { unable to identify target..... | 3 |
| { minor fuel shortage..... | 3 |
| { sickness of crew..... | 1 |
| { hit by flak..... | 1 |
| (d) " aircraft missing..... | 2(2.2) |

Weather Experienced

France:- Cloudless over land, increasing gradually over Channel to 10/10ths over N. France, base 1-2,000 feet, tops 3-4,000 feet; then dispersing to 5/10ths. Visibility moderate.
 Winds: Channel, 4-7,000 feet - 300-320°/20 m.p.h.
 France, 1-6,000 feet - 060-080°/30-40 m.p.h.
 Friesians:- As with Denmark.
 The moon was above the horizon and 95% full.

Units

Of 89 Stirlings, Halifaxes and Wellingtons, 3, 3, and 6 groups despatched at dusk to lay mines off the coast of France, reached their targets, laying 187 mines, including 30 for the Friesians. 1 aircraft did not return from the Friesians.

Remarks

West France
 There were reports of searchlights operating with light flares at a point on the Atlantic coast line. One of our aircraft sustained damage. There were no reports of night fighter activity and no of our aircraft was missing.

Prisians(a) Flak: Searchlights

Light flak was reported over Prisians and Wharfedale. There were a few observations of searchlights but, in the bright moonlight, at a height of only 2,000 feet, our aircraft would have been visual targets. Five of our returning aircraft were damaged by light flak, sustained at heights below 1,000 feet.

(b) Fighters

There was a large amount of fighter activity, but this was probably favoured by the bright moon and visibility. One of our returning aircraft reported three attacks, three approaches and one landing.

The three attacks are interesting in that in each case, the fighter obtained contact with our aircraft when the navigator was pinpointing his position at the coastlines at a height of approximately 2,000 feet. In two of these instances there was searchlight co-operation to assist the night fighter. Our aircraft took suitable defensive action and only one aircraft sustained minor damage.

In further combat off Wickborough Head a Wellington (428 K) claimed to have shot down the attacking night fighter in flames.

Casualties

| | | |
|-----|------------------------------|---------|
| 16. | No. of aircraft missing..... | 2(2.2.) |
| | " damaged (a) flak..... | 5 |
| | (b) fighter..... | 1 |
| | (c) not enemy action..... | - |
| | Total damaged..... | 6(6.6.) |

Enemy wireless traffic revealed a pursuit and claimed a victory in the area of our minelaying. There was no confirmatory observation but, in view of the fighter activity, this claim seems reasonable.

The other aircraft missing from minelaying was probably shot down by light flak from ashly off the island of Wiceland.

REUFES

17. 5 Whitleys of 91 Group were dispatched to Paris, and 4 Wellington III's of 92 Group to Orleans, to drop leaflets. All the Whitleys completed their task successfully, and returned safely to base, 2 of the Wellingtons reached their target; a third did not get to the result of a navigational error, an engine failure and the loss of Chartron. The fourth aircraft did not return.

Enemy Defences

18. The Whitley encountered rather to heavy flak at several points en route, and two of the aircraft sustained damage. There was one sighting of an enemy night fighter, but no attack developed.

The Wellingtons avoided all defences, but encountered one night fighter. There was one sighting but, in view of the fighter approaching from the rear, it is unlikely that the crews had ample warning. This did not require any defensive action. One of the encounters resulted in non-damage to our aircraft.

There is no evidence of any other night fighter was lost.

...../ APPENDIX

APPENDIXFiring of Attack

P.F.P. aircraft released markers between 2039 and 2052 hours (planned period: 2030-2043 hours).

| <u>Time</u> | <u>Planned</u> | <u>Observed</u> |
|-------------|----------------|-----------------|
| 2029 | - | 1 |
| 2030 | 2x | 1x |
| 2031 | 2x + 1 | 2x + 1 |
| 2032 | 1x | - |
| 2033 | 1x - 0 | 1 |
| 2034 | 1x + 1 | 1x + 1 |
| 2034½ | - | 1 |
| 2035 | 1x + 1 | 2x |
| 2035½ | - | 1x |
| 2036 | 1x | - |
| 2037 | 1x + 1 | 1x |
| 2038 | 1x | - |
| 2039 | 1x + 1 | 2 |
| 2039½ | - | 1x |
| 2040 | 1 | - |
| 2041 | 1x + 1 | - |
| 2041½ | - | 1 |
| 2042 | 1 | - |
| 2043 | 1 | - |
| 2043 | - | 1x |
| 2052 | - | 1x + 1 |

x Denotes B-29 - equipped aircraft.

Main Force

| | |
|---|------------|
| 2 aircraft attacked 11 early..... | 2 |
| No. of aircraft attacking within planned period (2031 - 2043)..... | 151 |
| No. of aircraft attacking 11-61 1st..... | 4 |
| | <u>157</u> |

Mark Loads

II (of aircraft reporting attack on primary)

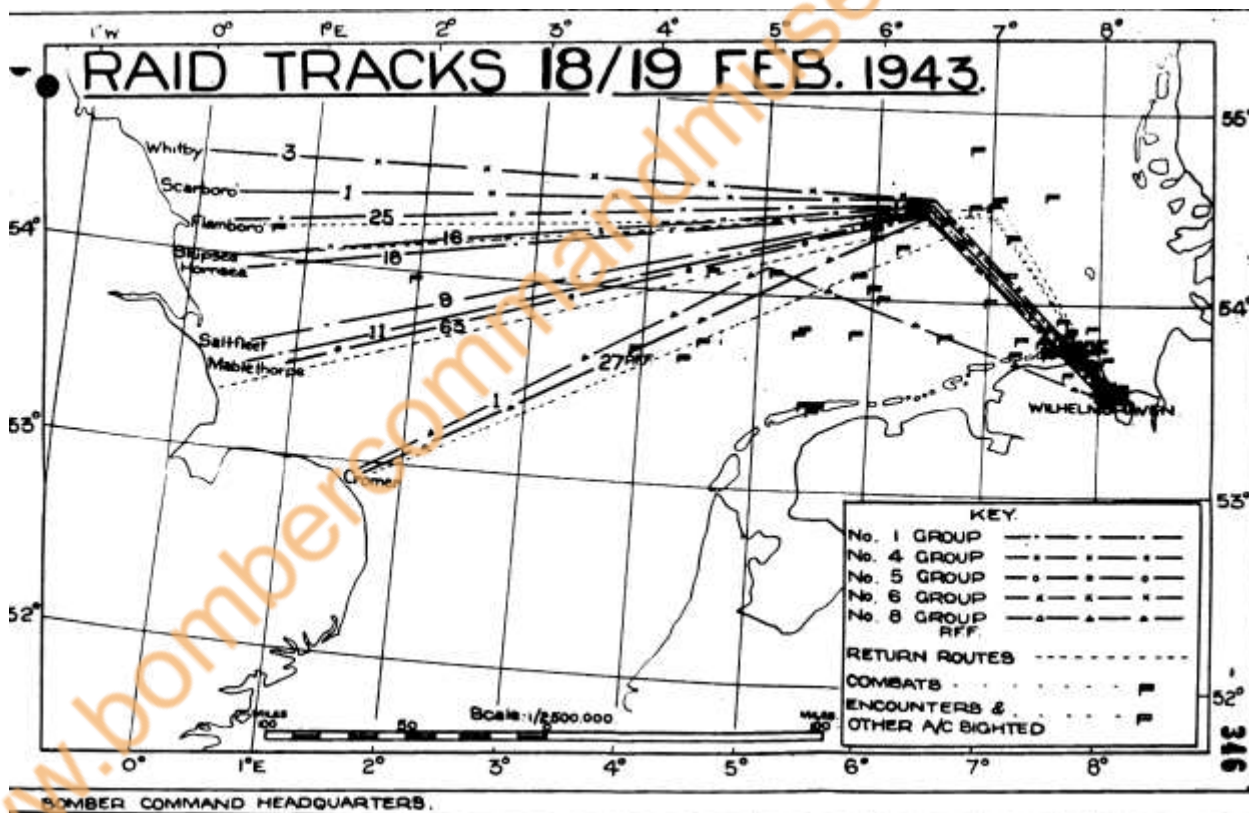
| | |
|--|------------|
| No. of aircraft carrying T.I. markers + M.O..... | 21x |
| " " " T.I. + M.O. + flares..... | 1x |
| " " " 4-lb. + 5' 1b. incendiaries..... | 1+ |
| " " " 50-lb. + 4,000 lb. incendiaries..... | 4+ |
| " " " T.I. + M.O. incendiaries..... | 33 |
| " " " 4-lb. + 5' 1b. incendiaries..... | 20 |
| " " " T.I. + M.O. + 5' 1b. incendiaries..... | 81 |
| | <u>181</u> |

x B-29.

+ B-29 unit, attacking 11-61 1st area.

11/4/47.
11/13. 26x.2/3/ORS.
11/14. 19/3.

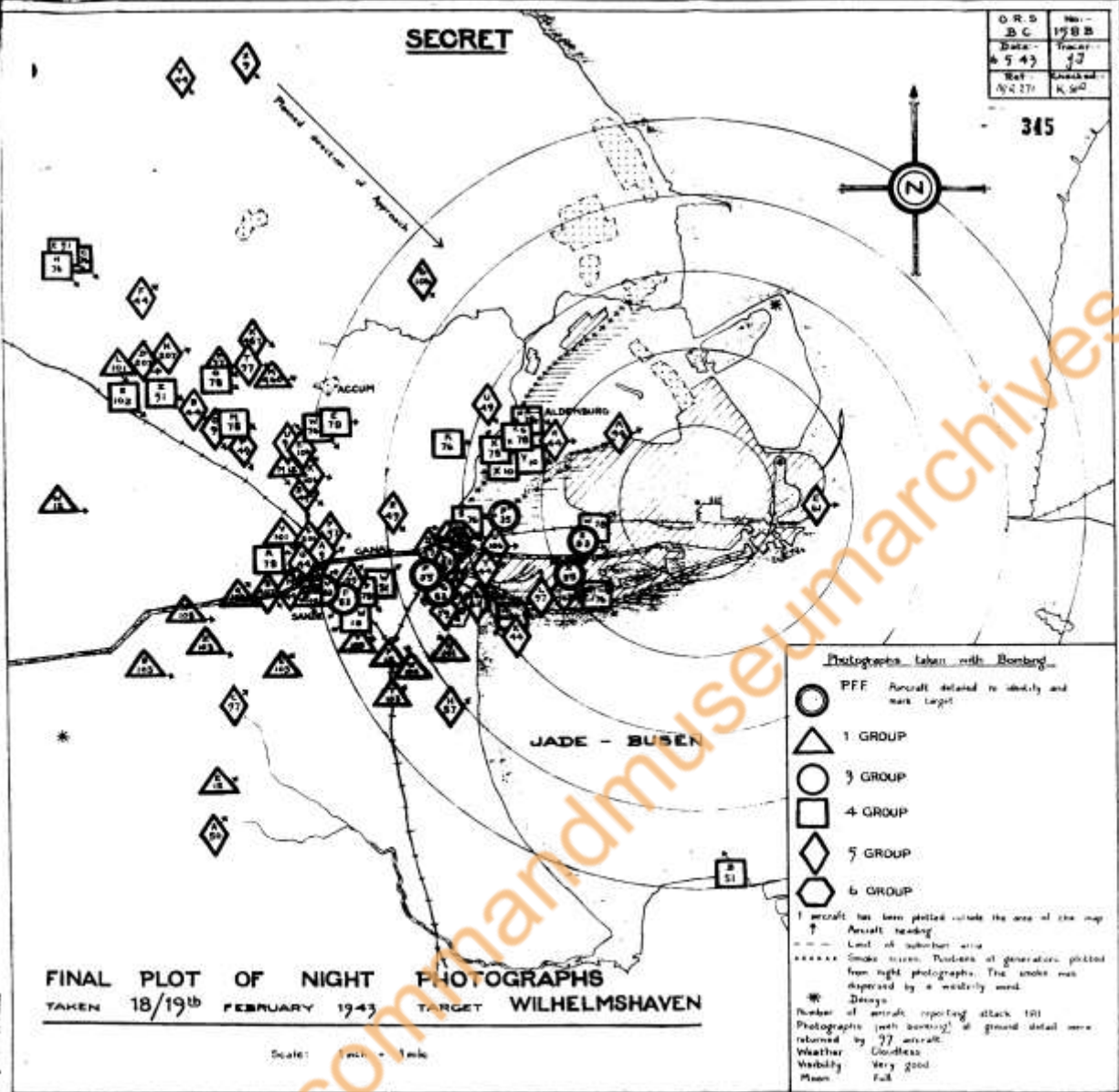
| | | | prim. area | alt. area | over en-territ. | not over en-territ. | flak fighter | not E/A | not attacked | not attacked | tons of bombs | |
|----------------------------|--------------|------------|------------|-----------|-----------------|---------------------|--------------|---------|--------------|--------------|--|----|
| D.H. 8 | 8 P.M.V. | Lenoxton I | 9(2a) | 9(2a) | - | - | - | - | - | - | 12,000 lbs including 117,000 lb. (K) 7.1 7.1 | |
| | 8 P.M.V. | Stirling I | 9(1a) | 6(1a) | - | 2 | 1 | - | - | 2 | | |
| | 8 P.M.V. | Halifax Z | 12 | 12 | - | - | - | - | - | - | | |
| | 1 | Lenoxton I | 39 | 37 | - | 4 | 1 | - | - | 8 | | |
| | 4 | Halifax Z | 43 | 41 | - | - | 2 | - | - | 5 | | |
| | 5 | Lenoxton I | 41 | 37 | - | - | 1 | 3 | - | 4 | | |
| 5 | Lenoxton III | 38 | 36 | - | - | 1 | 1 | 1 | 3 | | | |
| 6 | Halifax Z | 4 | 3 | - | - | 1 | - | - | - | - | | |
| TOTAL | | | 195 | 181 | - | 3 | 7 | 4 | 3 | - | 4 | 22 |
| * aircraft with Main Force | | | | | | | | | | | | |
| W. POINT | 1 | W.L.III | 8 | 6 | - | 2 | - | 1 | - | - | 12 tons | |
| W. POINT | 1 | W.L.III | 7 | 4 | - | 3 | - | 1 | - | - | 8 tons | |
| W. POINT | 1 | Stirling Z | 3 | 2 | - | 1 | - | - | - | - | 5 tons | |
| W. POINT | 3 | Stirling I | 16 | 15 | - | 1 | - | - | - | - | 60 tons | |
| W. POINT | 3 | W.L.III | 4 | 3 | - | 1 | - | - | - | - | 6 tons | |
| W. POINT | 4 | Halifax II | 13 | 10 | - | 1 | 1 | 1 | 1.0 | - | 24 tons | |
| | 4 | Halifax Z | 8 | 8 | - | - | - | - | - | - | 20 tons | |
| | 6 | Halifax II | 15 | 12 | - | 2 | - | 1 | - | 1 | 24 tons | |
| | 6 | W.L.III | 10 | 9 | - | 1 | - | - | 1.0 | - | 18 tons | |
| | 6 | W.L.X | 5 | 5 | - | - | - | - | - | 2 | 10 tons | |
| | 6 | W.L.III | 5 | 5 | - | - | - | - | - | 2 | 10 tons | |
| TOTAL | | | 89 | 74 | - | 12 | 1 | 2 | 2.0 | 1 | 107 tons | |
| W. POINT | 91 | W.L.III | 5 | 5 | - | - | - | 1.0 | - | - | 2 | |
| W. POINT | 92 | W.L.III | 4 | 2 | 1 | - | 1 | - | 1 | - | | |
| TOTAL | | | 9 | 7 | 1 | - | 1 | 1.0 | 1 | - | 3 | |
| TOTAL | | | 293 | 262 | 1 | 15 | 8 | 7 | 5.0 | 2 | 29 | |



SECRET

| | |
|------------------|----------------------|
| O.R.S. B.C. | No. - 1988 |
| Date - 4 5 43 | Tracer - 13 |
| Ref. N2277 | Checked by A. 507 |

345



FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN 18/19th FEBRUARY 1943 TARGET WILHELMSHAVEN

Scale: 1 inch = 1 mile

- Photographs taken with Bombs...
- PFF Aircraft detailed to identify and mark target
 - △ 1 GROUP
 - 3 GROUP
 - 4 GROUP
 - ◇ 5 GROUP
 - ⬡ 6 GROUP
 - ↑ Aircraft has been plotted outside the area of the map
 - ↑ Aircraft heading
 - Limit of subsonic area
 - Smoke screen. Positions of generators plotted from night photographs. The smoke was dispersed by a westerly wind.
 - * Density
 - Number of aircraft reporting attack 101
 - Photographs (with bearings) of ground detail were returned by 77 aircraft.
 - Weather Cloudless
 - Visibility Very good
 - Moon Full

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centre of the concentration of T.I. already on the ground, at intervals of one or two minutes from zero to zero + 20.

3 Further P.F. aircraft were to attack with the main force, lining their H.E. and incendiaries on the designated centre of the T.I.'s at zero + 6.

If cloud conditions made it necessary, a combination of sky-marking and ground marking was to be used. 'Y' aircraft, after dropping green steady burning signal at position 5948N. 0728E., were to drop release-point flares (red with green stars), burning at 12-15,000 ft. Early P.F. aircraft were to aim their T.I. and H.E. at these sky-markers on an exact heading of 402°; whilst later pathfinders were to drop their markers and H.E. at those already down. Aircraft of the main force were to aim at the centre of the concentration of T.I. seen through the cloud.

Timing:

| | | |
|---|------------------|-----------------|
| 6 'Y' aircraft of P.F.F. - groundmarking H.E..... | 2 - 1 | |
| 6 aircraft of P.F.F. - illumination if necessary..... | 2 - 1 | |
| 22 aircraft of P.F.F. - 'backers up'..... | 2 to 2 + 20 | |
| 3 P.F.F. aircraft | } main force.... | |
| 193 heavies | | 2 + 1 to 2 + 30 |
| 128 mediums | | |

Statistics

| | | |
|--------|--|-----------|
| 4. (a) | No. of aircraft despatched..... | 338 |
| (b) | " reporting attack on primary area..... | 300(88.8) |
| (c) | " " " alternative area..... | 3(0.9) |
| (d) | " abortive sorties (technical defect.....21) | 24(7.0) |
| | (sickness of crew..... 1) | |
| | (late take-off..... 1) | |
| | (bombs fell safe..... 1) | |
| (e) | " aircraft missing..... | 11(3.3%) |

Weather Experienced

5. Home Bases:- Fog developed in most areas during the night, apart from 91 and 92 Groups.

Route:- 4-8/10ths, alto-cumulus, base 12-15,000 feet. Visibility moderate.

Target:- Cloud: well broken medium cloud, base 17,000 feet, nil at times. Very variable low cloud, 0-7/10ths, base 1,500-2,500 feet, tops 3,500-4,500 feet.

Visibility: All pilots reported a haze layer over the target. The fact that this layer was at times broken (one report implies 7-8/10ths), and that the surface wind at the time of attack was at least 10 m.p.h., suggests that a smoke screen was in operation. 3 reports state this positively.

Moon: Above the horizon and 100% of full; fairly low and ahead but slightly to port of the aircraft as they approached the target from the last turning-point.

Narrative of Attack

6. The ground flares at the last turning point were dropped on time, and were apparently accurate for position.

7. Sky marking was employed as the Pathfinder force adhered fairly closely to its planned timing up to zero + 12 mins (as detailed in appendix I). The attack was headed by 4 'Y' type aircraft, all of which bombed within 5 minutes of their appointed time. 5 pathfinders which attacked with their H.E.

...../bombs

did not drop their T.I. markers, because they were unable to identify the aiming point visually and because their bombights were up. One aircraft dropped skymarker flares; this was at 2000-1, on time. Flare-sticks were dropped, owing to the low cloud, except by 1 aircraft, which accidentally dropped them in a salvo at zero hour with the T.I. markers and bombs.

The main force bombed between zero-1 and zero + 33 minutes, but over 80% of the aircraft reporting attack did so between zero and zero + 15 minutes. Although no incendiaries should have been dropped before zero + 6 minutes, 66 loads which included such bombs were released before that time.

Crews had great difficulty in identifying ground detail in the target area; a troublesome veiling effect was caused by the reflection on the thin layer of the moon, which was low and ahead of aircraft. Bombs and the incendiaries dropped by the Y-type Pathfinders.

At least half of the pilots' reports suggest that a heavy concentration of bombing was achieved in the position marked by the Pathfinders. A number of incendiary loads were attracted by the Rustersiel decoy, including at least one of the T.I. markers at 2002 hours.

1 aircraft attacked Spiekeroog and 2 others jettisoned their loads over enemy territory, i.e. 2 miles N. of Sever and 5 miles N. of Wilhelmshaven.

14 aircraft (p.34) did not return.

