

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 31st DECEMBER/1st JANUARY, 1943.Dusseldorf: Florennes: Minelaying(W.France):LeafletsSUMMARYDusseldorf

Two Mosquitoes fitted with "Oboe" and eight Lancasters, all of the Pathfinder Force, were despatched shortly after dusk to attack Dusseldorf by a marker-flare technique. Apart from a few gaps, there was 10/10ths cloud over the target. Since the marker flares were successfully dropped by the first Mosquito, the reserve aircraft was not required. Seven Lancasters then bombed from heights between 18,000 and 20,000 feet on the position of the marker flares, each dropping 4,000 lb. H.E. and incendiary bombs. No results of the attack were seen and no photographs were obtained. P.R.U. cover obtained on January 1st did not disclose any new damage in the target area. The eighth Lancaster failed to return.

Florennes

Three Mosquitoes of the Pathfinder Force left towards dawn on an "Oboe" liberation test, the selected target being a German control station at Florennes, Belgium. One aircraft abandoned its task owing to technical trouble, but the other two each dropped 3 x 500 lb. M.C. bombs from 28,000 feet above 10/10ths cloud. All returned safely.

No P.R.U. cover has been obtained, but Intelligence sources show that the two sticks of bombs fell 1150 and 250 yards from the aiming point.

Minelaying

24 out of 35 aircraft from 1, 3, 4 and 5 Groups laid 66 mines in their allotted areas off the west coast of France; another jettisoned two live off the coast of Brest on being attacked by enemy fighters. One aircraft did not return from the area of Pallice, but the cause of loss is unknown.

Leaflets

Four of five Wellingtons of 91 Group dropped leaflets in the Orleans area, and two out of three Wellingtons of 92 Group on Limoges. The remaining aircraft encountered three fighters in the area of Rouen, but escaped without damage after jettisoning its bundles. No aircraft was missing.

Meteorological Forecast

5. Midnight fronts: (1) occluded from N. Denmark to Bornholm to 50°N. 12°E. to Stuttgart to Limoges, then westwards (2) cold from 55°N. 07°E. to Yarmouth to the Bristol Channel. The position and intensity of this front are doubtful; it will probably be feeble, with showers.

Home Bases:- Most areas will remain fit all night, although visibility in many places will be limited to 1,000-3,000 yards. Only 5 Group will require diversion, for which the south coast, except Cornwall, should be suitable. At dusk there will generally be broken cloud and moderate visibility; some snow or sleet showers are likely near the east coast.

Germany:- Much convection cloud, with a few breaks and showers of snow, N. of occluded front and over N. Sea. Ruhr:- much cloud to 15,000 feet.

Italy:- Much medium cloud, extending to 20,000 feet over the Alps.

France:- The occluded front will lie through Paris and near La Pallice at 2000 hours, moving southwards and probably clearing at Biarritz by 0200 hours.

Conditions in this front may be possible for mining, with cloud not below 1,000 feet. Everywhere behind the occluded front, visibility will be good.

...../Sorties

Sorties

	<u>Bombing</u>	<u>Mining</u>	<u>Losses</u>
6. (i) Number of aircraft despatched.....	13	35	
(ii) " reporting attack on primary area.....	10	24	
(iii) " reporting attack on alternative area.....	-	1	
(iv) Abortive sorties:-			
reserve aircraft not required.....	1	-	
technical defect.....	1	4	} 9
weather.....	-	4	
sickness of crew.....	-	1	
(v) Number of aircraft missing.....	1	1	
(vi) Weight of bombs dropped.....	24.5 tons	-	
(vii) Total number of mines laid.....	-	68	

Weather Experienced

7. Home Bases:- Fit till 0200-0300 hours, then rain and low cloud spread rapidly across.

Dusseldorf:- Convection cloud over North Sea, with some good breaks, increased near the Dutch Coast to 10/10ths., tops 15,000 feet; then breaking to 5/10ths across Holland. Over the target area cloud varied from nil to 10/10ths cumulo-nimbus, tops 15,000 feet, occasionally extending to 18,000 feet. Visibility good. No moon.

Florennes:- 10/10ths cloud. Moon 3/4 of full and above the horizon.

W.France:- Variable layer cloud, base generally 2,000 feet, but patches at 2,000 feet in the extreme south. Visibility good. No moon.

Results8. (a) Bombing Operations. Results of Oboe Sorties:-

	<u>Target detailed</u>	<u>Target attacked</u>	<u>Control stations</u>	<u>Track</u>	<u>Quality of results</u>
1. Dusseldorf	Primary		(a) Walmer (b) Trimmingham I	178°	Fair
2. "	-		"	178°	(a/c not required)
3. Florennes	-		"	206°	(sortie aborted)
4. "	-		"	206°	Bad.
5. "	-		"	206°	Bad.

\* ( (a) tracking station; (b) release station. )

At Dusseldorf the marking technique was carried out successfully by the first Mosquito, so that the reserve aircraft was not required. The preliminary warning flares were found of great assistance to the seven Lancasters which attacked and 4 of these appear to have bombed exactly according to plan. All aircraft bombed from heights of 18-20,000 feet above 10/10ths cloud, no results were seen. P.R.U. cover obtained on January 9th, failed to disclose any new damage in the target area.

One Lancaster failed to return.

The three sorties which set out for the calibration test on Florennes detailed to attack at intervals of 20 minutes from 28,000 feet, each with 3 x 500 lb. M.C. bombs. The first Mosquito experienced trouble with its air-borne apparatus, and the other two made bad runs on account of very bad weather conditions, which made accurate tracking difficult. Both dropped their bombs from 28,000 feet above 10/10ths cloud.

Six attempts to obtain P.R.U. cover were unsuccessful on account of bad weather but information from Intelligence sources states that the two sticks of bombs fell about 150 and 250 yards from the aiming point.

Full details of this operation are to be found in O.R.S.(B.C.) Report No. 1000/...../Minelaying

(b) Minelaying

Minelaying on the W. coast of France, from Brest to the Gironde estuary, was completed by 24 of the 35 aircraft detailed, most crews reporting good visibility below cloud. One aircraft jettisoned its load live off Cherbourg when attacked by fighters. One aircraft failed to return from La Pallice.

(c) Leaflets

Four of five Wellingtons of 91 Group dropped leaflets in the area of Orleans. The fifth turned back before reaching the French coast.

Two of three sorties from 92 Group carried out their task in the Linoges area. The third jettisoned its load near Rouen after unsuccessful attempts to shake off three presumed hostile aircraft.

Enemy Defences

3. One Mosquito was illuminated by searchlights at Amsterdam at 30,000 feet, but apart from this there are no reports of flak or searchlights.

The only indications of night-fighter activity are the claim, supported by our own observations, of a bomber shot down in the mouth of Scheldt, and one half-hearted attack made on a Lancaster by an unidentified aircraft carrying lights. This had followed for 14½ minutes before firing.

Nearly all of the few enemy aircraft seen by the minelayers were carrying lights. Two attacks were made without result.

Casualties

5. One aircraft failed to return from Dusseldorf. Intercepted wireless traffic confirms observations of returning crews that it was shot down by a fighter in the Scheldt estuary.

No damage was reported by any of the bombing sorties.

Minelaying operations resulted in one aircraft missing (cause unknown), one aircraft slightly damaged by flak, and four damaged on return.

No casualties or damage were sustained by the Leaflet sorties.

MM/VP.  
BC/S. 26342/3/ORS.  
24th February, 1943.

Target	Group	Type	Sorties	Aircraft reporting attack on		Abative Sorties		Missing	Mines laid in primary area	Damage			Interceptions	
				primary area	alternative area	over en. territ.	not over en. territ.			Flak	fighter	not E/W	attacked	not attacked
DUSSELDORF FLORENCE	P.P.F. P.P.F. P.P.F.	Lancaster Mosquito Mosquito	8	7	-	-	-	1	-	-	-	-	1	-
			2	1	-	1	-	-	-	-	-	-	-	-
			3	2	-	1	-	-	-	-	-	-	-	-
BOMBING TOTAL			13	10	-	2	-	1	-	-	-	1	20	
<u>MINELAYING</u>														
Brest	4	Well.III	6	3	-	3	-	-	6	1	-	-	-	-
Lorient	1	Well.III	2	2	-	-	-	-	4	-	-	-	-	1
	1	Well.IV	3	2	-	1	-	-	4	-	-	-	-	-
St. Nazaire	1	Well.III	4	3	1	-	-	-	6	-	-	1/C	1	2
	1	Well.IV	3	1	-	1	-	-	2	-	-	-	-	-
La Pallice	3	Well.III	6	4	-	1	-	1	8	-	-	-	-	-
Gironde Estuary	5	Mosquito	11	9	-	2	-	-	36	-	-	1A2B	1	-
MINELAYING TOTAL			35	24	1	6	3	1	66	1	-	1A1AC 2B	2	3
<u>LE FLETS</u>														
Oriens	91	Well.III	5	4	-	-	1	-	-	-	-	-	-	1
Langas	92	Well.III	3	2	1	-	-	-	-	-	-	-	-	2
LE FLETS TOTAL			8	6	1	-	1	-	-	-	-	-	-	3
TOTAL			56	40	2	8	4	2	66	1	-	1A1AC 2B	3	6

\* These 6 A/C were not fitted with Gee

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS 2/3rd JANUARY, 1943.

Mine-laying (W. France): Leaflets.

SUMMARY

Mine-laying

42 aircraft of 1, 3 and 5 Groups were despatched to lay mines off the west coast of France. Despite cloud and rain, 31 report reaching their allotted areas, and 88 mines were laid, including 40 in the Gironde estuary. One aircraft sustained slight damage from flak off Bayonne, but all our aircraft returned safely.

Leaflets

Two aircraft of 92 Group dropped leaflets in the area of Limoges, and returned without incident.

Meteorological Forecast

Home bases:- A minor depression moving S.E. from W. Scotland will give a period of cloud and precipitation as it passes through bases. This is expected to occur early in the night. A warm front from the Atlantic may result in rain and low cloud towards dawn, but this is uncertain. All Groups expect to remain reasonably fit throughout the night, except for local smoke troubles and frequent wintry precipitation in 1, 2, 4, 5 and 6 Groups. This will mostly take the form of showers, but, especially in winds from the sea, these may last for as long as 1½-2 hours. Cloud base will fall below 1,000 feet during showers, and visibility will be bad in snow.

Germany:- Convection cloud will prevail over the North Sea coastal strip, with base generally 1,500 feet, falling below 1,000 feet in snow showers. Inland over W. Germany, cloud will decrease, and good clearances are expected in the south and over the middle Rhine. Very strong winds are likely over the Ruhr, of the order of 100-115 m.p.h. at 25,000 feet.

Italy:- A development over the Mediterranean is expected to give cloud over the Lombardy Plain, but how much cannot as yet be estimated.

Mining areas:- W. France should be suitable, with good visibility despite showers. The North Sea will have cloud towering to at least 15,000 feet, and falling during heavy showers almost to sea level. Snow showers are expected to persist throughout the night in the Skagerrak and the Baltic. Much cloud is likely over N. Holland, probably with snow.

Sorties

	<u>Mine-laying</u>	<u>Leaflets</u>
3.		
(a)	No. of aircraft despatched.....	42.....2
(b)	" reporting mines laid in primary area.....	31.....2
(c)	" abortive sorties (weather.....8)	11.....0
	(technical defect.....1)	
	(sickness of crew.....1)	
	(hit tree after take-off.....1)	
(d)	" aircraft missing.....	0.....0

...../Weather Experience.

Weather Experienced

4. Home Bases:- Fit all night. Visibility good apart from showers. Average wind at 1,000 feet: 320°/40 m.p.h.

W.France:- Convection cloud increasing over Channel to 4-8/10ths, base 2,000 feet, but 10/10ths in showers. Rain showers in south, snow and sleet showers in north. No moon.

Results

5. 42 minelaying sorties were despatched to the French Atlantic coast, 31 aircraft successfully planted 88 mines in spite of poor weather conditions. Low cloud, rain and sleet, with severe icing conditions, were encountered in some areas, compelling 8 aircraft to abandon their task.

Both the Wellingtons of 92 Group commissioned to drop leaflets completed their mission.

Enemy Defences

6. Some heavy and light flak was experienced from coastal areas in the Bay of Biscay and from Guernsey and Vannes, but this was generally reported as inaccurate.

Night fighter activity was negligible. Only two enemy fighters were seen, neither of which attempted to attack.

Casualties

7. All aircraft returned safely. Apart from one aircraft which struck a tree shortly after take-off, the only damage sustained was one very slight case caused by flak.

MLM/VF.  
BC/S. 26342/3/ORS.  
14th March, 1943.

Mine-laying sorties (3/20 January 1952)

Target	Group	Type	Sorties	Aircraft reporting mines laid in primary area	Alternative sorties (not over enemy assets)	Missiles	Damage		Interceptions (not attacked)	Mines laid in primary area
							1-3	not R/A		
<u>MINELAYING</u>										
Brest	4	Well.III	6	2	4	-	-	-	-	4
Lorient	1	Well.IV	5*	3	2	-	-	-	1	6
St. Nazaire	1	Well.III	7	5	2	-	-	-	1	10
La Pallice	3	Well.III	6	5	1	-	-	1*	-	10
Gironde Estuary	5	Lancaster	12	10	2	-	-	-	-	40
Bayonne	5	Lancaster	4	4	-	-	-	-	-	12
St. Michel de Mer	5	Lancaster	2	2	-	-	1	-	-	6
<b>M I N E L A Y I N G</b>	<b>T O T A L</b>		<b>42</b>	<b>31</b>	<b>11</b>	<b>-</b>	<b>1</b>	<b>1*</b>	<b>2</b>	<b>88</b>
<u>MINELAYING</u>										
Landing	92	Well.III	2	2	-	-	-	-	-	-
<b>T O T A L</b>			<b>44</b>	<b>33</b>	<b>11</b>	<b>-</b>	<b>1</b>	<b>1*</b>	<b>2</b>	<b>88</b>

\* These 5 R/C were not fitted with guns

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 3/4TH JANUARY, 1943.Essen:      Minelaying:      Leaflets:SUMMARYEssen

19 Lancasters of 5 Group were detailed to carry out a blind bombing attack against the Krupp's works at Essen, with the aid of sky-markers dropped by 3 Mosquitoes of the P.F.F. Two Mosquitoes and 12 Lancasters reported reaching the target, which was bombed from above 20,000 feet. No separate reconnaissance was undertaken for this operation, and visual assessment of the damage caused was impossible from such a height. As an experiment in the technique of sky-marking, the attack is considered to have been successful. 3 Lancasters did not return.

Minelaying

45 Wellingtons and Lancasters of 1, 3, 5, and 6 Groups were despatched to lay mines off Texel and the west coast of France. 38 aircraft completed their task, laying 139 mines, including 88 in the Gironde estuary. No aircraft was missing, but one crashed on the outward journey and was destroyed.

Leaflets

Two Wellington III's of 92 Group, manned by pupil crews, dropped leaflets in the Limoges area and returned without incident.

Meteorological Forecast

2. 0935 hours. A low pressure centre now over N.E. France is moving rapidly N.E., and by midnight is expected to be central in the Hamburg area, with a cold front to W. Alps.

Home Bases:- Clearing skies over the Midlands with fog developing early. Some bases near the east coast should hold out for most of the night, but there is a threat of low stratus in the north. S.W. England should be fit all night.

Germany:- Near this centre there will be an area of continuous rain, with cloud to great heights, high icing index in cloud, and freezing level 3,000 feet. East of 15°E., there will be little low cloud and well broken medium cloud.

Italy:- Much cloud over the Alps and Lombardy Plain.

S.W. France:- Increasing medium cloud, associated with a depression to the West of Spain which is moving east.

1245 hours Home Bases:- 1, 2, and 3 Groups should be just fit for a daylight take-off, but will probably be unfit for return, and expect to divert to safe bases in S.W.

Germany:- The Nordhelm area will be in the central region of the depression this afternoon. Cloud cover may not be 40/40ths., but icing above 3,000 feet will be very serious.

S. France:- Fit for mining early in night, with well broken cloud and moderate to good visibility.

1545 hours. Home bases:- S.W. Yorkshire is not expected to be fit for most of the night, and 3 Group may be available for return.

...../ESSEN



ESSENPlan of Attack

3. Zero Hour.....1945 hours

Routes briefed:-

P.F.F. IJmuiden - ESSEN - Overflakkee

5 Group Enkhuizen - Munspeet - Zutphen - Peddenburg  
ESSEN - Leeuwen - Noordwijk.

The target was to be marked by three P.F.F. Mosquitoes and bombed by 20 Lancasters of 5 Group. The first Mosquito was to adopt the following procedure:

1942½ hours - Three warning flares (red steady)

1945 hours - Six sky-marker flares (green with red stars) to ignite at 18,000 feet.

1947 hours - Three white flares (for latecomers).

If possible, the entire procedure would be repeated by the second Mosquito from 1944½ hours, in which case white flares would only be dropped by the late aircraft.

All Lancasters were briefed to fly above 20,000 feet over defended areas on a heading of 160° magnetic, each aircraft carrying 4,000 lb. H.C. bombs plus 10 containers of 4 lb. incendiaries, including one container of the explosive H.E. bombs were to be aimed at the marker flares; pilots were then to continue on the same heading for 13 seconds before releasing their incendiaries. As aircraft arriving at the release-point after the marker flares had burnt out to drop their bombs about four miles short of the white flares.

Sorties

4. (a) No. of aircraft despatched.....22  
(b) " " reporting attack on primary area.....14  
(c) " abortive sorties (technical defect.....5)  
(d) " aircraft missing.....3

Weather Experienced

5. Home Bases:- Fit all night apart from local fog or mist, mainly near industrial areas.

Target:- Very variable convection cloud, changing in a few minutes from 10/10ths: tops to 15,000 feet. Visibility good. No moon. Similar conditions en route, but rather more cloud with snow showers over the North Sea. Wind at 20,000 feet: 320°/100 m.p.h.

Narrative of Attack

6. Three Mosquitoes and 19 Lancasters set out. Two Mosquitoes reached the target and released their flares from 20,000 feet; one on time, the other ½ minutes early.

There was little cloud with perfect visibility, which enabled the flares to be clearly seen, though the very high wind caused a big drift. The twelve Lancasters which carried out the subsequent attack bombed within 10 minutes of zero hour from 20-23,000 feet. The first two arrivals saw the first group of flares ignite behind or beneath them and were, therefore, unable to carry out instructions precisely, but the remainder bombed as briefed, on the second lot of flares.

Fires and explosions were seen, though they appeared to be scattered.

Evasive action from searchlights, which were aided by the excellent weather made it difficult for one or two crews to keep to the specified timing. Three Lancasters did not return.

...../Photographic Evidence

### Photographic Evidence

9. Night Photographs with Bombing Eight photographs were taken with bombing, but only ~~two~~ have been plotted - one 5,400 yards N. of Krupps works, showing the Karnap power station, the other at Bettrop, about 7½ miles from the aiming-point. Four of the uncharted photographs show a few fire or incendiary bomb tracks.

10. Day Reconnaissance No separate cover was undertaken for this raid. For details of all damage caused at Essen in the first fortnight of January, see Night Raid Report No. 242.

### Navigational Aids (Gee)

9. 10 of the 19 sorties despatched reported useful ranges on Gee - average 272 miles, maximum 308 miles. Little interference was reported. The performance of ground stations was normal; interruptions were of short duration and affected "D" stations only.

### Blind Bombing Aids ('Oboc')

10. The results of the three 'Oboc' sorties were as follows:-

<u>Sortie No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Results</u>
	<u>Tracking</u>	<u>Bombing</u>		
(i)	Swingate	Trimmingham II	176°	Bad run made: well off track.
(ii)	-	-	-	Reserve a/c: returned early with defect in airborne apparatus.
(iii)	Walmer	Trimmingham I	176°	Made poor run.

### Defences

11. Flak and Searchlights:- The heavy flak fire was fairly intense but, on the whole, inaccurate. Searchlights were reported in huge numbers, estimated by air crews to be as many as 250 within a ten-miles radius of the target. Although the "pick-up" at 20,000 feet was unexpectedly good, the "following" does not appear to have been of the same high standard.

Fighters:- Wireless Intelligence reported 12 sorties flown by controlled night-fighters over Holland and possibly over the Dutch Islands. Two claims to success were heard. Although only one interception was reported there is a distinct possibility that all the three aircraft missing on this operation were lost to fighters. The one interception concerned a Lancaster which was attacked at 18,000 feet near Leuven. The fighter was not seen at any time, but severe damage was inflicted on the Lancaster by two bursts of fire which raked the whole of the underside.

### Casualties

12.	No. of aircraft missing.....	3(13.6%)
	" damaged (a) flak.....	2
	(b) fighters.....	1
	Total Damaged	3(13.6%)

Of the two claims to success by controlled night-fighters intercepted, one coincides approximately with observations by our own bombers that an aircraft was seen burning in the air on the outward journey at Munspeet at 1931 hours. This aircraft was also reported by a controlled night-fighter to be burning on the ground, but no indication was given of the cause.

Although flak in the target area was reported as accurate, there is no suggestion that it caused any casualties. In the absence of definite information all losses must be ascribed to unknown causes.

...../MINELAYING



Target	Group	Type	Sorties	A/C reporting attack on primary area	abortive sorties		Missing	Missed in primary area	Damage			Interceptions		
					over territ.	not over territ.			Fink	Fighter	not E/A	attacked	not attacked	
ESSEX	P.F.P. 5	Mosquito (Obce) Lancaster	3	2 (flares only)	-	1	-	-	-	-	-	-	-	-
			19	12	-	4	3	-	2	1x0	-	1	-	
BOMBING TOTAL			22	14	-	5	3	-	2	1x0	-	1	-	
<u>MINELANDS</u>														
Lorient	1	Well-IV	7x	7	-	-	-	14	-	-	-	-	-	-
St. Nazaire	1	Well-IV	7x	6	1	-	-	12	-	-	18	-	-	205
La Pallice	3	Well-III	2	2	-	-	-	4	-	-	-	-	-	-
Gironde Est.	1	Lancaster	17	15	2	-	-	88	-	-	-	-	-	-
Bayonne	5	Lancaster	4	3	1	-	-	9	-	-	-	-	-	-
St Jean de Luz	5	Lancaster	2	2	-	-	-	6	-	-	-	-	-	-
S. of Toul	6	Well-III	6	3	3	-	-	6	1	-	-	-	-	-
MINSLAYING TOTAL			45	38	7	-	-	139	1	-	18	-	-	-
<u>LEAPLATS</u>														
Lamoga	92	Well-III	2	2	-	-	-	-	-	-	-	-	-	-
TOTAL			69	54	7	5	3	139	3	1x0	18	1	-	

(\* These aircraft were not fitted with Gee)

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 4/5 TH JANUARY, 1943.EssenSUMMARY

A blind bombing attack, using the sky-marker method, was made on Essen by 4 P.F.F. Mosquitoes (2 markers and 2 reserves) and 29 Lancasters of 1 Group. Both markers dropped their flares accurately and on time, and 19 of the Main Force claim to have bombed on the position of the flares above cloud. Apart from the reflection of fires, no results were observed and, in the absence of adequate photographic evidence, the success of the raid cannot be assessed.

Two aircraft failed to return. Two others, unable to reach the primary, bombed alternative targets.

Metereological Forecast

1. Midnight fronts:- (1) occluded from 54° N. 09° W. to Bristol to Cherbourg, becoming warm to Nantes to N. Spain and cold to 47° N. 05° W. and S.W.wards (2) minor cold from Hamburg to Amsterdam.

Home Bases:- Increasing amounts of cloud, slight snow becoming heavier towards morning, cloud lifting and breaking to W. of front. All Groups except 6 expect poor visibility (1,500-3,000 yards) at dusk, with local fog. Snow in 91, 92 and 93 Groups at dusk, reaching 5 Group by 2300 hours, 1 Group by midnight and 2, 3, 4 and 6 Groups by 0100 hours, then increasing. Diversions after 0100 hours in E. Scotland, extreme N.E. of Norfolk and perhaps Suffolk.

E. North Sea and Denmark:- 5-8/10ths convection cloud at 1,500'; snow showers with 10/10ths. at 600', tops 10-15,000'.

Germany:- Convection cloud decreasing inland, good breaks in middle Rhine. Ruhr: early, 4-7/10ths at 1,500 feet, with occasional snow showers; freezing level near surface; tops 10-15,000 feet. Later, increasing patches of medium cloud, low cloud decreasing.

Wind at 25,000 feet: 320°/90-100 m.p.h., backing slightly for return.

N. Italy:- Fine weather, little cloud; visibility moderate. Route: much medium or some low cloud to 47° N., then little medium and much low, increasing towards Alps to 10/10ths, with tops 10,000 feet. Peaks of Alps and southern Alps clear.

Plan of Attack

3. Zero hour.....1940 hours

Routes briefed:- P.F.F. IJmuiden - IS. EN - Overflakke

1 Group IJmuiden - IS. EN - Noordwijk.

Four P.F.F. Mosquitoes and 30 Lancasters of 1 Group were briefed to carry out a blind-bombing attack with the aid of navigational fixes and sky-marker flares. The Mosquitoes were to operate in pairs (one marker + one reserve), the first pair from 1936 to 1940 and the second from 1938 to 1942 hours. The following procedure was to be adopted by the first pair:

1936 hours:- Preliminary warning flares (green steady) to be released at approximately 51° 50' N. 06° 57' E.

...../over

- 1938 hours:- Secondary warning flares (red steady)
- 1940 hours:- Release-point flares (green with red stars), to burn for two minutes.