Photographic Evidence

(a) Night photographs.

| | |
|---|-------------|
| With ground detail, plotted..... | 15 |
| " " unplotted..... | 15 |
| With fire-tracks only..... | approx. 150 |
| Photographs plotted within 3 miles..... | 3 |
| " " between 3 and 5 miles..... | 8 |
| " " outside 5 miles..... | 4 |
| No. of aircraft reporting attack..... | 300 |

Conditions of cloud and haze greatly restricted photographic results, so that the majority of the night photographs show only cloud or fire-tracks.

Eight aircraft have been plotted in the northern suburbs at Wilhelmshaven, where the approximate positions of two T.I. markers have been identified; the photographs suggest that a concentration of attack was aimed here, but the sample is rather small for any very reliable conclusions to be drawn.

The rest of the plotted photographs, as well as those remaining unplotted, some of which show open country and mud-flats, indicate that a general scattered bombing took place. One of the unplotted photographs certainly shows part of the built-up area of Wilhelmshaven and another shows the smoke screen that forms part of the port's defences.

The lighted decoy at Rustersiel was evidently in action.

(b) Day Reconnaissance

Details of day recon used at Wilhelmshaven in the three R.A.F. raids on 18th, 18/19th and 19/20th February, and in the U.S.A.F. attack on 27th February, have been published in Night Mail report No. 260, since the bulk of the reconnaissance was carried out on the night of 18/19th February.

..... Navigational Aids

Navigation Aids (600)

8. The Virginia frequency and the Eastern Chain were used. Of the 284 aircraft taking part, 223 returned useful information and 206 made successful use of A.C. The average range was 275 miles with a maximum of 325 miles. A and C signals were weakest, and A was reported to have failed earlier than B. The interference was similar to that experienced on the previous night.

Blind Bombing Aids (H₂S)

9. Only 6 Y-type aircraft were despatched, all Hifaxes of 35 Squadron. One experienced set trouble, and reverted to the role of "backer-up". The remaining 5 completed their task successfully, laying ground markers on what was believed to be the target. One of these also dropped skymarkers.

Photographic evidence, however, shows that the majority mistook Himmelsdorf to the north of the town, for Wilhelmshaven itself. 2 Y-type aircraft have been plotted in this area. Himmelsdorf is a new suburb, not shown on most maps, so that the error was pardonable. It is suspected also that the conditions of low tide, exposing extensive mud flats, caused some confusion.

It should be noted that on this night, the Y-type aircraft all bombed at the opening of the attack, and that a fairly good concentration was achieved in the area which they decided to bomb. This is in contrast to the previous night, when the Y aircraft were spread throughout the raid and the attack was probably much more scattered.

All Y aircraft returned safely to base.

Defences

10. (a) Flak and Searchlights

Less than 10 searchlights were operating in the target area, where 10/10ths low cloud rendered them ineffective. On the Frisian Islands, at Heligoland and at Schillig the weather was clearer and there was considerable searchlight activity, operating chiefly in conjunction with light flak. In addition to these defences, several ships off the islands fired light flak. In the target area, there was the usual light flak barrage near the docks, but the heavy flak was reported as only moderate and rather inaccurate. 7 of our returning aircraft received minor damage from heavy flak, all sustained over or near the target area. Soon after zero hour there were several sightings of scarecrow phenomena and many crews, still some distance from the target, reported these flares as aircraft shot down.

(b) Fighters

Enemy wireless traffic revealed the presence of a few controlled patrols but they were mostly covering possible raids on more inland targets. At least three attempted pursuits were directed against our aircraft. Two of these pursuits developed into attacks and one resulted in a Sieg Heil. Returning crews reported numerous sightings of enemy fighters, a fair proportion of which were over the sea. In all, there were reports of 5 attacks, 21 approaches and 12 followings.

Previous to the combat near Sickerberg, our aircraft had been ordered. The fighter approached with navigational lights on, but these and the searchlight extinguished as the combat began. The aircraft took offensive action and avoided without sustaining any damage.

A Killington (166) was attacked by an Me. 110 over the Bight and, having sustained considerable damage, crashed on return and was totally destroyed. The night fighter was claimed as destroyed and overheard wireless traffic confirmed that the enemy aircraft had been destroyed in fire. Two more of our returning aircraft sustained damage from enemy night fighters.

...../Casualties

Statistics

No. of aircraft missing.....11(3.3)
 " " damaged (a) flak..... 7
 (b) fighter..... 3
 (c) not enemy action..... 2
 Total damaged 12(3.5)

On this night our aircraft deviated somewhat from the planned route. There were several observations of aircraft near Heligoland and the Western Frisians.

The moon was full and in the good visibility there were many observations of aircraft shot down. The presence of searchcrew flares made it difficult to interpret all observations, but it seems probable that ten of our aircraft were shot down by heavy flak over the target area. Heavy and light flak was mounted for another aircraft half an hour. A searchlight came over Heligoland and one aircraft was probably destroyed by light flak fired from ships off Heligoland and Langeland.

There were observations of five aircraft seen shot down by night fighters; four over the sea from Terschelling to Heligoland. There is evidence from forward wireless traffic that at least one of these fighters was S.O.I. controlled. There was a further observation of an aircraft shot down over the sea, but no evidence as to the cause.

Thus, of the eleven aircraft missing it seems probable that three were lost to heavy flak, two to light flak, five to fighters and one to causes unknown.

A Wellington (305 L) came down in the sea forty miles from Great Ormeau, and all the crew were rescued by Air Sea Rescue Service. The forward engine was unserviceable, but the precise cause of the failure is unknown.

Wilhelmshaven is usually raided at low cost, and our losses on this night were comparatively high. The attached map shows the briefed route, the estimated positions at which our missing aircraft were probably lost and the positions of attacks and approaches. This map reveals the scatter of our aircraft and it appears that the failure of our crews to keep together was an important factor in increasing the losses sustained.

ESSEN: DORTMUND

2 Mosquitos of 109 Squadron, equipped with Oboc, were despatched on nuisance raids against Essen and Dortmund respectively. Both attacked their targets, which were covered with 10/10ths low cloud, base 3-4,000 feet, with thick haze. Details:

| No. | Target | Control Stations | | Track | Time | | Results |
|-----|----------|------------------|-------------|-------|-------------------|------|---|
| | | Tracking | Reference | | Detailed Attacked | | |
| 1 | Essen | Wingate | Dortmund II | 178° | 2100 | 2052 | 4 air /c equipment reported in pulse. 1 air search intermittent |
| 2 | Dortmund | Wingate | Dortmund I | 178 | 2100 | 2100 | 1 air /c, but in search. |

Over Essen, heavy flak was encountered after the first 1000 ft. Heavy flak was fired in only one direction of flak, the other direction being clear of the target. Both our aircraft returned safely without any damage.

...../.....

APPENDIXTiming of Attack

| I. | <u>Pathfinder Force</u> | | <u>Main Force</u> |
|-------------------|-------------------------------------|---|----------------------|
| | <u>Planned</u> | <u>Arrived</u> | |
| 1958 ₂ | | 1 'Y', T.I. (35/T) | |
| 1959 | 6 'Y', T.I. or S.M. 6 Fl. & T.I. | 1 'Y', T.I. (35/O) | 1 (I.B.) |
| 1959 ₂ | | 1 'Y', T.I. & S.M. (35/O) | |
| 2000 | 3 T.I. | 1 'Y', T.I. (35/O) 2 T.I. 1 H.E. only | (2 H.E., 4 I.B.) |
| 2000 ₂ | | 1 T.I. | |
| 2001 | 2 T.I. | 3 T.I. | 14 (4 H.E., 7 I.B.) |
| 2002 | 1 T.I. | 1 'Y' T.I. (35/R) 1 T.I. 1 H.E. only | 9 (6 H.E., 3 I.B.) |
| 2002 ₂ | | 1 T.I. | |
| 2003 | 1 T.I. | 1 H.E. only | |
| 2004 | 1 T.I. | 2 H.E. only | 22 (4 H.E., 18 I.B.) |
| 2005 | | 1 T.I. | 15 (15 I.B.) |
| 2006 | | 1 'Y' T.I.* (35/R) 3 T.I. | 22 (4 H.E., 18 I.B.) |
| 2006 | 1 T.I. | | 59 (4 H.E., 55 I.B.) |
| 2007 | | 2 T.I. | 31 (4 H.E., 27 I.B.) |
| 2008 | 1 T.I. | | 21 (2 H.E., 19 I.B.) |
| 2009 | | | 17 (1 H.E., 16 I.B.) |
| 2010 | 1 T.I. | 1 T.I. | 8 (8 I.B.) |
| 2011 | | | 8 (2 H.E., 6 I.B.) |
| 2012 | 1 T.I. | 1 T.I. | 6 (1 H.E., 5 I.B.) |
| 2013 | | | 7 (1 H.E., 6 I.B.) |
| 2014 | 1 T.I. | | 3 (3 I.B.) |
| 2015 | | | 2 (2 I.B.) |
| 2016 | 1 T.I. | | 6 (6 I.B.) |
| 2017 | | | 2 (2 I.B.) |
| 2018 | 1 T.I. | 1 T.I. | |
| 2019 | | | 2 (2 I.B.) |
| 2020 | 1 T.I. | | 1 (1 I.B.) |
| 2021 | | | 4 (4 I.B.) |
| 2023 | | | 1 (1 I.B.) |
| 2024 | | | 3 (1 H.E., 2 I.B.) |
| 2026 | | | 1 (1 I.B.) |
| 2027 | | | 1 (1 I.B.) |
| 2028 | | | 1 (1 I.B.) |
| 2029 | | | 1 (1 H.E.) |
| 2030 | | | 1 (1 I.B.) |
| et al | 30 | 28 | 272 |

S.M. Sky Marker Flares
 'Y' Aircraft carrying H.E. Pathfinders
 'R' Aircraft carrying H.E. I.B.
 H.E. Submunition Flares

* BS unserviceable.

...../Bomb Loads

ands

(of aircraft reporting attack on primary)

P.P.F.

| | |
|--|----|
| No. of aircraft carrying Hares + T.I. + H.B..... | 19 |
| " " " T.I. + H.B..... | 16 |
| | 35 |

Main Force

| | |
|---|----|
| No. of aircraft carrying 4 lb. incendiaries only..... | 1 |
| " " 30 lb. incendiaries only..... | 1 |
| " " H.B. only..... | 32 |
| " " 4 lb. + 30 lb. incendiaries..... | 4 |
| " " H.B. + 4 lb. incendiaries..... | 1 |
| " " H.B. + 30 lb. incendiaries..... | 1 |
| " " H.B. + 4 lb. + 30 lb. incendiaries..... | 19 |
| | 71 |

26342/3/OPS.
April, 1943.

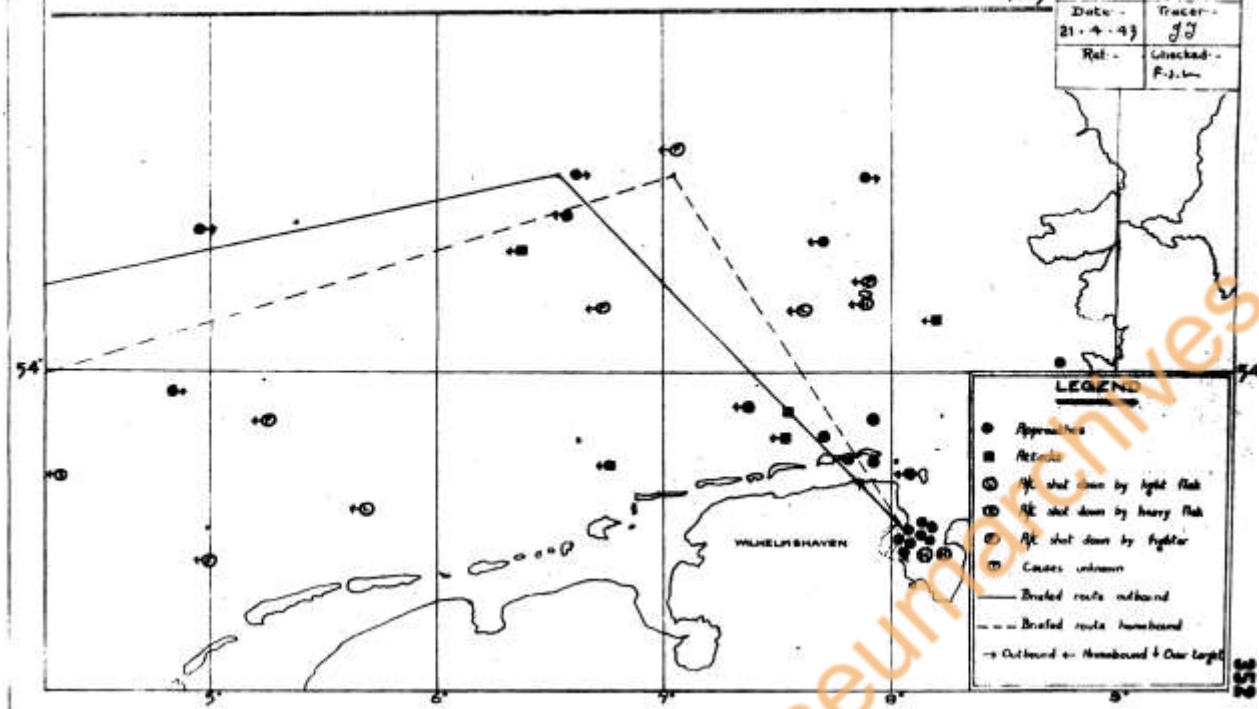
| TYPE | NO. | DESCRIPTION | min. over | alt. over | over un-territ. | not over un-territ. | rank | lights | not seen | stopped | not taken | Remarks |
|-------|-----|--------------|-----------|-----------|-----------------|---------------------|------|--------|----------|---------|-----------|---------|
| 1 | 1 | Handover I | 19(3*) | 17(1*) | - | - | 2* | 1 | - | - | 1 | 1000 |
| 1 | 1 | Handover II | 17 | 12 | - | - | - | - | - | - | - | 1000 |
| 1 | 1 | Handover III | 24 | 19 | - | 4 | 1 | - | - | - | 6 | 1000 |
| 1 | 1 | Handover IV | 0 | 5 | - | 3 | - | - | 10 | - | - | 1000 |
| 3 | 3 | Stirling I | 51 | 37 | 1 | 9 | 4 | 1 | - | 1 | 2 | 1000 |
| 3 | 3 | Stirling III | 3 | 3 | - | 1 | 1 | 1 | - | - | 1 | 1000 |
| 3 | 3 | Handover III | 4 | 4 | - | - | - | - | - | - | - | 1000 |
| 4 | 4 | Handover II | 25 | 26 | - | 1 | - | - | 1 | - | 5 | 1000 |
| 4 | 4 | Handover II | 19 | 17 | 1 | 1 | 1 | 1 | - | 1 | 5 | 1000 |
| 4 | 4 | Handover III | 6 | 6 | - | - | - | 1 | - | - | - | 1000 |
| 4 | 4 | Handover III | 19 | 17 | - | 1 | 1 | - | - | 1 | 2 | 1000 |
| 4 | 4 | Handover I | 22 | 22 | - | - | 1 | 1 | - | - | 3 | 1000 |
| 5 | 5 | Handover III | 11 | 6 | - | 1 | 2 | - | - | - | 5 | 1000 |
| 6 | 6 | Handover II | 24(5*) | 23(5*) | 1 | - | - | - | - | - | - | 1000 |
| 6 | 6 | Handover III | 56 | 53 | - | 2 | 1 | - | - | 1 | - | 1000 |
| 6 | 6 | Handover X | 3 | 3 | - | - | - | 100 | - | - | - | 1000 |
| TOTAL | | | 358 | 300 | 3 | 23 | 11 | 100 | 10 | 10 | 5 | 35 |
| TOTAL | | | 360 | 302 | 3 | 23 | 11 | 100 | 10 | 10 | 5 | 35 |

* Not main force *0 type

www.bombardier.commandmuseumarchives.ca

POSITIONS OF REPORTED LOSSES AND INTERCEPTIONS 19/20 FEB. 1943

| | |
|-------------------|---------------------|
| O.R.S. B.C. | No - 154 B |
| Date - 21.4.43 | Tracer - JJ |
| Ref - | Checked - F.J.L. |



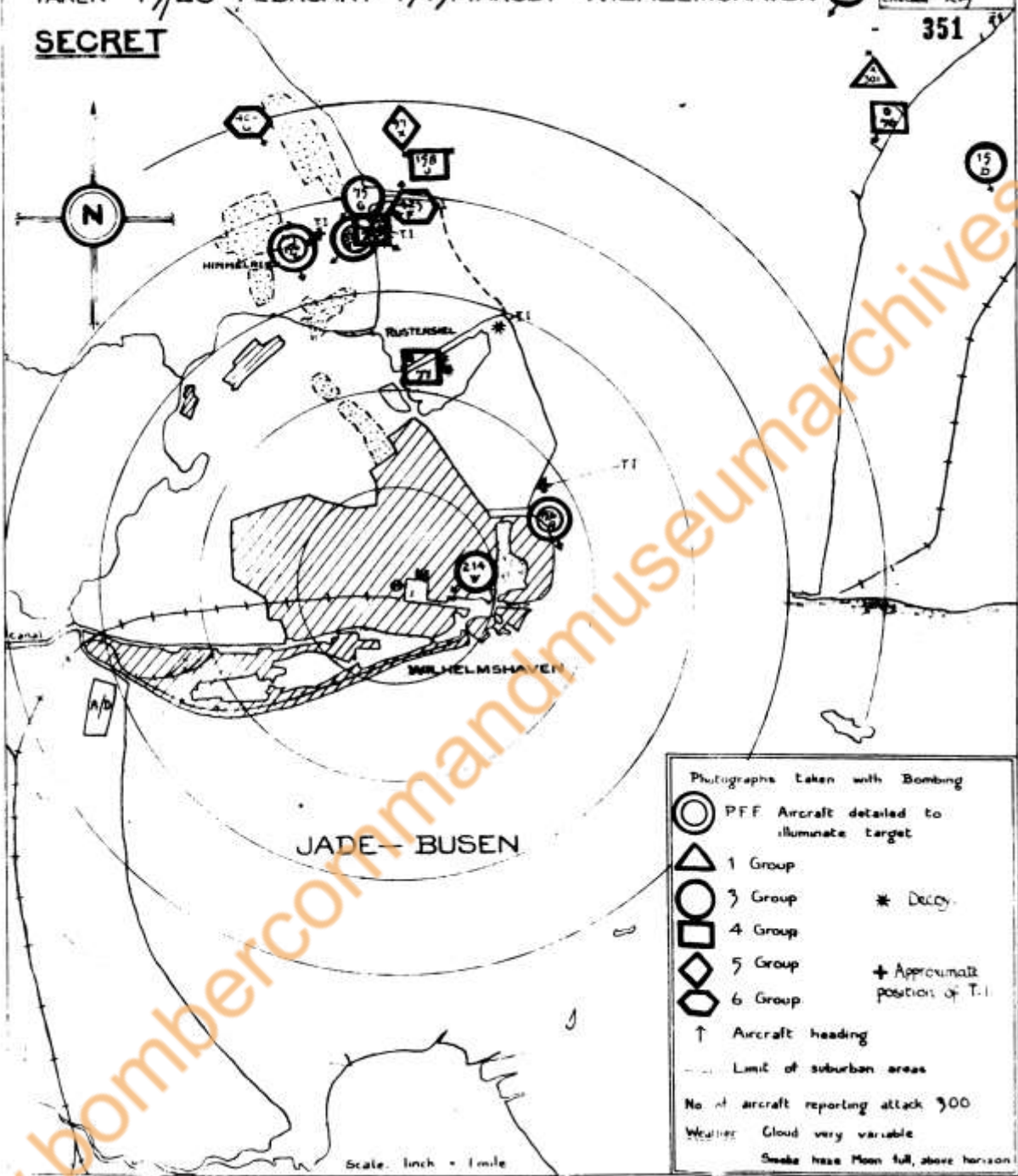
www.bombercommandmuseumarchives.ca

FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN 19/20 FEBRUARY 1943: TARGET WILHELMSHAVEN

ORS B.C. 152 B
 Date: 11. 4. 43
 Tracer: 3. 2.
 Ref: N/A 272
 Checked: K. 99

SECRET

351



Photographs Taken with Bombing

| | |
|-----|--|
| ⊙ | PFF Aircraft detailed to illuminate target |
| △ | 1 Group |
| ○ | 3 Group |
| □ | 4 Group |
| ◇ | 5 Group |
| ⬠ | 6 Group |
| ↑ | Aircraft heading |
| --- | Limit of suburban areas |
| * | Decey |
| + | Approximate position of T.I. |

No. of aircraft reporting attack 300
 Weather: Cloud very variable
 Smoke: haze Moon full, above horizon

www.bombercommandmuseumarchives.ca

COPY NO. 16

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 20/21st FEBRUARY, 1943.Mine-laying (Frisians)SUMMARY

18 out of 20 Wellington III's of 6 Group laid 35 mines in the Frisians.

1 aircraft did not return. It is believed to have been shot down by the sea by flak-ships.

Metereological forecast

Home Bases:- An anti-cyclone moving S.E. will result in an early deterioration of visibility in southern areas. 8-10/10ths strato-cumulus will probably persist in 1, 2, 3 and 5 Groups and in the south of 4 Group until 2200 hours, then dissipating quickly, with visibility falling from 1,000 yards to 1,000-1,500 yards. If the strato-cumulus does not persist, fog will form before 2200 hours. 6 Group will have visibility of not less than 2,000 yards by midnight, and will be available for diversion. Low stratus is expected in the south-west.

Germany:- Generally, all broken layer cloud at various levels.

N. Italy:- Little or no cloud, moderate visibility till late.

N. France:- Little or no cloud. Visibility moderate, with fog patches drifting from the shore.

N.E. Baltic:- Broken cloud, above 1,000 feet. Good visibility.

Other mining areas:- Variable strato-cumulus, base 1,500 feet, tops 4,000 feet. Considerable haze. Visibility moderate to poor.

Sorties

| | | |
|-----|---|---------|
| (a) | No. of aircraft despatched..... | 20 |
| (b) | " reporting mines laid in primary area..... | 18 |
| (c) | " abortive sorties (technical defect.....) | 1 |
| (d) | " aircraft missing..... | 1 (5.0) |
| (e) | " mines laid..... | 35 |

Weather Experienced

Home Bases:- Much mist and fog over bases, except in Yorkshire and 1 Group. 3 Group improved temporarily after midnight, but deteriorated again towards dawn.

Route:- Much layer cloud, base 2,500 feet, near British coast, but little on rest of route. Visibility moderate.

Targets:- 8-10/10ths cloud, base 2,500 feet, tops 4,000 feet.

Visibility: 1-3 miles.

Full moon, rising on route.

...../Results

Results

4. 20 Wellington III's of 6 Group were dispatched towards dusk to lay mines off the Frisians. 18 reported reaching the target area, where 35 mines were laid.

1 aircraft did not return.

Enemy Defences5. (a) Searchlights and Flak

One searchlight was reported to be operating from the island of Terschelling together with a slight amount of light flak. Further light flak was fired from one ship off the island of Terschelling and from a convoy of 5 ships, fifteen to twenty miles north of Ameland.

(b) Fighters

There was no evidence of any night fighter activity on this night.

Casualties

6. No. of aircraft missing.....1
 " damaged (a) by flak..... -
 (b) by fighter..... -
 (c) not enemy action..... -
 Total Damaged..... -

The missing Wellington was seen to burst into flames and glide on to the water approximately twenty miles north of Ameland. This casualty occurred very near the convoy of five ships, which was reported twenty minutes previously to be firing a heavy concentration of light flak which probably resulted in this action.

MLM/VP.
 PC/S. 263.2/4/ORS.
14th April, 1943.

Mineslaying (20/21 February, 1943)

| Target | Group | Type | Sorties | A/C reporting attack on | | Aberative sorties | | Missing | Damage | | | Interceptions | | Results |
|--------------------|-------|-----------|---------|-------------------------|-----------|-------------------|---------------------|---------|--------|---------|---------|---------------|---------------|----------|
| | | | | prim. area | alt. area | over un-territ. | not over un-territ. | | flak | fighter | net R/A | attacked | not attempted | |
| <u>FRISIAN IS.</u> | 6 | Well. III | 20 | 18 | - | 1 | - | 1 | - | - | - | - | - | 35 Mines |

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 21/22nd FEBRUARY, 1943.BREMENSUMMARY

1. 143 heavy aircraft, including 130 Lancasters, set out to attack Bremen by blind bombing. The target area was covered with 10/10ths low layer cloud and no attempt at visual identification was made. 4 aircraft equipped with H2S dropped ground-markers, which were supplemented by others dropped by the "backers-up". An excellent concentration was reported.

The Main Force dropped all its bombs within 20 minutes of zero hour. 129 aircraft (90.2%) reported attack in the face of very heavy and accurate flak defences, which damaged 14 aircraft. A number of enemy fighters were observed, but no losses were incurred.

In view of the weather conditions, no successful night photographs could be obtained, and no reconnaissance has to date been undertaken.

Metereological Forecast

2. Home Bases:- All Operational Groups fit for take-off at dusk. 6 Group expects to hold visibility of 2-4 miles all night, with cloud at 2,000 feet. 1 and 4 Groups should have visibility 2,000 yards at half their bases for return. 5 and 8 Groups will probably have to divert to 91, 92, 4 and 6 Groups or S.W. England. These areas will have visibility 2,000 yards, with cloud above 1,500 feet. 3 Group is very doubtful for return after 2200 hours.

Germany:- E. of 10°E., very well broken medium and high cloud, no low cloud. Moderate visibility in N., poor in S. There is a threat of layer cloud in N.W., but this will probably be confined to the coastal strip. S. and W. Germany: mainly clear skies, but fog at surface. Bremen area (Paras 1610 hours): probably 10/10ths strato-cumulus, with fog beneath; at best, clear skies with thick haze, but this is unlikely.

N. Italy:- Clear. Moderate visibility.

W. France:- Clear skies, poor visibility. Fog patches in extreme S.

Frisians:- 10/10ths strato-cumulus, with fog or low stratus beneath.

Enemy aerodromes en route: much fog or very low stratus.

Plan of Attack

3. Zero hour: 2045

Route ordered: 5420N. 0440E. - 5300N. 0720E - BREMEN - 5352N. 0900E. - 5430N. 0630E. (For routes taken see route map)

26 aircraft of the P.F.F. were detailed for the attack on Bremen. 8 Stirlings equipped with H2S were to drop two lots of preliminary warning flares - one led over position 5330N. 0618E., the other green over position 5303N. 0813E. On reaching the target, these specially equipped aircraft were to drop their red T.I. in a salvo on the aiming point between 2 - 1 and zero hour. 18 other/P.F. aircraft

P.F. aircraft acting as "backers up" were to aim their T.I. and H.E. in salvoes at the centre of the concentration of those already on the ground. They were not to attempt to identify the target visually.

If cloud conditions made ground marking impracticable, skymarking was to be used, the 8 H2S-equipped Stirlings dropping release-point flares (red with green stars) in such a position that Main Force aircraft, bombing them on a heading of 090° Magnetic, would hit the target. If skymarking was used, the other P.F. aircraft were to join with the 125 heavies of the main force, and bomb on the release-point flares.

Timing : (1) Groundmarking method

8 H2S aircraft P.F.F. Z - 1 to Z
 18 P.F.F. "backers-up" Z + 1 to Z + 16
 125 heavies - Main Force Z to Z + 20

(2) Skymarking method

8 H2S aircraft P.F.F. Z to Z + 8
 18 other P.F.F. a/c } Main Force
 125 Heavies } Z to Z + 20

Sorties

4. (a) No. of aircraft despatched 143
 (b) " reporting attack on primary area 129 (90.2%)
 (c) " abortive sorties (technical defect) 14 (9.8%)
 (d) " aircraft missing 0

Weather Experienced

5. Home Bases:- Fog, industrial haze and low stratus below 1,000 feet developed locally before dusk, and intensified rapidly until, by midnight, almost the entire area S. of a line Flamborough-Liverpool was affected. 6 Group and most of 4 Group remained fit all night.

Route & target:- 10/10ths. layer cloud, tops 4-6,000 feet, base below 600 feet.

Moderate visibility above cloud.

Moon: 97% of full, rising on route.

Winds: North Sea - 2,000 feet 230°/25 m.p.h.
 15,000 feet 270°/30 m.p.h.
 20,000 feet 250°/20 m.p.h.

Bremen - 18-20,000 feet 270-300°/30 m.p.h.

Narrative of Attack

6. The preliminary warning flares were scattered, but the concentration of landmark flares and T.I.'s was one of the best yet achieved on a blind bombing sortie. One cluster, however, fell about 10 miles west of the main bunch.

All the Main Force bombed within 21 minutes of zero hour. Crews reported that the red markers showed up clearly through the cloud. Results could not be observed.

129 aircraft (90.2%) reported attack. No losses were incurred.

Photographic Evidence

7. (a) Night Photographs

The night photographs taken with bombing confirm that the target was
covered

covered with 10/10ths cloud. None recorded ground detail, although a number show T.I. markers and incendiaries burning beneath the cloud. 6 Pathfinders photographed T.I.'s bursting, probably their own.

(b) Day Reconnaissance

No P.R.U. cover has to date been undertaken.

Navigation Aids (Gee)

5. The Eastern chain was in operation on the Virginia frequency. Of the 15 Gee aircraft despatched, 124 made successful use of Gee, obtaining an average range of 325 miles. 0 of 7 Squadron secured the greatest range - 415 miles. The explanation of these good ranges is to be found in the propagational conditions and in the planning of the route across the N. Sea, where jamming is slight.

Blind Bombing Aids (H2S)

5. 3 of the 7 Y-type aircraft despatched returned early after experiencing trouble with their special equipment. The remaining 4 aircraft identified the target on their sets and dropped ground markers successfully. 2 of these also released sky-markers. No photographic evidence is available to determine the accuracy of the Pathfinders, but reports indicate that the concentration achieved was only fair.

All Y-type aircraft returned safely to base.

Defences

(a) Flak: Searchlights

A few searchlights were reported in the target area, but the heavy cloud conditions reduced their effectiveness. Attempts were made to coordinate sky-markers in co-operation with heavy and light flak.

Heavy flak was reported from the Frisians and thence almost continuously up the Weser estuary to the target area. P.F.P. crews arriving first at Bremen reported intense and accurate predicted flak, but the opinion of later crews was that the fire was chiefly barrage.

Fourteen of our aircraft received minor damage from heavy flak, mostly in or near the target area.

(b) Fighters

Enemy wireless traffic did not reveal any controlled fighter activity in the area of our operations. Patrols were, however, overheard covering a possible attack on either Hamburg or Osnabruck.

Low cloud and local fog made many of the enemy aerodromes unserviceable, but there were some sightings of enemy night fighters, amounting in all to 3 attacks, 18 approaches and 2 followings. In no case was a fighter able to reach a favourable position before our crews observed him and took appropriate defensive action. As a result, no fighter damage was inflicted on our aircraft.

Casualties

| | |
|------------------------------|---------|
| No. of aircraft missing..... | 0 |
| " damaged (a) flak..... | 14 |
| (b) fighters..... | 0 |
| (c) not enemy action..... | 0 |
| |14 |

None of our aircraft was missing.

..../The prevailing

The prevailing weather conditions hindered the enemy defences. Low cloud prevented close co-operation between searchlights and flak, and fighter activity was on a reduced scale.

The reason for the complete failure of fighters can only be surmised. No evidence of ground control was obtained and, aerodromes along our route being unserviceable, the fighters seen were possibly freelancers flown from distant bases. A bomber force of the moderate size sent on this night would not give many sightings to such fighters, and the high speed of the Lancasters which almost entirely comprised it would reduce the chance of converting a sighting into a favourable attacking position.

APPENDIX

Timing of Attack

I. Pathfinder Force

The four H2S aircraft dropped their groundmarkers at 2044, 2045, 2048 and 2050 respectively (planned period: 2044-2045)

All but one of the seventeen "backers-up" attacked within their planned period (2045-2101), at the following times: 2046, 2047(2), 2048(4), 2049(4), 2055(2), 2056, 2058, 2059 and 2105.

Main Force

106 aircraft attacked within planned period (2045-2105)
 2 " " 1" late.

Bomb Loads

II. Pathfinder Force

4 aircraft (y-type) carried flares + T.I. markers.
 17 " " H.E. + T.I's.

Main Force

54 aircraft carried H.E. + 30 lb. I.B.
 52 " " H.E. + 4 lb. I.B.
 2 " " 4,000 lb. gel. + 30 lb. I.B.

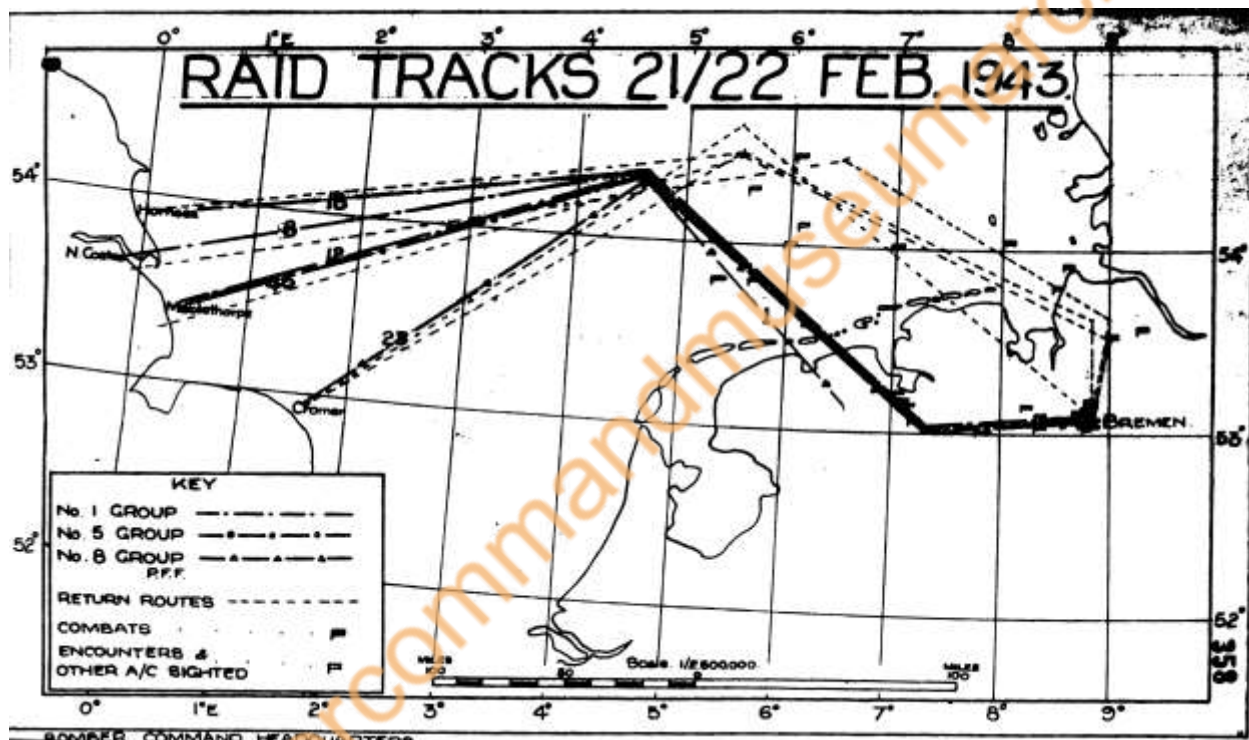
MLM/VF.
 BC/S. 26342/2/ORS.
12th May, 1943.

BREMEN (21/22 February 1943)

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | | Interceptions | | Results |
|-----------|-----------|-------------|---------|-------------------------|-----------|------------------|----------------------|---------|--------|---------|---------|---------------|--------------|---------|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | Plak | Fighter | not F/A | attacked | not attacked | |
| BREMEN | 8 P.F.F. | Lancaster B | 14(2a) | 14(2a) | - | - | - | - | - | - | - | - | 5 | (P) |
| | 8 P.F.F. | Halifax Z | 6 | 5 | - | 1 | - | 1 | - | - | - | - | - | |
| | 8 P.F.F. | Stirling I | 7 | 4 | - | 3 | - | 2 | - | - | - | - | 2 | |
| | 1 | Lancaster I | 41 | 38 | - | 3 | - | 3 | - | - | - | - | - | 4 |
| | 1 | Lanc. III | 1 | 1 | - | - | - | - | - | - | - | - | - | 1 |
| | 5 | Lancaster I | 41 | 37 | - | 4 | - | 2 | - | - | 2 | 2 | 3 | |
| 5 | Lanc. III | 33 | 30 | - | 3 | - | 6 | - | - | 1 | 5 | 5 | | |
| T O T A L | | | 143 | 129 | - | 14 | - | 14 | - | 3 | 20 | | | |

* With Main Force

(P) = on primary



BOMBER COMMAND REPORT ON NIGHT OPERATIONS 24/25th FEBRUARY, 1943.WILHELMSHAVEN: Dusseldorf: Brauweiler.SUMMARYWilhelmshaven

1. 115 aircraft of P.F.F. and 6 Group were detailed to Wilhelmshaven the third raid within a week on this target. Y-type aircraft ground-marked the target, which was obscured by 10/10ths cloud. 105 aircraft (91.3%) reported attack. Results were unobserved. A reconnaissance revealed considerable damage as the result of this attack and that carried out by the U.S.A.A.F. a few days later, including many direct hits on naval installations. All our aircraft returned safely.

Dusseldorf: Brauweiler

4 P.F.F. Mosquitoes, equipped with Oboe, were despatched on nuisance raids against Dusseldorf and Brauweiler. 3 attacks on their targets according to plan; the fourth bombed Cologne visually. All returned undamaged.

Metecrological Forecast

2. Home Bases:- Weak cold front at midnight from Flamborough to Valencia, giving a belt of medium cloud and broken layer cloud above 1,500 feet in 6,4 and 1 Groups and N. of 5 Group, with little cloud to the south. At dusk, visibility will be moderate to poor in 1,3,4,5,8,91,92 and 93 Groups, deteriorating slowly with cloudless or clearing skies. By 2200, few stations will have visibility above 1,500 yards, and from this hour conditions will rapidly become worse. All the above Groups will require diversion, e.g. to N.E. England, E.Scotland and the south coast; although the latter area is somewhat doubtful, with warm, moist air in the west. 6 and 2 Groups and northern bases will hold visibility of 1,500-2,000 yards until midnight.

Germany:- N.W.: most probably 10/10ths layer cloud with fog or very poor visibility beneath; but reports indicate that local clearances, both of cloud and visibility, exist in that area and the possibility of such clearances being over any given target must be taken into account. Cologne: probably 10/10ths strato-cumulus below 3,000 feet, possibly clear skies. Visibility very poor. Hamburg: probably 10/10ths strato-cumulus below 6,000 feet, possibly two layers, one based at 3-4,000 ft. with thin stratus below at 1,000 feet. S.Germany: clear skies, valley fog. Route over S.North Sea: W. of 5° E., 4-6/10ths strato-cumulus, base 5-6,000 feet; E. of 5° E., strato-cumulus, tops 3,000 feet, base 1,000 feet, very poor visibility below.

N. Italy:- Clear skies. Visibility moderate to poor.

W.France:- Frequent fog patches.

...../WILHELMSHAVEN

WILHELMSHAVENPlan of Attack

3. Zero hour: 2030 hours.

Route briefed: 5430N. 0630E. - WILHELMSHAVEN - 5430N. 0700E.

19 aircraft of P.F.P., including 9 equipped with H2S, were detailed for this attack. The specially equipped aircraft were to drop green steady landmark flares on track 15 miles short of the target and, if cloud conditions were suitable, were then to drop red T.I. markers on the aiming point, using their special equipment. The remaining 10 aircraft of P.F.P. were to act as "backers-up", dropping their T.I.'s at the centre of the concentration of those already on the ground. The Main Force was to consist of 27 Halifaxes and 72 Wellingtons of 6 Group, which were to bomb on the red T.I. markers. All G.P. bombs carried were to be fitted with No. 37 Pistols giving delays over the entire range available. The timing was to be as follows:-

| | | | |
|-------------|-----------|---------------------|-----------|
| P.F.P. | } | 6 Y-type..... | at zero |
| | | 2 "backers-up"..... | at Z + 2 |
| | | 1 " " | at Z + 3 |
| | | 1 " " | at Z + 4 |
| | | 3 "Y" type..... | at Z + 6 |
| | | 1 "backer-up"..... | at Z + 7 |
| | | 1 " " | at Z + 8 |
| | | 1 " " | at Z + 9 |
| | | 1 " " | at Z + 10 |
| | | 1 " " | at Z + 12 |
| 1 " " | at Z + 14 | | |

6 Group Main Force.... 99 a/s.....at Z + 3 to Z + 15

If thick cloud was encountered over the target, the Y aircraft were to drop release-point flares (red with green stars) instead of T.I. markers. "Backers-up" and Main Force aircraft were then to bomb these on an exact heading of 150°M. The timing for sky markers was to be as follows:-

| | |
|---------------------|----------|
| 3 "Y" aircraft..... | at Z |
| 1 " " | at Z + 1 |
| 1 " " | at Z + 2 |
| 1 " " | at Z + 3 |
| 1 " " | at Z + 4 |
| 1 " " | at Z + 6 |
| 1 " " | at Z + 8 |

The timing for "backers-up" and Main Force aircraft was to be the same as that given for the ground-marking method.