Each of these signals was to be repeated two minutes later by the aircraft of the second pair. For the assistance of late-comers, emergency white flares were also to be dropped at 1944 hours.

The Lancasters were to approach the release-point flares on an exact heading of 170 magnetic. When on this heading, the preliminary green flares should have appeared exactly on the port beam at a distance of 5 miles, and the second red flares to port and slightly ahead at a distance of 2½ miles. Late-comers to approach the emergency white flares on the correct heading (170° magnetic), releasing the bombs about two miles short of the flares if they had just started to burn, and an extra mile away for every additional minute.

Sorties

4.	(a)	No. of aircraft despatched.....	33
	(b)	" reporting attack on primary area.....	19
	(c)	" " alternative area.....	2
	(d)	" abortive sorties (reserve markers - not required...2) (technical defect.....8).....	10
	(e)	" aircraft missing.....	2(5)

Weather Experienced

5. Home bases:- Extensive mist or fog at dusk, except in Yorkshire and locally in 1 and 3 Groups. These areas held till about midnight. Much low cloud with snow S.W. of a line Liverpool - Croydon.

Route:- 2-5/10ths convection cloud across North Sea, increasing to 9-10/10ths over Dutch coast. Tops 12-14,000 feet. Visibility good.

Target:- 7-10/10ths layer and convection cloud, tops 10-12,000 ft. Visibility 5-10 miles. No moon. Mean wind at 22,000 feet, 330/90 m.p.h.

Narrative of Attack

6. One Mosquito operated accurately and exactly on time; the second was 2½ minutes late, and its flares were inaccurately placed. Despite intense flak and searchlights, 17 Lancasters report having attacked as ordered, dropping 17 x 4,000 lb. H.E. bombs and a large number of incendiaries. Five of these aircraft, however, bombed on the second lot of flares, and it is likely that their bombs overshot in the direction of the Baldeney See. Results were unobserved, but the reflection of fires on the cloud could be seen as our aircraft left for home. Two Lancasters did not return. Two aircraft experienced technical defects on the outward journey and visually bombed alternative targets, viz: Gladbach, and searchlight concentrations at 52°43' N. 04°58'E. (in the area of Antwerp).

Photographic Evidence

7. 12 successful photographs taken with bombing have been examined. All show dense cloud and no ground detail. One aircraft took a photograph independently of bombing, which shows flares burning above the clouds - possibly the sky-marker flares.

No separate P.R.U. cover was undertaken for this raid. For details of damage caused at Essen between 3/4th and 13/14th January, see Night Raid Report No. 242.

Operational Aids (Gee)

It would appear that the enemy jamming in the Ruhr area is becoming more effective. The average Gee range for this night was only 254 miles, with a maximum of 283 miles. The performance of the ground stations was reported by the monitoring station as satisfactory. As on the previous night, only interruptions, which were slight, affected "L" station.

Area-Bombing Aids (Oboe)

Sortie No.	Control Stations		Track	Result
	Tracking	Bombing		
(i)	Swingate	Trimmingham II	177°	Excellent run made.
(ii)	-	-	-	Not required (reserve aircraft)
(iii)	Walmer	Trimmingham I	177°	Bad run due to faulty setting of ground equipment.
(iv)	-	-	-	Not required (reserve aircraft)

Flak

C. Flak and Searchlights:- Searchlights were again active, but on a reduced scale, probably due to the less favourable conditions. Intense heavy flak was directed at aircraft held in the searchlight intersections. This was most probably "deterrent" or perhaps "unseen" fire, as it is unlikely that the aircraft were visible from the ground.

Fighters:- Approximately 10 sorties were made by controlled night fighters, and one attempted interception was overheard. The returning Lancasters reported 6 interceptions, including one attack, made by a Me. 110 at 20,000 feet. This inflicted severe damage on the bomber.

The Mosquitoes reported no incidents.

Casualties

No. of aircraft missing.....2(6.1%)  
 " " damaged (a) flak.....3  
 (b) fighter.....1  
 Total Damaged.....4(12.2%)

Reports of returning crews indicate that an aircraft was seen burning in the air over the target area, and another off the Dutch coast on the homeward journey, but in neither case it is possible to state the cause of the loss.

...../ESSEN

ESSEN

Target	Gp.	Type	Sorties	w/C reporting attack on		abort.sorties		Missing	Dam- age			Inter- cept att.
				prim. area	alt. area	over E.T.	not over E.T.		flak	fight- ton	not E/A	
ESSEN	P.F.F. 1	Mosquito Lancaster	4	2	-	2	-	-	-	-	-	-
			29	19	2	-	6	2	3	1.0	-	-
			33	21	2	2	6	2	3	1.0	-	1

MLM/VP.  
BC/S. 26342/1/ORS.  
27th February, 1943.

APPENDIXTiming of attack

I. The sky-markers dropped their release point flares at 1940 and 1944 hours respectively.

All the Main Force attacked within 11 minutes of zero hour.

Weight of Bombs Dropped

II	By aircraft reporting attack on Essen	<u>H.E.</u> 34.0 tons	<u>Inc.</u> 30.1 tons
	" alternative	3.6	1.6
	Bombs carried by missing aircraft	3.6	3.2



BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 7/8TH JANUARY, 1943.EssenDETAILS

19 Lancasters of 5 Group were despatched on a blind bombing attack on Essen. Two P.F.F. Mosquitoes had been detailed to act as sky-markers, with one other in reserve, but owing to a technical defect, only one was able to drop its release point flares. 14 Lancasters claim to have bombed the target area from above 10/10ths cloud. No results were observed and no useful night photographs were obtained. In absence of a separate reconnaissance the success achieved by this raid cannot be assessed. All aircraft returned safely.

Metereological Forecast

Position of fronts at midnight:- (1) occluded from N.W. Ireland to Lincolnshire to  $50^{\circ}\text{N.}, 05^{\circ}\text{E.}$ , then S.S.E. (2) occluded from central Wales to extend to  $47^{\circ}\text{N.}, 03^{\circ}\text{E.}$ , becoming warm to Rhone valley and cold to central Spain.

Home Bases:- Very much low cloud with occasional rain and fog or mist over all the E. and Midlands. In S.W. there will be broken layer cloud at about 1,000 feet. P.F.F. & 5 Groups will have cloud well broken below 1,000 feet with high tops and moderate icing, in the first part of the night. No real take-off difficulties should be experienced. However, for a late take-off, diversions can be found further north, e.g. N.E. Scotland.

Germany:- In extreme W and over Low Countries there will be a belt of low cloud, with sleet or snow. Between this belt and 10 E., much medium cloud with well broken low cloud. From  $10^{\circ}\text{E}$  to  $15^{\circ}\text{E}$  variable layer cloud. E. of  $15^{\circ}\text{E}$ , much layer cloud with occasional snow. Variable layer cloud in S. Ruhr:- Considerable cloud, probably 10/10ths, tops not above 20,000 feet.

Route to Ruhr:- Considerable cloud, mostly in layers, tops about 20,000 feet. It may be necessary to go north or north-eastwards from bases, to find well-broken cloud through which to climb to 20,000 feet without icing.

N. Italy:- Well broken layer cloud. Much cloud over the Alps.

Plan of attack:-

Zero hour.....0600 hours  
(originally planned as 1900 hours).

Routes briefed:- P.F.F.: Ijmuiden - ESSEN - Overflakkee.

5 Group:  $54^{\circ}30'\text{N.}, 02^{\circ}30'\text{E.}$  - Kampen - ESSEN - same return.

The plan of this operation was identical with that for the previous attack against Essen on 4/5th January, except for the following details:-

The release-point flares were to be approached by the Main Force on an exact heading of  $185^{\circ}$  magnetic (not  $17^{\circ}$  magnetic as before). On this heading, the preliminary ...../warning

warning flares, released at zero-4 minutes, would be precisely on track, and all aircraft were to be as nearly as possible over them at the moment of ignition. The secondary warning flares, released at zero-2 minutes, would also be exactly on track, and were timed to ignite slightly ahead of aircraft at the correct position. Bomb loads were to be as before (one 4,000 lb. H. bomb plus 10 containers of 4 lb. incendiaries, including one container of the explosive type) and a 10-second interval was again to elapse between the release of H.E. and incendiaries.

#### Sorties

4.	(a)	No. of aircraft dispatched.....	22
	(b)	" " reporting attack on primary area.....	15
	(c)	" abortive sorties (reserve markers.....)	7
		(technical defect.....)	4
		(icing.....)	1
	(d)	" aircraft missing.....	0

(x See Paragraph 6).

#### Weather Experienced

5. Home bases:- Little cloud and good visibility during operational period.

Route:- 7-10/10ths, cloud, tops 15-18,000 feet, base unknown, track temporarily over Dutch coast but soon increasing again towards the target. Visibility good.

Target:- 10/10ths, tops 1,000 feet. Visibility good. No moon.

#### Narrative of Attack

6. Local interference (within the aircraft) and a mechanical failure 10 seconds before the time of release prevented the leading marker from receiving the bombing signal. As this aircraft had dropped preliminary flares and had practically finished its run, it was too late to take over; accordingly, only the second aircraft dropped its flares. These, however, were only one minute late, and the quality of tracking was excellent. Of the 14 Lancasters which claim to have bombed the target, 6 worked according to plan. The remainder bombed on the approximate position the flares including two which were forced to jettison. A few incendiaries were seen burning, but otherwise nothing was observed. The remaining five sorties were abortive, one aircraft jettisoning its bombs about 16 miles north of the target. All our aircraft returned safely.

#### Photographic Evidence

7. 10 photographs taken with bombing have been examined. Two of these show ground detail but remain unprinted; the remainder show dense cloud.

8. No separate P.R.U. cover was undertaken for this raid. For details of damage caused at Essen from 3/4th to 13/14th January (inclusive) see Night Raid Report No. 242.

#### Navigation Aids (Geo)

9. The average Geo range was the same as for the previous operation on 3/4th January - 251 miles. The navigator returning the greatest range, 269 miles, reported that the pulses were strong at that point. In one instance the B signal was received strongly over the target, but in another the pulse failed soon after crossing the Dutch coast. The service provided by the ground stations was entirely satisfactory until 0556 hours, when the C pulse was off 89 seconds. At 0607 the master station dipped and the chain was replaced correctly in about a minute.

Blind Bombing Aids (Oboe)

<u>Bombing No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Result</u>
	<u>Tracking</u>	<u>Bombing</u>		
(i)	Walmer	Trirmingham I	178°	Abortive: failure of ground equipment.
ii)	"	"	178°	Abortive: reserve aircraft too late.
(iii)	Swingate	Trirmingham II	177°	Excellent run made.

Defences

10. Flak and Searchlights:— Heavy flak fire was moderate to intense, some crews at the higher levels reporting a very fair degree of accuracy. It was almost certainly "unseen" predictor control. Many searchlights were in operation, but the cloudy conditions made "beaming" difficult, and little assistance can have been furnished to the guns, the fire was too accurate to suggest "deterrent" fire through cloud. Some light flak was seen self-destructing at 17,000 feet.

Fighters:— Night-fighter activity was very slight. Weather was unsuitable for free-lance fighters and only four sorties were made by controlled fighters. No attacks took place and the two attempted interceptions overheard corresponded approximately in time with the only two incidents reported by Lancasters. Both of these were successfully avoided.

Capabilities and Damage

11. All aircraft returned safely, the only damage sustained being 3 cases of minor flak damage to Lancasters.

APPENDIXTiming of Attack

I. The sky-marker dropped its release point flares at zero + 1 minute. One aircraft of the Main Force bombed at zero - ½ minute and the remaining 13 aircraft between zero and zero + 8.

Weight of Bombs Dropped

II. (a) by aircraft reporting attack on primary

H.E. 250.0 tons  
(14 x 1,000 lb.)

Incidaries: 22.3 tons

No. of aircraft carrying flares only.....1  
" " " H.E. + 4 lb. incendiaries.....14

(b) Jettisoned over enemy territory

H.E. 1.8 tons  
(4 x 4,000 lb.)

Incidaries: 1.6 tons.

Target	Group	Type	Sorties	A/C reporting attack on		Abortive sorties		Missing	Damage			Interceptions	
				prin. area	alt. area	over en. territ.	not over en. territ.		Flak	fighter	not en. action	attacked	not attacked
ESSEX	8	Mosquito	3	1	-	2	-	-	-	-	-	-	-
	5	Lancaster	19	14	-	1	4	-	3	-	-	-	2
T O W A L			22	15	-	3	4	-	3	-	-	-	2

www.bombercommandmuseumarchives.ca

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 8/9TH JANUARY, 1943.DUISBURG: Minelaying (N. Baltic, etc.): LeafletsSUMMARYOperations

38 Lancasters of 5 Group left at dusk to attack Duisburg, with 3 P.F.F. Mosquitoes, equipped with 'Oboc', acting as sky-markers. 2 Mosquitoes dropped flares accurately above 10/10 cloud, after which 30 Lancasters bombed on position of the flares, which were seen by all aircraft.

Photographic reconnaissance suggests that the attack added considerably to the damage caused in previous raids on this target, though no exact assessment can be made.

3 Lancasters failed to return, the loss of one being attributable to engine failure. A further 5 were damaged.

Minelaying

79 aircraft were detailed to lay mines in the N. Baltic, the S. North Sea and off the coast of Norway. Weather in most areas was bad, with low cloud and severe icing, but in spite of this 42 aircraft reached their target and 100 mines were laid, including 96 off the Frisians and 30 in the Coast Channel.

All the aircraft of 6 Group were recalled. 3 Lancasters failed to return, 2 from the Baltic and 1 from the Frisians.

Leaflets

2 aircraft of 92 Group, manned by pupil crews, were despatched to drop leaflets in the area of Rouen. One aircraft completed its task; the other missed the target area but was unable to drop its leaflets. Both aircraft returned safely.

Metereological Forecast

Home Bases:- Cloudless skies and poor visibility (1,000-3,000 yards) at dusk. Gradual deterioration; locally, less than 1,000 yards for return after 2400 hours.

Operation areas: S.coast eastwards from Shornay Island, E.coast north to Orkney and locally north to Dyce; also Rosneath Down.

Germany:- A centre of low pressure over the middle Rhine is moving E. and will be E. of Leipzig by midnight. Fronts retreat from the centre - warm fronts eastwards, occluded southwards and cold south-westwards. N.Germany: Layer cloud will prevail over the North Sea coast, with a few breaks, decreasing inland. Central and S.: much cloud at various levels with precipitation. E.: much layer cloud with snow showers. Ruhr: probably cloudless, but maybe 10/10ths. Winds at Ruhr: at 20,000 feet, 60°/80 m.p.h.: at 30,000 feet, 80°/100 m.p.h.

Italy:- Generally cloudy.

France:- Much low cloud in N., and in E.E. (with occasional sleet). Variable cloud elsewhere inland.

Finland areas:- N.Sea: occasional snow showers, tops 15,000 feet, freezing level on surface, icing moderate in all cloud. Wind at 10,000 feet, 350°/30 m.p.h.

Frisians, Heligoland, Denmark, W. of 10°E and Kettogut: variable strato-cumulus, base 1,500 feet, snow showers. Baltic (E. of 11°E) much strato-cumulus, base 1,000-1,500 feet, frequent snow showers, base below 1,000 feet, tops about 4,000 feet

feet with broken layer cloud above. Descent from above cloud tops in Baltic may be hazardous owing to ice accretion.

### DUISEBURG

#### Plan of Attack

3. Zero hour.....1920 hours  
Routes briefed:-  
P.F.F. IJmuiden - DUISBURG - Overflakkee  
5 Group Enkhuisen-Kampen-DUISBURG-Leeuwen-Noordwijk

The force was originally intended to consist of 3 P.F.F. Mosquitoes and 50 Lancasters of 5 Group, which were to attack with the aid of navigational fixes and skymarker flares. The same technique was to be used as on the two previous skymarking raids. The first Mosquito was to operate from 1914 to 1920 as follows:

1914 hours: Preliminary warning flares (green steady)  
1917 hours: Secondary warning flares (red steady)  
1920 hours: Release-point flares (green with red stars)

If on track and on time the Main Force aircraft would be exactly over the preliminary warning flares. The secondary warning flares were to ignite on track and slightly ahead of the Lancasters. The release-point flares were to be released at 18,000 feet, and would burn for 2 minutes. These would be followed by white flares, which would burn longer but with less accuracy. Latecomers were to approach these on the correct heading (185° magnetic) but were to release  $\frac{1}{2}$  mile short of them. A second Mosquito was to repeat the skymarking procedure four minutes later, from 1918 to 1924. Each Lancaster was to carry one 4,000 lb. H.E. bomb plus 12 containers (one explosive) of 4 lb. incendiaries. Pilots were instructed to keep above 20,000 feet when over defended areas.

#### Sorties

4. (a) No. of aircraft despatched.....41  
(b) " " reporting attack on primary area.....32  
(c) " abortive sorties (technical defect.....6)  
(d) " aircraft missing.....3

#### Weather Experienced

5. Home Bases:- Haze thickened rapidly after dusk, but isolated stations remained fit in 1, 3 and 4 Groups, whilst diversion areas in Norfolk and the extreme south held, with visibility more than 2,000 yards.  
Route:- Snow showers over the North Sea, no very high tops reported, 10/10ths cloud below from Dutch coast to target. Wind at 19,000 feet, 330°/60 mph.  
Target:- Varying reports; one of 4-6/10ths layer cloud, tops 12,000 feet moderate to good visibility. General opinion: 10/10ths thin cloud, well below aircraft. Surface wind light variable or calm. No moon.

#### Narrative of Attack

6. The first Mosquito experienced a technical failure at the beginning of its run in, but the reserve aircraft took over very promptly and in practice a 2 minutes delay was not serious, as the Lancasters were a little late then. The reserve and third Mosquito both dropped their flares very accurately. Of the 38 Lancasters report having attacked on the position of the flares, dropping 4,000 lb. H.E. bombs and 4 lb. incendiaries from above 18,000 feet. 10/10ths cloud made it impossible for crews to observe results but many fires were seen in the target area, followed by the glow of fires.

3 Lancasters (7.3.) did not return.

...../Photographic

Photographic Evidence

Night Photographs Taken with Bombing 14 photographs have been examined. They show dense cloud, and the only one revealing ground detail remains unplotted.

Day Reconnaissance The P.R.U. cover for this operation includes the results of the attack by 193 aircraft on 20/21st Dec. and also the results of several small "probe" raids in the subsequent fortnight. The only incidents definitely attributable to the raid under consideration involve the destruction of 3 warehouses, and severe damage to 2 others; in the Inner Harbour. The total amount of devastation is very considerable, and some undoubtedly was caused on this night, but it is impossible to say how much.

Navigational Aids (Gee)

Of the sorties despatched, 21 returned ranges of the low order customary on operations against the Ruhr (average 255 miles, maximum 292 miles). 9 Squadron returned almost uniform reports of Jammer Switch Interference. The B signal was reported strong at 8° E - a remarkable field strength, the investigation of which may lead to increased Gee ranges. The performance of the ground stations was normal. Interruptions were of short duration; the B pulse was off for 5 seconds at 0257 hours, and the C pulse for two periods of more than a minute (at 1949 and 1950 hours), and on three other occasions for about 30 seconds.

Wind Bombing Aids (Oboc)

<u>Sortie No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Result</u>
	<u>Tracking</u>	<u>Bombing</u>		
(i)	Walmer	Trimingham I	178°	Abortive: failure of airborne equipment.
(ii) (Reserve)	"	"	178°	Good run made.
(iii)	Swingate	Trimingham II	178°	Good run made.

Defences

10. Flak and Searchlights:- Heavy flak fire was 'unseen' and by no means accurate. Some bursts were reported at over 27,000 feet. Searchlights were ineffective, despite the cloud, but apart from one or two brief illuminations, which can hardly have been visible from the ground, they were ineffective.

Fighters:- None of the returning bombers reported any kind of night-fighter opposition. Only one enemy aircraft was sighted but a combat seen in the Duisburg area apparently caused the loss of a bomber.

Casualties

11. One of the three missing Lancasters was seen to be in flames and to explode in the air after attack by a fighter. This occurred on the outward journey 15 miles from Duisburg. A second aircraft was seen to explode in the air in the target area, but the cause of this and of the third loss is unknown.

4 aircraft were damaged by flak, one seriously, killing the rear gunner.

MINELAYING

12. 79 aircraft of 1, 3, 5 and 6 Groups were detailed to lay mines in the W. Baltic, the S. North Sea and off the coast of Norway. Bad weather, with low cloud and severe icing, was encountered in most areas, but 42 aircraft were nevertheless successful in laying their mines in the allotted positions: 178 were laid, including 96 off the Frisians and 30 in the Cadet Channel. All aircraft of 6 Group were recalled.

3 Lancasters failed to return, 2 from the Baltic and 1 from the Frisians.

13 sorties were made by controlled night fighters in areas in which the  
...../minelayers

minelayers were operating, but no interceptions were reported by the bombers who returned. 4 attempted interceptions were, however, overheard and one claim to success was made.

Light flak, encountered in the Frisians area and at Sylt and Flensburg, two aircraft.

No confirmed information is available as to the fate of the three missing aircraft, whose loss must therefore be ascribed to unknown causes.

#### LEAFLETS

13. 2 aircraft of 92 Group, manned by pupil crews, were despatched to drop leaflets in the area of Rouen. One aircraft completed its task; the other reached the target area but was unable to drop its leaflets. Both aircraft returned safely.

MLM/VP.  
BC/S. 26342/4/ORS.  
12th March, 1943.

#### APPENDIX I

##### Timing of Attack

P.F.F. Both Mosquitoes dropped their marker flares at zero + 12 minutes

##### Main Force

No. of aircraft attacking within 10' of zero hour.....2  
10-15' after zero hour.....2

#### APPENDIX II

##### Weight of Bombs Dropped

(a) By aircraft reporting attack on primary

H.E. 53.6 tons

Incendiaries 57.4 tons

(including 30x 4,000 lb.)

(b) Carried by missing aircraft

H.E. 5.3 tons

Incendiaries 6.2 tons

Each P.F.F. aircraft carried 12 flares only.

All Main Force aircraft carried one 4,000 lb. H.E. bomb plus 4 lb. incendiaries.



Target	Group	Type	Sorties	A/C reporting attack on		abortive sorties		Missing	Mines laid		Damage			Interceptions	
				primary area	alt. area	over en. territ.	not over en. territ.		prim. alt. area	area	Flak	fighter	not on action	attacked	not attacked
DUISBURG	5	Mosquito Lancaster	3 38	2 30	-	1 -	- 5	3	-	-	5+1AC	-	-	-	-
BOMBING TOTAL			41	32	-	1	5	3	-	-	5+1AC	-	-	-	-
<b>MINELAYING</b>															
Frisian Is.	1	Well. IV	6+	6	-	-	-	-	12	-	-	-	-	-	-
Frisian Is.	1	Lancaster	8	3	-	4	-	1	18	-	-	-	-	-	213
Stavanger	1	Lancaster	2	2	-	-	-	-	12	-	-	-	-	-	-
Frisian Is.	3	Stirling	9	8	-	-	1	-	48	-	-	-	-	-	-
Coast Channel	3	Stirling	12	5	2	-	5	-	18	7	1	-	-	-	-
Right	3	Stirling	3	2	-	1	-	-	6	-	-	-	-	-	-
Jarresande	3	Stirling	2	2	-	-	-	-	6	-	-	-	-	-	-
Great Belt	5	Lancaster	8	5	-	3	-	-	18	-	-	1B	-	-	-
Coast Channel	5	Lancaster	5	3	-	2	-	-	12	-	-	-	-	-	-
Sound	5	Lancaster	3	1	-	-	-	2	3	-	1	-	-	-	-
Lengelande															
Belt	5	Lancaster	4	-	-	4	-	-	-	-	-	-	-	-	-
Sassnitz	5	Lancaster	2	-	-	2	-	-	-	-	-	-	-	-	-
Frisian Is.	5	Lancaster	7	5	-	2	-	-	18	-	-	-	-	-	-
Right	6	Well. III	8	-	-	-	8	-	-	-	-	-	-	-	-
MINELAYING TOTAL			79	42	2	18	14	3	171	7*	2	-	1B	-	-
<b>LEAPLANE</b>															
Roos	92	Well. III	2	1	-	1	-	-	-	-	-	-	-	-	-
TOTAL			122	75	2	20	19	6	178	5+1AC	-	1B	-	-	-

\* These 6 A/C were not fitted with Gee

\* 3 in the Little Belt  
4 in the Right

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RAIDER COMMAND REPORT ON NIGHT OPERATIONS, 9/10TH JANUARY, 1943.

ESSEN: Minelaying (Frisians etc.)

SUMMARY

Essen

25 Lancasters of 1 Group and 25 Lancasters of 5 Group left towards dusk for a blind-bombing attack on Essen, with 2 P.F. Mosquitoes to act as sky-markers. Visibility in the target area was good, except for a slight ground haze. The Mosquitoes experienced difficulty in tracking, but dropped their flares with fair accuracy, and in the clear conditions prevailing an admirable concentration of bombing appears to have been achieved. 33 Lancasters reported attack and several large fires were observed concentrated beneath flares. The evidence of night photographs suggests that the attack was the most successful (in proportion to the number of aircraft taking part) yet delivered against this target.

1 Lancaster of 1 Group and 2 of 5 Group did not return.

Minelaying

120 Wellingtons and Halifaxes of 1, 3, 4 and 6 Groups were despatched to lay mines off the Frisians, in Heligoland Bight and in the Kattegat. 97 report reaching their target, and 197 mines were laid. Weather conditions were generally good, with little cloud.