Sorties

| | | | |
|----|-----|---|-----------------|
| 4. | (a) | No. of aircraft despatched..... | 115 |
| | (b) | " " reporting attack on primary area..... | 105(91.5%) |
| | (c) | " abortive sorties { technical defect.....6 | } 10(8.7%) |
| | | { late.....2 | |
| | | { sickness of crew.....1 | |
| | | { cause unknown.....1 | |
| | (d) | " aircraft missing..... | 0 |

+ a/c crashed on return.

Weather Experienced

5. Home Bases:- Fog and mist prevailed in industrial areas of S. Yorkshire until midnight, when these conditions spread S. of a line Wash-Bristol Channel.
...../This area

This area was completely fogbound by dawn. N. of this line, local fog and mist developed in 1 and 5 Groups.

Route:- Small amounts of layer cloud to 6°E., thence 10/10ths., tops 3-5,000 feet, with some medium cloud above.

Winds: at 12,000 feet, 240°/35 m.p.h.
at 18,000 feet, 250°/50 m.p.h.

Target:- 10/10ths layer cloud, tops 3,000 feet. Small amounts of medium cloud above. No moon. Visibility good above cloud.

Narrative of Attack

6. All 9 Y-type aircraft attacked by zero + 6. Seven dropped groundmarkers and 3 of these and 2 others released skymarker flares. A fair concentration was achieved. 2 backers-up dropped their markers at zero + 3, the remainder between zero + 7 and zero + 17. The great majority of the Main Force bombed between zero + 3 and zero + 15, according to plan. Results could not be observed through the cloud.

105 aircraft (91.3%) reported attack. No losses were incurred.

Photographic Evidence

7. (a) Night Photographs

No photographs with ground detail were obtained this night in the conditions of 10/10ths cloud which prevailed over the target. Four P.F.F. aircraft photographed T.I. markers bursting - possibly their own.

(b) Day Reconnaissance

A reconnaissance undertaken on the evening of 27th February covers the effects of the U.S.A.A.F. raid on the afternoon, in which 97 aircraft took part, as well as those of the operation under review.

Many fresh items of destruction are observed in the town and docks area. The damage is concentrated mainly in the centre of the town near the main railway station, and appears to be due more to H.E. than fire. A large number of direct hits were scored on the dockyard buildings, quaysides and railway tracks at Strömbau Hafen and Kanal Kohlen Hafen. In the former, several buildings belonging to the Harbour Works Department were partially destroyed, and an explosion on the south quay damaged a 240 ft. oil barge, which was seen to be awash amidships. Two blocks of the barracks for submarine crews were almost completely demolished by H.E., and several others suffered from blast. Two long sheds in this area were also flattened. The central building of Fort Mariensiel (mine depot) was wholly gutted. In Schofer Hafen, both platforms of the Degaussing Range was damaged and a length of 120 ft. is missing from the east end of the southern one. A number of direct hits occurred on the railway lines serving the docks, injuring tracks and rolling stocks and derailing trucks at two points. A direct hit was also scored on the concrete ramp in front of a hangar at the seaplane base south of Hipper Hafen. The central bay of the Goods Station was demolished by H.E. and the tracks on the permanent way were destroyed at one point. 23 huts were disintegrated at Middelshof and Ebkeriege barracks, and there are at least 4 instances of damage to small unidentified factories or industrial type sheds in the former area.

Residential and commercial property suffered most heavily in the centre of the town, especially in the district north of Strömbau Hafen, which had been heavily damaged in previous raids.

..../Navigational Aids

Navigation Aids (Geo).

8. The Virginia frequency was used on the Eastern Chain. 103 Gee aircraft were despatched. The average range obtained by the 74 aircraft which experienced no set difficulties was 278 miles. W. of 424 Squadron secured the greatest range - 327 miles. The C signal was the weakest. Interference in the form of sine waves and "railings" was encountered, fairly strongly beyond 4° 30' E.

Blind Bombing Aids (H2S)

9. All the 9 Y-type aircraft completed their task successfully. 7 aircraft groundmarked, and 3 of these and 2 others dropped sky markers. 10/1 cloud made it impossible to obtain any evidence of the accuracy of the technique from night photographs. Reports vary as to the clarity of the target picture, but most navigators stated that both the town and the bay were well defined.

All Y-type aircraft returned safely to base.

Defences10. (a) Flak and Searchlights

Searchlights were reported active along the coast from Schillig and in the target area, where ten to fifteen beams were exposed. Their effectiveness was reduced by thick clouds and there were no reports of cones.

Light and heavy flak was fired from ships in the Bight and from the island of Langeroog. Heavy flak was encountered along the coast and in the target area, where it was moderate to intense. Light flak was fired from the docks and seaplane base, directed at or around the P.F.P. sky markers. Three of our aircraft were damaged. Several crews reported the presence of flares which resembled aircraft falling in flames from about 18,000 feet. In view of the fact that no aircraft was shot down, these reports confirm the use of such "scarecrow" devices and the ability of our crews to recognise them.

(b) Fighters

Fog and low cloud over enemy aerodromes reduced the enemy's night fighter activity. Enemy wireless traffic did not reveal any patrols by controlled fighters in the area of our operation on Wilhelmshaven. There were a few encounters with fighters, but of the three attacks and five approaches made against our aircraft, two attacks and three approaches were over the North Sea at least 50 miles from land. Our aircraft received no damage in these encounters over the sea.

In the third attack, near Wilhelmshaven, the fighter was assisted by searchlights, which illuminated the cloud below our aircraft. The fighter attacked from below, but our bomber was able to take evasive action and receive only minor damage.

Casualties

| | | |
|-----|-------------------------------|---|
| 11. | No. of aircraft missing..... | 0 |
| | " damaged (a) by flak..... | 3 |
| | (b) by fighters..... | 1 |
| | (c) not enemy action..... | 4 |
| | | 8 |

One Wellington of 6 Group made a bad landing and, in the resultant crash, three members of the crew were killed and the aircraft became a total wreck. Loss was not due to enemy action.

Not one of our aircraft is missing.

.../ur freedom

Our freedom from loss on this night was largely due to the prevailing weather conditions, which handicapped the enemy defences. Fog and low cloud hindered searchlight and flak co-operation and considerably reduced night fighter activity, while our aircraft enjoyed reasonably good flying conditions above the cloud.

DUSSELDORF: BRAUWEILER

4 P.F.F. Mosquitoes, equipped with Oboc, were despatched on nuisance raids against Dusseldorf and Brauweiler. 3 attacked their targets according to plan, from 28,000 feet above 9/10ths cloud. The fourth bombed Cologne visually. Details:-

| Aircraft | Target | Control Stations | | Track | Time | | Results |
|------------|---------|------------------|----------|-------|---------|----------|--|
| | | Attacked | Tracking | | Bombing | Detailed | |
| Dusseldorf | Primary | Trimingham II | Swingate | 037° | 2100 | 2102 | Fair. Signal broke off for 30 secs. during run & caused error. |
| Dusseldorf | Primary | Trimingham II | Swingate | 037° | 2120 | 2135 | Fair. |
| Brauweiler | Cologne | Trimingham I | Walmer | 037° | 2100 | 2106 | Transmitter blow up. |
| Brauweiler | Primary | Trimingham I | Walmer | 037° | 2120 | 2121½ | Fair. |

Moderate heavy flak was encountered at Dusseldorf and Cologne, without searchlights. All our aircraft returned undamaged.

APPENDIX (WILHELSHAVEN)

Timing of Attack

Pathfinder Force

| | <u>H2S</u> | <u>Beckers-up</u> |
|-----------|------------|-------------------|
| 2028..... | 1 | |
| 2029..... | 1 | |
| 2031..... | 1 | |
| 2032..... | 1 | |
| 2033..... | 1 | 2 |
| 2034..... | 1 | |
| 2035..... | 2 | |
| 2036..... | 1 | |
| 2037..... | | 1 |
| 2038..... | | |
| 2042..... | | |
| 2043..... | | |
| 2047..... | | |
| | <u>9</u> | <u>3</u> |

Main Force

3 aircraft attacked 3-0' early.
 60 " within planned period
 5 " 0-8' late.

Bomb LoadsII. Pathfinder Force

9 aircraft carried flares + T.I. markers + H.E.
 8 aircraft carried T.I.'s + 30 lb. I.B. + 4,000 lb. gel.

Main Force

78 aircraft carried H.E. + 4lb. + 30 lb. I.B.
 9 aircraft carried H.E. only.
 1 aircraft carried 4 lb. I.B. + 30 lb. I.B.

MLM/VF.
 BC/S. 26342/5/ORS.
12th May, 1943.

| Target | Group | Type | Sorties | A/C reporting attack on | | Abortive sorties | | Missing | Damage | | Interceptions | | Results | |
|---------------|----------|-------------|---------|-------------------------|-----------|------------------|----------------------|---------|-----------|---------|-------------------|-----------|---|--------------|
| | | | | prim. area | alt. area | over en. territ. | not over en. territ. | | Flak | Fighter | not R/A | att-acked | | not attached |
| WILHELMSHAVEN | 8 P.P.F. | Lancaster I | 8 | 8 | - | - | - | - | - | - | - | - | Tons of Bombs H.E. Inc. St. 1 111.5 Heavy Bombs 82,000 H.C. 2,000 gel. | |
| | 8 P.P.F. | Stirling I | 9 | 9 | - | - | - | - | - | - | 1 | 1 | | |
| | 6 | Halifax II | 17 | 17 | - | - | - | - | 1 | - | 1 | 1 | | |
| | 6 | Halifax II | 10 | 10 | - | - | - | - | - | - | - | - | | |
| | 6 | Well. III | 69 | 59 | - | 10 | - | - | 2 | - | 1B+ 2AC | 3 | | |
| 6 | Well. I | 2 | 2 | - | - | - | - | 1AC | - | 1E | - | - | | |
| WILHELMSHAVEN | TOTAL | | 115 | 105 | - | - | 10 | - | 1AC +2 | 1 | 1E+ 1B+ 2AC | 3 | 5 | |
| DUSSELDORF | 8 P.P.F. | Mosquito IV | 2 | 2 | - | - | - | - | - | - | - | - | (P) 1.3 tons H.E. | |
| BRANDEL | 8 P.P.F. | Mosquito IV | 2 | 1 | 1 | - | - | - | - | - | - | - | (P) 0.7 tons H.E. (A) 0.7 tons H.E. | |
| BREMEN | TOTAL | | 119 | 108 | 1 | - | 10 | - | 1AC +2 | 1 | 1E+ 1B+ 2AC | 3 | 5 | |

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 25/26th FEBRUARY, 1943.

NUREMBURG: Aachen, Cologne, etc: Minelaying(W.Franco & Frisians): Leaflets.

SUMMARYNuremberg

1. 337 heavy bombers set out for Nuremberg. Bad weather en route and a misunderstanding at the rendezvous caused the Pathfinders to arrive late at the target. The first ground-markers, dropped by aircraft carrying H2S, fell 2 miles N.N.W. of the aiming-point, but later Pathfinders bombed very short, and developed two large diversions, concentrated on villages 5 miles from the target. Reconnaissance revealed no fresh damage in Nuremberg, apart from a few incidents in the outskirts.

9 aircraft (2.73) did not return. This low rate of loss is explained by the ineffectiveness of the night fighter defences in poor weather conditions.

Ruhr and Western Germany

6 P.F.P. Mosquitoes, equipped with Oboc, were despatched on nuisance raids against precise targets in the Ruhr, 5 attacked their objectives; the sixth bombed an alternative visually. All returned undamaged, despite heavy opposition from flak.

Minelaying

33 out of 54 aircraft laid 67 mines off the Frisians and the west coast of France. All returned safely.

Leaflets

19 out of 21 aircraft from Training Groups dropped leaflets in the areas of Paris, Nantes and Clermont-Ferrand, and returned without loss.

Meteorological Forecast

2. Area Cases:- Variable convection cloud, occasional showers. Visibility good apart from local smoke troubles, which may become widespread if winds are light. No difficulties for early take-off.

Germany:- 0930 h. Cold front at midnight from 60° N. 10° E. to Bremen to Paris to Nantes, possibly with a secondary cold front behind the first over the North Sea. In the frontal zone over N. Germany, there will be 10/10ths medium and low cloud with rain, tops generally 20,000 feet with peaks above; severe icing. Behind the front, variable convection cloud (6-9/10ths), tops to 15,000 feet, showers. Clearance at Wilhelmshaven 2300, at Hamburg 0100-0200.

1210 hours. Recent information from Aldergrove concerning the upper air indicates that tops of cumulo-nimbus over the North Sea and in the Hamburg area, behind the front, may reach to 20,000 feet or above, with heavy icing in cloud. The cold front is moving faster than was expected, and will have passed Hamburg and Cologne by midnight. Cologne area: broken convection cloud, not above 15,000 feet. S. Germany: very well broken thin medium cloud,

...../Pc r

poor visibility with valley fog.

1310 hours. Nuremburg: little or no cloud. Valley haze. Route: across cold front which, at 2000 hours, is expected to be crossing the coast of N.France. Cloud tops to 12,000 feet in various layers. Ground pinpoints unlikely until high ground is reached.

N.Italy:- Little cloud, visibility moderate to poor.

Frisians:- 6-9/10ths, base 1,500-2,000 feet; 10/10ths at 1,000 feet in showers.

Plan of Attack

3. Zero hour.....2300 hours.

Route briefed: Cayeux - 4901N. 0826E. - Nuremburg - 4910N. 1100E. - 4917N. 0826E. - Cayeux.

(for routes taken see route map).

16 Y aircraft of P.F.F. using their special equipment, were to drop yell T.I's at position 4919N. 0825E. (near Mannheim), to act as a navigational aid to the following aircraft. The other Pathfinders were to maintain this landmarking by each aiming one T.I. at those previously dropped. In addition to these yellow T.I's, one white T.I. was to be released by each aircraft 15 miles short of the target as a preliminary warning.

On reaching the target, all Y aircraft were to groundmark the aiming-point with red T.I. markers, bursting at 5,000 feet, backed up by 28 other Pathfinders dropping green T.I's, bursting at 6,000 feet.

The Main Force, consisting of approximately 297 heavies, were instructed to aim their bombs at the centre of the greatest concentration of T.I. markers, irrespective of the colour. Bomb loads were to be in the ratio of two-thirds incendiary to one-third H.E., and one-third of the total H.E. load was to be fused long-delay.

On the return route, all Y aircraft were to release one red flare at position 49°19'N. 08°25'E., to assist the Main Force to avoid defended areas.

Timing:-

Pathfinder Force

9 Y aircraft.....zero
 8 Y aircraft.....zero + 12
 28 backers-up.....zero + 1 - zero + 28

Main Forcezero + 1 - zero + 30

Sorties

4. (a) No. of aircra p.tched.....337
 (b) " " porting attack on primary area.....282(83.7%)
 (c) " " " alternative area.... 6(1.8%)
 (d) " abortive sorties (technical or manipulative defects.....24)
 (icing.....12) ...40(11.8%)
 (sickness of crew..... 1)
 (hit by flak..... 1)
 (cause not known..... 2)
 (e) " aircraft missing..... 9(2.7%)
 + aircraft crashed on outward journey.
 ..//Weather I perienced

Weather Experienced

5. Home Bases:- Clear skies. Visibility moderate to good, apart from industrial haze.

Route:- Frontal zone encountered on outward route in Channel area, and inland over France on return, a clearance having spread from the N.W. over the coastal area of France and the Low Countries. Tops of frontal cloud varied from 12,000 to 16,000 feet, locally to 19,000 feet, with some static and light clear icing from 6-16,000 feet. S.E. of the front, over the Continent, cloud broke to small amounts with poor visibility and extensive valley fog.

Winds at 18,000 feet: inland to N. of front, 260°/40-45 m.p.h.

N.E. France and S.W. Germany 240-250°/30-40 m.p.h.

Target:- Small amounts of cirrus, no other cloud. Thick ground haze with local valley fog; good visibility above. No moon.

Wind at 15-18,000 feet: 230°/40 m.p.h.

Surface wind: very light, probably westerly if not calm.

Narrative of Attack

6. Due partly to the bad weather en route, and partly to a misunderstanding at the rendezvous beacon, all the Y-type aircraft were very late. The first T.I.'s were dropped 16 minutes after zero hour. It is apparent from night photographic evidence and sortie raid reports that these fell about 2 miles N.N.W. of the aiming-point, and that 6 backscattered aimed green T.I.'s at them. For 9 minutes, the attack was based on this red T.I., and during this period about 60 aircraft must have bombed in this area.

The second and third Y aircraft dropped red T.I.'s blindly on H₂S at about 2325 hours. One is estimated to have fallen at Neunhof and one at Ronhof, 5 miles N. and 5 miles N.W. of the target respectively. From this time, the Main Force ceased to attack the original area, and two separate concentrations developed. The Neunhof attack was extremely heavy, but lasted only about 5 mins. The Ronhof diversion spread to Grundlach, where it became centred for a considerable time. All the later aircraft bombed in this area.

282 aircraft (83.7%) reported attack.

6 aircraft bombed alternative targets, in the areas of Mannheim (2), Emlsheim, Karlsruhe, Saarbrücken and Boulogne.

9 aircraft (2.7%) did not return.

Photographic Evidence(a) Night Photographs

Of 250 photographs examined, 221 afforded evidence of the positions of the aircraft at bombing night as deduced. Details of these are given in the following table. No fire plot has been undertaken.

| | <u>With ground detail</u> | <u>With fire tracks only</u> | <u>Total</u> |
|-----------------------|---------------------------|------------------------------|--------------|
| Plotted | | | |
| within 3 miles | 12 | - | 12 |
| between 3 and 5 miles | 20 | - | 20 |
| outside 5 miles | 44 | - | 44 |
| Unplotted | 17 | 128 | 145 |
| Total | 93 | 128 | 221 |

No. of aircraft reporting attack.....282
 No. of aircraft estimated (from the evidence of
 photographs showing ground detail) to have bombed
 within 3 miles of the aiming point:..... 33

The widely dispersed positions of aircraft securing plottable photographs with bombing are more readily understood if the times at bombing are considered. The result of such an analysis is to show that there were in fact three successive areas of concentration. The first, extending about 4 miles north from the aiming point towards Neunhof, lasted from zero plus 17 to zero plus 25, and includes all the photographs plotted within 3 miles. The second, centred on the village of Neunhof 5 miles north of the target and developing northwards, lasted only for about 5 minutes, from zero plus 25 to zero plus 30. The third area of concentration, covering the villages of Ronhof and Grundlach and the open country north of Grundlach, probably started also at zero plus 25, but continued to attract late arrivals until the end of the raid. These three areas were established by Pathfinders in conditions of poor visibility due to valley fog; none of the Y-aircraft, which were marking blindly by means of H2S, secured plottable photographs, but backscatters are shown in the diagram to the north of Nurnburg, at Neunhof, at Ronhof, and at Grundlach, and all of these were aiming at red T.I. markers dropped by the Y-aircraft.

Large fires were started in the woods north and north-west of Nurnberg. Since these woods are divided into rectangular blocks by straight intersecting paths it is possible that, under the prevailing conditions, they resembled a built-up area.

Rather more than one half of the films bear evidence of heavy flak, whereas light flak was almost entirely lacking. Half of the films plotted within 5 miles of the aiming point show searchlights. On the previous raid, of the 28/29th August, 1942, the flak was far less intense.

(b) Day Reconnaissance

A reconnaissance film on 2/3/43 revealed no fresh damage in the town of Nurnburg. A few items are noticeable in the outskirts, including 6 or 7 houses demolished by H.E. in the suburb of St. Johannis, N.W. of the town, and a similar incident away to the N.E. Two craters were made in the landing ground of the aerodrome. Craters extend to approximately 5 miles N. and 6 miles N.W. of the town. A number of villages were damaged. Neunhof, 5 miles to the N., was practically devastated.

2 bays of a shed in a sulphuric acid factory at Furth were partly gutted.

Navigational Aids

8. The Eastern Chain was in operation on the Virginia frequency. 210 of the 306 Gee aircraft despatched had no set difficulties and obtained an average range of 210 miles. 28 Mk. II sets were used, 12 of which were faulty. The average range of the remaining 16 was 200 miles, and 1 of 156 Squadron obtained the maximum range of 293 miles. There was considerable interference and the reception of the "B" signal was poor.

Blind Bombing Aids (Gee)

9. 5 of the Y-type aircraft despatched completed their task successfully, dropping groundmarkers by means of the special equipment. 2 aircraft whose sets were faulty aimed red T.I.'s visually. One bombed with the Main Force and one attacked an alternative target. 5 aircraft returned early, 3 experiencing trouble with H2S and 2 because of other technical defects.

...../Navigators

Navigators stated that the target response was moderately good, but that the edge of the built-up area did not show up clearly. None of the Y-type aircraft returned photographs with ground detail. All returned safely to base.