3 Halifaxes of 4 Group and 1 of 6 Group did not return.

Metereological Forecast

3. At midnight an anti-cyclone will be centred over the Ruhr with (1) an occluded front from Cape Wrath to Manchester to N.W. France to Spain, and (2) an occlusion from the Hebrides to Aldergrove to S.W. England to Spain.

Home Bases:- A narrow belt of low cloud and precipitation will be associated with front (1), but this should not affect many operational bases during the first part of the night, and East Anglia may be free from precipitation till morning. For an early take-off, all stations should be fit, except in 6 Group and 4 of 4 Group, which will have some worries. No troubles should be experienced for return up to 2300 hours, when there is a threat of low stratus spreading to 2 and 3 Groups from the south. There is also a serious risk of snow and sleet, with glazed ice in precipitation; but 4 Group will be safe till later.

Germany:- Layer cloud, with some breaks, will prevail over the Southern North Sea. This will decrease inland over Germany, becoming very well broken over the Ruhr and Hanover-Bunst. Still further south, cloud will increase to thick layer, with snow showers; these conditions will prevail east of 12°E.

Winds to Ruhr: 20,000 feet, 300°/50 m.p.h.; 25,000 ft., 310°/55 m.p.h.; 35,000 feet, 310°/60 m.p.h.

W. Italy:- Little cloud, but local fog.

Mining Areas:- W. France: much low cloud, base 5-10,000 feet. Frisians,

Heligoland and E. Denmark: variable strato-cumulus, base not below 5,000 feet, top 9,000 feet; a few scattered snow showers, visibility generally moderate.

Plan

Plan of Attack

Zero hour.....1930 hours

The plan of attack for this operation corresponded exactly to that for the raid against Duisburg on the previous night, except that the bombers were to aim

mile west of the white emergency flares, instead of 1/3 mile short of them. For details of heading, colour and timing of flares, height and duration of burning, bomb-loads etc., see Night Raid Report No. 238, paragraph 5.

#### Sorties

5. (a) No. of aircraft despatched.....12  
 (b) " reporting attack on primary area.....12  
 (c) " abortive sorties {technical defect.....12 }  
 {sickness of crew..... 1 }  
 {late take-off..... 1 }  
 (d) " aircraft missing..... 1

#### Weather Experienced

6. Home Bases:- All Operational groups green till midnight, when precipitation (snow in N., sleet and freezing rain in S.) spread from the west with very low cloud and poor visibility.

Route:- Cloudless. Average wind at 20,000 feet, 340°/30 m.p.h. - probably more in E., less in W.

Target:- Cloudless. Slight ground haze. Moon above the horizon at 17% of full. Visibility good. Light S.W. surface wind.

#### Narrative of Attack

7. The sky-marker force was planned to consist of three Oboe aircraft, 2 markers and 1 reserve. Unfortunately the second marker aircraft cancelled, owing to engine trouble, after the other two had taken off, and the reserve was therefore called upon, at the last minute to deputise for it.

The marking technique was carried out according to plan by the first Mosquito, although it was a little late, and the reserve, on the same wave-length as the first, did well in repeating the procedure nine minutes later.

33 aircraft of the Main Force claim to have attacked, all but two of them bombing within 10 minutes of zero hour. The majority took aim at one or more of the flares, but a few bombed visually.

Conditions, which were much better than expected, were extraordinarily good for this target - cloudless and with good visibility - and, while results could not be positively identified from 18,000 feet, the crews reported that there was a very good concentration of bombing in one position under the flare.

3 aircraft did not return.

#### Photographic Evidence

##### 8. Night Photographs Taken with Bombing

Plotted by ground detail.....15 (within 3 miles.....  
 " fire track..... 3 (between 3 and 5 miles.....  
 (outside 5 miles.....  
 Unplotted (showing fire-tracks but no ground detail).....

The evidence from night photographs suggest that the bombing technique employed resulted in a most notable concentration of attack compared with previous operations against this target. There is evidence that 16 of the 33 aircraft reporting attack bombed within three miles of the centre of Essen flares of five 4,000 lb. bombs (see diagram) together with at least 16 stick incendiaries were recorded within a three mile radius of Krupp's works. The incendiaries lie mainly in a north-south belt across the western half of Essen.

The marker flare was photographed three times in the positions shown in diagram; it appears to have drifted on a heading of approximately 155°. The decoys, at Mulheim 1 (Winkhausen) and Essen 2 (Margarethenhoe) were both photographed at 1925 hours, but were not in action. The photographs confirm that exceptionally clear conditions prevailed.

Day Reconnaissance

No separate P.R.U. cover was undertaken for this operation. For details of all damage caused at Essen during the first fortnight in January, see Night Report No. 242.

Navigational Aids (Gee)

33 of the 48 Gee-reports analysed show useful ranges, averaging a new low level of 236 miles, with a maximum range of 302 miles. There were many more reports of jamming and "grass". According to the monitor station, the master station dipped, or gave very weak signals, several times, causing the slave pulses to become unlocked for periods of  $\frac{1}{2}$  to  $1\frac{1}{2}$  minutes. Other interruptions were slight, except for two periods, when the D pulse was off for  $1\frac{1}{2}$  minutes at 1835 and 1843 hours. The D station was again transmitting triangular pulses.

Blind Bombing Aids (Obce)

<u>Sortie</u> <u>NO.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time of</u> <u>Attack</u>	<u>Result</u>
	<u>Tracking</u>	<u>Bombing</u>			
(i)	Walmer	Trimingham I	178°	1920	Good run made.
(ii)(reserve)	"	"	178°	1929½	Very poor run due to late start on track

33 Lancasters claim to have attacked as follows:-

Correct aim at 1st release point flare.....	13
" 2nd " .....	4
" 1st white flare.....	1
" 2nd " .....	1
approximate aim at 1st release point flare.....	8
" 2nd " .....	1
Visually.....	5
	<u>33</u>

A full report on the success of the sky-marker technique on this night is to be found in O.R.S.(B.C.) Report No. S.78.

Defences

12. Flak and Searchlights:- Apart from intense searchlight activity there was nothing of interest to report.

Fighters:- 16 sorties were made by controlled fighters, but not all were in areas adjacent to the Essen routes. Only two interceptions were reported, but it is possible that fighters scored successes against all three aircraft lost on this target.

Casualties

13. No. of aircraft missing.....	3(5.8)
" " damaged (a) flak.....	4
" " (b) fighter.....	1
" " (c) <u>not enemy action</u> .....	2
Total Damaged .....	7(13.5)

Observations of returning crews indicate that one aircraft, possibly two, were destroyed by fighter in the target area, while a third was seen destroyed, also by a fighter, at Haarlem.

Mine-laying

14. Mine-laying on a large scale was undertaken off the Frisian Islands, in the Haligoland Bight and in the Kattegat. Weather conditions were generally favourable, and 97 of the sorties despatched reported reaching their allotted areas, where 197 .....

...../Mines

mines were laid. Low cloud and fog, however, prevented 14 aircraft from locating their targets.

4 Halifaxes failed to return.

(a)	No. of aircraft despatched.....	120
(b)	" reporting mines laid in primary area.....	97
(c)	" abortive sorties:-	
	(weather.....14)	
	(technical defect..... 4)	
	(attacked by fighter.. 1)	19
(d)	" aircraft missing.....	4
(e)	" mines laid.....	197

Flak from ships off Schiermonnikoog caused slight damage to two aircraft.

Fighter opposition resulted in three attacks and two other interceptions. Bombers attacked all sustaining damage.

Two of the four missing aircraft were seen shot down in flames by flak over Borlum and Esbjerg respectively. Another was seen to fall in flames at 54°20' 04' 25'E., but the cause of this and of the remaining loss is not known.

#### APPENDIX

##### Timing of Attack on Essen

I. P.F.F. The leading Mosquito dropped its flares exactly at zero hour. The second aircraft, which was really acting as reserve to the first, was called into action after the latter had finished its run, and dropped its marker flares at zero + 9½ minutes.

##### Main Force

No. of aircraft attacking within 10' of zero hour.....	35
" " 10-16' after zero hour.....	2

##### Weight of Bombs Dropped

II. (a) By aircraft reporting attack on primary

H.E.: 57.2 tons

Incendiaries 58.2 tons

(including 33 x 4,000 lb.)

Both Pathfinders carried 6 flares only.

All Main Force aircraft carried one 4,000 lb. H.E. bomb plus 4 lb. incendiaries.

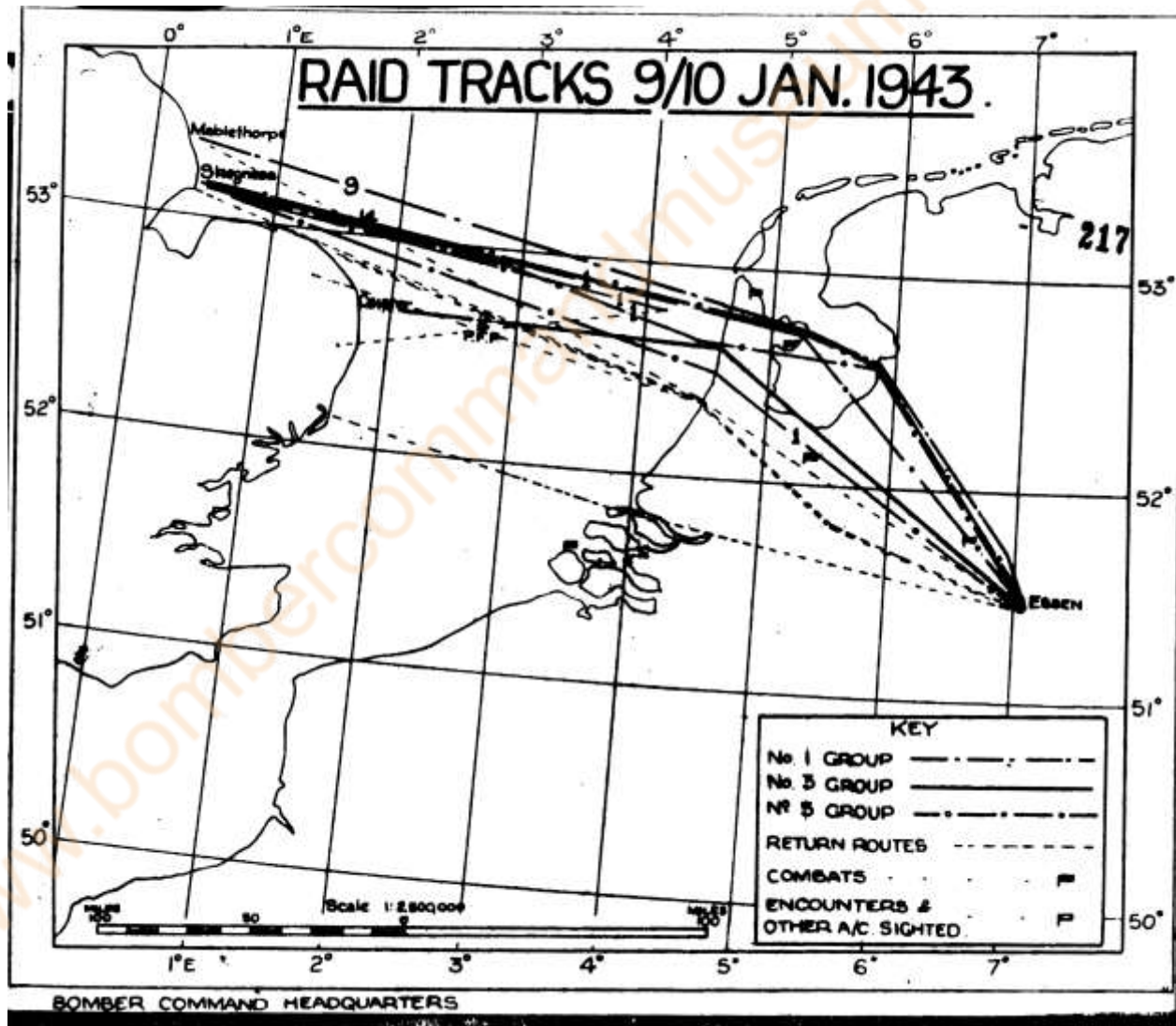
(b) By missing aircraft:-

H.E.: 5.4 tons

Incendiaries:- 5.8 tons

Target	Group	Type	Sorties	A/C reporting attack on		Hostile airties		Mining	Mines laid		Damage			Interceptions	
				primary area	alt. area	over on. territ.	not over on. territ.		prim. area	alt. area	Flak	fighter	not R/A	attacked	not attacked
ESSEN	P.V.F.	Munich to Lancaster	2	2	-	-	-	-	-	-	-	-	-	-	-
			25	16	-	1	7	1	-	-	1	-	-	-	1
			25	17	-	-	6	2	-	-	3	1aC	1B+1E	1	1
<b>BOMBING TOTAL</b>			52	35	-	1	13	3	-	-	4	1aC	1B+1E	1	1
<b>INTERCEPTIONS</b>															<b>216</b>
Prison Is.	1	Well. III	4	4	-	-	-	-	7	-	-	-	-	-	2
Prison Is.	1	Well. IV	8	7	-	-	1	-	14	-	1E	-	-	1	-
Prison Is.	3	Stirling	2	2	-	-	-	-	12	-	-	-	-	-	-
Sight	3	Well. III	4	4	-	-	-	-	8	-	-	1	1aC	1	-
Attacked	4	Halifax	45	37	-	4	3	1	72	-	-	-	1B	-	-
Prison Is.	4	Halifax	19	13	-	2	2	2	25	-	2	1aC	-	1	-
Prison Is.	6	Halifax	13	11	-	-	1	1	22	-	-	-	-	-	-
Prison Is.	6	Well. III	25	19	-	4	2	-	37	-	-	-	-	-	-
<b>MINEING TOTAL</b>			120	97	-	10	9	4	197	-	2	1+1aC+1E	1aC+1B	3	2
<b>T O T A L</b>			172	132	-	11	22	7	197	-	6	1+2aC+1E	1aC+2B+1E	4	3

\* These 8 A/C were not fitted with Geo

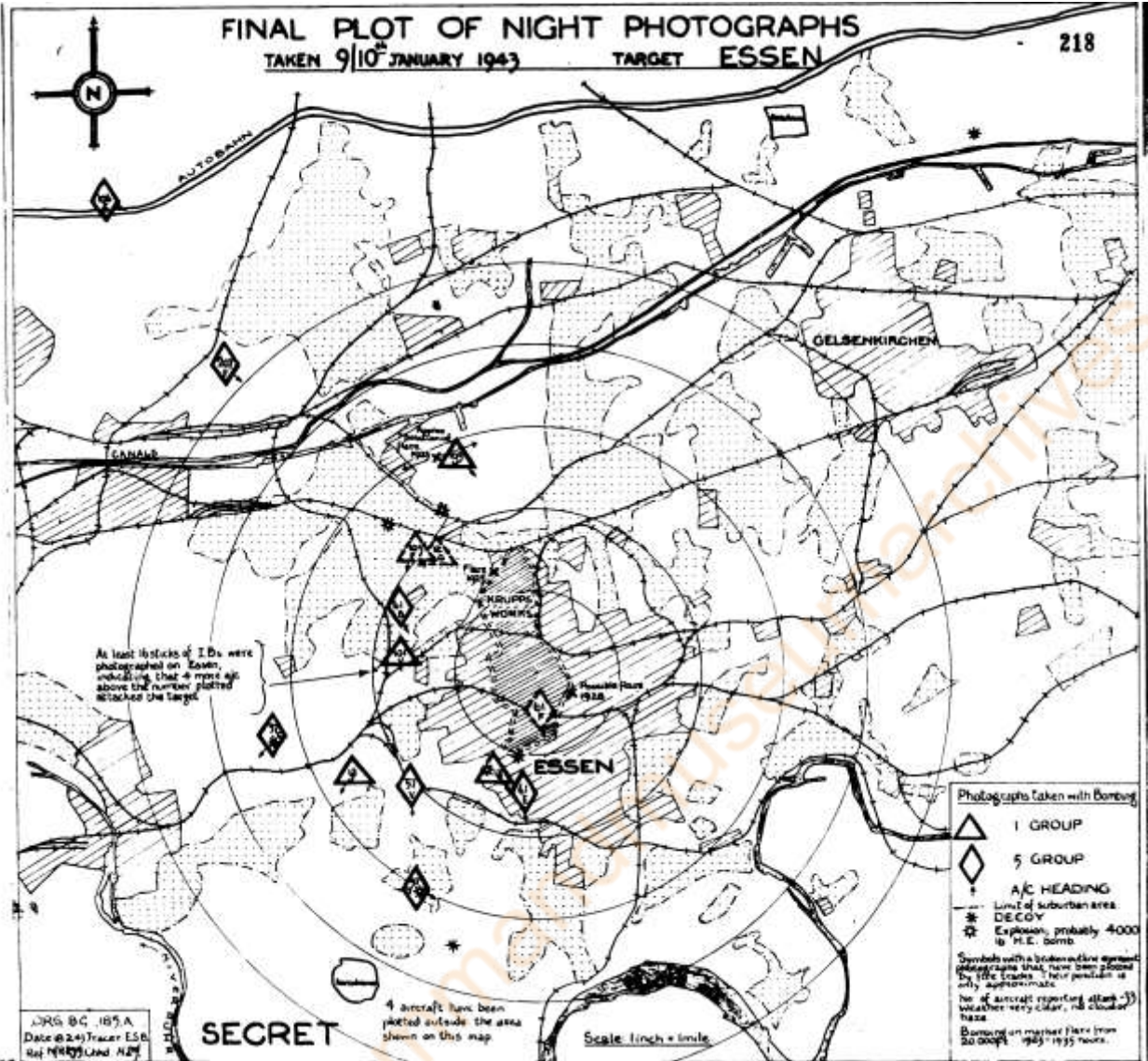


# FINAL PLOT OF NIGHT PHOTOGRAPHS

TAKEN 9/10<sup>th</sup> JANUARY 1943

TARGET ESSEN

218



ESSEX COMBINED REPORT ON NIGHT OPERATIONS, 11/12TH JANUARY, 1943.

ESSEX

SUMMARY

33 Lancasters of 1 Group and 39 Lancasters of 5 Group left towards dusk to make a blind-bombing attack on the Knops Works at Essen, with 4 P.P.F. Mosquitoes, equipped with Obse, to act as sky-markers. The 2 leading Mosquitoes and 19 aircraft of the Main Force reported attacking the primary area, although the marking was unsuccessful. Since the target was covered with 10,10ths cloud, no results were observed but the attack was probably scattered. 1 Lancaster of 1 Group did not return.

Metereological Forecast

Midnight front: occluded from 55°N. 02½°E. to Edinburgh to 57°N. 12°E. Scotland to India to Alps.  
 Main bases:- Generally fit from dusk to midnight, with well broken cloud at 1,500 feet or above and moderate visibility: 1 Group, 1-2,000 yards, and less in smoky localities. After midnight, all groups will experience local smoke troubles. Rain and very bad cloud from a depression in S.W. may spread quickly, reaching the Midlands by 2400 hours and all groups by about 0200 hours.  
 Forecast: broken convection cloud with showers, moderate visibility.  
 Germany:- Broken medium and broken low cloud W. of front, probably with fog. Just E. of front, much cloud at all levels, with high icing index from surface. E. of 1°E, little cloud but poor visibility. Ruhr: front lying about 5°E from 2000 hours and moving very slowly; thus expected to give a belt of bad weather with very low cloud, tops possibly extending above 20,000 feet.  
 Italy:- Much medium cloud, low cloud probably broken.  
 France:- Broken cloud at 1,500 feet. Rain from W. will reach Brest about 1000 hours and St. Nazaire about 2500 hours, accompanied by low cloud below 1,000 feet. Up to 2100-2200 hours, St. Nazaire - Biarritz area will have medium and low cloud about 1,000-1,500 feet, with slight rain. The timing of the depression from the west is doubtful, and may be as much as 5 hours earlier than estimated.  
 Prisons:- Very bad with low freezing cloud and precipitation. A late improvement possible, but by no means certain.

Plan of Attack

Zero hour.....1930 hours

Routes briefed:-

P.P.F. Dunkirk - 13:30 - Overflakkes  
 1 Group Knocks - 51°05' N. 06°52' E. - Essen - Osterléke - 52°43' N. 04°38' E.  
 5 Group Knocks - 51°05' N. 06°52' E. - Essen - Harderwijk - 52°38' N. 05°12' E.

The sky-marker force was to consist of four 'Obse' aircraft + 2 reserves.

The preliminary warning green flares were to be released by the first of the 6 minutes before zero hour, appearing on the harbour quarter and approximately 6 miles distant from the aircraft of 1 and 5 Groups, assuming a Lancaster to be on their correct track and on time. The secondary warning flares, dropped 5 minutes before zero hour, were to ignite 5 miles distant from the port beam. The release point flares (green with red stars) were to be released at zero hour, to ignite at 18,000 feet. All Lancasters were to attack from an exact bearing of 021° magnetic. (This direction was to be

...../dropped



dropped, as before, at zero hour, being timed to ignite as the coloured flares extinguished. Lancasters using these white flares were to approach the target on same heading (021°) but were to aim their bombs about 1 mile short of them. Second sky-marker aircraft was detailed to repeat this procedure 4 minutes later. Bomb loads were to consist, as before, of one 4000 lb. H.C. plus 12 containers of 1 lb. incendiaries, to be dropped 10 seconds after the H.C.

#### Sorties

4.	(a)	No. 10 aircraft dispatched.....	76
	(b)	" " reporting attack on primary area.....	51(67)
	(c)	" abortive sorties (reserve markers.....2)	24
		(technical defect.....21)	
		(late.....1)	
	(d)	" aircraft missing.....	1

#### Weather Experienced

5. Home Base:- Operational bases cloudy, with moderate visibility till 2400 hours; only local mist. Rain which had reached a line Lancashire-Caswell at midnight, spread to the east coast by 0500 hours, with cloud below 4,000 feet in most areas and moderate to poor visibility.

Route and Target:- 10/10ths cirrus, with 10/10ths layer cloud below; tops about 16,000 feet. Visibility moderate to good out of cloud. Moon above the horizon and 36% of full.

Winds:	16,000 feet	190°/40 m.p.h.
	19,000 feet	210°/50 m.p.h.
	24,000 feet	200°/45 m.p.h.

#### Narrative of Attack

6. The first marker received poor but adequate tracking signals until the release-point was reached, when they became so bad that the pilot decided not to drop his final flares. The second marker, although late, tracked accurately but his release-point flares failed to ignite. The reserve marker had no time to take over, and consequently many crews were compelled to bomb on D.R. after arriving over the target area. Some made use of the second marker's white emergency flares. Ground features were obscured by 10/10ths cloud, and the attack was probably not well concentrated, although the glow of fires was clear in the area of the primary. 49 of the 72 Lancasters reported attack. 1 Lancaster of 5 Group did not return.

#### Photographic Evidence

##### 7. (a) Night photographs taken with bombing

8 aircraft returned photographs. None have been plotted, as they all show 10/10ths cloud.

##### (b) Day Reconnaissance

No separate P.R.U. cover was undertaken for this operation. Details of damage caused at Essen in the first fortnight of January will be published in Night Raid Report No. 242.

#### Navigation Aids (Gee)

6. One navigator achieved a remarkable performance in obtaining a Gee fix 116 minutes after bombing, at a range of 351 miles. None other of the 43 aircraft returning useful range received 100 miles, the average being 257 miles. The signal was the first to fade. The performance of the ground stations was reflected by the monitor stations' efficiency. There were only two interruptions affecting the B pulse and both of less than 90 seconds duration.

1-Boeing Aids (Oboe)

<u>Sortie</u> <u>No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time of</u> <u>Attack</u>	<u>Result</u>	
	<u>Tracking</u>	<u>Bombing</u>				
(i)	Trimingham I	Walmer	026	-	<u>Abortive</u> : tracking signals failed just after release of warning flares: failure of airborne equipment.	
(ii)	Trimingham II	Swingate	026	1937	Good run made but release point flares failed to ignite.	
C	(iii)	Trimingham I	Walmer	026	-	<u>Abortive</u> - no time to take over.
	(iv)	Trimingham II	Swingate	026	-	<u>Abortive</u> - not required

Defences(a) Flak and Searchlights:-

The ground defences put up a heavy flak barrage at varying heights above marker flares. This attained a fair degree of accuracy. Predictor control "seen" fire may have been employed in some cases, but barrage seems to have been eliminated. One Mosquito reported a near miss at 28,000 feet, causing the aircraft to stall. Some incandescent bursts were reported. Searchlight activity was considerable, but the beams failed to pierce the cloud.

(b) Fighters:-

Number of aircraft reporting attack.....	2(2.8%)
" other interceptions.....	16(21.1%)
<u>Total Interceptions</u>	<u>18(23.9%)</u>

Though few controlled fighters were operating, probably only three, a large number of enemy aircraft were encountered. Altogether 18 interceptions were reported, of which 7, including the only 2 attacks, took place in the target area. The crew of one of the Lancasters attacked was unaware of the fact, but thought the aircraft had been hit by flak. Subsequent examination of the damage, however, proved to have been caused by a fighter.

Losses

No. of aircraft missing.....	1(1.3%)
" damaged (a) flak.....	3
(b) fighters.....	1
<u>Total Damaged</u>	<u>4(5.1%)</u>

The missing aircraft was seen to fall in flames from 20,000 feet in the target area, but the cause of loss is not known.

APPENDIXTiming of Attack

P.F.F. The 2 marker aircraft dropped their flares at zero + 1 and + 5 minutes respectively.