Defences

10. (a) Flak: Searchlights

Between 40 and 60 searchlights, forming cones, were active in and around the target area. Co-operating heavy flak was moderate in intensity. There was a marked weakening of the ground defences towards the end of the raid, coinciding with the appearance of night fighters in the target area. Heavy flak was encountered en route, in particular from the defences of Scarbrucken, Mannheim and Karlsruhe. Thirteen of our returning aircraft were damaged by heavy flak, half near Nuremberg and half in the Mannheim-Karlsruhe area.

A large number of crews observed scare-crow flares and at least a dozen reported the destruction of a P.F.F. aircraft with green and red flares, although no P.F.F. aircraft was missing.

(b) Fighters

Enemy wireless traffic revealed little controlled fighter activity in the area of our operations on Nuremberg. Four patrols were overheard, probably resulting in two successes. There was some interference, possibly associated with the use of Tinsel.

Crews did not report any attacks by night fighters, but there were 24 approaches. Ten of these were over the target area and nearly all occurred towards the end of the raid, when the ground defences were reported to be much reduced in activity. Thick ground haze and valley fog probably restricted the scale of fighter activity.

Casualties

| | | |
|-----|--------------------------------|----------|
| 11. | No. of aircraft missing..... | 9(2.7%) |
| | " damaged (a) flak..... | 13 |
| | (b) fighter..... | Nil |
| | (c) not enemy action.. 5)..... | 18(5.4%) |

One Lancaster (9 T) sent a message that it had jettisoned bombs and was returning to base, due to dangerous icing at 7,000 ft. Nothing further was heard from this aircraft, and from the time of the message it must be presumed to have been lost in the Channel. Enemy action is not thought to have been responsible.

The numerous reports of scarecrow phenomena over Nuremberg make it difficult to assess the losses in that area, but it seems likely that at least two aircraft were shot down by flak. Two further successes occurred in the Mannheim-Karlsruhe area.

Although there are no confirmatory observations, it is probable that the two overheard claims by controlled fighters were genuine. Another loss to fighter was observed ten miles from the target area. There is no evidence as to the cause or place of loss of the other missing aircraft.

A Halifax of 102 Squadron crashed soon after take-off and was completely wrecked. There were no survivors.

The low loss rate on this night was almost certainly associated with the small and rather unsuccessful fighter activity in conditions of poor visibility. Many enemy bases were unfit, and Tinsel was probably effective in jamming a portion of the R/T fighter control traffic.

RUHR

12. 6 P.F.F. Mosquitoes, equipped with Obco, were despatched on nuisance raids against precise targets in the Ruhr. 5 attacked their objectives, one dropping 3x500 H.C. bombs from 28,000 feet. The sixth bombed an alternative visually. There was no cloud. Details:

| <u>Target</u> | | <u>Time</u> | | <u>Results</u> |
|-----------------|-----------------|-----------------|-----------------|----------------|
| <u>Detailed</u> | <u>Attacked</u> | <u>Detailed</u> | <u>Attacked</u> | |
| (i) Aachen | Primary | 2100 | 2105 | Good |
| (ii) Aachen | Primary | 2103 | 2103 | Good |
| (iii) Cologne | Primary | 2200 | 2218 | Good |
| (iv) Dortmund | Manster | 2300 | 2255 | Failed |
| (v) Dusseldorf | Primary | 2223 | 2238½ | Good |
| (vi) Essen | Primary | 2300 | 2305 | Good |

The Mosquito over Essen was circled at 28,000 ft. for thirty seconds, and six gun salvos of heavy flak, accurate for height, were fired. At Cologne, between thirty and forty searchlights were exposed, but were unable to locate our aircraft. Intense and fairly accurate heavy flak burst ahead and astern but not ahead. Similar heavy flak was experienced at Dusseldorf and Aachen.

All our aircraft returned safely without sustaining any damage.

INFLAYINGSorties

| | | | |
|-----|-----|--|----|
| 13. | (a) | No. of aircraft despatched..... | 54 |
| | (b) | " " reporting mines laid in primary area.. | 33 |
| | (c) | " abortive sorties (weather.....16) | 21 |
| | | (technical defect.... 4) | |
| | | (light seen at sea... 1) | |
| | (d) | " aircraft missing..... | 0 |

Weather Experienced

14. France:- 10/10ths strato-cumulus, base 2,500 feet. Moderate visibility.

Frisians:- 7-8/10ths strato-cumulus, base 1,000 feet. Extensive patches at 500 feet. Visibility moderate, poor beneath low cloud.

No moon.

Results

15. 54 Wellingtons and Hurricanes set out to lay mines, 37 to the Frisians and 17 to the French Atlantic coast. 31 reached their targets; 67 mines were laid, 40 of these off the Frisians.

One aircraft saw a torch flashing on the North Sea, and turned back to report. Most of the abortive sorties were due to bad weather over the North Sea.

All our aircraft returned safely.

.../Enemy Defences

Enemy Defences16. (a) N. France

Isolated searchlight and light flak defences were in action over the Breton peninsula and near St. Nazaire. One of our returning aircraft was hit by light flak.

There were three encounters with night fighters, one of which resulted in a combat, but in each case the bomber evaded successfully and escaped damage.

(b) Frisians

Light flak was reported from Tereschelling and Vlieland. There were no sightings of enemy fighters, probably because of the prevailing low cloud over enemy bases.

Casualties

17. One aircraft sustained slight damage from flak over Lorient. No losses were incurred.

LEAFLETS

18. 19 out of 21 aircraft from Training Groups dropped leaflets in the areas of Paris, Nantes and Clermont-Ferrand. One aircraft returned early with turret trouble; another crashed while taking-off and was extensively damaged. The crew escaped uninjured. All our aircraft returned safely.

APPENDIX (NUREMBERG)I. Pathfinder Force

| | <u>Y-type</u> | <u>Backers-up</u> |
|------|---------------|-------------------|
| 2316 | 1 | |
| 2321 | | 2 |
| 2322 | | 2 |
| 2323 | | 1 |
| 2324 | | 3 |
| 2325 | 2 | 3 |
| 2326 | | 1 |
| 2327 | 1x | 2 |
| 2328 | 1x | 1 |
| 2329 | 1 | 1 |
| 2330 | | 1 |
| 2331 | 1x | |
| 2333 | | 2 |
| 2334 | | 2 |
| 2335 | | 2 |
| 2336 | 1 | |
| 2338 | | 1 |
| 2339 | | 1 |
| 2340 | | 1 |
| 2346 | | 1 |
| | <u>5+5x</u> | <u>27</u> |

(x = 11/2 w/s)

Main Force

201 aircraft attacked within mission period (2301-2350)
 41 " " 0-15' late
 4 " " 15-30' late
 1 " " 35' late
 / Bomb loads

Bomb Loads

II. Pathfinder Force

25 aircraft carried T.I. + H.E.
 10 " T.I. + 30 lb. I.B. + 4,000 lb. gcl.
35

Main Force

113 aircraft carried H.E. + 4 lb. + 30 lb. I.B.
 59 " H.E. + 4 lb. I.B.
 26 " H.E. + 30 lb. I.B.
 21 " H.E. only
 17 " 4 lb. + 30 lb. I.B.
 5 " 4 lb. I.B. only
 4 " 30 lb. I.B. only
 2 " 30 lb. I.B. + 4,000 lb. gcl.
247

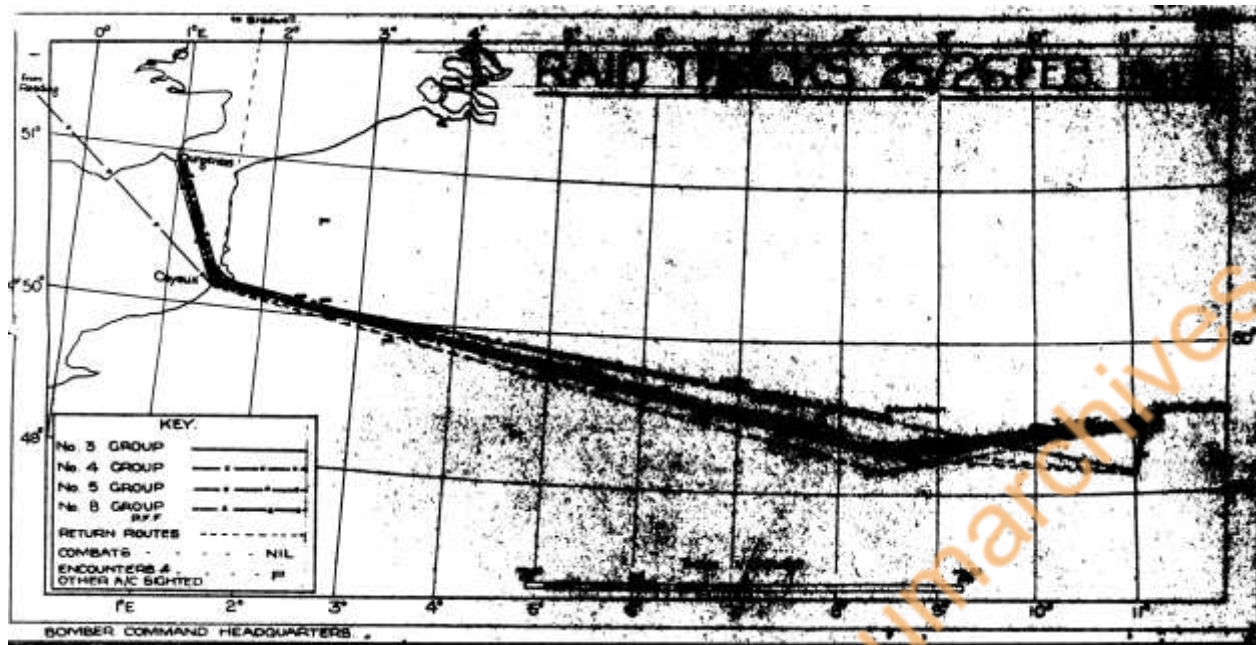
MLM/VP.
 BC/S. 26342/3/ORS.
19th May, 1943.

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

| Target | Group | Type | Sorties | A/C reporting | | abortive sorties | | Losses | Damage | | | Interceptions | | Results |
|--------|-----------|------------|---------|---------------|-----------|------------------|--------------------|--------|------------|------------------|---------|---------------|--------------|--|
| | | | | prim. area | alt. area | over territory | not over territory | | Fink | Fighter | not F/A | att-acked | not attacked | |
| WOLFE | 8 P.P.F. | Lanc. I | 21 | 18 | 1 | - | 2 | - | 2m | - | - | - | - | Tons of bombs H.E. lbs. (P) 33.7 498.6 (A) 8.5 4.7 (C) 2.8 0.2 (D) 12.5 13.5 * includes 4x8000 + 12x4000 |
| | 8 P.P.F. | Halifax 2 | 14 | 13 | - | 1 | - | 1m | - | 1x0 | - | 1 | - | |
| | 8 P.P.F. | Stir. I | 9 | 4 | 1 | 1 | 3 | - | - | - | - | - | - | |
| | 4 | Lanc. I | 2 | 2 | - | - | - | - | - | - | - | - | 5 | |
| | 1 | Lanc. I | 44 | 42 | 1x | - | 2 | - | 1m | - | - | - | 1 | |
| | 1 | Lanc. III | 1 | 1 | - | - | - | - | - | - | - | - | - | |
| | 3 | Stir. I | 14 | 33 | - | 2 | 7 | 2 | 6m | - | 12x | - | 2 | |
| | 3 | Stir. III | 11 | 10 | 1 | - | - | - | 1m | - | 4 | - | 2 | |
| | 4 | Halifax 2 | 79 | 61 | 1 | 3 | 13 | 1 | - | - | 28 | - | 4 | |
| | 4 | Halifax II | 11 | 9 | 2 | - | - | - | 1x0 | - | - | - | 1 | |
| 5 | Lanc. I | 63 | 58 | - | - | 3 | 2 | - | - | - | - | 3 | | |
| 5 | Lanc. III | 38 | 31 | - | 1 | 2 | 4 | 1m | - | - | - | 4 | | |
| TOTAL | | | 337 | 282 | 6+(1)x | 7 | 33 | 9 | 1x0 12m | 32x 1x0 +1 | - | 25 | | |
| WOLFE | 8 P.P.F. | Mustang IV | 2 | 2 | - | - | - | - | - | - | - | - | - | (P) 1.3 |
| WOLFE | 8 P.P.F. | Mustang IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| WOLFE | 8 P.P.F. | Mustang IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| WOLFE | 8 P.P.F. | Mustang IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| WOLFE | 8 P.P.F. | Mustang IV | 1 | 1 | - | - | - | - | - | - | - | - | - | (P) 0.7 |
| WOLFE | 1 | Well. III | 6 | 6 | - | - | - | - | 1x0 | - | - | 1 | 1 | 11 mines |
| WOLFE | 1 | Well. III | 3 | 3 | - | - | - | - | - | - | - | - | - | 8 mines |
| WOLFE | 1 | Well. IV | 4 | 4 | - | - | - | - | - | - | - | - | - | 6 mines |
| WOLFE | 3 | Well. III | 4 | 2 | - | 2 | - | - | - | - | - | - | - | 4 mines |
| WOLFE | 4 | Well. 2 | 18 | 12 | - | 5 | 1 | - | - | - | - | - | - | 24 mines |
| WOLFE | 4 | Well. III | 3 | 1 | - | 2 | - | - | - | - | - | - | - | 2 mines |
| WOLFE | 6 | Halifax 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | 4 mines |
| WOLFE | 6 | Halifax II | 4 | 1 | - | 3 | - | - | - | 1x0 | - | - | - | 2 mines |
| WOLFE | 6 | Well. 2 | 1 | - | - | 1 | - | - | - | - | - | - | - | 0 mines |
| WOLFE | 6 | Well. III | 9 | 4 | - | 2 | - | - | - | 2x0 | - | - | - | 8 mines |
| TOTAL | | | 54 | 33 | - | 30 | 1 | - | 1x0 | - | 3x0 | - | 1 | 67 mines |

* Well. aircraft also attacked the port area.

...../Contd.



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SECRET

FINAL PLOT OF NIGHT PHOTOGRAPHY

TAKEN 25/26 FEBRUARY 1945 TARGET NURNBERG

Reference: LORAN plot plotted - 366

1 GROUP 7 GROUP

2 GROUP AC HEADINGS

3 GROUP DECOY

4 GROUP Limit of observer area

Aircraft has been plotted outside the area of this map.

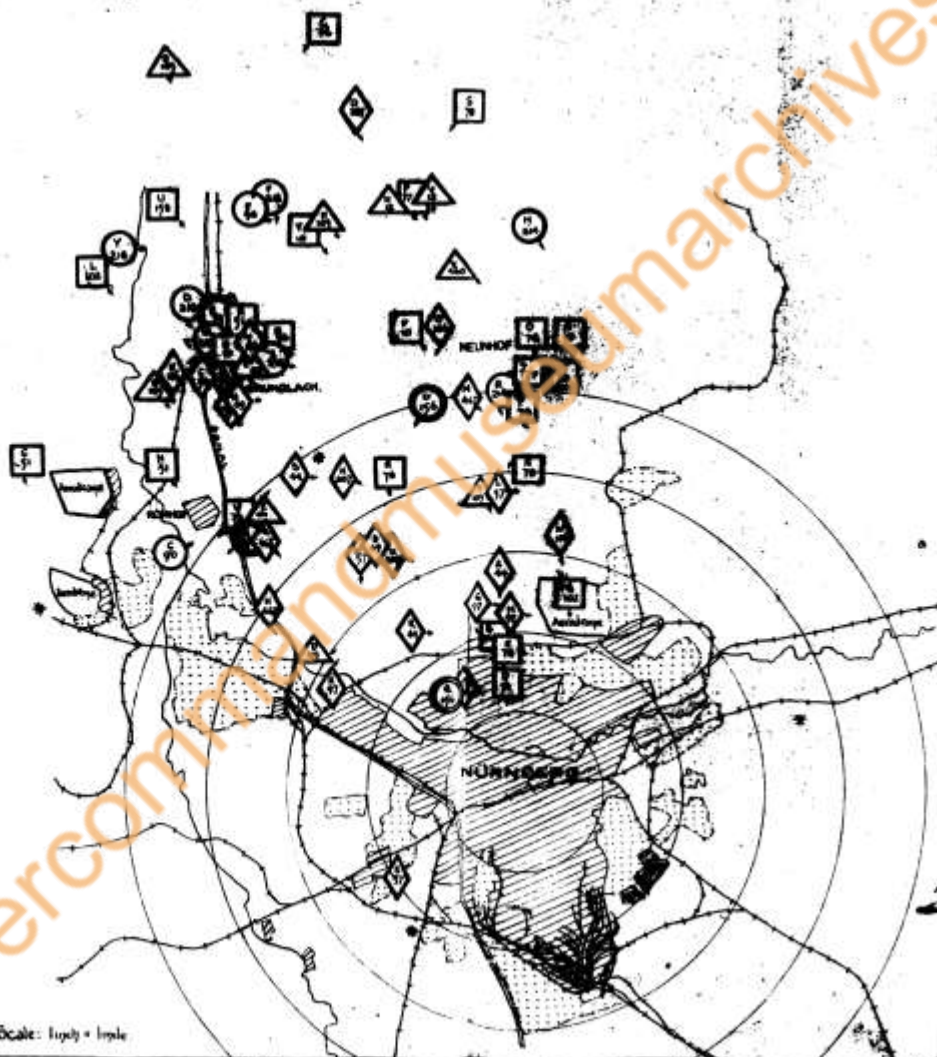
Area of aircraft reporting attack 200

Photographs with headings showing ground detail were returned by 7 aircraft

Weather - Background haze

Visibility - good

No moon



OR5BC 248 A
Date 19.5.45
Tracer ES

Scale: 1 inch = 1 mile

www.bombercommand.com/forums/sumarchives.ca

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 26/27th FEBRUARY, 1943.COLOGNE: Aachen: Mineslaying(Frisians): LeafletsSUMMARYCologne

A heavy attack was delivered against Cologne by 371 out of a total of 427 aircraft despatched from all Groups. Pathfinders equipped with Oboe or H.S. marked the target, and the bombing was at first well concentrated round the aiming-point. Later an inaccurately placed marker, of mysterious origin, caused a scatter to develop towards the S.W. suburbs. Reconnaissance revealed varied and considerable damage, mainly to business and residential property, as the result of this and the two previous attacks in February. The 11 industrial concerns affected included Pöhlig A.G., makers of machinery, 7½ acres of whose works were destroyed by fire. 10 aircraft (2.3%) did not return, and 3 crashed over England.

Night fighters operating in darkness appear to have been hampered by our countermeasures. This may account for the relatively low losses suffered.

Aachen

2 Mosquitoes, equipped with Oboe, carried out a nuisance raid against Aachen. Both returned safely after bombing their objective.

Mineslaying

18 out of 21 aircraft laid 83 mines off the Frisians. No aircraft was lost.

Leaflets

4 Whitleys of 93 Group dispersed leaflets in the Rouen area and returned safely.

Meteorological Forecast

2. Home Bases:- Warm front at midnight from 62°N. 10°E. to 57½°N. 05°E. to S. Scotland. Bases will be fit for take-off and for return until midnight, with small amounts of strato-cumulus at 2,000 feet. Visibility generally 2,000 yards, but locally less than 1,000 yards in 1,2,5 and Training Groups. 1 and 5 Groups may require diversions, e.g. to 3,4 and 6 Groups.

Germany:- Cold front at midnight from 54°N. 24°E. to 50°N. 15°E. to 47°N. 0°. Southern North Sea: broken convection cloud, tops not above 15,000 feet, perhaps 12,000 feet. Good clearances inland, with tops below 12,000 feet. Belt of higher convection along cold front; further south, little cloud but much fog. Moderate visibility north of cold front. Medium cloud will spread gradually from the central North Sea, reaching Hamburg by 2100 hours but not affecting the Ruhr before midnight. Cologne: variable amounts of cloud en route, mainly small; slight risk of 8-10/10ths strato-cumulus at target, tops not above 6,000 feet, base 2,500-3,000 feet.

...../Winds at 25,000 feet:

Winds at 25,000 feet: base 340°/50 m.p.h.
route 350°/55 m.p.h.
target 350°/70 m.p.h.

W.France:- Well broken layer cloud.

Frisians:- 4-7/10ths. cumulus and ~~stratus~~-cumulus, base 1,500-2,000 feet. Good visibility.

Plan of Attack

COLOGNE

3. Zero hour: 2100

Route briefed:- Noordwijk - Julich - COLOGNE - Duren - Noordwijk.
(For routes taken, see route map)

4 Mosquitoes, equipped with Oboc, and 6 Halifaxes fitted with H₂S were to act as the main groundmarkers for this attack. No flares of any sort were to be carried.

The attack was to be opened at Z-1 by 2 Mosquitoes who were to groundmark the aiming point with red T.I. bursting at 3000 ft., using their special equipment. The other two Mosquitoes were to drop their red T.I. at Z+10 and Z+20 respectively.

The 6 "Y" type Halifaxes were all to attack at Z hour, aiming their green T.I.'s and H.E. at the red T.I.'s dropped by the Mosquitoes. If, however, these could not be seen, they were to groundmark using their special equipment in the usual way.

21 other aircraft of P.F.F. were to act as "backers-up" and were detailed to drop their green T.I. and H.E. in salvos at one minute intervals between Z+1 and Z+25. They were to aim with maximum accuracy at the red T.I.'s, if these were visible, otherwise at the greatest concentration of green T.I. Until Z + 10 they were to aim at the centre of the T.I. concentration, but after Z+10 at its eastern edge.

The main force, consisting of approximately 412 aircraft, was to attack between Z+2 and Z+30, aiming their bombs at the red T.I. if these were seen, otherwise at the greatest concentration of green T.I.

1/3rd of all G.P. bombs carried were to be fitted with No. 37 pistols, with delays over the whole range of 6-144 hours.

Sorties

| | | | |
|----|-----|--|-----------|
| 4. | (a) | No. of aircraft despatched..... | 427 |
| | (b) | " reporting attack on primary area..... | 371(86.7) |
| | (c) | " " alternative area..... | 4(0.9) |
| | (d) | " abortive sorties (technical or manipulative defect.....) | 30 |
| | | { sickness of crew..... | 4 |
| | | { intercepted by E/A..... | 2 |
| | | { flak..... | 2 |
| | | { late..... | 2 |
| | | { B/A released parachute..... | 1 |
| | (e) | " aircraft missing..... | 10(2.3) |
| | (f) | Result not known (a/c crashed on return)..... | 1(0.2) |

Weather Experienced

5. Home Bases:- Variable amounts of cloud. Fog in Essex, otherwise only mist patches.

...../Route

Route:- Small amounts of medium cloud over North Sea. Patches of low cloud over Holland, tops 5,000 feet. Visibility good, apart from ground haze. Wind at 15-20,000 feet: 350°/40-45 m.p.h., becoming 020°/40 m.p.h. near target.

Target:- No cloud. Industrial haze. Visibility good.

No moon. Surface wind N.N.W. 5 m.p.h.

Narrative of Attack

3 of the 4 "Oboe" sorties were abortive, so that only one set of red T.I. markers was dropped, at 2109 (see paragraph 9(a)). As, however, most of the non-Oboe aircraft were about 10 minutes late, owing to the unexpected strength of the following wind, no green markers and very few bomb-loads had been dropped before this. The H2S sets of 4 of the 6 Y-aircraft were serviceable, but all attacked, aiming their green T.I.'s at the red T.I. dropped by the Mosquito. 15 Pathfinders also dropped their green T.I.'s between 2113 and 2140, all except one aiming at red or green T.I.'s already burning.

The Main Force attacked between 2105 and 2138, only 5 aircraft bombing before the Pathfinders dropped their markers. As will be seen from the Summary of Events at Appendix I, over 95% of the Main Force stated that they dropped their bombs at T.I. markers. Only a few mention seeing any ground at all.

The aircraft bombing before the red T.I. markers were dropped were scattered to the west of the target, but a large number attacked within the first few minutes, and from that time most crews reported that the effort was concentrated round the green T.I.'s, which were themselves reasonably concentrated on the approximate position of the red T.I.'s. A number of crews, however, said that the green T.I.'s and the bombs of the Main Force were scattered to the west of the target, especially those bombing after 2130 hours.

Several reports were received of a later red T.I., dropped about 4 minutes after the first set. There are 3 possible explanations of this, viz:-

- (1) One T.I. carried by the successful Mosquito may temporarily have hung up.
- (2) The enemy may have lit a decoy (which seems unlikely as it was in the suburbs of the city).
- (3) One of the P.F.F. heavies may accidentally have been loaded with a red T.I. in place of the correct green.

The last theory is perhaps the most plausible. Red T.I.'s were carried by a Mosquito on the previous night; and one Y-aircraft which photographed the second T.I. stated that it had appeared just after the aircraft's own bombs had fallen.

This inaccurately placed T.I., together with the failure of the other Y-aircraft, contributed to the deterioration of our attack after a good beginning. H2S had little effect, mainly because most of the sets failed to function.

371 aircraft (86.9%) reported attack. 4 attacked alternative targets, in the areas of Aachen, Duisburg, Woerden and Eindhoven. 10 aircraft (2.3%) did not return.

...../Photographic Evidence

Photographic Evidence7. (a) Night Photographs

(See accompanying diagram)

338 films have been examined, 41 of which afford no evidence of the position of the aircraft at bombing. Details of the remainder are given in the table below. No fire plot was undertaken.

| | With ground detail | With fire tracks only | Total |
|-----------------------|--------------------|-----------------------|------------|
| Plotted | | | |
| Within 3 miles | 20 | | 20 |
| Between 3 and 5 miles | 2 | | 2 |
| Outside 5 miles | 26 | | 26 |
| Unplotted | 38 | 211 | 249 |
| TOTAL | 86 | 211 | 297 |

No. of aircraft reporting attack.....371
 No. of aircraft estimated (from the evidence of photographs showing ground detail) to have bombed within 5 miles of the A.P..... 86

The proportion of aircraft returning photographs with ground detail was not large, and those which have been plotted show that the raid was very scattered. Whilst a small proportion of the early aircraft which took photographs near the aiming point, the main weight of the attack fell on the suburbs 2-3 miles to the west and south-west. Those of the Pathfinder aircraft whose photographs have been plotted, bombed in this area. The remaining aircraft were scattered over considerable distances to the west and south-west of Cologne, with a small local concentration near the hamlet of Bruggen, 10 m. 230° from the aiming point. Most of the aircraft forming this concentration bombed just after 2125 hours and aimed at green T.I. markers, which suggests that one load of these must have been released in this neighbourhood.

It can be seen from the night photographs that a number of sticks of incendiaries fell near the aiming point in the early stages of the raid and started a few fires. A considerable concentration of incendiaries is also recorded in the suburb of Kriel, 2½ miles S.W. from the aiming point, and fires are seen starting here also.

The intensity of heavy flak as recorded on the films was fairly large, and there is evidence of a considerable number of searchlights in operation. Light flak was only recorded by 1 aircraft and this has not been plotted.

(b) Day Reconnaissance

The effects of the raids on 2/3rd and 14/15th February are included with those of the operation under review in a single report. Although no fresh evidence of devastation are apparent, considerable damage is scattered throughout the area, chiefly in the south and confined mainly to business and residential property. The most serious industrial incident occurred at P&Hing A.G. (Machinery), which was two-thirds destroyed by fire, the damage covering 7½ acres. 10 other factories suffered, 25 buildings of various sizes being hit, while a number of unidentified industrial sheds, several railway sheds, a transshipment shed and buildings of a tram depot were destroyed.

...../Navigational Aids (666)

Navigational aids (Gee)

9. 391 Gee aircraft took part. 312 had no set difficulties and 20 of these used Mk.II sets. The average range obtained was 205 miles, and the maximum 268. This was secured by V of 12 Squadron using a Mk.I set. The average range of Mk.II sets was 200 miles, and the maximum 237 miles. The signal was strongest. Interference appeared to be more intense than ever before. The Eastern Virginia frequency was operating.

Blind Bombing aids9. (a) Oboe

2 Oboe aircraft failed for technical reasons, and one was flung off its track during its bombing run by a flak burst. The remaining aircraft must have dropped its markers very accurately, since 10/X, which photographed the aiming point, reported that "the cathedral could be seen in the light of the fire" and that "red T.I. markers fell about 200 yards S.W. of the cathedral. Large numbers of incendiaries were concentrated round the T.I. markers". The Oboe aiming-point was about 800 yards E. of the cathedral.

(b) H₂S

4 of the 6 Y-aircraft were unable to use the equipment in the target area because of technical failures, but all 4 dropped their green T.I.'s visually on green or red T.I.'s. Both of the other Y-aircraft reported that the positions of the red T.I.'s were confirmed by H₂S, but that the target response had no characteristic shape. A comparison with reports for the previous H₂S operation on the town indicates that Cologne is probably unsuitable for blind-bombing with this device.

The first of the 2 successful Y-aircraft (35/V) took a photograph 2 1/2 miles S.W. of the aiming point. The crew reported that they bombed on the first T.I., and that the second red T.I. appeared a few seconds later. The second successful Y-aircraft (35/W) failed to obtain a photograph, but the pilot stated that the 2 red T.I.'s were dropped at 2100 and 2114, and that his own green T.I.'s were roughly equidistant from the two reds, which seemed to be about 2 miles apart.

Enemy Defences10. (a) Flak and Searchlights

There was intense searchlight activity, favoured by cloudless conditions with the moon down.

Several cones were operating in the coastal area, and also from Munchen-Gladbach to the target. Approximately 100 searchlights were exposed around Cologne, with one exceptionally large cone to the north of 30-40 beams. Nearly all these searchlights were co-operating with the flak defences, but there were occasions en route when they were used for track indicating.

Heavy and light flak was reported as moderate to intense over the target and, in the opinion of some crews, appeared to decrease as the raid progressed. 16 of the returning aircraft were damaged by heavy flak, almost all in or near the target area.

(b) Fighters

Enemy wireless traffic revealed fighter activity along the route to Cologne. There was a marked increase in the amount of interference, which made the overheard traffic very fragmentary. Two changes of frequency were overheard, presumably to avoid the jamming effect of Connel.

...../Four attacks

Four attacks were reported en route, all on the outward journey. Searchlights co-operated in two of these attacks and, in the other two, enemy fighters carried lights and acted as decoys. Of the 16 approaches en route, there were 3 observations of ground lights track-indicating, and 3 of enemy fighters with lights. This activity with lights may be an indication of some success by Tinsel in jamming the R/T control system.

In the target area there were two attacks and eight approaches, nearly all of which took place towards the end of the raid, when the gun defences were reported as less intense. Two of our returning aircraft were damaged by fighter.

Casualties

| | | |
|-----|------------------------------|-----------------------------------|
| 11. | No. of aircraft missing..... | 10(2.3%) |
| | " | damaged (a) flak.....16) |
| | | (b) fighter..... 2)24(5.6.) |
| | | (c) not enemy action..... 6) |

It is estimated that three aircraft crashed in the target area, two of them apparently shot down by heavy flak.

Other losses during the return route probably occurred near Munchen-Gladbach, Eindhoven and IJmuiden, where aircraft were observed to fall in flames; but there is no evidence of the cause. A further loss, caused by light flak from a ship, took place about sixty miles off the Dutch coast. There is no information to account for the loss of the other three aircraft.

A Wellington of 427 Squadron crashed on return and became a total wreck. There was only one survivor and the accident is assumed not to have been due to enemy action.

Only 3.7% of sorties were damaged by flak. This low figure was probably due to the presence of night fighters in the target area.

There was no evidence of R/T control of these fighters in the target area and it appears that control of fighters en route was rendered difficult by Tinsel. In the dark conditions prevailing, the absence of clear direction from the ground is likely to have reduced the effectiveness of the fighters and consequently may be responsible for the low rate of loss on this night.

AACHEN

12. 2 P.F.F. Mosquitoes, equipped with Oboe and manned by freshmen crews, were despatched on a nuisance raid against Aachen. Both attacked the primary, which was clear of cloud, from 28,000 feet. One aircraft made a good bombing run, but that of the other was only indifferent. There was no searchlight activity, but the Mosquitoes encountered very accurate predicted flak at 28,000 ft. One sustained minor flak damage in its tailplane. Both returned safely.

MINELAYING

13. 21 aircraft set out at dusk to lay mines off the Frisians. One crashed while taking off (but suffered only slight damage), and 2 returned for technical reasons; the remaining 18 reached their target, where visibility was clear despite darkness and some high cloud. 88 mines were laid.

Light flak defences were encountered from the islands and from ships, but none of our aircraft sustained any damage.

A Lancaster was attacked over the sea by an enemy fighter. The mid-gunner was killed and the bomber severely damaged, but it returned to base. Not one of our aircraft was missing.

..../L.E.FLTS

LEAFLETS

4 Whitleys of 93 Group dispersed leaflets in the Rouen area. Heavy flak was encountered near Le Havre, and one aircraft was slightly damaged. No further incidents were reported, and all our aircraft returned safely.

APPENDIX (COLOGNE)Diary of Events

| <u>Time</u> | <u>Planned</u> | <u>P.F.F.</u> | <u>Achieved</u> | <u>Main Force</u> | <u>Method of Target Identification</u> |
|-------------|----------------|---------------|------------------------------------|-------------------|---|
| 2059 | 1M, 4 Red | | | | |
| 2100 | 6 "Y", 4 Green | | | | |
| 2101 | 2, 4 Green | | | | |
| 2102 | 4, 4 Green | | | | |
| 2103 | 1, 4 Green | | | | |
| 2104 | 1, 4 Green | | | | |
| 2105 | 1, 4 Green | | | 1 | 1 T.I., Red |
| 2107 | 1, 4 Green | | | | |
| 2108 | 1, 4 Green | | | 3 | 2, B.T. 1, Vis. |
| 2109 | | | 1M, 4 Red | 3 | 2, T.I., Red 1, Vis. |
| 2110 | 1M, 4 Red | | | 3 | 2 T.I., Red 1 Jettisoned in target area |
| 2110½ | | | | 1 | 1, T.I., Red |
| 2111 | 2, 4 Green | | | 2 | 1, T.I., Red 1, T.I., Green |
| 2112 | 1, 4 Green | | 1 "Y", 4 Green 1, 4 Green | 6 | 5 T.I., Red 1 flak and searchlights |
| 2113 | 1, 4 Green | | 1, 4 Green | 10 | 5 T.I., Red 2 T.I., Green 2 T.I.? |
| 2113½ | | | | | 1 Vis.-T.I., Red |
| 2114 | 1, 4 Green | | | 2 | 2 T.I. Red |
| 2114 | | | | 7 | 6 T.I. Red 1 T.I. Green |
| 2115 | 1, 4 Green | | 1 "Y", 4 Green 1 "Y", 4 Green x | 15 | 11 T.I., Red 4 T.I., Green |
| 2115½ | | | | 1 | 1 T.I. Red |
| 2116 | 1, 4 Green | | | 8 | 3 T.I. Red 3 T.I. Green 1 T.I. ? |
| 2116½ | | | | 1 | 1 VM 1 T.I. Red |
| 2117 | 1, 4 Green | | 1 "Y", 4 Green ^x | 21 | 10 T.I. Red 8 T.I. Green 1 T.I. ? |
| 2117 | | | | | 1 Vis.-T.I., Red 1 Vis. |
| 2117½ | | | | 1 | 1 T.I. ? |
| 2118 | | | 2, 8 Green | 20 | 13 T.I. Red 6 T.I. Green 1 T.I. ? |
| 2119 | 1, 4 Green | | | 11 | 2 T.I., Red 8 T.I., Green 1 T.I.? |
| 2119½ | | | 1 "Y", 4 Green | 1 | 1 T.I.? |
| 2120 | 1 M, 4 Red | | | 27 | 9 T.I. Red 13 T.I., Green 2 Vis. - T.I., Green 3 T.I.? |

...../over

| <u>Time</u> | <u>Planned</u> | <u>P.F.F.</u> <u>Achieved</u> | <u>Main Force</u> | <u>Method of Target Identification</u> |
|-------------|----------------|--|-------------------|--|
| 2121 | 2, 8 Green | 1, 4 Green | 18 | 5 T.I., Red 12 T.I. Green 1 T.I.? |
| 2122 | | | 25 | 2 T.I., Red 16 T.I. Green 5 T.I., ? 1 Vis. + T.I. Green 1 Fires |
| 2122½ | | | 1 | 1 T.I. Green |
| 2123 | 1, 4 Green | | 18 | 2 T.I. Red 14 T.I. Green 2 T.I. ? 2 T.I. Red 14 T.I. Green 1 T.I. ? 1 Vis. + T.I.? |
| 2124 | | 1 st 4 Green ^x 2, 8 Green | 18 | 2 T.I. Red 14 T.I. Green 1 T.I. ? 1 Vis. + T.I.? |
| 2125 | 1, 4 Green | 1, 4 Green | 29 | 2 T.I. Red 25 T.I., Green 2 T.I. ? 1 T.I. Green |
| 2125½ | | | 1 | 1 T.I. Green |
| 2126 | | 1, 4 Green | 23 | 1 T.I., Red 17 T.I., Green 3 T.I. ? 1 Vis. + T.I.? 1 Fires |
| 2127 | | 1, 4 Green | 13 | 1 T.I. Red 11 T.I. Green 1 T.I. ? |
| 2128 | | | 12 | 11 T.I. Green 1 T.I.? |
| 2128½ | | 1, 4 Green | 1 | 1 T.I., Green |
| 2129 | | 1, 2 Green | 9 | 7 T.I. Green 1 T.I.? 1 Vis. |
| 2130 | | | 16 | 4 T.I. Red 11 T.I. Green 1 Vis. + T.I.? |
| 2131 | | | 5 | 5 T.I. Green |
| 2132 | | | 5 | 1 T.I. Red 4 T.I. Green |
| 2133 | | | 2 | 2 T.I. Green |
| 2134 | | 2, 8 Green | 4 | 4 T.I. Green |
| 2135 | | | 2 | 2 T.I. Green |
| 2138 | | | 1 | 1 T.I. Green |
| 2140 | | 1, 4 Green | | |

x H2S u/s.

Bomb Loads (of aircraft reporting attack on primary)II. Pathfinder Force

1 aircraft (Mosquito) carried T.I.'s only.
 16 aircraft carried T.I. + H.E.
 5 " " T.I. & H.E. + 4lb. incendiaries
 22

Main Force

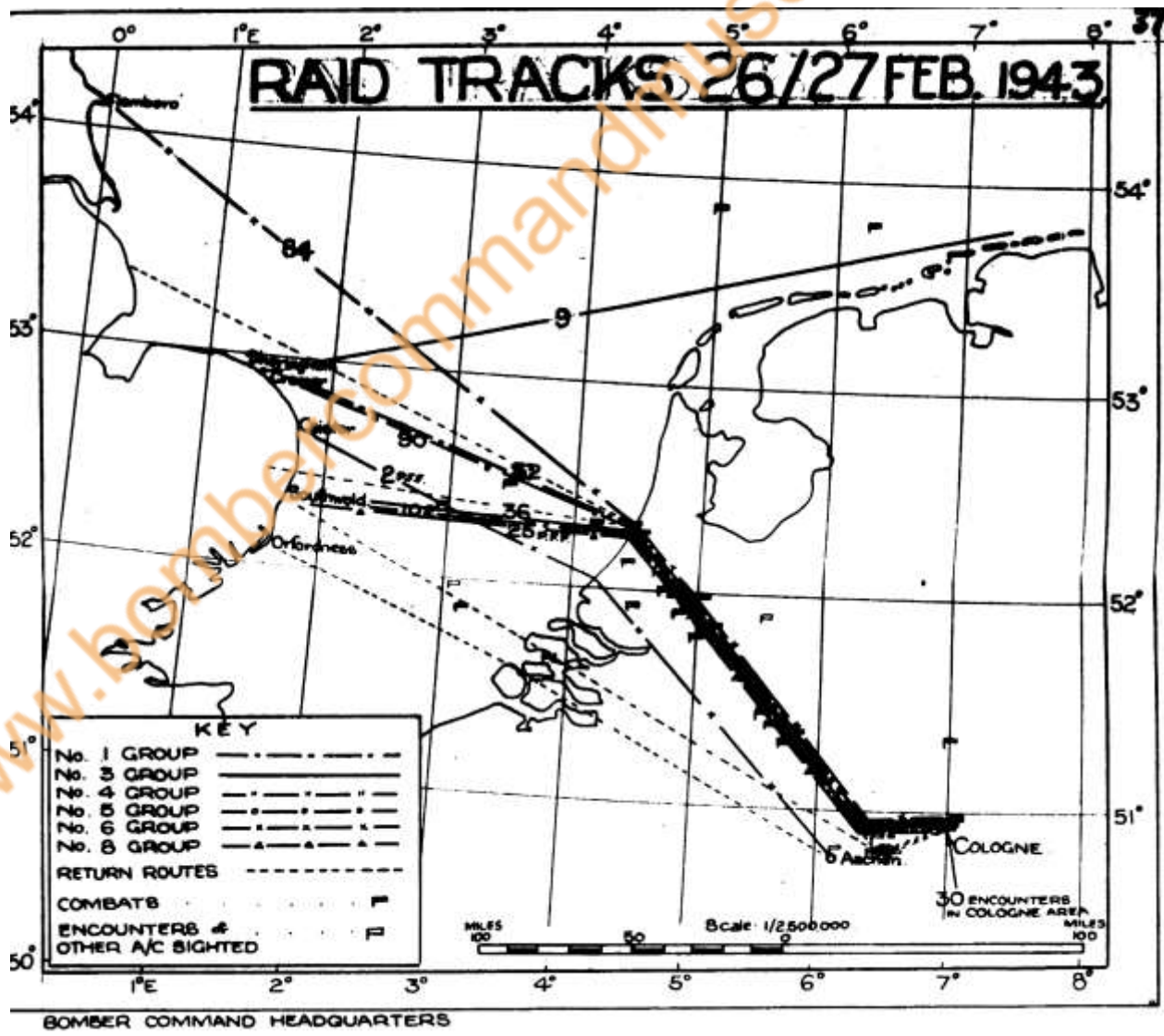
188 aircraft carried H.E. + 4 lb. + 30 lb. incendiaries
 56 " " H.E. + 4 lb. incendiaries
 35 " " H.E. only
 34 " " H.E. + 30 lb. incendiaries
 28 " " 4 lb. + 30 lb. incendiaries
 8 " " 4-lb. incendiaries only
 349