Main Force

No. of aircraft attacking 0-5' after zero hour.....	25
" 5-10' after zero hour.....	20
" more than 10' after zero hour.....	4
	<u>49</u>

..... /Weight of Bombs Dropped

Weight of Bombs Dropped

## II (a) by aircraft attacking primary

H.E. : 87.5 tons  
(including 49 x 4,000 lb.)

Incendiaries 85.9 tons

Both marker aircraft carried 6 flares only.

All Main Force aircraft carried one 4,000 lb. H.E. bomb + 4 lb. incendiaries.

## (b) Bombs carried by missing aircraft:-

H.E.: 1.8 tons

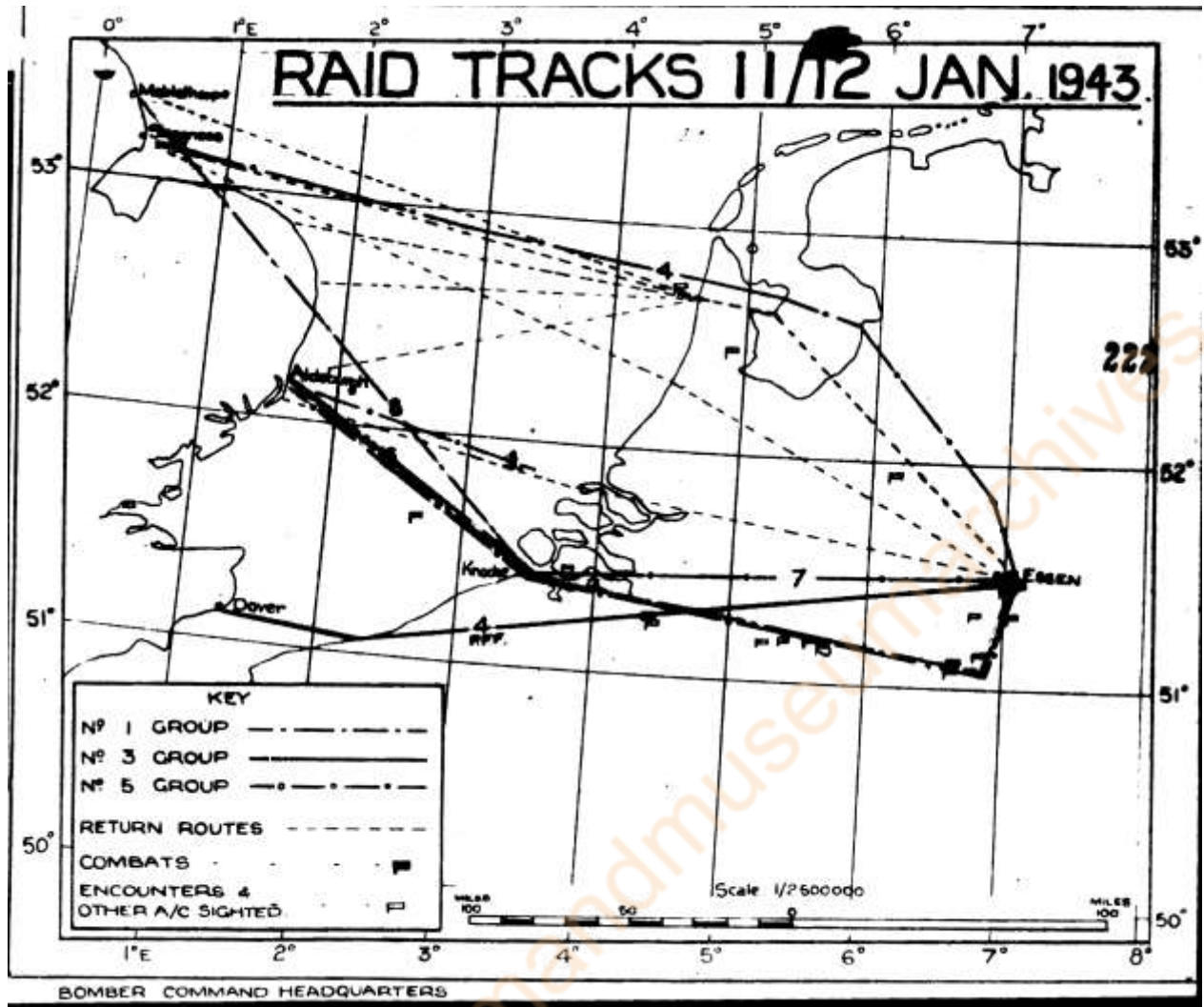
Incendiaries : 1.6 tons

MLM/VF.

BC/S. 26342/6/ORS.

10th March, 1943.

Target	Group	Type	Sorties	Aircraft reporting attack on		Abortive sorties		Missing	Damage			Interceptions	
				primary area	alternative area	over en. territ.	not over en. territ.		Flak	fighter	not en. action	attacked	not attacked
ESSEN	P.F.F.	Wessex	4	2	-	2	-	-	-	-	-	-	-
		Lancaster	33	23	-	9	1	2	-	-	-	-	10
		Lancaster	39	26	-	12	1	1	1	1	-	2	6
T O F	A L		76	51	-	3	21	1	3	1	-	2	16



BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 12/13TH JANUARY, 1943.ESSEN: Minelaying (W.France): LeafletsSUMMARYEssex

62 Lancasters (3 P.F.F., 21 of 1 Group and 34 of 5 Group) left towards dusk to attack the Krupp works at Essen by blind-bombing, with 4 P.F.F. Mosquitoes to act as sky-markers. The 47 aircraft (75.8.) which reached the target area found 10/10ths cloud, but the marker flares were clearly seen and, in the opinion of most crews, the effort was well concentrated. The reflection of fires was seen through the cloud. Searchlights were active but ineffective, owing to cloud. Very intense and accurate flak was encountered and one aircraft failed to return. Details of damage caused in this raid will be incorporated in Night Raid Report No. 242.

Minelaying

32 aircraft of 1, 3 and 5 Groups were despatched to lay mines in the Bay of Biscay. 23 crews reported reaching their targets, and 62 mines were laid, including 32 in the Gironde estuary. No losses were sustained.

Leaflets

4 out of 5 Wellington III's of 91 Group, manned by pupil crews, dropped leaflets in the area of Nantes. All returned safely.

Metereological Forecast

Midnight fronts:- 3 occlusions will lie between the British Isles and 2°E., the nearest about 5°E. over the Continent, the second about 8°E.  
 Sea Bases:- A back-bent occlusion will pass through Operational Groups at about 100-2200 hours. The subsequent clearances may take an hour or two to develop; in northern areas a few hours of bad visibility are likely, owing to slack gradient and breaking of cloud, but towards dawn this should be improved by gradient wind. If the rapid rises of pressure over S.W. England continue, visibility behind the occlusion should not be widespread, but some Groups expect local difficulties towards dawn, especially on the lee of industrial areas.  
 Germany:- Much cloud everywhere west of 15°E., with occasional snow or rain near the fronts.  
 France:- Extensive cloud from 2-3°E. to target, tops to 12-15,000 feet, high rising index. Tops nearer 20,000 feet in occluded area en route.  
 Italy:- Much cloud, occasional precipitation. Alps covered.  
 France:- Convection cloud at 1,500 feet, but below 1,000 feet in frequent showers. Visibility moderate to good.  
 Operations:- Not likely to clear before dawn.

ESSENPlan of Attack

Zero hour.....0545 hours.

(in practice, zero hour was at 0615 hours)

Route briefed:- All Groups Knocke - 51°05' N. 06°52' E. - ESSEN -  
 Noordwijk - 52°38' N. 05°12' E.

(for routes taken, see route map)

The attack was to be divided into two distinct phases, separated by a minute interval. The force detailed to attack in each phase was to consist of 2 Mosquitoes and 25 Lancasters (1 & 8 Groups) in the first and 2 Mosquitoes

...../and

and 35 Lancasters (5 Group) in the second. The procedure to be followed in each, identical with that used in recent attacks, on this target, was as follows:-

One Mosquito was to release preliminary warning (green) flares 6 minutes before zero hour. These would appear on the starboard quarter and approximately 6 miles distant from all Lancasters, assuming the latter to be on track and on time. The secondary warning flares, dropped 3 minutes before zero hour, were to ignite 5 miles distant on the port beam. The first release point flares (green with red stars) were to be released at zero hour to ignite at 18,000 feet. The secondary Mosquito of the first phase was to repeat this procedure 3 minutes later.

In the second phase of the attack the first release point flares were to appear at zero + 9 minutes, and the second at zero + 12.

All Lancasters were to approach on an exact heading of 021° magnetic.

No white flares ~~used~~ in previous attacks were to be used in this operation every effort was therefore to be made to arrive on time, as the coloured release point flares would burn only for about 2-minutes. Any white flares seen would be enemy decoys and were to be ignored. Bomb loads were to consist, as before, of one 4,000 lb. H.C. bomb plus 10 or 12 containers of 4 lb. incendiaries, to be dropped 10 seconds after the H.E. on the same heading.

#### Sorties

6.	(a)	No. of aircraft despatched.....	62
	(b)	" reporting attack on primary area.....	47
	(c)	" " alternative area.....	15
	(d)	" abortive sorties (technical defect.....12) (sickness of crew..... 1)	13
	(e)	" aircraft missing.....	1

#### Weather Experienced

7. Home Bases:- Rain and low cloud prevailed over all areas during the evening with poor visibility. A clearance developed from the west by 2100 hours, and most bases were fit by midnight, apart from low cloud and rain near the east coast.

Route:- 4-10/10ths high cloud, base 25,000 feet.  
10/10ths medium cloud, base 12,000 feet, tops 18-20,000 feet  
10/10ths layer cloud, base 4,000 feet, tops 8-10,000 feet.

Wind at 20,000 feet: 220-230°/30-40 m.p.h.  
Slight static over Zuyder Zec.

Target:- 10/10ths layer cloud, tops 11-12,000 feet.  
10/10ths thin layer, tops 16-18,000 feet.  
Moderate visibility over cloud. No moon.

Wind at 19,000 feet: 320°/25 m.p.h.

#### Narrative of Attack

5. The first marker aircraft to arrive at the target failed. The three that tracked well and dropped their flares accurately, but they were 1½, 6 and 4 minutes late respectively. Owing to this poor timing a number of Main Force crews were obliged to bomb on D.R. About half the force claiming attack appear, however, to have used the flares in the manner planned, and it is probable that a good concentration was, in fact, achieved. All out of 58 Main Force aircraft reported bombing the primary, but nothing was seen apart from a few flashes below the cloud.

One aircraft attacked the presumed position of Gladbeck from above 10,000 feet cloud but saw no results.

1 Lancaster of 5 Group did not return.

...../Photographic Evidence

Graphic EvidenceNight Photographs Taken with Bombing

Photographs returned by 12 aircraft have been examined. All show dense cloud and no ground detail. 2 recorded flares burning above the cloud.

Day Reconnaissance

No separate P.R.U. cover was undertaken for this operation. For details of damage caused at Essen in the first fortnight of January, see Night Raid Report No. 242.

Operational Aids (Geo)

39 aircraft returned useful Geo ranges, averaging 239 miles, with a maximum of 300 miles. The service from ground stations was without interruption from 0630 to 0735 hours.

Bombing Aids (Oboe)

The Mosquitoes performed as follows:-

<u>Sortie No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time of Attack</u>	<u>Results</u>
	<u>Tracking</u>	<u>Bombing</u>			
(i) abortive	Trimmingham II	Swingate	26°	-	No signals heard, faults in airborne Oboe equipment.
(ii) ✓/C & attached primary	Trimmingham I	Walmer	26°	0619½ hr.	Good run. Only 2 out of the 6 release-point flares worked.
(iii) "	Trimmingham II	Swingate	26°	0630 hr.	Good run. No warning flare release points heard, so that no warning flares were dropped.
(iv) "	Trimmingham I	Walmer	26°	0633 hrs.	Good run.

Flak

Flak and Searchlights:- No new information was gained concerning the defences of Essen, which, as on the previous night, fired a heavy flak barrage at varying heights above the target area with fair accuracy. 11 aircraft were hit. Searchlights failed to pierce the cloud.

Fighters:- There was no activity by controlled fighters. Two enemy fighters approached, one at 18,000 feet and one at 20,000 feet, in the target area, but no attacks developed and no other sightings were made.

Accidents

One aircraft failed to return. It was seen in flames and exploded in the target area, falling from 20,000 feet in the target area. Flak is thought to have been the likely cause.

11 of the returning bombers (18) reported minor flak damage. No damage from other causes was sustained.

MINELAYING

(a)	No. of aircraft despatched.....	32
(b)	" reporting mines laid in primary area.....	23
(c)	" abortive sorties:-	
	(technical defect.....)	5
	(weather.....)	6
(d)	" aircraft missing.....	0
(e)	" mines laid.....	62

...../Weather Experienced

Weather Experienced

16. 4-6/10ths cloud, base at 1,000 feet, prevailed over the French coast but this increased to 8-10/10ths during showers and fell occasionally to 5. The moon was below the horizon and visibility was moderate.

Results

17. 32 aircraft of 1, 3 and 5 Groups were despatched to lay mines in the Bay of Biscay. 23 crews reported reaching their targets and 62 mines were laid, including 32 in the Gironde estuary.

Enemy Defences

18. Apart from a little flak, the mine-layers encountered no opposition.

Casualties

19. All aircraft returned safely. The only damage caused by enemy action was one case of minor damage due to flak. A Wellington IV of 1 Group crashed on take-off and was completely destroyed, all the crew being killed.

RESULTS

20. 5 Wellington III's of 91 Group, manned by pupil crews, were despatched to drop leaflets in the area of Nantes. 4 reached their targets, the other returning early owing to engine trouble. No damage was sustained, and all aircraft returned safely.

MLM/VP.  
RC/S. 26342/6/ORS.  
10th March, 1943.

APPENDIXTiming of Attack on EssenI 1st Phase

Skymarkers:- Sortie No. (1): Detailed 0615 hours: no attack  
Sortie No. (2): " 0618 " : attacked 0618  
Main Force:- attacked between 0615 and 0619 hours - 9 aircraft  
" 0620 and 0625 hours - 9 aircraft  
" 0625 and 0630 hours - 2 "

2nd Phase

Skymarkers:- Sortie No. (1): Detailed 0624 hours: attacked 0630  
Sortie No. (2): " 0629 " " 0633  
Main Force:- attacked at 0618 and 0619 hours - 4 aircraft  
" between 0620 and 0625 hours - 13 aircraft  
" at 0626 hours - 2 aircraft  
" between 0633 and 0636 hours - 5 aircraft

Weight of Bombs DroppedII (a) By aircraft reporting attack on primary area:-

H.E.: 78.7 tons Incendiaries: 76.4 tons

(3 aircraft carried flares only)  
(4 " " each 1 x 4000 lb. H.E. + incendiaries)

(b) By aircraft reporting attack on alternative

H.E.: 1.6 tons Incendiaries: 1.6 tons

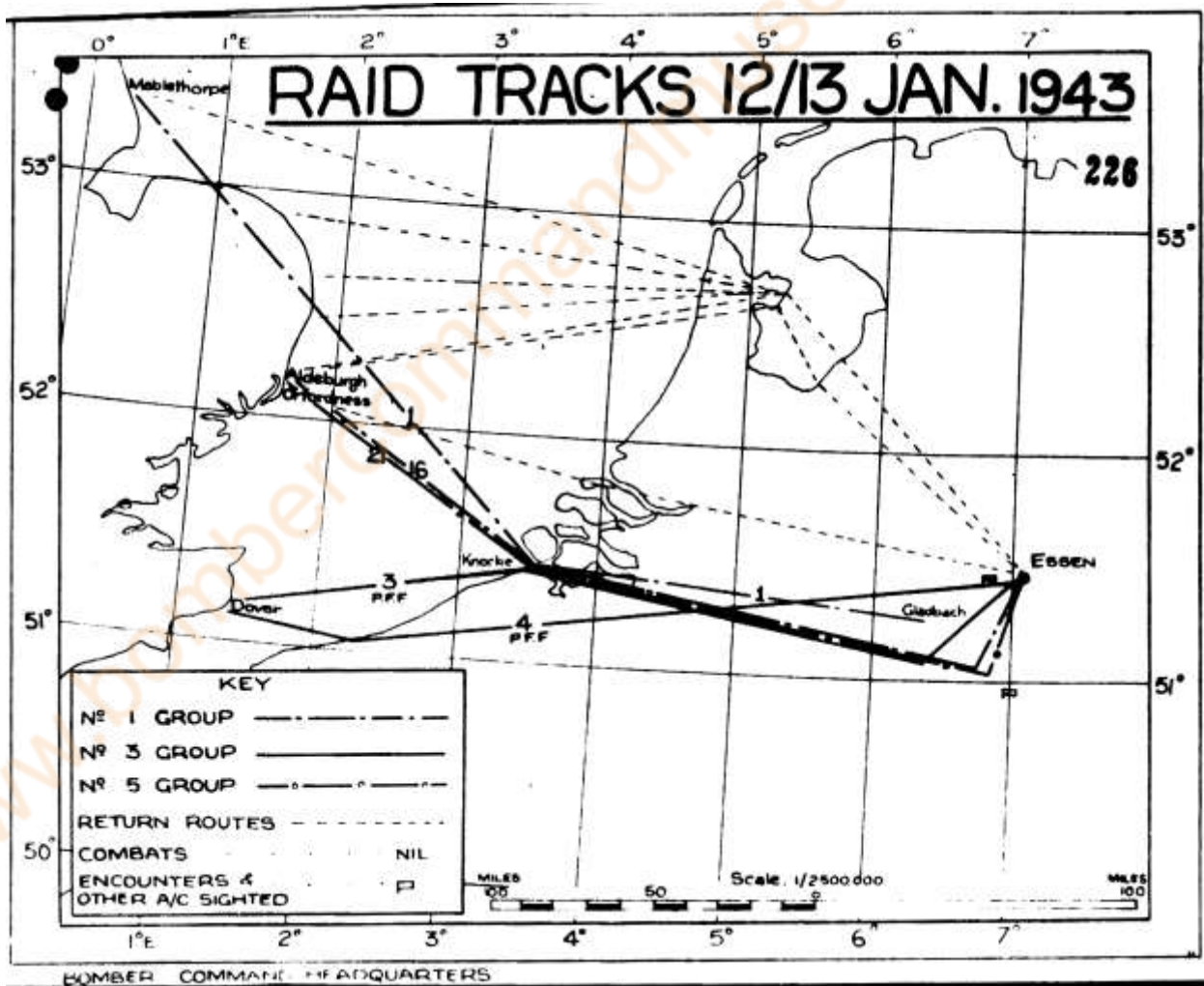
(c) Bombs carried by missing aircraft:-

H.E.: 4.6 tons Incendiaries: 1.6 tons



Target	Group	Type	Sorties	Aircraft reporting attack on		Abortive sorties		Missing	Lines laid		Damage			Interception	
				primary area	alternative area	over en. territ.	not over en. territ.		prim. area	alt. area	flak	fighter	not en. action	att-acked	not attacks
ESSEN	P.F.F.	Hequito	4	3	-	1	-	-	-	-	-	-	-	-	-
		Lancaster	3	3	-	-	-	-	-	-	1	-	-	-	-
		Lancaster	21	17	1	-	3	-	-	-	7	-	-	-	1
	5	Lancaster	24	23	-	2	-	1	-	3	-	-	-	-	
<b>BOMBING TOTAL</b>			62	47	1	1	12	1	-	-	11	-	-	-	2
<b>MINE LAYING</b>															
ST. MARLINE	1	Well.IV	6*	4	-	2	-	-	8	-	-	-	-	-	-
ACRIENT	1	Well.IV	5*	2	-	2	1	-	4	-	-	-	1E	-	225
RAYONS	3	Stirling	9	7	-	1	1	-	24	-	-	-	-	-	-
RAYONS	3	Stirling	2	1	-	1	-	-	3	-	-	-	-	-	-
ST. JEAN DE															
LUM	3	Stirling	2	1	-	1	-	-	3	-	1	-	-	-	-
L. RONVILLE	3	Well.III	6	6	-	-	-	-	12	-	-	-	-	-	-
THRETT	5	Lancaster	2	2	-	-	-	-	8	-	-	-	-	-	-
<b>MINE LAYING TOTAL</b>			32	23	-	7	2	-	62	-	1	-	1E	-	-
<b>COMBATS</b>															
RAYONS	91	Well.III	5	4	-	1	-	-	-	-	-	-	-	-	1
<b>T O T A L</b>			99	74	1	9	14	1	62	-	12	-	1E	-	3

\* These 11 A/C were not equipped with Geo.



BOMBER COMMAND REPORT ON NIGHT OPERATIONS 13/14th JANUARY, 1943.ESSENSUMMARY

66 Lancasters of 1 and 5 Groups set out towards dusk to attack Essen, with 3 P.F.F. Mosquitoes to act as sky-markers.

2 of the marker sorties were abortive, and the flares of the remaining aircraft failed to function effectively. Nevertheless, 46 Lancasters reported attack in the face of intense and accurate flak. Results were unobserved.

A daylight reconnaissance, covering the results of the 7 operations conducted against Essen in the first fortnight of January, revealed substantial damage.

4 Lancasters (5.8.) did not return.

Metereological Forecast

Midnight Fronts:- (1) occlusion from 63°N. 05°E. to S. Norway to Denmark to 55°N. 12°E. to 50°N. 12°E. to 45°N. 10°E. (2) occlusion from 50°N. 0° to 55°N. 06°E. to 50°N. 07°E. (3) warm from 55°N. 11°E. to S. Wales to N.W. France to N.W. Spain. The position of front 3 is very doubtful.

Home Bases:- Increasing cloud, rain spreading from S.W., probably reaching E. England about midnight. 1, 5 and 8 Groups should be fit for early take-off, despite local smoke troubles. 5 and 8 Groups should be available for return before rain begins, with rather poor visibility; diversions in N.E. Norfolk, 4 and 6 Groups, further north if visibility is not good enough. No improvement during second half of night.

Germany:- W of 7°E: much medium cloud. Tops not above 18,000 ft over Ruhr. 7-14°E: much cloud with sleet or snow. E. of 14°E.: little cloud. Route to Ruhr: an early operation may encounter medium cloud from the old occlusion.

N. Italy:- Variable amounts of cloud. Peaks of Alps probably clear.

France:- W.: rain and low cloud. Central: thickening medium cloud, broken low cloud. E. and Low Countries: well broken medium, little low cloud.

Prisians:- Fit for early raiding.

Plan of Attack

Zero hour.....1930 hours.

Routes briefed: P.F.F. IJuiden-ESSEN-Overflakke.

1 Group: Enkhuizen - Stadlohn - ESSEN - Elburg - Enkhuizen.

5 Group 52°52'N. 03°20'E. - Enkhuizen - 52°00'N. 06°53'E. - ESSEN - Enkhuizen.

...../3 P.F.F. Mosquitoes

3 P.P.F. Mosquitoes (2 markers + 1 reserve) were to mark the target for a force of Lancasters with skymarker flares.

The preliminary warning green flares were to be released by the first Mosquito 6 minutes before zero hour, and the secondary warning red flares 3 minutes later, both sets of flares igniting on the track of the Main Force aircraft, if the latter were on their correct track and on time. The first release-point flares were to ignite at zero hour at 10,000 feet. They were to consist of three green and three white flares, released together in a cluster. The same procedure was to be followed by the second marker, 3 minutes later. The white flares were not (as in previous operations of this type) to have additional time delays, and would therefore ignite at the same time as the green. The release-point flares were to be approached by all Lancasters on an exact heading of 197° magnetic. Bomb loads were to consist of 1 x 1000 lb. H.C. plus 10 or 12 containers of 4 lb. incendiaries, to be dropped 10 seconds after the H.E. on the same heading. All aircraft were to keep above 20,000 feet when over defended areas, and were to bomb from as great a height as possible. Crews were especially to beware of being misled by enemy decoy flares.

#### Sorties

4.	(a)	No. of aircraft despatched.....	69
	(b)	" " reporting attack on primary area.....	47(68.1)
	(c)	" abortive sorties (technical defect.....)	18(26.1)
	(d)	" aircraft missing.....	4(5.8)

#### Weather Experienced

5. Home Bases:- Fog patches early in the night over southern East Anglia, Lincolnshire and Yorkshire, with rain and low cloud over southern counties. Fog became widespread by midnight over Operational Groups; rain and low cloud spread N.E. to affect areas S.E. of a line Wash-Bristol Channel.

Route:- Little or no cloud to Dutch coast, gradually increasing; from patches over Holland, tops 4-7,000 feet, to 10/10ths in target area.

Winds:	8,000'	230°/35 m.p.h.
	10,000'	250°/32 m.p.h.
	13,000'	170°/50 m.p.h.
	20,000'	280°/60 m.p.h.

Visibility: moderate to good above cloud.

Target:- 10/10ths cloud, tops to 10-12,000 feet. Some haze.

Visibility: 10 miles, above cloud.

Moon above the horizon ang 57% of full.

Wind at 20,000 feet: 230°/50 m.p.h.

#### Narrative of Attack

6. All the markers arrived over the target on time, but only one received adequate tracking signals. The green warning flares dropped by this aircraft failed to ignite, and the release-point flares extinguished almost immediately, leaving only two out of three emergency white flares to guide the Main Force. The wind was much stronger than suggested by the forecast, which tended to make aircraft early and presumably caused the flares to drift in the wrong direction. Moreover, the enemy was dropping green and red decoys, which functioned more effectively than ours.