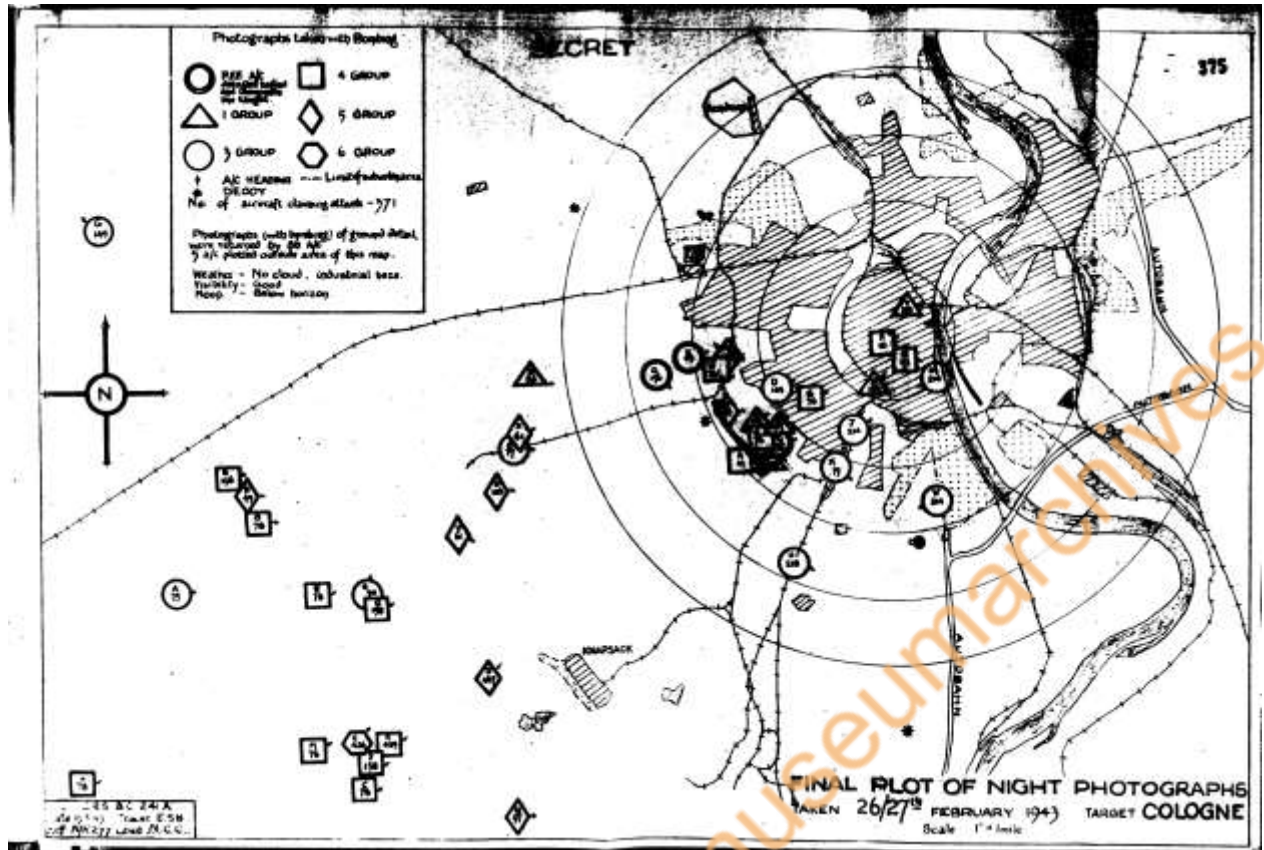
MLM/VF.

BC/S. 26342/3/ORS.
24th May, 1943.

| UNIT | Group | Type | Location | A/C reporting attack on | | Alternative routes | | Aircraft | Group | | Encounters | | Tons of Bombs | |
|-----------------------|------------|---------------|----------|-------------------------|-----------|--------------------|----------------------|----------|-------------|---------|------------------|--------------|---|---------------|
| | | | | prim. area | alt. area | over on. territ. | not over on. territ. | | 1st fighter | not 2nd | att-ackod | not attacked | | |
| COLOGNE | 8 P.F.F. | Mosquito IV | 4 | 1 | - | 3 | - | - | - | - | - | - | (P) 506.9 (A) 5.7 (B) 12.1 Heavy Bombs (P) 528000 H.E. 14621000 H.E. | |
| | 8 P.F.F. | Lancaster I | 11 | 10 | - | - | 1 | - | - | - | - | 1 | | |
| | 8 P.F.F. | Halifax Z | 12 | 11 | - | 1 | - | 1 | - | - | - | - | | |
| | 8 | Lancaster I | 1 | 1 | - | - | - | - | - | - | - | - | | |
| | 1 | Lancaster I | 43 | 39 | - | 2 | 2 | 2 | - | - | - | 2 | | |
| | 1 | Well. III | 24 | 19 | - | 1 | 3 | 1 | 1AC | 1E | 1 | 3 | | |
| | 1 | Well. IV | 4 | 3 | - | 1 | - | - | - | - | 1 | 2 | | |
| | 3 | Stir. I | 39 | 33 | 1 | 2 | 2 | 1 | 6 | 1AC | - | 6 | | |
| | 3 | Stir. III | 7 | 7 | - | - | - | - | 1 | - | - | - | | |
| | 3 | Well. III | 5 | 3 | 1 | - | - | - | - | - | - | - | | |
| | 4 | Halifax Z | 60 | 54 | - | 4 | 4 | 2 | 3 | - | - | 2 | | |
| | 4 | Halifax II | 8 | 6 | - | 1 | 1 | 1 | 1 | 1E | 1 | 1 | | |
| | 4 | Halifax X | 25 | 21 | - | 4 | 4 | - | - | - | 1 | 3 | | |
| | 4 | Well. III | 9 | 7 | - | 2 | - | - | - | - | - | - | | |
| | 5 | Lancaster I | 57 | 56 | - | - | 1 | - | - | 1AC+4A | - | 1 | | |
| | 5 | Lancaster III | 33 | 32 | - | - | 1 | - | - | - | - | 4 | | |
| 6 | Halifax Z | 23 | 20 | 2 | 1 | - | - | - | - | - | 1 | | | |
| 6 | Halifax II | 3 | 3 | - | - | - | - | - | - | - | - | | | |
| 6 | Well. X | 4 | 4 | - | - | - | - | - | - | - | - | | | |
| 6 | Well. III | 55 | 41+1M | - | - | 10 | 3 | - | - | 1E+ | 2 | | | |
| COLOGNE TOTAL | | | 427 | 371+M | 4 | 9 | 32 | 10 | 16 | 2AC | 2E+1E1 2AC+1A | 6 | 23 | |
| COLOGNE BOMBING TOTAL | | | 629 | 575+M | 4 | 9 | 32 | 10 | 17 | 2AC | 2E+1E1 2AC+1A | 6 | 26 | 1.3 tons H.E. |
| MINES LAYING | | | 21 | 16 | - | - | 3 | - | 1AC | 1AC | - | - | 88 Mines | |
| MINE LAYING TOTAL | | | 21 | 16 | - | - | 3 | - | 1AC | 1AC | - | - | 88 Mines | |
| TOTAL | | | 73 | 454 | 4 | 9 | 35 | 10 | 18 | 1AC | 2E+1E1 2AC+1A | 7 | 20 | 374 |

(P) = on primary (A) = on alternative (M) = carried by missing aircraft. * Crashed on return, all crew killed. result not known.





www.bombercommandmuseumarchives.ca

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 27/28TH FEBRUARY, 1943.Ruhr: Minelaying (Frisians - F. France): LeafletsSUMMARYRuhr

1. 6 P.F.F. Mosquitoes, equipped with Oboe, were despatched on nuisance raids against precise targets in the Ruhr. 3 attacked their objectives successfully, while 2 bombed several miles short. The sixth sortie was abortive. All our aircraft returned undamaged.

Minelaying

81 out of 91 aircraft laid 272 mines off the Frisians, the Dutch coast and the west coast of France. No aircraft was lost, although 2 were badly damaged by flak and one crashed while taking off.

Leaflets

2 aircraft, manned by training crews, dropped leaflets over Clermont-Ferrand. No opposition was encountered and both returned safely.

Meteorological Forecast

2. Home Bases:- All fit for take-off at dusk. 8,3,4,2 and 1 Groups fit for return till midnight; possibly 5 Group also, but with smoke troubles and radiation fog developing locally. 91 and 92 Groups available until 0300 hours. 98 Group expects fog in western and smoke in eastern bases to reduce visibility to 1,500 yards before midnight.

Warm front at midnight from 60°N. 24°E. to 55°N. 21°E. to Prague.

Germany:- W.: well broken medium cloud, much layer cloud with base about 2,000 feet, upper surface about 4,000 feet. Central and S.: mainly fine, patches of layer cloud. Hazy. E.: much layer and medium cloud near warm front.

N. Italy:- Little cloud.

Frisians:- Moderate visibility, chance of strato-cumulus varying from 7-10/10ths beyond Helder, base 2,000 feet, tops 4,000 feet, probably with small patches below.

Bordeaux to Biarritz:- Clear skies, moderate visibility.

RUHR

3. 6 P.F.F. Mosquitoes, equipped with Oboe, were despatched on nuisance raids against precise targets in the Ruhr, viz: Munchen-Gladbach, Dortmund, Homborn, Krefeld, Essen and Bochum. The first three aircraft attacked their objectives successfully; the fourth and fifth bombed respectively 10 and 5 miles short. The sixth sortie was abortive. All the attacks were delivered from 28,000 feet, above 8-10/10ths cloud. Each aircraft carried 3x500 M.C. bomb

...../The Mosquito

The Mosquito attacking Krefeld reported heavy flak at 28,000 feet, but that this was fired too low and too late. Another Mosquito reported searchlight activity over Rotterdam at 21,000 feet, co-operating with heavy flak. All six aircraft returned safely without receiving any damage.

MINELAYING

Sorties

| | | | |
|----|-----|--|-----|
| 4. | (a) | No. of aircraft despatched..... | 91 |
| | (b) | " " reporting mines laid in primary area... | 81 |
| | (c) | " " abortive sorties { technical defect..... | 5 |
| | | { weather..... | 2 |
| | | { attacked by E/A..... | 1 |
| | | { hit by flak..... | 1 |
| | | { cause unknown..... | 1 |
| | (d) | " aircraft missing..... | 0 |
| | (e) | " mines laid..... | 272 |

1 aircraft crashed on take-off.

Weather Experienced

5. Home Bases:—Generally fit, but fog/developed towards dawn in industrial areas, 4 Group and locally in 5 Group. and mist

Frisians:— No cloud. Hazy. Wind at 2,000 feet: 290°/25-30 m.p.h.

W. France:— No cloud apart from layer patches, base 5,000 feet in extreme south. Very hazy. Wind at 2,000 feet: 070°/20 m.p.h.
at 5,000 feet: 090°/30-35 m.p.h.

Moon above the horizon and 47% of full.

Results

6. 91 aircraft from 1, 3, 4, 5 and 6 Groups set out towards dusk to lay mines off the Frisians, the Dutch coast and the west coast of France. 81 reached their targets, laying 272 mines. None of our aircraft was lost, but one crashed while taking-off and was destroyed. The crew escaped unharmed.

Enemy Defences

7. Frisians

(a) Searchlights: Flak.

There was searchlight activity on several of the islands in this area. The gun defences chiefly relied on light flak, fired from ships along the coastline and from the islands.

A Halifax (419 P) was hit by light flak from a ship and two of the engines became unserviceable. The aircraft was ditched a hundred miles from Flamborough Head, but all the crew were rescued by the Air Sea Rescue Service.

A Lancaster (49 T), when about to release its mines from a height of 700 ft, was hit by light flak. The shell exploded inside the cockpit, killing the flight engineer and dangerously wounding the pilot, who was, however, able to bring his aircraft back and make a forced landing.

One other returning aircraft received minor damage, from either light flak or small arms ammunition.

...../(b) Fighters

(b) Fighters

Enemy wireless traffic revealed the presence of five patrols in this area of operation. Two attempted pursuits were overheard, but there was no evidence of any contact with our bombers. There were, however, several sightings of enemy night fighters and two of our aircraft were approached, but took successful evasive action. A Halifax (419 Q) suffered a surprise attack from below, which killed two members of the crew and caused severe damage to the aircraft.

W. France

The small force of aircraft despatched to lay mines on the Atlantic seaboard reported light flak at several points on the coast. None of our aircraft was damaged by flak.

There were two approaches by enemy aircraft over Brittany, but in each case fire from our gunners drove the fighters away.

Casualties

| | | |
|----|------------------------------|--------|
| 8. | No. of aircraft missing..... | 0 |
| | " damaged (a) flak..... | 3 |
| | (b) fighter..... | 1 |
| | (c) not enemy action..... | 1 |
| | |5 |

Not one of our aircraft was missing - a most satisfactory result, considering the activity of the enemy defences and the comparatively large force despatched. One Wellington III of 6 Group crashed while taking off, and became a total loss, but the crew escaped unhurt. The cause of the accident is unknown.

LEAFLETS

9. 2 Wellington III's of 93 Group dispersed leaflets in the area of Clermont-Ferrand without incident.

MLM/VP.
BC/S. 26342/3/ORS.
22nd May, 1943.

| Target | Group | Type | Sections | A/C reporting attack on | | Aircraft sorties | | Losses | Damage | | | Interceptions | | Results | | |
|----------------------|-------|------------|-----------|-------------------------|-----------|------------------|------------------|--------|------------|-----------|-----------|---------------|--------------|---------|------------------|------------------------|
| | | | | prim. area | alt. area | over en. territ. | not-over-territ. | | Flak | fighter | not R/A | Hit/ok'd | not attacked | Losses | Inc. | |
| BRIDGE-GT. BRACH | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| PORTLAND | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| BRIDGE | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| BRIDGE | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| BRIDGE | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| BRIDGE | B | Mosquito | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 0.7 | - |
| BOMBING TOTAL | | | 6 | 6 | 2 | | 1 | | | | | | | | | 3.5 |
| BRIDGE | 1 | Well. III | 5 | 4 | - | - | 1 | - | - | - | - | - | 1 | - | 8 mines | |
| BRIDGE | 3 | Str. I | 8 | 8 | - | - | - | - | - | - | - | - | 2 | - | 26 " | |
| BRIDGE RIVER | 3 | Str. I | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 5 " | |
| BRIDGE | 3 | Str. I | 4 | 4 | - | - | - | - | - | - | - | - | - | - | 12 " | |
| BRIDGE | 3 | Str. I | 2 | 2 | - | - | 1 | - | - | - | - | - | - | - | 1 " | |
| BRIDGE IS. | 4 | Well. III | 4 | 4 | - | - | - | - | - | - | - | - | - | - | 8 " | |
| | 4 | Well. X | 6 | 6 | - | - | - | - | - | - | - | - | - | - | 12 " | |
| | 4 | Halifax 2 | 4 | 4 | - | - | - | - | - | - | - | - | - | - | 30 " | |
| | 5 | Lano. I | 8 | 8 | - | - | - | - | - | - | - | - | - | - | 18 " | (including 4x1000 lb.) |
| | 5 | Lano. III | 5 | 5 | - | - | - | - | 1x1 | - | - | - | - | - | 30 " | |
| | 6 | Halifax 2 | 7 | 5 | - | - | 2 | - | 1 | - | - | - | - | - | 14 " | |
| | 6 | Halifax II | 8 | 5 | - | - | 3 | - | 1B | 1B | - | 1 | 1 | - | 14 " | |
| | 6 | Well. III | 20 | 18 | - | - | 2 | - | - | - | 1B | - | - | - | 36 " | (including 8x1000 lb.) |
| BOMBING TOTAL | | | 91 | 81 | | | 10 | | 1x1 | 1B | 1B | 1 | 5 | | 272 mines | |
| BRIDGE | 95 | Well. III | 2 | 1 | - | - | 1 | - | - | - | - | - | - | - | | |
| TOTAL | | | 99 | 85 | 2 | | 12 | | 1x1 | 1B | 1B | 1 | 5 | | | |

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 28th Feb./1st March, 1943.ST. NAZAIRE: Ruhr: Minelaying: Leaflets.SUMMARY

1. St. Nazaire: A concentrated and destructive attack was delivered against the U-boat base of St. Nazaire on a cloudless night. 409 of the 437 aircraft despatched reached the target. Reconnaissance revealed severe and widespread damage.

5 aircraft (1.1%) did not return.

Ruhr: One P.F.F. Mosquito, equipped with Oboe, carried out an accurate nuisance raid against Essen. 2 others, detailed for Krefeld and Munchen-Gladbach, turned back early. All returned safely.

Minelaying: 4 out of 5 aircraft laid mines off St. Nazaire during our attack on the port. No casualties were incurred.

Leaflets: 2 aircraft set out to drop leaflets over Clermont-Ferrand. One completed its mission; the other crashed on return, and was destroyed.

Metecological Forecast

2. Home Base:- Warm front at midnight from Helder to Yorkshire to S.W. Scotland, then N.W.wards. At dusk, visibility will be good in N., moderate in S., but remaining above 2 miles (except locally) till 0200. South of the frontal belt, there will be variable amounts of strato-cumulus, base 2,000 feet, with local fog. After 2400, N. of the Wash, cloud will be well broken. Training Groups: 10/10ths strato-cumulus expected to persist, with moderate visibility.

Germany:- Cold front at midnight from 58°N. 19°E to 55°N. 13°E. to Helder. Much medium cloud, with rain and low cloud, will prevail in the frontal belt. N.E. of a line running approximately S.E.wards from Wilhelmshaven, there will be much strato-cumulus cloud, base 2,000 feet, tops 5,000 feet; S.W. of this line, the amount of strato-cumulus will vary, many areas being clear but hazy.

N. Italy:- Fine. Fog developing.

N. France:- Generally fine, but hazy. St. Nazaire: no cloud. Route:- 10/10ths strato-cumulus over S.W. England and W. Channel, unlikely to extend much beyond Brest.

ST. NAZAIREPlan of Attack

3. Zero hour: 2100 hrs.
4 Mosquitoes fitted with Oboe were detailed to mark the aiming point with red T.I. markers at the following times:-

2 at zero - 1 minute
1 at zero + 10 "
1 at zero + 22 "

...../26 heavies

26 heavies of P.F.P. were to act as "backers-up", aiming their green T.I. and H.E. in a salvo together at the red T.I. dropped by the Mosquito. If the red T.I. failed, 3 Lancasters of the "backer-up" force were to drop white flares at zero hour so as to identify the aiming point visually before dropping their T.I. and H.E. The green T.I. bombs were to be dropped at intervals of one minute between zero + 1 and zero + 33.

The main force (of approximately 400 aircraft, including 2 P.F.P.) was to attack in 3 sections as follows:-

- Section 1: All Lancasters.....zero + 4 - zero + 20
- Section 2: Wellingtons and Stirlings.....zero + 15 - zero + 30
- Section 3: Halifaxes.....zero + 25 - zero + 40

All the main force aircraft were instructed to bomb the red T.I. markers if these were seen, otherwise the greatest concentration of green T.I. It was emphasised that in no circumstances must they bomb before the green T.I. were seen. Aircraft of 1 Group were instructed to aim their bombs slightly to the N.E. of the centre of the concentration of markers, in order to destroy a special portion of the target.

5 Group crews were instructed to make an accurate timed run from a point 10 miles south of the target, and all crews were warned to expect a Gee interference belt centred at Lorient.

Bomb loads were to be in the ratio of 2/3rds incendiary to 1/3rd H.E. the H.E. to be fitted with No. 845 fuses and 37 pistols.

Four routes taken, see route map.

Sorties

- 4. (a) No. of aircraft despatched.....437
- (b) " " reporting attack on primary area.....409(93.6%)
- (c) " abortive sorties (technical and manipulative defects.....23).... 23(5.3%)
- (d) " aircraft missing.....5(1.1%)

Weather Experienced

5. Home Bases:- Fit for take-off and return, apart from fog and mist patches near industrial areas.

Route:- Much layer cloud over S.England, breaking to nil over Channel. Belt of layer cloud over N.French coast, breaking again to nil. Tops 4-5,000 feet. Visibility moderate. Haze over Channel and N.French coast. Wind at 10,000 feet: 090°/20-30 m.p.h.

Target:- Little or no cloud. Some ground haze. Visibility moderate. No moon.

Narrative of Attack

6. The first Mosquito, which should have bombed at zero-1 minute, dropped its markers 1½ minutes early after an indifferent run. The second Mosquito, which was due to follow a minute later, made a correct run but was unable to drop its bombs - a fate which also befell the fourth Mosquito, at zero + 32 mins. 6 backers-up dropped green T.I.'s before the first Main Force aircraft started their attack at zero + 4; 4 of these have been plotted, all 1-1½ miles from aiming point, N., N.N.E., S.E. and S.S.E. respectively. This suggests that the leading Mosquito marked very accurately.

No green T.I.'s were dropped between zero + 4 and zero + 11 minutes, but only 4 Main Force aircraft attacked during this period, at least 2 of which were within 3 miles of the aiming-point. From zero + 11 until zero + 33, the
.... /target

was consistently illuminated by the P.F.P. backers-up (together with the Mosquito, at zero + 14), except for a period of 8 minutes from -16 to zero + 24, during which only the Pathfinder attacked; but at +12, two sets of green T.I.'s were dropped, 3 miles W. and 4 miles N.W. of the aiming-point, which somewhat diverted the main effort. (See the attached plot of night photographs.) Smoke screens to the north of the town were observed, but a heavy weight of bombs was concentrated on the aiming-points. The special crews detailed to reconnoitre the target were unanimously agreed in this opinion.

Graphic Evidence

(a) Night Photographs (see accompanying diagram)

Of the prints examined, 14 showed smoke screens but no other ground detail: aircraft in question must, therefore, have been within 1 mile of the aiming-point. Details of the remainder are tabulated below. No fire plot was undertaken.

| | <u>With ground detail</u> | <u>With fire tracks only</u> | <u>Total</u> |
|-----------------------|---------------------------|------------------------------|--------------|
| within 3 miles | 59 | | 59 |
| between 3 and 5 miles | 36 | | 36 |
| beyond 5 miles | 15 | | 15 |
| not plotted | 34* | 187 | 221 |
| Total | 144 | 187 | 331 |

No. of aircraft reporting attack.....409
 No. of aircraft estimated, from the evidence of photographs showing ground detail, to have bombed within 3 miles of the /P.....168

50% of the aircraft claiming attack secured photographs with ground detail, 50 of these have been plotted. As the diagram shows, there was a fair concentration of aircraft over the docks extending north to the opening of the Canal de Trigano at Le Boisineau, but a large number were scattered as far as 6 miles to the west and north-west of the aiming point.

(b) Day Reconnaissance

A sortie flown on the morning following the attack covered the whole area. Prints of excellent scale and quality, although some areas were obscured by smoke from fires.

Fresh damage throughout the town and docks was seen to be severe and widespread. Many fires were still burning, especially at the south end of the town in the coal dumps and depots between Rue Leferme and Bassin de Penhouet. The shipbuilding yard of Ateliers et Chantiers de St. Nazaire (Penhouet) covering an area of 8½ and 2½ acres were devastated, and many other buildings suffered severely. These include the heavy and light sheet metal shops, the roof coil shop, the girder steelworks, the sawmill and joinery shops, the sail loft, the warehouse, turret and machine shops, the munitions store, the carpenter's shop, the pipe and tube works, the drawing office and the canteen. Many incidents occurred in Bassin de Penhouet, Bassin de St. Nazaire and the Marshalling Yard. 9½ acres of the Coalging Company's yards and premises were laid waste, and the House, on Quai du Delsin, an electrical substation and stores, a large assembly plant, a shed of the Bassin Leire power company, an accumulator house, two hutted camps and a number of industrial sheds and public buildings were killed or severely damaged.

...../As a result

As a result of this and previous raids, approximately half the buildings in the old town appear to have been destroyed.

Navigation Aids (Gee)

8. 375 aircraft equipped with Gee took part in the raid; 200 of these received signals over the target, which is 250 miles from the Southern "A" Station. Signal strengths were good, B being the weaker. Interference was light. 10 Mk. II sets were used; 2 were faulty and 7 received signals to the target.

Enemy Defences

9. (a) Flak and Searchlights

In the target area up to twenty five searchlights were operating with moderate amount of light and heavy flak. These ground defences were reported as weaker than expected and, after the first fifteen minutes of the attack, were much diminished in intensity.

There was considerable ground activity at various places on the Breton Peninsula, especially at Lorient and Vannes, where flak and searchlights were almost as active as in the target area.

Fourteen returning aircraft received minor damage from heavy flak. As is usual in Brittany, several searchlights and ground lights were seen track-indicating.

(b) Fighters

Enemy wireless traffic revealed controlled fighters in operation at St. Nazaire for the first time. There were three pursuits, but no success claims. The details of two of these pursuits agree with two reported interceptions by returning crews, and it appears that each controlled fighter carried lights. Another controlled fighter was heard patrolling near Brest but British aircraft did not come within its area of activity.

Returning crews reported fourteen approaches and four followings, five of which were over the target area and coincided in time with the decrease of the ground defences. Not one of our returning a/c reported any fighter damage.

Casualties

10. No. of aircraft missing.....5 (1.3)
 damaged (a) flak.....14
 (b) fighter.....NIL).....21
 (c) not enemy action..... 7

In the target area there were several reports of aircraft seen falling, but use of scarecrow phenomena by the defences makes it difficult to estimate our losses accurately. Two or three aircraft were shot down in the target area, one at least by flak. Another aircraft crashed in the Fougères area with no evidence as to the cause. The other missing aircraft, a Wellington (4275) landed in Eire, but again the cause is not known.

A Stirling of 3 Group crashed while taxiing before take-off and was destroyed. The crew escaped injury. 2 aircraft suffered slight damage from incendiaries dropped by other bombers.

RING

11. 3 P.F.F. Mosquitoes, equipped with Oice, were despatched on nuisance raids against Essen, Krefeld and München-Gladbach. The first attacked its target accurately and dead on time, dropping 3x500 H.C. bombs from 20,000 ft through patchy cloud and a low layer of 5-7/10ths thin strato-cumulus. 2
 /aircraft

aircraft was subjected to intense heavy flak for 15 miles up to the target. Both the other aircraft turned back for technical reasons before reaching the enemy coast. All returned undamaged.

MINELAYING

12. 5 Wellingtons of 1 Group set out with the Main Force of bombers to lay mines off St. Nazaire. 4 reached their target, which was free of cloud, although visibility was restricted by haze. Each laid 2 mines. The fifth aircraft returned early with engine trouble. No opposition was encountered and no damage or casualties were sustained.

LEAFLETS

13. 2 Wellingtons of 92 Group were sent to disperse leaflets in the Clermont-Ferrand area. One completed its mission without incident, seeing nothing except a single searchlight near Vichy. The other crashed into a hillside on return, and was destroyed with all hands. This loss is presumed not to have been due to enemy action. It is not known whether the aircraft reached its target.

APPENDIX (ST. NAZAIRE)

Timing of Attack

I. Pathfinder Force

The 2 successful Mosquitoes dropped their markers at 2057½ and 2114 respectively.

The 25 backscramblers attacked at the following times: 2101(2), 2102, 2103, 2104(2), 2111(4), 2112(4), 2113, 2115, 2116, 2119, 2124, 2127, 2128, 2129, 2130, 2132 and 2134.

Main Force

Section 1

| | |
|---------------------|--|
| 89 aircraft | attacked within planned period (2104-2130) |
| 41 | " 0-20' late |
| 2 | " more than 30' late |
| <u>132 aircraft</u> | |

Section 2

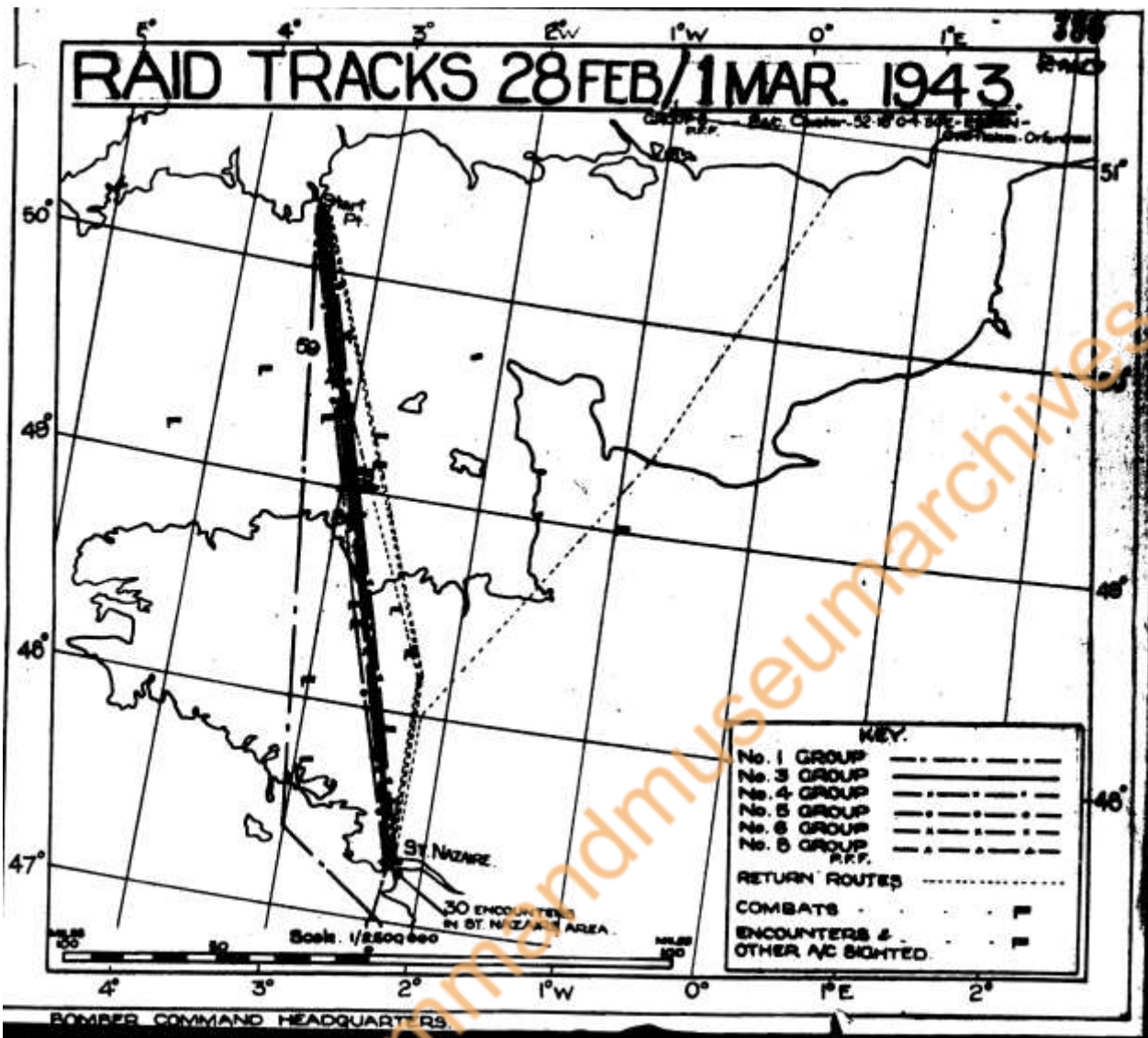
| | |
|---------------------|-------------------------------------|
| 9 aircraft | attacked 10-0' early |
| 134 | " within planned period (2115-2130) |
| 16 | " 0-20' late |
| <u>159 aircraft</u> | |

Section 3

| | |
|--------------------|-------------------------------------|
| 9 aircraft | attacked 10-0' early |
| 74 | " within planned period (2125-2140) |
| 8 | " 0-25' late |
| <u>91 aircraft</u> | |

...../Bombing Loads

RAID TRACKS 28 FEB / 1 MAR. 1943



BOMBER COMMAND HEADQUARTERS

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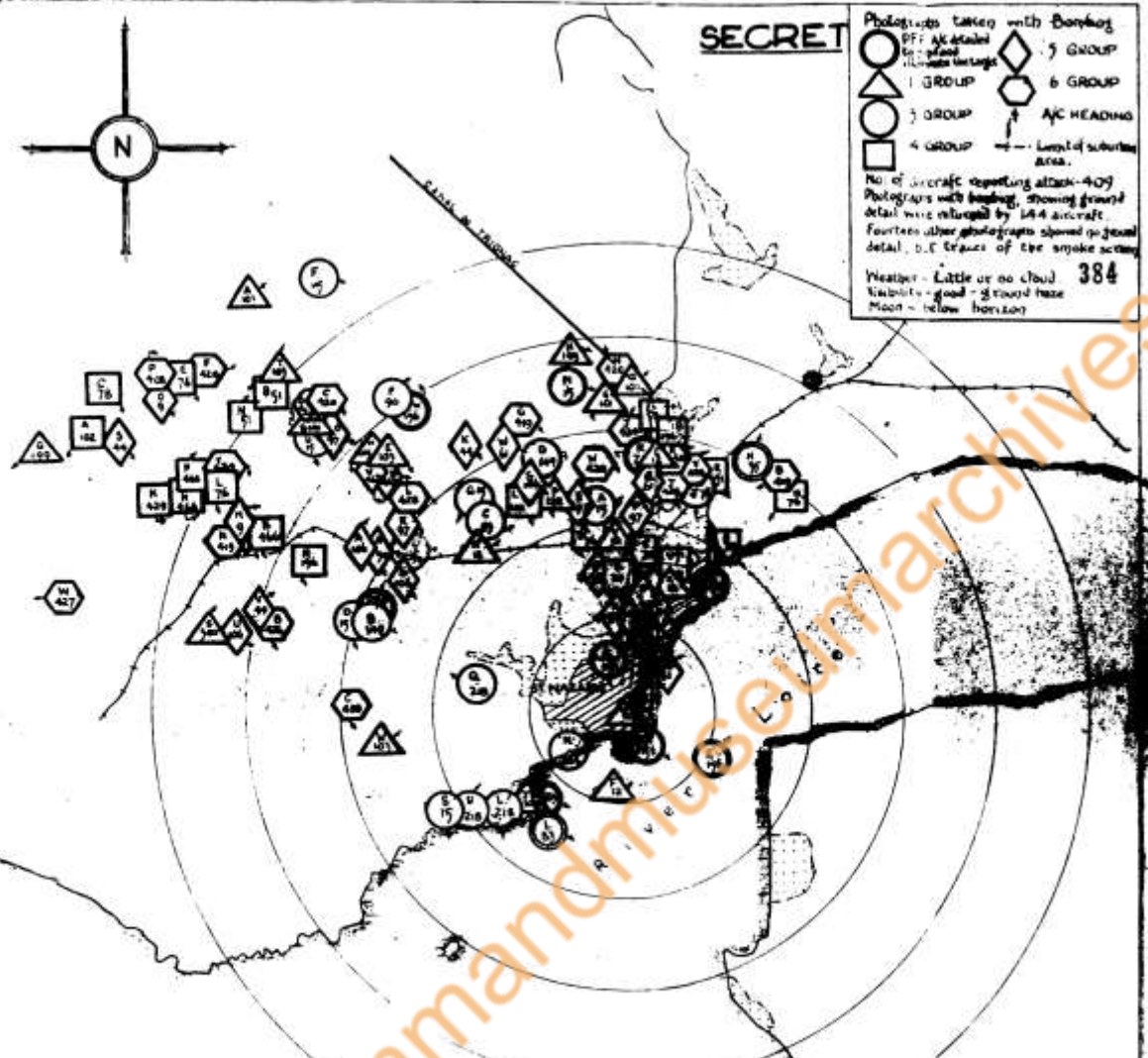
SECRET

Photographs taken with Bombyx
 OFF AK (taken) 5 GROUP
 (to find) 6 GROUP
 (illuminate targets) APC HEADING
 1 GROUP
 2 GROUP
 3 GROUP
 4 GROUP
 Limit of sub-area

No. of aircraft reporting attack - 409
 Photographs with headings, showing ground detail were obtained by 144 aircraft
 Fourteen other photographs showed no ground detail, D.C. traces of the smoke action

Weather - Little or no cloud
 Visibility - good - 3 round haze
 Moon - below horizon

384



FINAL PLOT OF NIGHT PHOTOGRAPHS
 TAKEN 28/2-1/3 1943 TARGET ST. NAZAIRE
 Scale: 1 inch = 1 mile

... ORS BG 250A
 Date 21/5/43 Ref No. 21
 Ref No. 21 April 1944

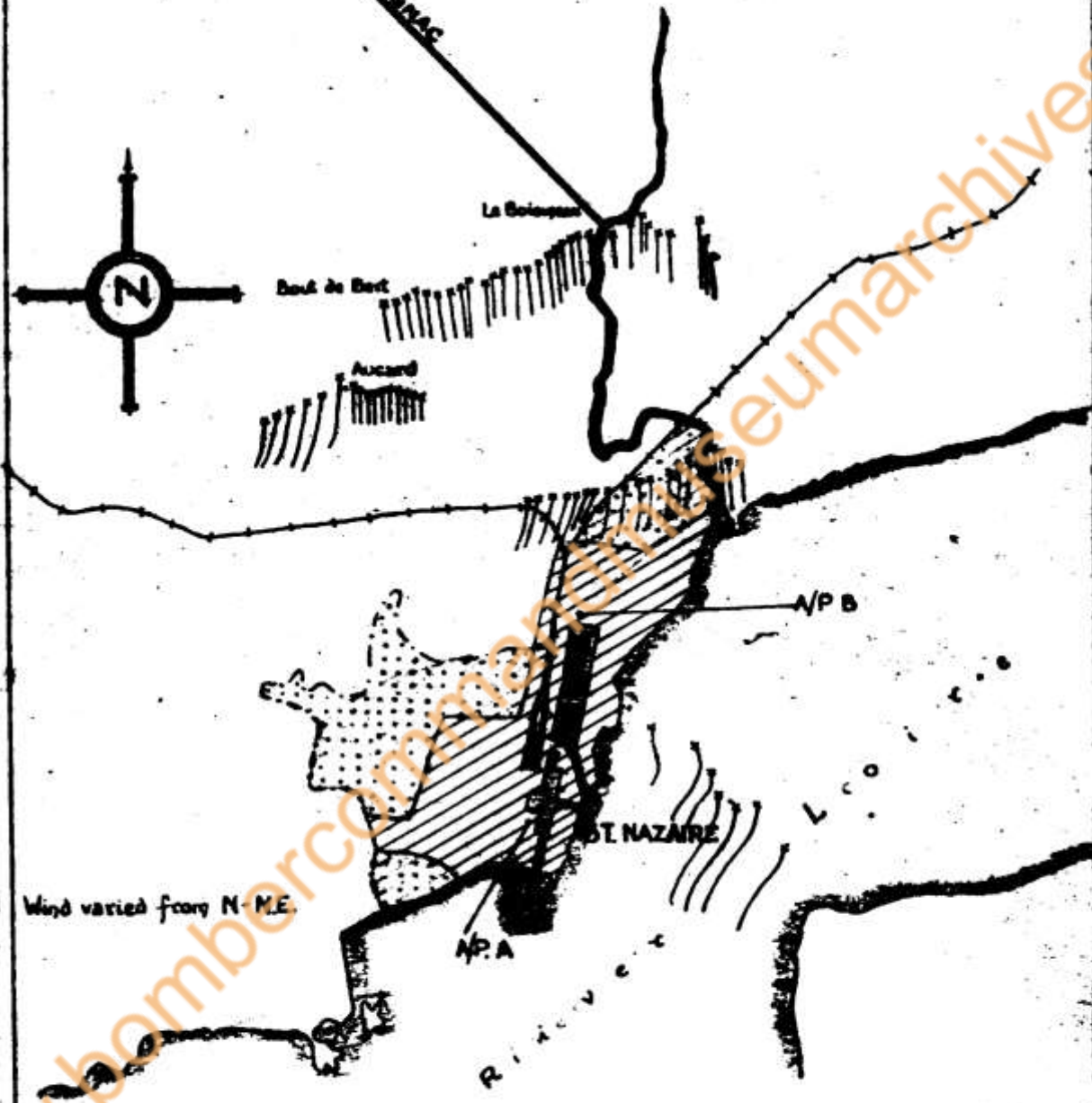
www.bombercommandmuseumarchives.ca

OS 1000
Date 1943
Ref 1000000000

SECRET

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XXXX Position of generators
plotted from night photographs



ST. NAZAIRE. PLAN OF SMOKE SCREEN IN OPERATION ON THE NIGHT OF 28/2-1/3 1943

Scale 1: 50,000.

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