16 Lancasters reported attacking according to plan, in the face of intense and accurate flak. Results could not be observed.

1 aircraft released its 1,000 lb. bomb, which had hung up over the target, in the vicinity of goal.

...../ver

3 Lancasters (5.8.5) did not return.

### Photographic Evidence

#### (a) Night photographs taken with bombing

Photographs returned by 19 aircraft have been examined. None show detail but all record dense cloud.

#### (b) Day reconnaissance

The P.O.U. cover includes damage caused in all raids on Essen since the beginning of the year, i.e. those on 5/4th, 14/5th, 7/6th, 9/10th, 11/11th, 12/13th and 13/14th January.

The town is fully covered on photographs of excellent quality, except for a narrow strip in the centre, bounded by Stoppenburg in the north and Parkfriedhof in the south. The whole of Krupp works is included.

Numerous points of industrial and residential damage are scattered throughout the town, about 75% of these being due to H.E. A large building in Krupp, probably an open-hearth steel working shop, has been almost entirely destroyed by H.E. Saw-mills, glass-works, brick-works and coke-oven plant have been seriously hit. Military and public installations have escaped comparatively lightly, but about 100 commercial and residential buildings have been partly or wholly devastated.

### Aviation Aids (Gee)

54 Gee sorties were made, but only aircraft returned early, so that only 25 ranges were used for analysis. The average range was 246 miles: maximum 285. "Fence-post" jamming was reported, but in the main the reports were satisfactory. The C signal was reported weak 100 miles from base, whilst B was received to 6'E. J beams were used.

There were no interruptions in the service provided by the ground stations.

### Wind Bombing Aids (Obce)

Sortie No.	Target	Central Stations		Track	Time Detailed	Time Attacked	Results
		Tracing	Bombing				
(1)	Primary	Wolfer	Trinibahn I	178 <sup>0</sup>	1930	1930½	Four sun-green warning flares failed to function. Green reflector point flares extinguished times at once.
(2)	Abortive	Springate	Trinibahn II	178 <sup>0</sup>	1930	-	Faults in Obce airborne equipment.
(3)	Abortive	Wolfer	Trinibahn I	178 <sup>0</sup>	1930	-	"

### Notes

#### (1) Flak and Searchlights

Very intense and accurate "predicted" flak was encountered up to 25,000 feet, with some bursts at 25,000 feet. Many searchlight flares were observed, usually burning all below our aircraft. Searchlights were very active, especially where the cloud was thin, when intense concentrations of flak were experienced.

...../(1) fighters

(b) Fighters

(i)	No. of reported attacks.....	3
(ii)	" other interceptions.....	6

Total Interceptions	9(13.0)
---------------------	---------

Approximately 9 sorties were made by controlled fighters operating in areas of central Holland. Although no combats were reported, 3 Lancasters were attacked on the homeward journey, two of them being severely damaged.

Four of the other interceptions reported took place at 20,000 feet or above.

Casualties

11.	No. of aircraft missing.....	4(5.0%)
"	damaged (a) flak.....	9
"	(b) fighter.....	2
	Total Damaged	11(16.0%)

Three of the missing aircraft were seen to fall in flames, one at Bocholt on the outward journey, one in the target area and one 4 miles E. of Emerich on the return journey. In the latter case, observations suggest that the cause was possibly flak, but in no other case is there sufficient evidence to show the cause of loss.

APPENDIXTiming of Attack

I. P.F.H. The 4 aircraft reporting attack dropped its release-point flak at 1930½ hours (detailed time: 1930 hours).

Main Force

No. of aircraft attacking 3-0' before zero hour.....	2
" 0-10' after zero hour.....	44
	<u>46</u>

Bomb Loads

II (of aircraft reporting attack on primary)

No. of aircraft carrying flares only.....	
" H.E. + 4-lb. incendiaries.....	

HLN/VF.  
BC/S. 26342/4/CRS.  
25th March, 1943.

151221 (13/14th January 1943)

Target	Group	Type	Sorties	W/O reporting attack on		Abortive sorties		Missing	Damage			Interceptions		Results		
				prin. area	alt. area	over on. territ.	not over on. territ.		Flak	fighter	not D/A	attacked	not attacked	229		
E-111	8 P.F.F.	Mosquito	3	1	-	2	-	-	-	18	-	-	-	-	Tons of Bombs Inc.	
	1	Lancaster	18	11	-	-	5	1	3	1x0	1	1	1			
	5	Lancaster	48	35	-+1*	-	10	3	6	13	-	2	2	(P)	80.4	82.3
BOMBING TOTAL			69	47	-+1*	2	16	4	9	18 +1x0	12 +1	3	6	(A) (M)	1.8	-

\* also attacked Primary target.

\* including  
45 x 4,000 lbs.

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SECRET

NIGHT RAID REPORT NO. 243

COPY NO. 16

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

LORIENT: Minelaying (W. France): Leaflets.

SUMMARY

Lorient

1. A force of 125 aircraft, despatched to the U-boat base at Lorient, delivered a fairly concentrated and successful attack; 104 aircraft succeed in having bombed. Conditions were difficult en route but clear over the target, except for periods of thick drifting cloud. The evidence of night photographs suggests that roughly 40% of the total force bombed within 5 miles of the aiming point. The heavy damage caused will be described in Night Raid Report No. 251.

Little opposition was met from either fighters or flak and only two aircraft (1.6%) failed to return.

Minelaying

37 out of 46 aircraft despatched laid a total of 104 mines off the west coast of France in the early evening. Conditions were similar to those encountered by the main bombing force later in the night. All our aircraft returned safely.

Leaflets

15 out of 18 aircraft dropped leaflets in the areas of Paris, Orleans, Rheims, Nancy and Rouen. One aircraft did not return.

Metereological Forecast

2. Midnight front: occluded front centre of low pressure about 56°N. 05°E. to 51°N. 11°E., moving west southwards and cold to W. 11ms.

Sea Bases:- Well broken cloud, no rain to visibility at first, fog patches in second half of night. Visibility troubles in 1, 4, 5 and 93 Groups (especially the last-named) by 2200 hours, and in 1 and 4 Groups by 0400 hours. Northern Groups will be seriously affected for return, but diversion areas will be available south of a line Wash-Bristol.

Winds:- W. of front: belt of variable cloud, becoming denser, widely of small amounts over the zone. On the front and eastward to 10°E: much of it at all levels with precipitation and drizzle to snow. West of 10°E: much layer of drizzle.

3. Winds:- West of 10°E: calm. W. also covered.

4. Clouds:- Well broken to partly clear with showers of rain (6-700 feet), and 1,500 feet. Clouds not dense - medium, base 1,000 feet, top 15,000 feet. Stratus level rising outwards to 3-4,000 feet. Clouds will be dense, and will intensify towards Paris; during these, cloud will rise to 15,000 feet, and precipitation to 10,000 feet, and severe drizzle to 2,000 feet.

...../Signed to W. France:

Route to W. France:- Over England to Bridport: little cloud, moderate visibility. Channel and target area: 6-9/10ths cumulus and cumulo-nimbus base 1,500-2,500 feet, but 600-1,000 feet in showers. Main cumulus to 3-12,000 feet, but cumulo-nimbus, (about 3-5/10ths) to 15,000 feet, with isolated tops to 20,000 feet or higher.

British:- Free of frontal system about 2100-2200 hours, with low cloud lifting slowly, probably remaining 10/10ths with base below 1,000 feet for several more hours.

LAUNCH

Plan of Attack:

3. Zero hour.....0100 hours.

Period of Attack:-

Pathfinder Force.....zero hour.

Main Force.....0105 to 0200 hours.

Routes:- For routes as briefed and followed, see route map.

The Pathfinder Force (planned to consist of 22 aircraft) was first to illuminate the target with flares and then to mark it by fire raising. Aircraft of this Force were to arrive at the target at zero hour and wait until a break in the clouds provided an opportunity for illumination, which was to be effected by releasing long sticks of flares across the town, preferably from S.S.E. to N.N.W. When the target had been adequately illuminated and identified with certainty, it was to be marked by 4lb. incendiaries, released by each aircraft in one salvo on the aiming point. Great precision was to be exercised in dropping these incendiaries.

The Main Force was to be composed of aircraft from 1, 3, 4, and 6 Groups, plus 2 Wellingtons from the Pathfinder Force. All aircraft of 4 and 6 Groups were to carry mixed loads of 1000 lb. or 500 lb. G.P. bombs, plus 4lb. incendiaries. In 3 Group, two-thirds of the total load was to consist of 4lb. incendiaries, the remaining third being heavy H.C. In 1 Group, Wellington IV's were to take loads of 4 lb. incendiaries, Wellington III's 500 lb. H.C., and Wellington L23's their normal load of 1 x 4000 lb. H.C. bomb.

No aiming points were given, both in the town area. All crews were to be briefed to stand out to sea and wait for a gap if, on their arrival, the target were obscured by cloud. The direction of attack was from S.S.E. to N.N.W., except for aircraft of 4 Group, which were to make their bomb run in the reverse direction, namely N.N.W. to S.S.E. Aircraft of 4 Group were to concentrate on Bridport at 2359 hours, and were to climb gradually from base to target. Aircraft of 6 Group were to attain bomb height before crossing the British coast.

Sorties

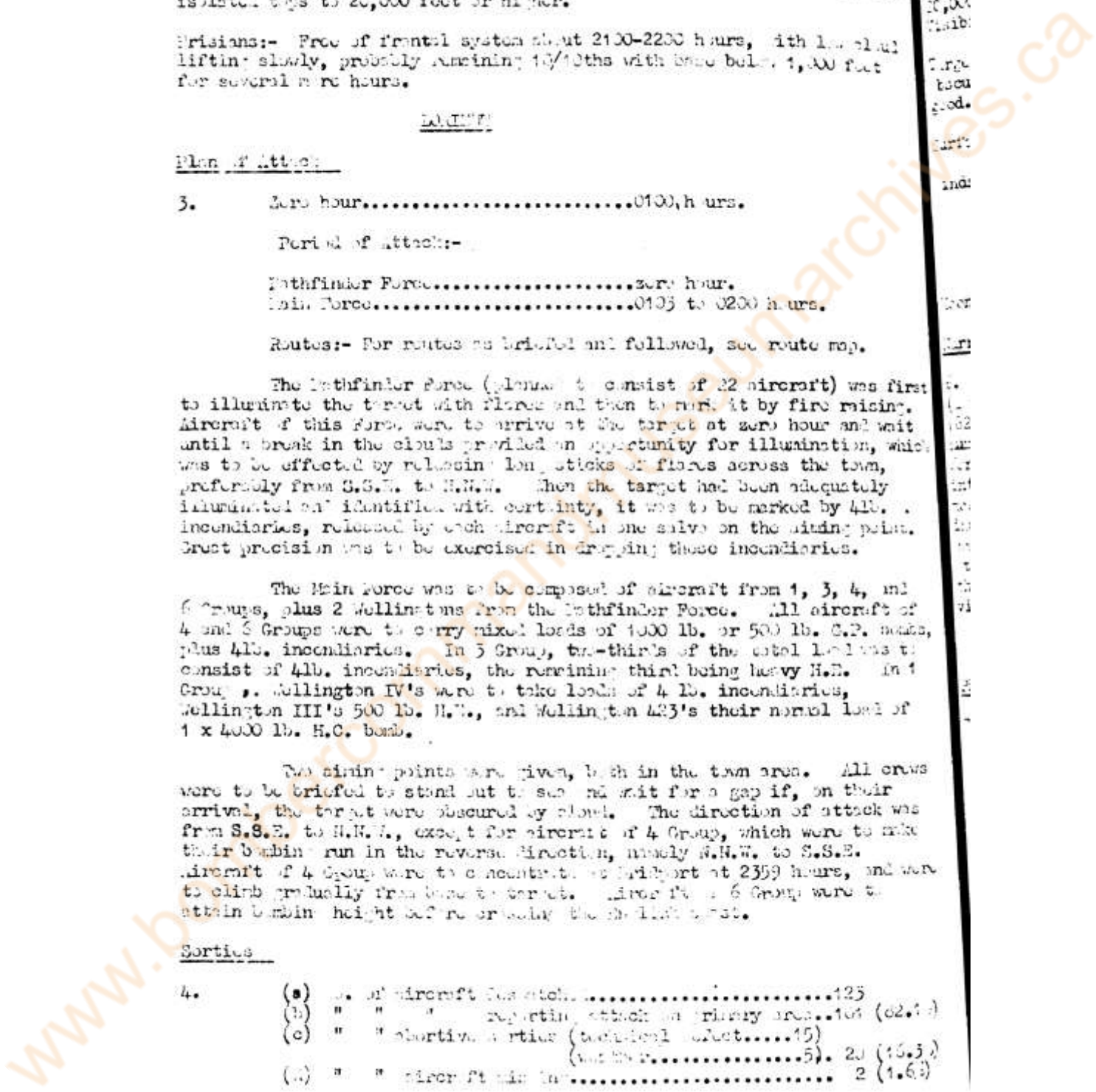
4.	(a)	12 aircraft for attack.....	123
	(b)	" " " reporting attack on primary area.....	104 (02.1)
	(c)	" " abortive sorties (technical defect.....)	15
	(d)	" " aircraft in air.....	5
			20 (15.3)
	(e)	" " aircraft in air.....	2
			2 (1.6)

Weather Experienced

3. Heavy clouds:- A belt of rain passed over England during the night, but did not make any noise whatsoever for any length of time.

...../ visibility was moderate,

Visibi  
Route:  
to 6-8  
tops 1  
20,000  
Visibi:  
Target  
area  
good.  
Route:  
and  
over  
and





visibility was moderate or good, apart from local smoke troubles.

Route:- Mainly clear as far as the south coast, after which cloud increased to 6-8/10ths., base 1,500-3,000 feet, with tops to 8-12,000 feet. Occasional tops extending to 15-20,000 feet, with isolated cumulo-nimbus tops above 20,000 feet. Conditions were very bumpy, with stable and moderate icing. Visibility good except in cloud.

Target:- Generally little or no cloud, but at intervals drifting patches obscured ground features. Visibility varied greatly, but was generally good.

Surface wind: W.S.W. 25 m.p.h.

inds:-	1,000 feet	-	320°/40 m.p.h.
	5,000 "		310°/40 m.p.h.
	10,000 "		310°/45 m.p.h.
	15,000 "		320°/50-55 m.p.h.
	20,000 "		330°/50-55 m.p.h.

Wen:- 67% of full: above horizon during the operation.

#### Narrative of Attack

6. 104 aircraft of 1,3,4 and 6 groups, together with 19 Pathfinder (1 u/t), set out. Despite severe weather conditions en route, 101 aircraft (82.1%) reported attack. At zero hour the target was clear of cloud, and a number of Pathfinders were able to operate before the target became covered. For most of the next half hour the town remained obscured, but in the clear intervals it was possible to pinpoint ground features in the light of the moon and flares. The attack was spread over an hour. In the early stages, incendiaries seemed to be falling mainly to the north, but later the concentration shifted to the east and south. 30 minutes after zero hour, at least 10 large fires were counted, and incendiaries were taking hold in the dock area. An exceptionally large explosion was reported in the vicinity of No. 4 Dry Dock.

2 aircraft did not return.

#### Photographic Evidence

##### 7. (a) Night Photographs Taken with Bombing

With ground detail, plotted.....	25
" " unplotted (open country).....	11
With fire tracks only, unplotted.....	14
Photographs plotted within 3 miles.....	18
" " between 3 and 5 miles.....	6
" " outside 5 miles.....	1
	<hr/> 25
Number of aircraft reporting attack.....	101
Number estimated to have bombed within 3 miles of the aiming point, photographic evidence.....	50

Evidence from night photographs suggests that a fair concentration of attack was achieved, and many sticks of incendiaries were recorded on and around the target. Fires dropped by the P.O.s were photographed well after zero hour, and subsequently throughout the period of the attack. At least two aircraft bombed the Riviera District, 10 miles east of the target, probably mistaking that for the estuary at Lorient.



Weather Experienced

12. Route:- Much low cloud, base 600-1,000 feet with rain. Visibility poor.

Targets:- Very variable cloud, generally nil but with definite patches at 6-10/10ths. Visibility good. The moon was above the horizon and 67% of full.

Results

13. 46 aircraft of 1,3,5 and 6 Groups set out towards dusk to lay mines off the west coast of France. 37 reported reaching their targets, and altogether 101 mines were laid. Opposition was slight, only two aircraft being intercepted. All returned safely.

LEAFLETS

14. 13 out of 15 aircraft from 91,92 and 93 Groups dropped leaflets in the areas of Paris, Orleans, Rheims, Nancy and Rouen. One aircraft had to turn back owing to a technical defect; another failed to return from Nancy. Four sorties made by controlled night-fighters in the Metz and Rotterdam - Ypresburg areas were presumably directed against these aircraft, since none engaged in other operations passed over these districts. Three interceptions were reported, but they did not include any attacks. There is no evidence to indicate the cause of loss of the missing Wellington.

APPENDIX ITiming of AttackPathfinder Force

No. of aircraft attacking 0-10' after zero hour.....	9
" " 10-30' after zero hour.....	4
" " more than 30' after zero hour.....	3
	<u>16</u>

Main Force

All aircraft attacked within the planned period (0103-0200 hours)	
No. of aircraft attacking from 0103 - 0120 hours.....	47
" " 0120 - 0140 hours.....	34
" " 0140 - 0200 hours.....	4
	<u>85</u>

APPENDIX IIWeight of Bombs Dropped

(a) By aircraft reporting attack on primary.

H.E.: 73.2 tons	Inciendiary: 155.2 tons
(including 4 x 4,000 lb.	
1 x 1,900 lb.	
135 x 1,000 lb.	
101 aircraft reported attack on the primary:-	
No. of aircraft carrying flares + 4 lb. incendiaries.....	16
" " 4 lb. incendiaries only.....	18
" " H.E. only.....	12
" " H.E. + 4 lb. incendiaries.....	55
	<u>101</u>

(b) Tonnage of bombs carried by missing aircraft:-

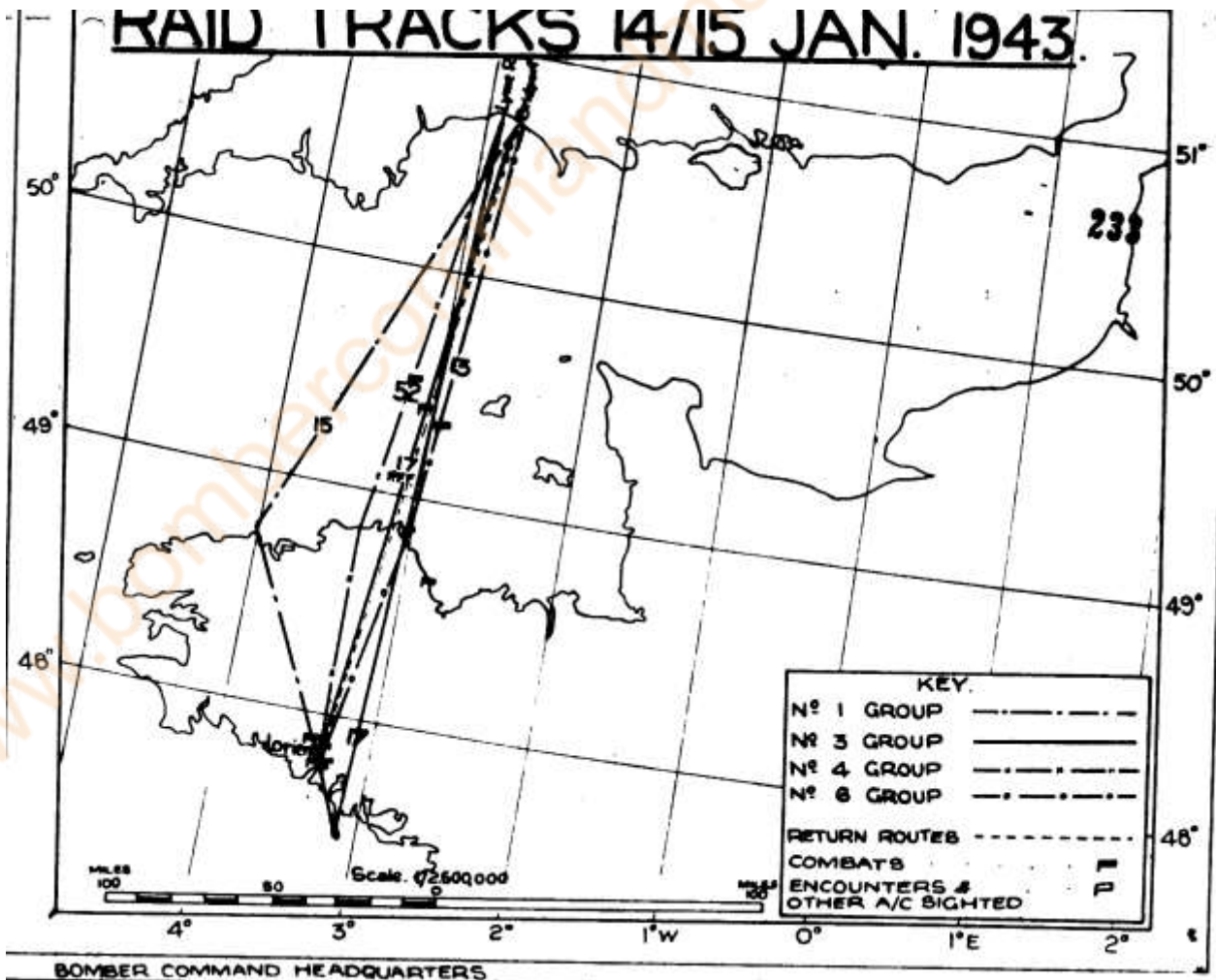
H.E.:- 0.9 tons

Inciendiary:- 1.8 tons

HM/VP.  
BC/S. 26342/1/ORS.  
14th March, 1943.

LOGBOOK: Minelaying (W. France) (Losses in 1st/15th January, 1943)

Target	Group	Type	Sorties	Aircraft reporting attack on		Abortive sorties		Missing	Nines laid in		Damage		Interceptions	
				primary area	alternative area	over en-territ.	not over en-territ.		prim. area	alt. area	Flak	Fighter	not R/A	attack-ed
LOGBOOK	P.F.P.	Lancaster	6	6	-	-	-	-	-	-	1	-	-	-
	P.F.P.	Halifax	7	6	-	1	-	-	-	-	1	-	-	2
	P.F.P.	Well.III	3	3	-	-	-	-	-	-	-	-	-	-
	P.F.P.	Stirling	1	1	-	-	-	-	-	-	-	-	-	1
		Well.III	5	4	-	1	-	-	-	-	-	-	-	-
	1	Well.IV	10m	7	-	1	-	1	-	-	-	-	-	-
	3	Stirling	19	16	-	-	3	-	-	-	1	-	-	1
	3	Well.III	4	2	-	-	2	-	-	-	-	-	-	-
	4	Halifax	52	44	-	3	5	-	-	-	-	-	-	-
	6	Well.III	9	7	-	1	-	1	-	-	-	-	-	1
6	Halifax	5	4	-	-	1	-	-	-	-	-	-	-	
	P.F.P. (u/t)	Well.III	2	1	-	-	1	-	-	-	-	-	-	
<b>BOMBING TOTAL</b>			123	101	-	6	14	2	-	-	3	-	-	5
<b>MINELAYING</b>														
	6	Well.III	6	6	-	-	-	-	12	-	-	-	-	-
	1	Well.III	7	7	-	-	-	-	14	-	-	-	-	2
	3	Well.III	4	4	-	-	-	-	8	-	-	-	-	-
	1	Well.III	6	4	-	-	-	-	8	-	2	-	-	-
	(3)	Stirling	12	6	-	-	6	-	25	-	-	-	-	-
	(5)	Lancaster	7	7	-	-	-	-	25	-	-	-	-	-
	3	Stirling	2	2	-	-	-	-	6	-	-	-	-	-
	3	Stirling	2	1	1	-	-	-	3	2*	-	-	-	-
<b>MINELAYING TOTAL</b>			46	37	1	-	6	-	99	2	2	-	-	2
<b>LEAPLETS</b>														
	91	Whitley	5m	5	-	-	-	-	-	-	-	-	-	2
	91	Well.Ic	5m	5	-	-	-	-	-	-	-	-	-	-
	92	Well.III	1	1	-	-	-	-	-	-	-	-	-	-
	92	Well.III	3	1	-	-	1	-	-	-	-	-	-	1
	93	Well.Ic	1m	1	-	-	-	-	-	-	-	-	-	-
<b>LEAPLETS TOTAL</b>			15	13	-	-	1	1	-	-	-	-	-	3
<b>TOTAL</b>			184	151	1	6	21	4	101	2	2	-	-	5



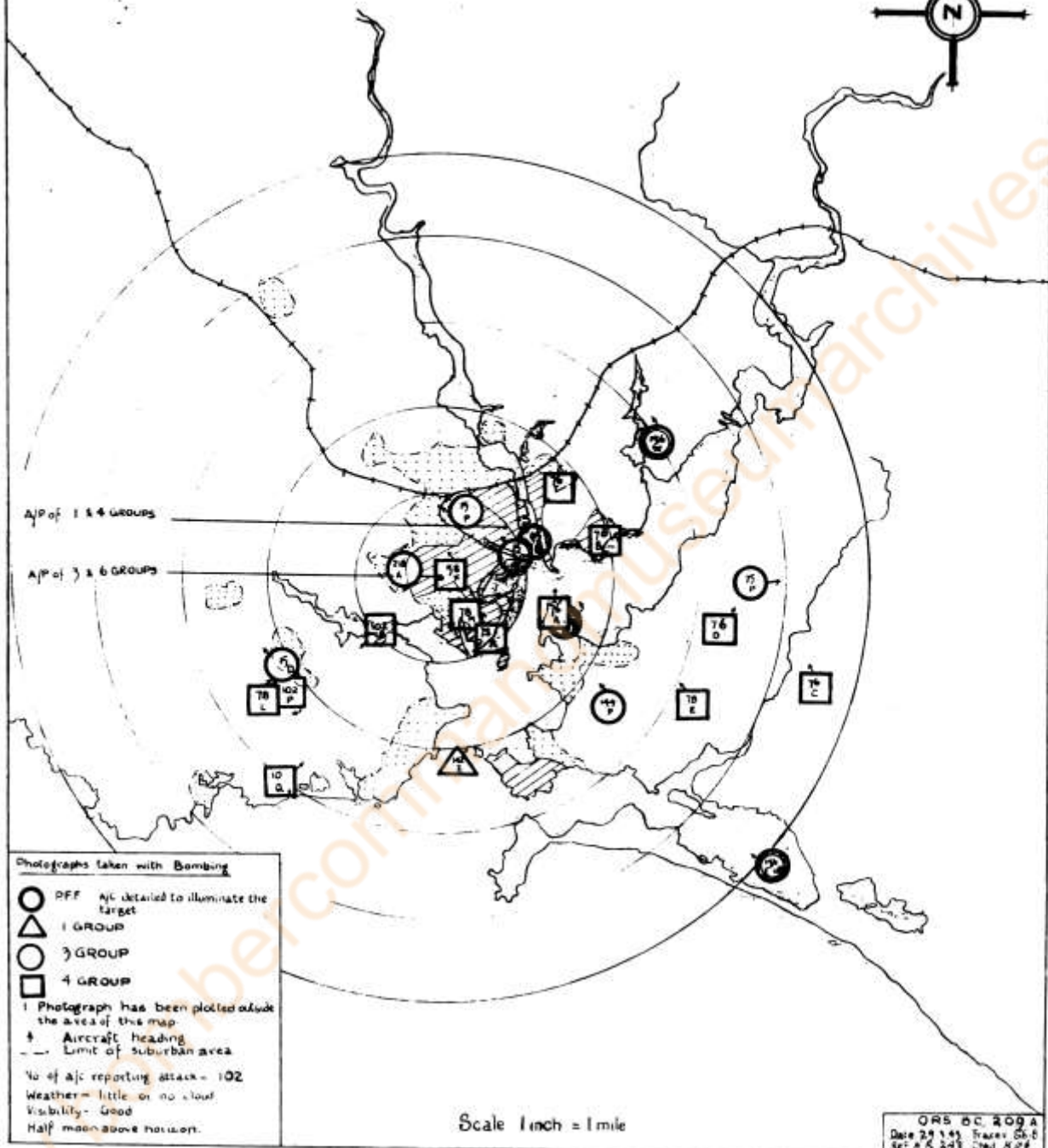
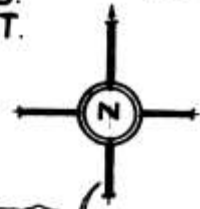
SECRET

# FINAL PLOT OF NIGHT PHOTOGRAPHS.

TAKEN JANUARY 14/15<sup>th</sup> 1943

TARGET LORIENT.

234



HQST SECRET

NIGHT RAID REPORT NO. 244

COPY NO. 16

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 15/16th JANUARY, 1945.

LORIENT: Lachen: Minelaying(W.France):Leaflets

SUMMARY

Lorient

1. 147 aircraft, including 92 heavies, left at dusk to attack the U-boat base and town of Lorient for the second successive night. 131(89.1%) reported reaching the primary. An attack of particular concentration was delivered, with very little interference by enemy defences. Only 2 aircraft (1.4%) did not return, but 3 crashed on landing. Photographic reconnaissance covering this and two other raids on this targets revealed extraordinary damage.

Lachen

2 P.F.F. Mosquitoes, manned by freshmen crews, bombed Lachen from 28,000 feet above cloud, by means of navigational aids.

Minelaying

9 Wellingtons of 1 Group laid 18 mines off the west coast of France, and returned without incident.

Leaflets

3 Wellingtons of 92 Group successfully dropped leaflets in the Rouen area.

Meteorological Forecast

2. Home Bases:- A front is approaching from the Atlantic, but base areas should not be affected by frontal cloud to-night. In general, little cloud is likely; but Operational Groups will have local visibility troubles at dusk, becoming more widespread towards midnight, especially in 1,2,4,5 and 93 Groups. 1,4 and 5 Groups may have to divert; the south coast, S.W. England, 6,91 and 92 Groups should be suitable. There is a threat of general fog later.

Germany:- Much cloud at all levels with sleet and snow, decreasing towards the south, where some good breaks are possible.

N. Italy:- Little cloud. Peaks of Alps clear.

W. France:- Probably free from low cloud, but a development of strato-cumulus may occur. Lorient: Well broken cumulus, base 1,500-2,000 feet, tops to 3-12,000 feet. Scattered showers. Wind at 20,000 feet: 310°/40 m.p.h.

LORIENT

Plan of attack

3. Zero hour.....1945 hours.

Route: For routes as briefed and followed, see route map.

Period of attack

Pathfinder Force.....1945 hours (or as soon after this time as cloud breaks permit)

...../Main Force

Main Force

First Section (aircraft of 1,4 & 6 Groups & Wellingtons of 3 Group) 1948 to 2045 hours.

Second Section (Stirlings of 3 Group)...2030 to 2045 hours.

The Pathfinder Force (planned to consist of 11 aircraft) were to act as "illuminators" and "markers" of the target. They were first to release flare-sticks across the target in a north to south direction, using the Gee line to ensure that the correct inlet was found; 6 aircraft were then to drop their 4 lb. incendiaries in one salvo with maximum precision on aiming-point Y, and 5 aircraft on aiming-point X. These aiming-points (in the town area) were to be identified with complete certainty. If weather conditions did not enable the target to be seen clearly in the early stages of attack, aircraft were to stand off and wait for a cloud-break. On no account were either H.E. or incendiaries to be dropped unless cloud conditions allowed the target to be seen. If the target could not be seen before 2025 hours, bomb loads were to be brought back.

9 Pathfinder aircraft were to attack with the Main Force; of these, 2 Lancasters were to drop their H.E. bombs on aiming-points A and B, while 2 Stirlings and 3 Wellingtons were to drop incendiaries in short sticks on aiming-points X and Y.

The Main Force was to consist of aircraft from 1,3,4 and 6 Groups plus Wellingtons of 3 Group, the total bomb-load per Group being in the proportion two-thirds 4 lb. incendiaries and one-third heavy H.E. No incendiaries were to be dropped before 1955 hours. Aiming points for each Group were as follows:

(1 Group....."A" and "Y")	Aiming-points "A" and "B" were to
(3 Group....."B" and "X")	be attacked in each instance by aircraft
(4 Group....."A" and "X")	carrying H.E., while aiming points
(6 Group....."B" and "Y")	"X" and "Y" were to be bombed by
	aircraft with incendiary loads.

Aiming-points A and B were in the dock area, X and Y in the town.

If the target were obscured by cloud on arrival, aircraft were to stand off and wait for a gap, checking their positions by Gee fixes. Aircraft of 1,4 & 6 Groups were to make their bombing-runs from north to south. The second section was to consist of Stirlings of 3 Group which were to make a timed run over the target from a pin-point within 10 miles of the aiming-point, the object being to provide experience in this for later use against German targets. Aircraft of 6 Group were to climb to bombing height before crossing the English coast.

Gee Instructions

4. The Southern Chain was to operate from 1600 to 2145 hours and the Eastern Chain from 2145 hours onwards; target correction factors were to be applied during the whole period in which the Southern Chain was working, but were not to be used after the Eastern Chain had taken over. These correction factors were B = +.03; C = +.08. The target indicator coordinates were therefore:- B = 12,30; C = 34.20. Gee was not to be used for homing, but only as a navigational aid.

Sorties

5.	(a)	No. of aircraft despatched.....	147
	(b)	" " reporting attack on primary area.....	131
	(c)	" " abortive sorties (technical defect: 14).....	14
	(d)	" " aircraft missing.....	21

Weather Experienced

6. Home Bases:- Mist and fog thickened during the first half of the night, conditions deteriorating from 0300 hours. There was a slight improvement towards dawn.

...../Route

Route:- Little cloud to the English coast, then 4-6/10ths low cloud, base 2-3,000 feet, tops 6-9,000 feet. Small amounts of medium cloud above at about 18,000 feet. Visibility moderate to good.

Target:- Cloud: 4-6/10ths thin cumulus, base 2-3,000 feet, tops 6-9,000 feet.

Visibility: Good.

Moon: 76% of full and above the horizon.

Winds: 5,000 feet - 310°/30 m.p.h.  
10,000 feet - 310°/35 m.p.h.  
15,000 feet - 310-320°/40 m.p.h.

Surface wind - S.S.W., 10-15 m.p.h.

#### Narrative of Attack

7. 4-6/10ths thin cloud was present over the town, but gaps enabled most crews to obtain good pinpoint in the bright moonlight. The Pathfinders dropped several well-placed sticks of flares at zero hour, and these were soon followed by salvos of incendiaries in the target area. Early arrivals reported that fires were still smouldering from the previous night's attack. Many large fires took hold in the town, and a number of crews reported a particularly large one, believed to be burning oil, in the dock area. Crews obliged to stand off and wait for gaps in the cloud found observation hindered in the latter part of the attack by heavy smoke drifting over the town. The attack achieved greater concentration than that of the previous night.

#### Photographic Evidence

##### 8. (a) Night photographs taken with bombing

With ground detail - plotted.....	30
" unplotted (open country).....	10
With fire tracks only, unplotted.....	24
Photographs plotted within 3 miles.....	29
" between 3 and 5 miles.....	1
Number of aircraft reporting attack.....	131
Number estimated to have bombed within 3 miles of the aiming point, on photographic evidence.....	95

The above estimate is based on a relative small sample of photographs. allowance for the various aiming points on this night has also been made.

The plot of night photographs shows that a good concentration of attack was achieved on this target, in spite of considerable patches of thin cloud. Many sticks of incendiaries and smoke from H.E. bursts were recorded in the target area. The fires soon spread, and their smoke obscured the town during the latter half of the attack.

##### (b) Day reconnaissance

No separate P.R.U. cover was undertaken for this operation. Details of damage caused at Lorient in the three attacks of 14/15th, 15/16th and 26/27th January will be published in Night Raid Report No. 252.

#### Navigational Aids

9. Bombing instructions were given in terms of CHE. 61 navigators got ranges to the target and some gave their fixes taken with bombing. There were many reports of interference in this direction - drifting pulses, railings, heavy even grass and blurring. It is feared that future ranges to distant targets on the Southern Chain will diminish considerably. J beams were used.

again both Eastern and Southern Chains provided satisfactory service, though the C pulse (southern) was out of phase for 2½ minutes at 2101.

...../Defences



Defences10. (a) Flak and Searchlights:-

No additional information was gained concerning the ground defences at Lorient, details of which were given in Night Raid Report No. 243. General flak seemed less intense than on the previous night. 37% of the aircraft within 5 miles recorded heavy flak, and 18% light flak.

(b) Fighters

As in the previous raid on this target, fighter opposition was negligible. A number of enemy aircraft, presumably free-lance fighters, were seen in the target area but, while a few approached, only 2 came in to fairly close range. Both were driven off by fire from the bombers.

Casualties

11. No. of aircraft missing.....2  
       "          damaged (a) flak.....1  
                       (b) not due to enemy action.....3

One of the missing aircraft was seen to disintegrate and burn on the ground at 49° 00'N 02°55'W. on the outward journey after being hit by fire from a flak-ship. The second was seen in flames in the target area. The cause is unknown, but flak is considered possible.

LACHENSorties

12. (a) No. of aircraft despatched.....2  
       (b) " reporting 1 back on primary area.....2  
       (c) " missing.....0

Weather Experienced

13. Target:- 6-7/10ths cloud, tops 6-7,000 feet.

Results

14. 2 P.F.F. Mosquitoes bombed Lachen by means of "Oboc", from 28,000 feet above cloud. Both were manned by crews fresh to this type of operation. No losses or casualties were sustained. Details:

<u>Sortie No.</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time Detailed</u>	<u>Time of Attack</u>	<u>Results</u>
	<u>Tracking</u>	<u>Bombing</u>				
(i) A/C attacked primary	Walmer	Trimingham I	187°	2330	2339	Good run; accurate release
(ii) "	"	"	"	2350	2359½	Good run. (error in release in 2 dashes)

MINELAYINGSorties

15. (a) No. of aircraft despatched.....9  
       (b) " reporting mines laid in primary area.....9  
       (c) " missing.....0  
       (d) Number of mines laid.....18

Weather Experienced

16. Targets:- No cloud, except scattered patches at 3,000 feet. Slight mist. Visibility good. Moon above the horizon on 76% of full.

...../Results

5 Wellington IV's of 1 Group were despatched to Lorient, and 3 Wellington and one Wellington IV of 1 Group to St. Ikaire. All reached their targets, aircraft laying 2 mines. Considerable opposition was encountered from defences, but only one instance of damage was reported, and that minor. Aircraft extinguished two searchlights from 50 feet in the area of Lannion; one shot up a passenger train on the return journey. All returned safely, no casualties were sustained.

#### LEAFLETS

3 Wellington III's of 92 Group, manned by pupil crews, dropped leaflets in the area of Rouen. No opposition was encountered, and all aircraft returned safely.

#### APPENDIX (Lorient)

##### Timing of Attack

##### Pathfinder Force

No. of aircraft attacking 0-5' after zero hour.....	8
" " 5-20' after zero hour.....	2
	<u>10</u>

##### Main Force (Section a)

All aircraft in this section attacked within the planned period (1948 - 2045 hours)

No. of aircraft attacking from 1948 - 2005 hours.....	49
" " 2005 - 2025 hours.....	40
" " 2025 - 2045 hours.....	3
	<u>92</u>

##### Main Force (section b)

No. of aircraft attacking early (25-0').....	4
" " within planned period (2130-2145 hours)...	16
" " late (0-25').....	9
	<u>29</u>

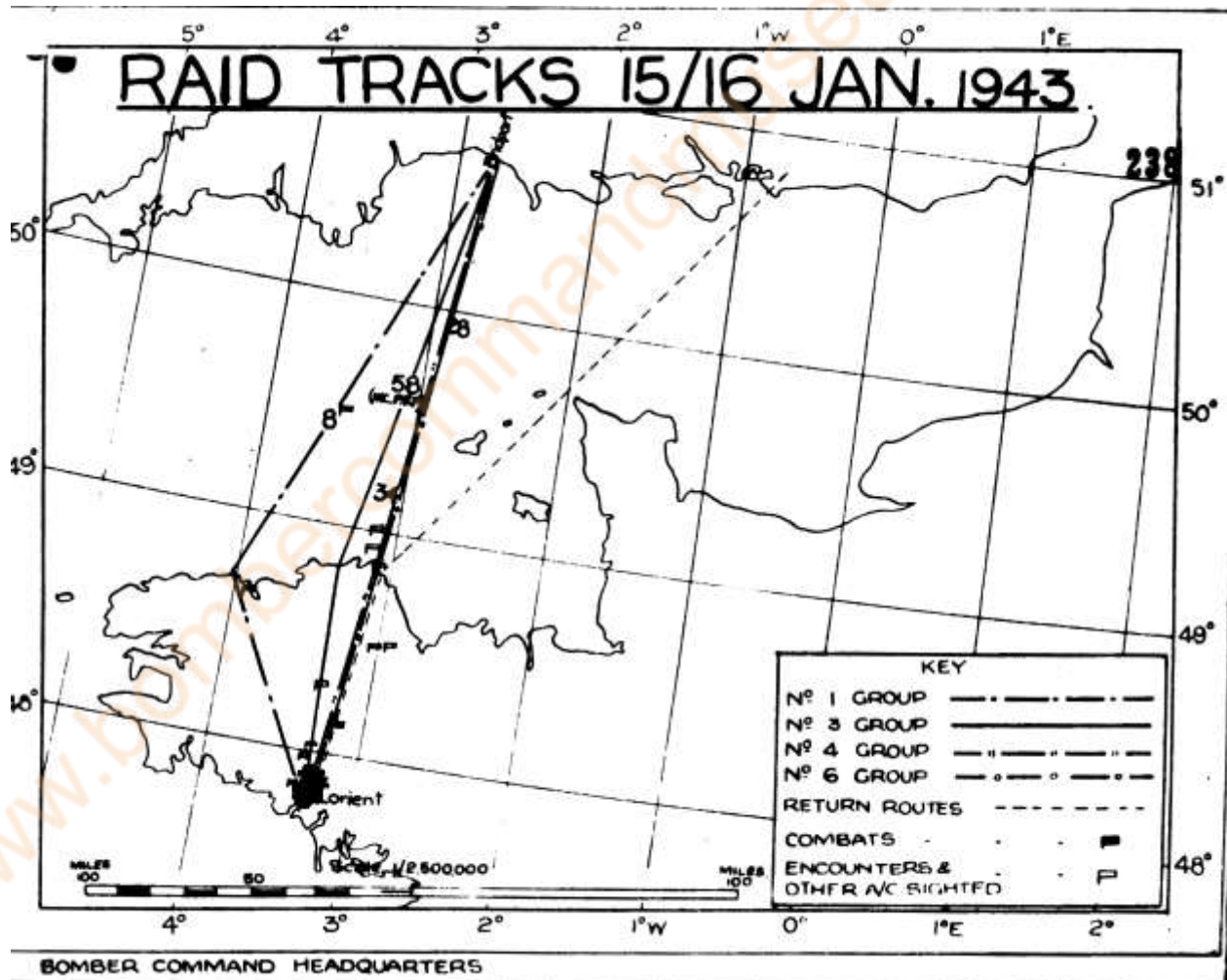
##### Carried

(by aircraft attacking primary)

No. of aircraft carrying flares + 4 lb. incendiaries.....	10
" " 4 lb. incendiaries only.....	65
" " H.E. only.....	55
" " H.E. + 4 lb. incendiaries.....	1
	<u>131</u>

26342/4/ORS.  
March, 1943.

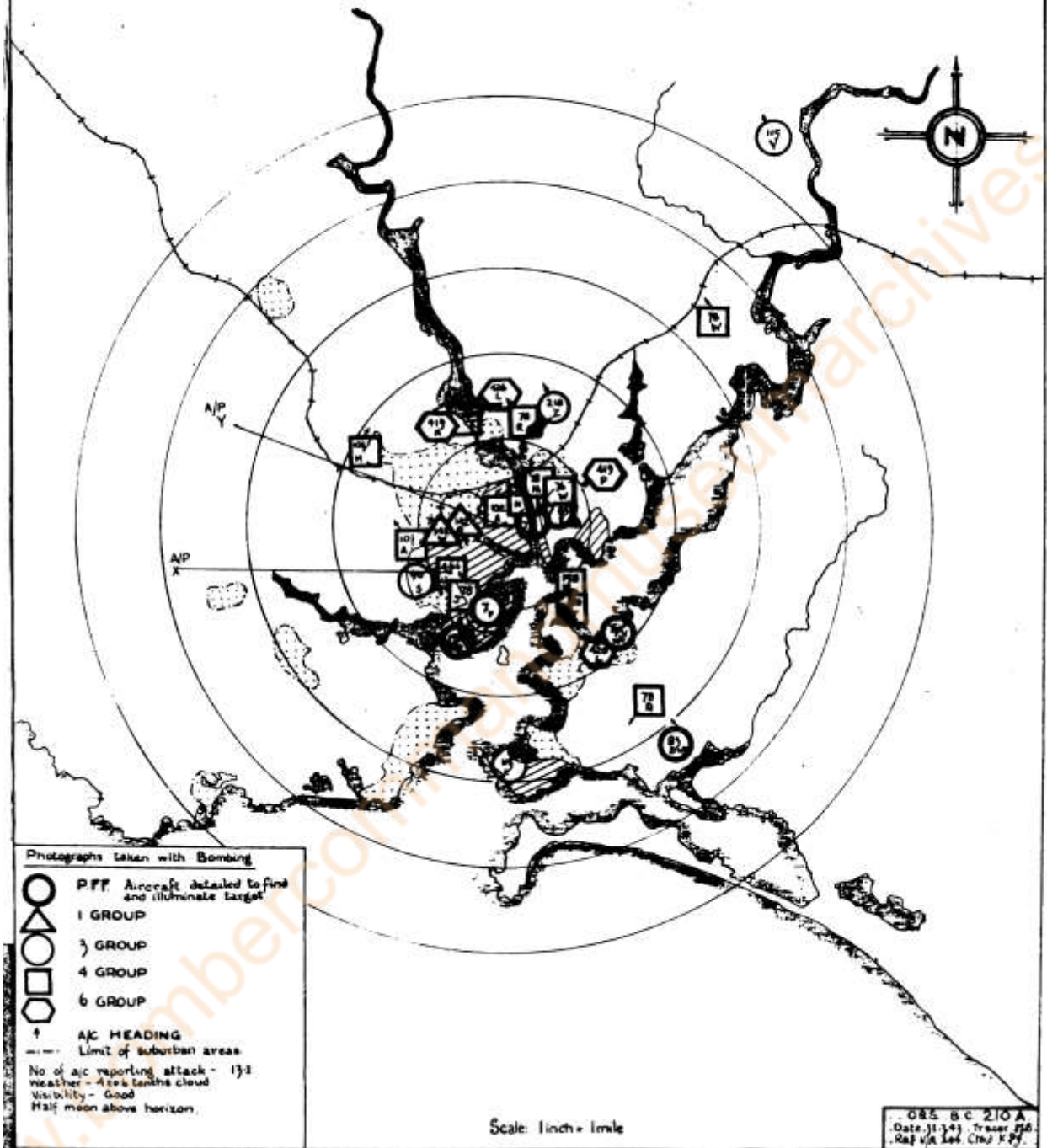
			primary area	alt. area	over en. territ.	not over en. territ.	pink	fighter	not enemy action	attacked	not attacked	
LORIENT	8	Well. III	2	2	-	-	-	-	-	-	-	BOMBS DROPPED LORIENT: 7 H.E.-139.1 tons Inc.-147.5 tons
		Stir.	2	2	-	-	-	-	-	-	-	
	8 (u/t)	Halifax	6	6	-	-	-	-	-	-	-	ACTION:- H.E.- 1.5 tons Inc:- Nil
		Lane.	4	4	-	-	-	-	1B	-	-	
	1	Well. III	2	2	-	-	-	-	-	-	-	BY MISSING INCOR.PT:- H.E:- Nil. Inc:- 4.8 tons
		Stirling	2	2	-	-	-	-	-	-	-	
	3	Well. III	9	6	-	-	3	-	-	-	-	Inc:- Nil
		Well. III (type 42)	2	2	-	-	-	-	-	-	-	
	4	Stirling	36	29	-	-	6	1	-	-	-	BY MISSING INCOR.PT:- H.E:- Nil. Inc:- 4.8 tons
		Well. III	10	10	-	-	-	1	-	-	3	
6	Well. X	4	3	-	-	1	-	-	1.C	-	BY MISSING INCOR.PT:- H.E:- Nil. Inc:- 4.8 tons	
	Halifax	30	27	-	-	3	-	-	1B	1		
6	Well. III	26	25	-	-	1	-	-	-	-	BY MISSING INCOR.PT:- H.E:- Nil. Inc:- 4.8 tons	
	Halifax	12	11	-	-	-	-	-	-	-		
LORIENT - TOTAL			147	131	-	1	13	2	1	-	10	
MORLAINE												BOMBS DROPPED
1	Well. IV	5	5	-	-	-	1	-	-	-	-	10
1	Well. III	3	3	-	-	-	-	-	-	-	-	1.5
1	Well. IV	1	1	-	-	-	-	-	-	-	-	2
MORLAINE - TOTAL			9	9	-	-	-	1	-	-	-	18
8	Mosquito	2	2	-	-	-	-	-	-	-	-	
L.E. PLATS												
92	Well. III	3	3	-	-	-	-	-	-	-	-	
TOTAL			161	145	-	1	13	2	2	-	10	



**SECRET**

**FINAL PLOT OF NIGHT PHOTOGRAPHS**  
TAKEN 15/16 JANUARY 1943 TARGET LORIENT

239



BOMBER COMMAND REPORT ON NIGHT OPERATIONS 16/17th JANUARY, 1943.BERLIN : Duisburg.SUMMARY.

Berlin. 14 Pathfinders and 187 Main Force aircraft left to attack Berlin. Poor weather was encountered en route and, although this cleared in the target area, haze prevented crews from pinpointing ground features. The Pathfinder Force was unable to locate either of the last two turning points where flares were to have been dropped, and only two aircraft of this force were able to identify the target on time. Although 140 of the Main Force claim to have attacked the target area, it is unlikely more than a few penetrated to the central city districts, but a local concentration of attack fell on the southern suburbs where damage was undoubtedly caused. Other aircraft attacked alternative targets, including Swinemunde and Rostock.

Flak opposition at the target was less than expected. Fighter opposition was comparatively ineffective, and only one aircraft (O.5.4) failed to return.

No P.R.U. was made until after a second attack on the following night. The cumulative damage inflicted in the two raids will be detailed in Night Raid Report No. 246.

Duisburg Two "Oboc" Mosquitoes, manned by pupil crews, carried out a practice raid on Duisburg. One completed its test successfully, but the second failed owing to a fault in airborne equipment. It attacked Essen visually. Each aircraft dropped 3 x 500 lb. M.C. bombs.

Metereological Forecast.

Midnight Front:- occluded from N.W.Scotland to Bristol, becoming warm southwards and cold to Brest, with a wave S.W. of Brest.

Home Bases:- There will be a belt of rain and low cloud near the front, with broken low cloud over most of E.England. 1,2,3,5,91 and 92 Groups will have low stratus at 800 - 1,200 feet: visibility below cloud 1-2 miles, but slightly less than 200 yards in places. 4,6 and 93 Groups will experience frontal conditions for part of the night: 6-10/10ths. cumulus at 1,500 feet, probably with patches at 300 feet or lower in light rain, especially along the front. These conditions will spread to 1,2,3 and 5 Groups. 1,4 and 6 Groups will be doubtful for take-off. At 2000 hours, 30% of bases will probably be workable. No diversion areas can be planned with any confidence.

Germany:- Extreme W.: little cloud. 7°-11°E generally fine, but moderate to poor visibility. E. of 12°E.: variable amounts of cloud, good breaks in layer cloud over Baltic coast. E. of 15°E.: much cloud with occasional snow. Berlin: variable strato-cumulus, 4-7/10ths., no great vertical developments. Route to Berlin: variable cloud conditions, with variable low and medium cloud, lying N.E.-S.W. through the North Sea.

Italy:- Little cloud, fog patches. Moderate visibility. Variable strato-cumulus over Alps, peaks clear, tops 8,000 feet.

France:- Much cloud at all levels, with rain.

BERLIN.Time of attack.

Zero Hour ..... 2015 hours.

Period of Attack.

Pathfinder Force ..... 2013-2021 hours.

Main Force ..... 2018-2038 hours.

Route Briefed ..... All Groups Mano - Haderslev - Humble - Darsner Or -  
Nouwarp - Muggelsee - ~~BERLIN~~ - Humble - Haderslev -  
Mano.

Aircraft of the Pathfinder Force (planned to consist of 13 aircraft) were to act as "finders" and "ground" markers. All Pathfinders were to release one red flare over Neuwarp (53°42'N, 14°15'E.) to assist navigation. These flares would burn for a short period and would therefore only be suitable for early aircraft. Pathfinder aircraft was also to drop a single bundle of green steady flares over last turning-point, the Muggel See about 12 miles south-east of Berlin (latitude 53°59'E), so that an accurate timed run could be made from this landmark. This would probably be frozen and would, therefore, not appear as black water but as a patch of white snow, which should be easily visible by contrast with the dark woods surrounding it.

3 Lancasters were to act as "finders" of the target, releasing flares at 30-second intervals 2 minutes before zero hour in long sticks, in a south-east to north-west direction from 52°30'N, 13°27'E to 52°32'N 13°18'E. These flares were to be dropped on time on D.R. 5 Lancasters and 5 Halifaxes would act as "ground markers", dropping red marker-bombs in a single salvo with maximum precision on the aiming-point, after it had been identified with certainty. 3 seconds later they were to release 250lb. white incendiary bombs, also in a single salvo. Finally, they were to drop white flares at 2 second intervals. This marking was to be carried out by 4 Lancasters at zero hour, 2 Halifaxes at zero + 2, 1 Halifax and 1 Lancaster at zero + 4 and 2 Halifaxes at zero + 6 minutes. Both the red and the white marker bombs would burst at 3000 feet, cascading to the ground, where they would appear as numerous pin-points of light; the red ground markers would burn for 3 minutes and the incendiary white ground-markers for 8 minutes. After the attack, aircraft were to turn right and leave the target area in a north to north-east direction.

The Main Force was to be composed of aircraft of 1, 4 and 5 Group, plus 4 Lancasters from the P.F.F. All aircraft were to bomb aiming-point "B", namely the main road junction at the intersection of Landsberger Strasse and GroiBswalder Strasse.

The following bomb-loads were ordered:-

- 1 Group 50,0 aircraft to carry 4 lb. incendiaries (up to 15% in each load) and 10,0 aircraft to carry 1 x 4000 lb. H.C. and 4 lb. incendiaries.
- 4 Group 5 aircraft each to carry 5 x 1000 lb. R.D.X. filled bombs: 8 aircraft to carry the maximum load of 4 lb. incendiaries (15% of the explosive).
- 5 Group Not specified.

All aircraft were to bomb from a minimum height of 18000 feet, preferably 20000 feet. Aircraft of 4 Group were to maintain a steady rate of climb throughout the route to the target, thereafter losing height gradually on the return journey.

Sorties.

4.	(a)	No. of aircraft despatched .....	30
	(b)	" reporting attack on primary area .....	27
	(c)	" " alternative area .....	3
	(d)	" abortive sorties (technical defect .....	30)
		(weather .....	7)
		(hit by flak .....	2)
		(sickness of crew .....	3)
		(late .....	2)
	(e)	" aircraft missing .....	0

Weather Experienced.

5. Home Bases:- Extensive patches of low cloud below 1,000 feet during first half of night, with much mist and fog in Northern Groups. The cloud base lifted and dispersed during the night, with rain spreading to 4 and 5 Groups towards morning.

Route:- Cloud: 8-10/10ths layer cloud, base 1-2000 feet, tops 5-8000 feet with occasional tops to 10,000 feet. Patches of medium cloud.

Visibility: Moderate to good above cloud, but extensive ground fog over Denmark and Baltic coast areas. Inland from the Baltic coast, visibility was poor to poor.

Target:- Cloud: 7-10/10ths thin layer at 8,000 feet; none below. Variable haze.

Visibility: Reports vary from poor to very good.

Moon: Above the horizon and 83% of full.  
Surface Wind: Calm, or very light southerly.

Narrative of Attack.

6. 201 heavy aircraft set out towards dusk, and 146 of these (72.6%) reported attacking the primary. The weather was reported as being 4/10ths cloud to within 10 miles of Berlin, where visibility was reduced by haze which at times was very thick. The Pathfinders found pin-pointing extremely difficult; owing to snow in the target area: the turning-point, Neuwarp, could not be located owing to cloud, and no aircraft was able to pin-point the Muggel See to drop their green flares. Most of the Pathfinders were unable to identify the town centre, and so brought their flares back. The Pathfinders which dropped their flares near zero hour appear to have been to the S.E. of the town; three other markers, however, claim to have identified the town later, and their marker bombs attracted a small concentration of the Main Force, which probably corresponds to the concentration in the Templehof district revealed by subsequent reconnaissance.

The Main Force reported sighting scattered incendiaries, and many H.E.'s were observed to burst in the target area. A number of fires were started but, owing to the haze, the positions of these could not be identified.

10 aircraft attacked alternative targets, viz: Swinemunde area (2) Sylt, Griefswald, Aerokobing area, Rostock, Neuwarp area, Stendal, and built-up areas near Berlin (2).

One Lancaster of 5 Group did not return.

Photographic Evidence.

7. (a) Night photographs taken with bombing.

with ground detail, plotted .....	4
" " unplotted (probably suburbs of Berlin).....	7
" " unplotted (open country).....	3
with fire track only .....	2
Photographs plotted within 3 miles .....	0
" " between 3 and 5 miles .....	2
" " outside 5 miles .....	32
Number of aircraft reporting attack .....	146

The night photographs show that the attack spread over the southern suburbs of Berlin, whilst isolated aircraft penetrated to the central city districts (see diagram). Many sticks of incendiaries were photographed, particularly among the housing estates at Marienfelde, Lichtenrade and Rudow. A number of photographs record 8-9/10ths cloud and ground haze, indicating the difficulties encountered on the route; but the target area appears to have been clear of cloud in the absence of accurate pin-pointing, as exact timing run up to the target was not possible, and the majority of our aircraft bombed short of the target. Local concentrations of attack however, developed in the suburbs, aircraft bombing where incendiaries are already alight.

Half the night films show heavy flak, 4-gun and smaller salvos being recorded.

(b) Day Reconnaissance.

No separate P.R.U. cover was undertaken for this raid. Details of damage caused at Berlin on this and the following night are given in Night Raid Report No. 246.

Navigational Aids.

8. The route taken over the North Sea passed, apparently, through the fringe of the enemy jamming coverage for, while there were reports of interference, the average range was 302 miles, about 50 miles greater than that on recent raids to the Ruhr. The maximum range (392 miles) was exceptionally good. The signal B was still visible at 08° E., after 400 miles on the route laid down. J beams were functioning. There were more interruptions in the service of the ground stations than is usual, but they were mostly of short duration. At 0030 hours, however, on changing from reserve to main receivers, the D pulse was off for 6½ minutes, and was slipping rather frequently until 0053 hours.

Defences.

9 (a) Ground Defences.

The heavy flak fire was predictor control "unseen;" it was less intense than expected for a target of this importance. The standard of accuracy compared unfavourably with that of Ruhr targets (probably owing to lack of practice), but improved as the raid progressed; bursts were generally good for height, though not always for line, and changes of height were quickly followed. The greatest gun density appeared to be to the north-west. One experienced observer suggested that possibly 125-150 heavy guns were in action in the whole area.

Searchlights were evidently under orders not to expose, reliance being placed on "unseen" fire. The bright moon and hazy conditions were in any case unsuitable for their operation. About six scattered projectors exposed intermittently, but without achieving any result.

Several balloons were reported at 8-12,000 feet.

(b) Fighters.

No. of attacks .....	3
" other interceptions .....	16
Total Interceptions .....	19 (9.4%)

Only 8 sorties made by controlled fighters were intercepted, areas of operation being identified as Hammelnde, Bremen, Hamburg-Luneburg and Luneburg-Brandenberg, but in view of the moonlight and the number of interceptions reported, it is likely that there was also some free-lance activity both en route and in the target area. The fighter opposition was, however, far from heavy and only three attacks developed.

Casualties.

10. No. of aircraft missing .....	1 (0.5%)
" damaged (a) flak .....	29
" (b) fighter .....	2
" (c) other causes .....	3
Total damaged .....	34 (16.9%)

The missing aircraft was seen to fall in flames in the target area, but the observations of returning crews did not indicate the cause. No claims were made by controlled fighters, and, in view of the large number of aircraft damaged by flak the latter must be considered the most likely cause of loss. The evidence, however, is not sufficient to form a definite conclusion.

APPENDIX I.

Timing of attack.

Pathfinder Force.

No. of aircraft attacking within planned period (2013-2018 hrs).....	2
" 0-20' late .....	<u>4</u>
	6

Main Force.

No. of aircraft attacking 25-30' early .....	16
" within planned period (2018-2038 hrs.) .....	106
" 0-25' late .....	18
	<u>140</u>

APPENDIX II.

Weight of Bombs carried

- see Table

No. of aircraft carrying flares only.....	6
No. of aircraft carrying H.E. only.....	6
No. of aircraft carrying 4lb. incendiaries only.....	57
No. of aircraft carrying H.E. + 4lb. incendiaries .....	<u>77</u>
	146



DUISBURG.

(a) (b) (c) (d)	No. of aircraft despatched .....	2
	" reporting attack on primary area .....	1
	" " alternative area .....	1
	" aircraft missing .....	0

Experienced.

Target:- No cloud. Thick ground haze. Moon above the horizon and 83% of

Two "Obse" aircraft manned by freshman crews carried out a practice operation at Duisburg. Each carried 3 x 500 lb. M.C. bombs. The following results were obtained:-

Control Stations		Track	Time		Results
Tracking:	Bombing		Detailed:	Attacked.	
Walmer	Tramingham I	178°	1930	1931	Good run made and bombs dropped satisfactorily.
Swingate	Tramingham II	178°	1935	-	Did not bomb; unable to hear signals from tracking station; noise only heard; failure of airborne equipment.

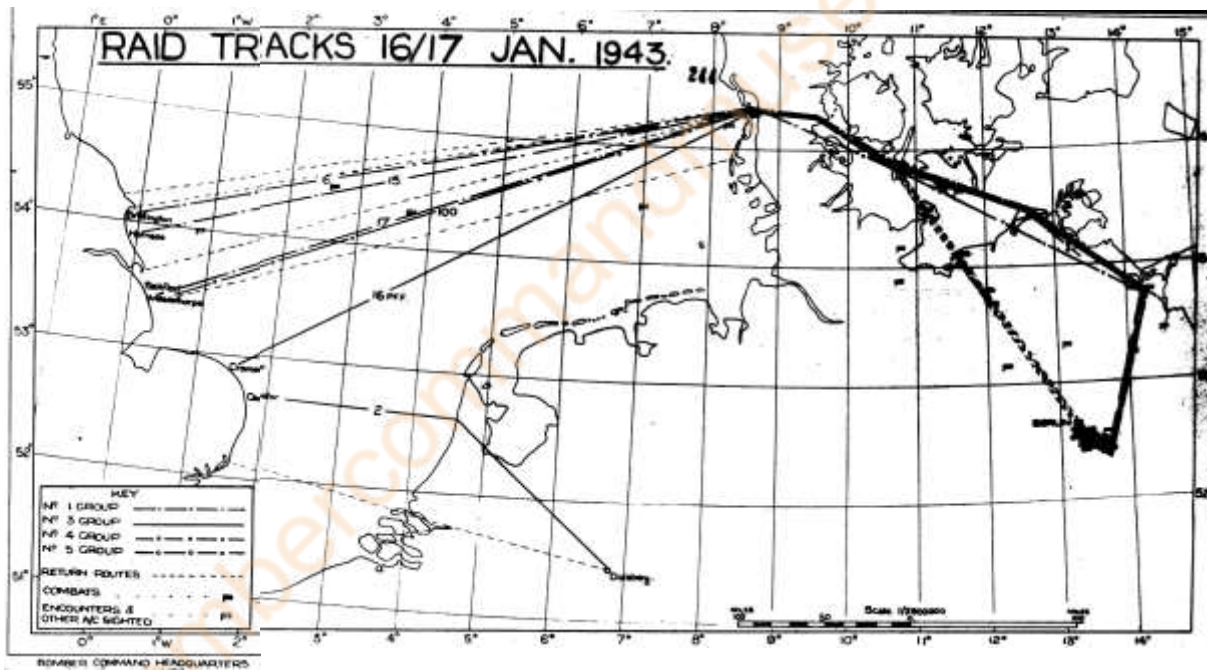
The second sortie attacked Essen visually. No opposition was encountered and aircraft returned safely.

W/PVD.  
26342/1/ORS.  
March, 1943.

MISSION: Duisburg (16/17th January, 1943)

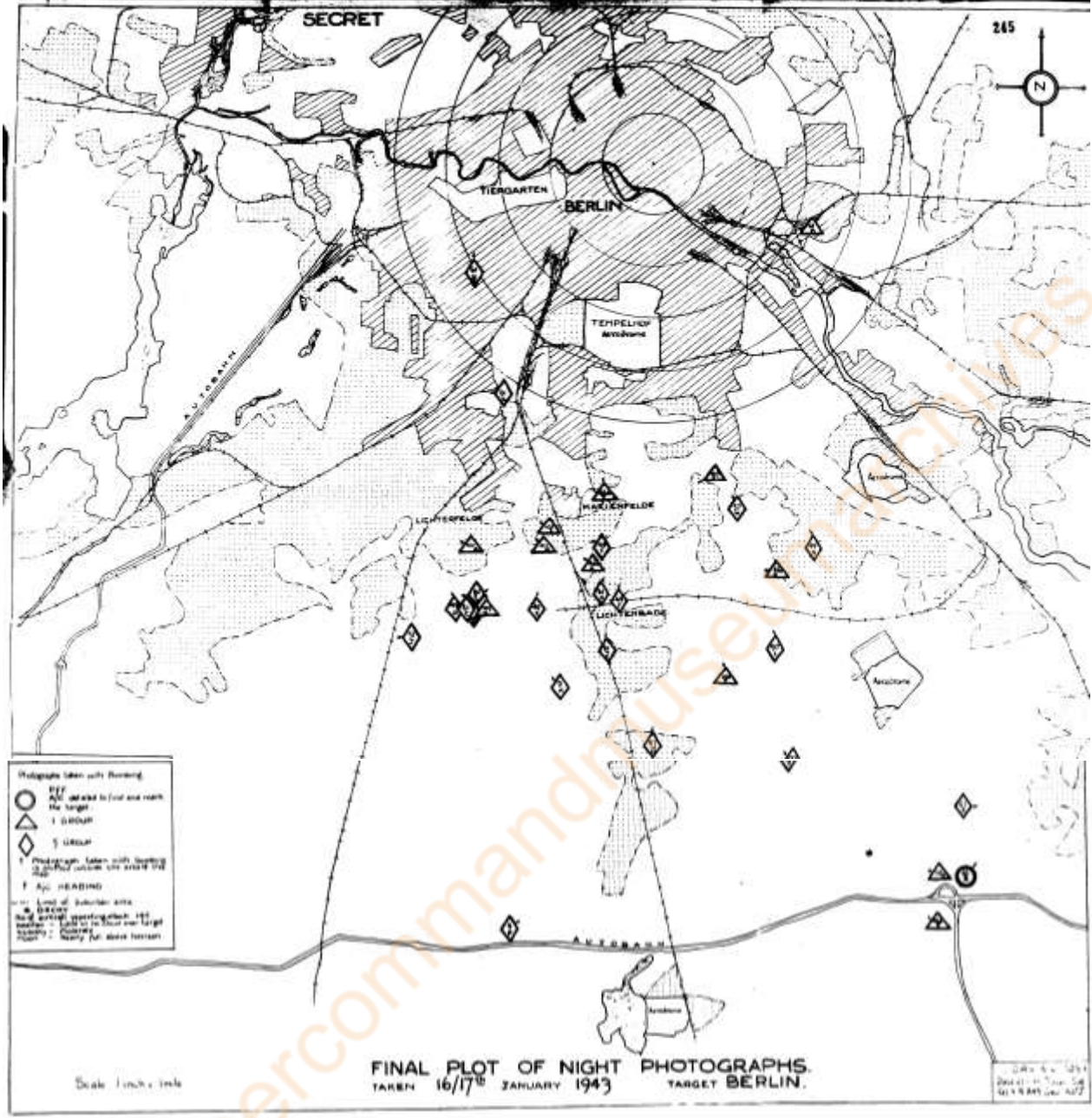
TARGET	Group	Type	Sorties	AC reporting attack on		Abortive sorties		Missing	Damage			Interceptions		Results Bomb Damage H.A. Incend. Tons. Tons.
				Primary area	Alternative area	Over enemy territory	Met over enemy territory		Flak	Fighter	Not R/A.	Attacked	Not attacked	
BERLIN	P.P.F.	Lancaster	9	4	-	5	-	-	2	-	-	-	-	BERLIN 149.8 221.2 DUISBURG 0.7 -  ALTERNATIVE 10.1 11.3  MISSING AIRCRAFT 1.7 1.2
	P.P.F.	Hullfax	5	2	-	3	-	-	-	-	-	-	1	
	1	Lancaster	47	34	2	2	9	-	6	-	-	-	3	
	4	Hullfax	6	4	1	-	1	-	4	-	-	-	2	
	5	Lancaster	151	100	6	4	20	1	3AC +14	1AC +1	1B +1AC +1	3	10	
	P.P.F. (u/t)	Lancaster	3	2	1	-	-	-	-	-	-	-	-	
BERLIN TOTAL			201	146	10	14	30	1	3AC +26	1AC +1	1B +1AC +1	3	16	
DUISBURG	P.P.F.	Mosquito	2	1	1	-	-	-	-	-	-	-	-	
TOTAL			203	147	11	14	30	1	3AC +26	1AC +1	1B +1AC +1	3	16	

\* including one aircraft damaged by both flak and fighter.



SECRET

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- Photographs taken with following
- 1st group
  - △ 2nd group
  - ◇ 3rd group
  - ▽ 4th group
  - 5th group
  - ⊙ 6th group
  - ⊙ 7th group
  - ⊙ 8th group
  - ⊙ 9th group
  - ⊙ 10th group
  - ⊙ 11th group
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Scale 1 inch = 1 mile

FINAL PLOT OF NIGHT PHOTOGRAPHS TAKEN 16/17th JANUARY 1943 TARGET BERLIN.

Small text box in the bottom right corner containing technical details or a reference number.

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 17/18TH JANUARY, 1943.BERLINSUMMARY

1. Berlin was the target, for the second night in succession, for a force of 187 heavy aircraft. The weather forecast had suggested the probability of poor visibility over N. Germany and, while skies were clear over the centre of Berlin, fog and low cloud around made it difficult to identify important landmarks.

120 aircraft (64%) reported having bombed the target area, and the evidence of night photographs suggests that about two-thirds of this number reached the southern suburbs of Berlin, where a somewhat dispersed attack was made.

Damage caused by this raid and that of the proceeding night, was confirmed by day reconnaissance to be in the southern part of the city and its suburbs. Industrial property was mainly involved, the 10 factories which received hits including Daimler-Benz, the Kabelwerke-Oberspree at Schoneweide and the Telefunken works at Lichterfelde. Damage to residential property was relatively slight and confined mainly to suburban districts. Reports from Intelligence sources confirm that considerable destruction and dislocation was caused.

This raid, in contrast to that of the previous night, encountered intense opposition from both flak and fighters, mainly en route, resulting in the loss of 22 aircraft (11.7%). A further 30 aircraft (16.0%) suffered damage, mostly of a minor category and caused by flak.

Meteorological Forecast

2. 0940 hours Midnight position of cold front:- Stornaway to Yarmouth to Limoges .

Home Bases:- A very early take-off should be possible just in advance of the front. Behind the front, conditions should improve for landing later, although fog will form locally.  
 Germany:- Broken medium cloud to 7-8°E: visibility moderate to poor, with fog patches. Further east, small amounts of cloud, but increasing risk of fog: visibility generally poor, both inland and on the Baltic coast.  
 N. Italy:- Increasing cloud: moderate to poor visibility.  
 W. France:- Convection cloud with fair breaks: good visibility.  
 Winds. Channel area: 180°/50-60 m.p.h. Elsewhere less.

1310 hours Home Bases:- There is difficulty in estimating the position of the front at dusk and much more difficulty in forecasting up to 0200 hours, owing to the depression to the S.W. The majority of Operational Groups should be fit for take-off at dusk, although the area affected by the front may be anywhere from 6 Group to the west of 3 Group. The most probable position of rain and low cloud at dusk is through the Midlands and Lincolnshire. For return at 2400-0200 hours, trouble from rain and low cloud is almost certain in some operational areas; some northern Groups will be affected by the present front and some southern Groups by a front now over the Bay of Biscay and Spain, but exactly which areas is uncertain. Apart from the frontal conditions near bases, no bad flying weather is expected, although variable layer cloud will be encountered over the North Sea and Denmark, mainly at medium levels; icing index moderate.

...../Berlin:-

Berlin:- Good chance of clear skies, but poor or very poor visibility.  
 Mean winds:- To 10°E: at 5,000 feet, 205°/40 n.p.h.; at 15,000 feet,  
 225°/40 n.p.h. Beyond 10°E: at 5,000 feet, 225°/40 n.p.h.; at 25,000 feet,  
 260°/35 n.p.h.

1540 hours Home Bases:- Much cloud below 1,000 feet at dusk, with  
 some rain in 4 Group, parts of 1 and 5 Groups and possibly 6 Group; but  
 conditions should be just good enough for a daylight take-off. Good weather  
 in East Anglia. For return, visibility will be very poor in smoky districts  
 1,4,5 and perhaps 6 Groups will probably require diversion; S.E. of a line  
 Birchen Newton to Thornay Island will be available. 91,92 and 93 Groups  
 only have isolated stations with clouds above 1,000 feet.

Berlin:- No change from morning summary. Pampa suggests better visibility  
 than forecast, but Groups are inclined to treat this with reserve.

#### Plan of Attack

3. Zero hour.....2030 hours

#### Period of Attack:-

Pathfinder Force (about 10 a/c).....2028 to 2036 hours.

Main Force.....2030 to 2045 hours.

Route briefed:- All Groups Muno-Haderslev-Humble-Darsser Ort -  
 Neuwarp-Muggelsee-BERLIN-Humble-  
 Haderslev-Muno.

(For routes taken see route map)

The Pathfinder Force was to be divided into "finders" and "markers"  
 target. Both "finders" and "illuminators" were to release single red star  
 flares over Neuwarp (53°42'N. 14°15'E.) to act as a navigational aid for the  
 Main Force, and to drop single green steady flares over the Muggel See  
 (52°26'N. 13°39'E.) to enable an accurate timed run to be made from this point  
 to the start of the run-up to the aiming-point. 3 Lancasters were to act as  
 target "finders" releasing flares (9-second intervals) 2 minutes before zero  
 hour in long sticks from 52°27'N. 13°22'E. to 52°33'N. 13°24'E. dead on the  
 after a timed run from the Muggel See. Target "markers" were to consist of  
 Lancasters plus 1 Halifax at zero hour, 1 Lancaster at zero + 2, 2 Halifaxes  
 at zero + 4 and 1 Lancaster at zero + 6 minutes - a total of 7 aircraft, which  
 were to attack aiming point "B" heading in a northerly direction, starting a  
 run-up from the aerodrome at 52°28½'N. 13°24' E. A stick of flares at 4-second  
 intervals was to be released between this point and the aiming point to assist  
 the following Pathfinders. Red marker bombs were then to be dropped with  
 maximum precision exactly on the aiming-point, when it had been located with  
 complete certainty. These were fused to burst at 3000 feet, cascading to  
 the ground, where they would then burn as points of fire. Pathfinder aircraft  
 were to attack from a minimum height of 20,000 feet.

Aircraft of the Main Force (1,4 and 5 Groups plus 4 P.F.F. Lancasters)  
 were to bomb from a minimum height of 18000 feet, dropping loads of 4 lb.  
 incendiaries (15% explosive) and/or heavy H.E. bombs. (Exact bomb-loads are  
 to be passed verbally). No flares were to be dropped by the Main Force at  
 50 miles of the target. In order to ensure concentration, all flight plans  
 were to be based on a common forecast wind. The aiming point for all aircraft  
 was the junction of the Landsberger Strasse and the Greifswalder Strasse,  
 rather to the E. of the city centre.

#### Sorties

4. (a) No. of aircraft despatched.....187  
 (b) " reporting attack on primary area.....120(66)  
 (c) " " alternative area..... 12(6)  
 (d) " abortive sorties (technical defect.....27).... 33(17)  
 (Weather..... 3)  
 (sickness of crew..... 2)  
 (attacked by fighters..... 1)  
 (e) " aircraft missing..... 22(11)

...../Weather Experienced

Weather Experienced

5. Home Bases:- Widespread fog developed during the night, but East Anglia and southern England remained clear.  
 Route:- A front was encountered off the east coast of England, giving 8-10/10ths low cloud, base 1-2,000 feet, tops 8,000 feet, and 6-10/10ths medium cloud, base varying between 9,000 and 15,000 feet. Moderate ice or rime was experienced by some aircraft in this cloud. These conditions persisted to 6 E., after which medium cloud broke to nil towards the Dutch coast. Over Denmark there was little or no medium cloud, but much cirrus at about 21,000 feet; over the Baltic coastal plain, mainly 10/10ths., base unknown, tops about 5,000 feet, with fog patches beneath. There were local breaks, and the Baltic coast was seen by some crews.  
 Targets:- ~~Clouds~~ Pilots' reports indicate that there was a bank of cloud (6-10/10ths, tops about 5,000 feet) early in the attack, but that this cleared later to well-broken cloud - at times, nil.

Visibility: Moderate. Some haze.  
 Moon: Above the horizon and 90% of full: altitude  $54^{\circ}$ , bearing  $155^{\circ}$  at zero hour.  
 Surface wind: S.Easterly, 10 m.p.h.

Narrative of Attack

6. The route followed was identical with that taken on the previous night, the approach to Berlin from the Baltic coast being made with the moon ahead, slightly to port, over snow-covered ground and frozen lakes. Patches of low cloud or fog, particularly near target landmarks, made visual identification difficult and neither of the last two turning points could be identified. Pinpointing near the target was very difficult in the early part of the attack.

The Pathfinders had no difficulty in locating the target, but the city itself seems to have been free of cloud. Observation was difficult in the circumstances, but most crews reported scattered fires in the area of the primary, which 120 aircraft report having attacked.

12 aircraft attacked alternative targets, viz: Hamburg, Brandenburg, Butsar, Lubeck, Kiel, Wismar, Nibitz, a factory 17 miles S.E. of Berlin, a flank position near Flensburg, and unidentified areas near Eberswalder, Zechlin and north of the Selenter See. One other aircraft attacked a large ship off Denmark.

22 aircraft did not return.

Photographic Evidence7. Night photographs taken with bombing

(a) Plotted by ground detail.....39	Between 3 and 5 miles.....1
(see photographic plot)	Outside 5 miles.....38
(b) Unplotted - that show ground detail:-	
{probably suburbs of Berlin}.....2	
{open country}.....9	
	11

The night photographs show that the attack became scattered. Some three-fifths of the aircraft reporting attack reached the target area, where somewhat dispersed bombing developed over the southern suburbs of Berlin, and scattered incendiary and H.E. incidents were photographed in this area. A few aircraft penetrated closer to the city centre. Approximately one-third of the force failed to reach the target area, and attacked alternative targets.

No decoys were recorded in action, nor do the confusing outlines of the lakes near Berlin seem to have caused the attack to go astray. The diversion seems due to inaccurately placed markers due to poor visibility and the variable conditions of broken cloud which surrounded the target.

...../Half of the

Half of the films showflak, one 7-gun and seven 6-gun salvos being recorded, the remainder being below 5-guns. Relatively few films show searchlights.

#### Day Reconnaissance

8. The P.R.U. cover for this raid includes damage caused on the 16/17th January, when 147 aircraft claimed to have attacked the city. Numerous incidents, mainly due to fire, are seen scattered throughout the S. part of the town and the suburbs, extending as far south as Marionfelde, 8 miles from the town centre. Four fairly large sheds in the Daimler-Benz aero-engine works have been destroyed, and altogether damage has been caused to 10 factories, including the Kabelwerke-Oberspree at Schwonowide and the Telefunken works at Lichterfelde. 13 buildings in two hatted camps near Daimler works have been partly or wholly gutted. Damage to residential property is relatively slight and is confined mainly to suburban districts; 1 very large, 20 medium and about 50 small buildings have been destroyed, approximately another 30 buildings have been partially gutted.

#### Intelligence Reports

9. Reports from Intelligence sources give the following information regarding some of the results of the two raids:-

1. Hits were scored on buildings and railway lines between the Anhalter and Potsdamer Railway Stations and also on lines running into the Potsdamer and Wannsee Station.
2. Heavy damage was caused in the district of Neukölln and in the area between the Mollendorfer Platz and the Kurfürsten Strasse.
3. The Lorenz Radio Factory and Hiedel Chemical Works, both situated near the Tempelhof aerodrome, were damaged considerably, four buildings of the latter being completely burnt out.
4. On the night of the 16/17th, 100 flats were completely destroyed and 2-300 damaged in Wilmersdorf.
5. In addition to admitted damage to the Deutschland Halle (Germany's largest sports hall), blocks of premises in the Zehring Strasse and Mommsen Strasse were destroyed. An incident, caused by a heavy bomb at Hallesches - Tor trapped many persons in shelters. It was 3 days before these shelters were finally opened.
6. Damage was caused to electricity and gasworks in the western part of the city. All the accumulators in the accumulator house of power station had to be replaced.
7. In the Toltow area, factory buildings were damaged, including some belonging to Daimler-Benz.
8. Heavy H.E. and fire incidents occurred in a district just N. of the Tiergarten.
9. The Borsig Rheinmetallwerke in Mariendorf received several hits. A building, over 300 yards x 20 yards was completely burnt out and the administrative buildings were damaged by fire.
10. Damage to domestic property was extensive in several districts, particularly in the south. In many of these, tramway services were out of order for three days, and removal of debris was continuing in February.

It is also stated that repair work was less efficient than on previous occasions and that there was a notable decline in the amount of rescue work. All theatres, cinemas and the Opera were subsequently ordered to open a few hours earlier, the cinemas closing at 10.0 hours.

Navigation Aids

Propagation conditions were very similar to those of the previous night. The average of 116 useful ranges was 303 miles, with a maximum range of 393 miles. Comparatively little interference was reported, the signals fading normally with decrease of signal strength. The interruptions in the service provided by the ground stations were of short duration, except when the B pulse went off the air for 9 minutes, 40 seconds at 0153 hours.

Enemy Defences

Flak and Searchlights:- The attack was probably less concentrated than that of the previous night, which possibly explains the impression gained by some crews of an intensification of the defences. On the other hand, intelligence sources report that in the first attack the A.A. guns were manned chiefly by factory workers and civilian officials, but that a considerable number of flak personnel were moved into Berlin on the following day. Moderate to intense heavy flak, accurately predicted, was encountered over a wide area, particularly to the E. and N.W. of the city, including the vicinity of the factory near HAVEN, but reports of searchlights generally suggest that there was little activity. Considerably greater opposition was encountered en route than on the previous night, most of the trouble arising from aircraft flying over heavily defended areas, such as Kiel, Hamburg, Flensburg, Sylt and Lubeck.

Fighters:-

No. of aircraft reporting attacks.....	10(5.3%)
" other interceptions.....	23(12.3%)
Total reported interceptions	33(17.6%)

Night fighters were operating in considerable strength in clear moonlight above cloud and it is probable that they were considerably aided by lack of concentration, particularly on the homeward routes.

Approximately 46 sorties were flown by controlled fighters, identified areas of operation being Flensburg, Flensburg-Schleswig, Schleswig-Holstein, Denmark, N. and Central Holland, Bremen-Hamburg, N.W. Germany and Amsterdam-Schipol. 7 claims to success were heard by Wireless Intelligence.

The high number of interceptions reported, representing roughly 20% of the sorties which were over enemy territory, reflects the degree of success which fighters achieved. Ten unsuccessful attacks were made, 6 of which took place on the homeward journey, but, it appears possible that almost an equal number were successful.

There were, however, an additional 7 encounters in which bombers opened fire on approaching fighters, and the total of 17 reported combats resulted in the certain destruction of a Ju.88, an Me. 110 and an Me. 109. Several other fighters were thought to have been damaged.

Casualties

No. of aircraft missing.....	22(11.7%)
" damaged..(a) flak.....	24
(b) fighter.....	5
(c) not enemy action.....	1
Total Damaged.....	30(16.0%)

The destruction of 10 of the missing aircraft was observed by returning crews, 9 cases occurring on the homeward journey.

A large number of claims were made by controlled fighters, but independent observations confirm only two cases with certainty, one at Rendsburg and one 30 miles N.W. of Wano. A further loss, probably to a fighter, occurred 30 miles N.W. of Schleswig.

Confirmed losses to flak occurred at Flensburg (2 aircraft), Lubeck, Hamburg and Kiel, and one, possibly to flak, was observed at 55°10'N. 08° 30' E.

...../in the



In the remaining observed case the cause was not known.

Six of the ten bombers seen destroyed were in flames. The cause of the night's losses may be assessed as:-

5 + 1 possible to flak, 2 + 1 possible to night fighters and 13 aircraft to unknown causes. Many of these losses to causes unknown were probably due to fighters.

#### APPENDIX I

##### Timing of Attack

###### Pathfinder Force

No. of aircraft attacking within planned period.....  
" " late (0-20').....

###### Main Force

No. of aircraft attacking early (6-0').....  
" " within planned period.....  
" " 0-15' late.....  
" " 15-30' late.....  
" " more than 30' late.....

#### APPENDIX II

##### Weight of Bombs Dropped

	H.E. Tons	Incidiar
(a) By aircraft reporting attack on primary area	108.0x	17
(b) " " alternative	12.0	2
(c) Carried by missing aircraft	25.0	3
Total	145.0	22

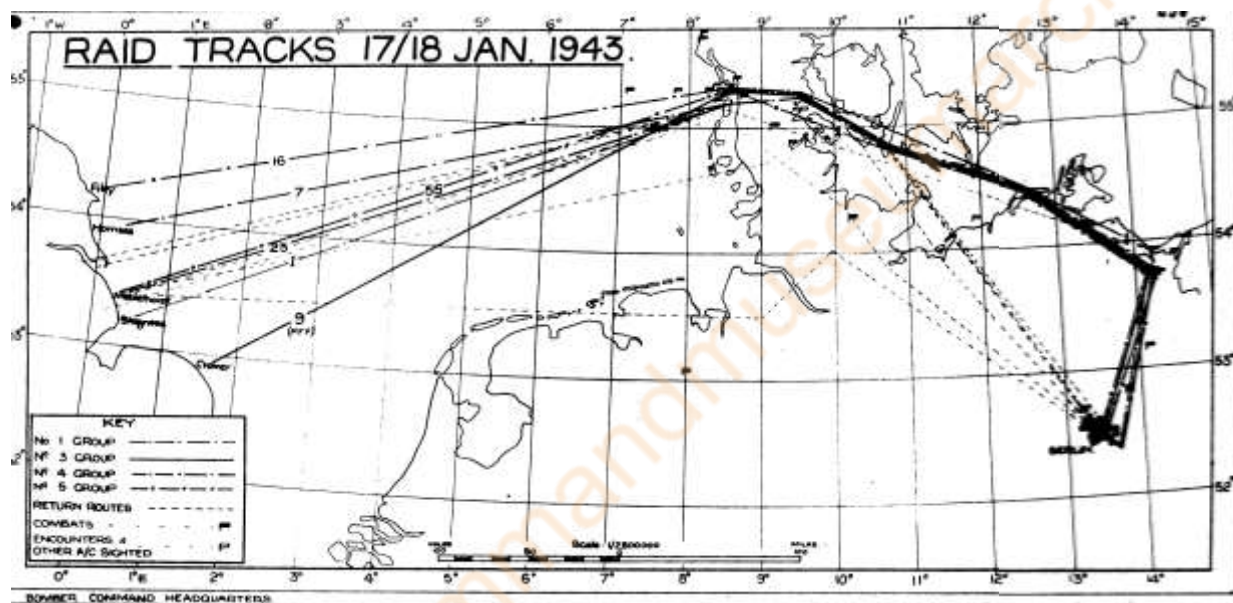
(x Including 5 x 8000 lb. and 51 x 4000 lb.)

No. of aircraft attacking primary carrying:-

flares only.....	4
flares + 250 lb. incendiaries.....	1
H.E. only.....	7
4 lb. incendiaries only.....	57
H.E. + 4 lb. incendiaries.....	51
	<u>120</u>

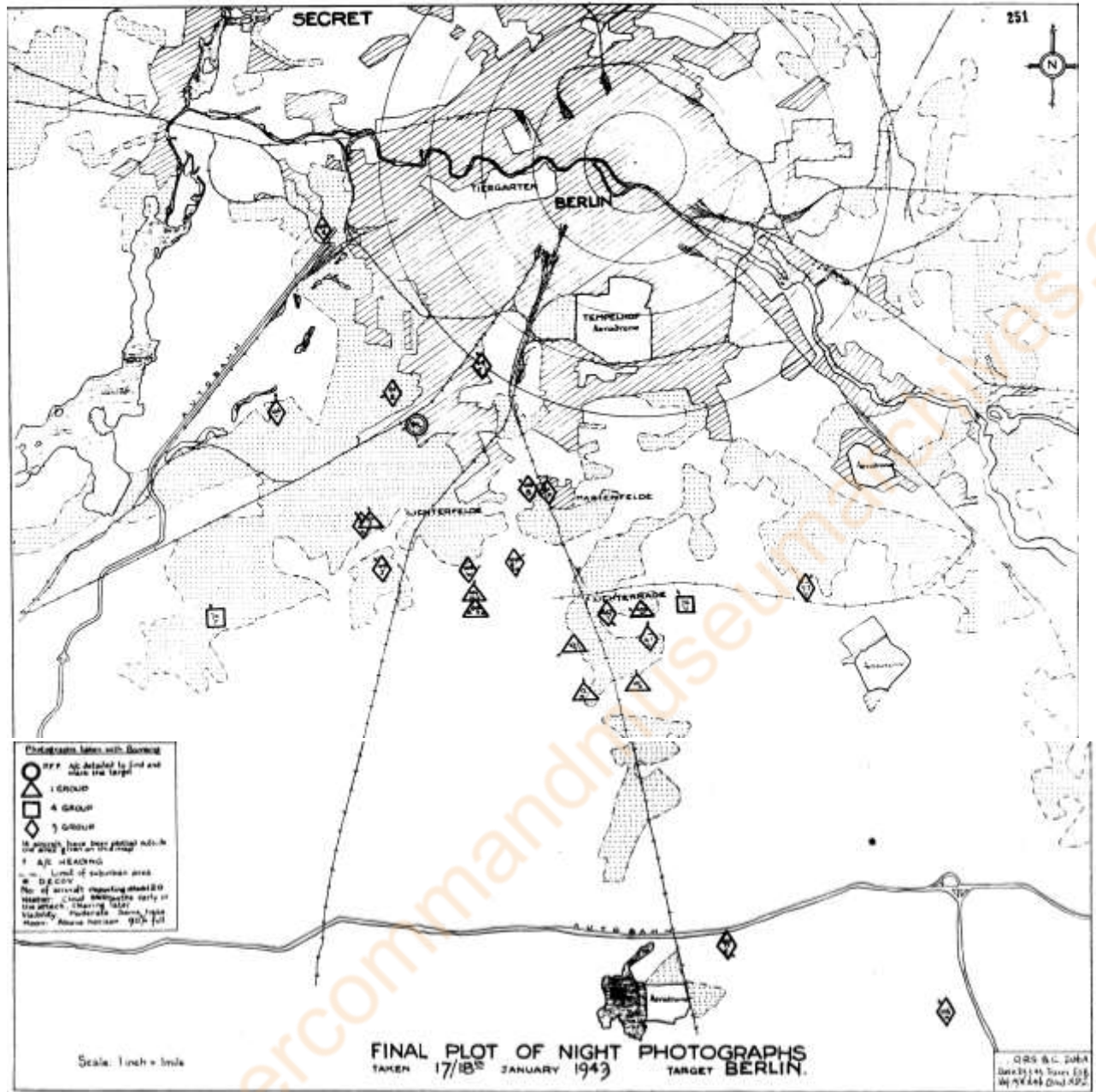
PLM/VF.  
BC/S.26342/2/ORS.  
11th March, 1943.

Group	Type	Sorties	Aircraft reporting attack on		abortive sorties		Missing	Damage			Inter-ceptions	
			primary area	alternative area	over sea, over territ.	not over territ.		Floek	fighter	not E/A	attacked	not attacked
F.F.F.	Lancaster	7	5	-	2	-	-	-	-	-	-	-
F.F.F.	Hullfax	1	-	-	-	-	1	-	-	-	-	-
1	Lancaster	45	31	3	2	3	6	1B+5	1A2	1A2	2	8
4	Hullfax	16	10	3	-	1	2	1A2+4	-	-	-	3
5	Lancaster	115	72	6	8	17	12	2A2+	1A2+	-	8	11
F.F.F. (u/t)	Lancaster	3	2	-	-	-	1	11	3	-	-	1
TOTAL		187	120	12	12	21	22	1B+ 3A2+ 20	2A2+ 3	1A2	10	23



SECRET

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS 18/19TH JANUARY, 1943.

MINELAYING (Frisians)

Summary

29 aircraft of 3 Group (22 Stirlings and 7 Wellington III's) were detailed to lay mines off the Frisians shortly after dusk. In good weather conditions all but two of the Stirlings and all the Wellingtons accomplished their task, laying 90 mines. All aircraft returned safely.

Weather Forecast

Home Bases:- Fog is expected to persist all day in the north, and will intensify during the early part of the night. Visibility will generally be very poor, but there is a possibility of localities in East Anglia holding to about 2200 hours. The south coast, east of Tangmere, may be safe for diversion, but 10/10ths cloud is expected at about 1,500 feet, and there is a risk of low stratus later.

Germany:- Broken medium and well broken low cloud in the west: little or no medium cloud, but patches of fog and strato-cumulus, in central and east Germany. Visibility in the Ruhr will be very bad.

mining areas:- W.France: considerable strato-cumulus, base 1,500 feet, but possibly above, especially in the south. Frisians: such medium cloud, little or no low cloud, poor visibility.

Statistics

(a)	No. of aircraft despatched .....	29
(b)	" " reporting mines laid in primary area.....	27
(c)	" abortive sorties:-	
	(technical defect.....1)	
	(mines hung up over target.....1).....	2
(d)	" aircraft missing.....	0
(e)	" mines laid.....	90

Weather Experienced

Frisians:- Very variable cloud, 1-3/10ths, average 3/10ths, base 1,000 feet. Visibility generally good, but sometimes obscured by haze. A few reports of poor visibility. Moon above horizon and 95% illuminated.

Results

27 of the 29 sorties were successful in generally favourable weather conditions. 90 mines were laid.

Two sorties were abortive on account of technical defects.

Enemy Defences

There was some opposition from light flak positions in the Frisians and also in sails, but no aircraft was hit.

A Stirling, attacked by three night fighters, escaped with only minor damage. This was the only case of night fighter opposition reported by any of the returning aircraft, though a few sorties by controlled night fighters in the area of operation were overheard.

Accidents

All aircraft returned safely.

One Stirling sustained minor damage in an attack by fighters.

VVF.

S. 26342/5/ORS.  
18 March, 1943.

...../Table over.

(18/19th January, 1963.)

Target	Group	Type	Sorties	w/c reporting attack on		Abortive sorties		Missin.	Damage			Interceptions		Lines laid in primary area
				prim. area	alt. area	over on. territ.	not over on. territ.		Flak	fighter	not B/A	attacked	not attacked	
Prison Is.	3	Stirling M11.III	22	20	-	1	1	-	-	1	-	1	-	76
	3		7	7	-	-	-	-	-	-	-	-	-	14
T O T A L			29	27	-	1	1	-	-	1	-	1	-	90

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS 20/21st JANUARY, 1943.

Mine-laying (Frisians)

Eight Wellington III's of 3 Group laid 15 mines off the Frisians. No reports were reported and all our aircraft returned safely.

Metereological Forecast

Midnight Fronts:- (1) warm front 57° N. 5° to Holland, then S.W.wards included from Wick to Yorkshire to Nantes and S.W.wards (3) cold front near Iceland to Islay to Wigton to Scotland to Plymouth to Brest and S.W.wards.

Home Bases:- 1, 2 and 5 Groups, occasional rain with cloud base 2,000 feet, falling to 600 feet or less in rain, and staying there after midnight. 4 and 6 Groups, occasional rain with 10/10ths at 600 feet or less, visibility 2,000 yards. 3 Group, slight showers with cloud base at 2,000 feet, probably falling at times to 600 feet or lower.

Germany:- Broken layers of cloud, poor visibility everywhere and fog in many places, especially along the N. Coast and in N.W. Broken medium cloud 12-15,000 feet in the Ruhr, a little strato-cumulus above 2,000 feet, poor visibility.

N. Italy:- Broken cloud with fog.

Mining areas:- Frisians: fog patches, poor visibility. W. France: general conditions with solid cloud to 15,000 feet as far south as La Pallice, but medium cloud only, with good visibility to 2100 hours. S.W. Norway: heavy, moderate visibility.

Statistics

(a)	No. of aircraft despatched.....	8
(b)	" reporting mines laid in primary area.....	8
(c)	" missing.....	0
(d)	" mines laid.....	15

Weather Experienced

Home Bases:- A very extensive area of rain developed over all operational bases early in the evening, associated with low cloud and poor visibility. By midnight this had moved away to the N.E., but much low cloud remained. Some stations in 2 and 3 Groups, however, and on the S. coast were affected by this. A further clearance, accompanied by a narrow rain belt, came from the west later in the night.

Frisians:- 4-6/10ths strato-cumulus above 1,000 feet. Full moon, but visibility moderate. Some rain was experienced en route to about 5 E. Wind at 10,000 feet: 190°/25 m.p.h.

Remarks

All aircraft reached the Frisians area, where 15 mines were laid. 1 mine was brought back.

Defences

No opposition from either flak or fighter was encountered.

Casualties

No casualties or damage were sustained.

W.F.

U. 26342/5/ORS.

21 March, 1943.

COMBINED COMMAND REPORT ON NIGHT OPERATIONS 21/22nd JANUARY, 1943.

ESSEN: Minelaying(Frisians).SUMMARY

Essex 3 P.F.F. Mosquitoes and 79 Lancasters of 1 and 5 Groups bombed Esen by the sky-marking technique. Unexpected weather conditions were met over the target, with high cloud and little wind. The sky-marking was, therefore, ineffective and only 13 aircraft attacked according to plan, although 51 aircraft all (62.2%) reported bombing the primary. Scattered fires were observed through the cloud. A photographic reconnaissance failed to cover the greater part of the target area, and the extent of the damage caused is therefore not known.

6 aircraft (7.3%) attacked alternative targets in enemy territory.  
4 aircraft (4.9%) did not return.

Minelaying

70 out of 85 aircraft from 3,4,5 and 6 Groups laid 184 mines off the Frisians. 6 aircraft did not return.

Metereological Forecast

Midnight Fronts:- (1) occluded from 62°N. 01°E. to S.W. Norway to Hamburg to Frankfurt, becoming warmer to West to a centre of low pressure off W. England (2) cold from this centre to Central Spain (3) cold from 59°N. 01°E. Zuyder Zee to 50 N. 05°E.

Home Bases:- Medium cloud spreading over S.England from the Channel. Little cloud in N., where fog will develop. All Operational Groups fit for early take-off and return up to 2130 hours, localities in 4 and 6 Groups available till much later. Rain is expected to affect S.England, 91 and 92 Groups by 2000-2100 hours, preceded in the south by low stratus (below 1,000 feet), and spreading into the Midlands later.

Germany:- Belt of rain and low cloud (tops probably not above 15,000 feet) along front 1. Variable medium and low cloud, with some good breaks, between fronts 1 and 3. Broken layer cloud E. of front 1, with poor visibility and fog patches. Munich-Nurnberg area: very good breaks, probably clear in places, moderate visibility. Ruhr: reasonable amounts of low cloud, much medium about 16,000 feet, moderate visibility.

N. Italy:- Cloudy conditions, but some breaks.

Frisians:- Well broken low cloud, much high cloud.

Heligoland Bight:- Well broken low cloud, chance of low stratus, much medium cloud, moderate to good visibility.

Kattegat:- Much cloud below 1,000 feet, fog patches, low freezing level, poor visibility.

ESSENPlan of attack

Zero hour.....1945 hours.

Routes briefed:- P.F.F. IJmuiden - ESSEN - Overflakkee.

1 & 5 Groups Enkhuisen - Stadtlohn - ESSEN - Enkhuisen

(For routes taken see route map).

...../Two Mosquitoes

Two Mosquitoes of the P.F.F., with one in reserve, were detailed to attack the target with skymarker flares for an attack by approximately 30 Lancasters of 1 Group and 50 Lancasters of 5 Group.

The first Mosquito was to release its red warning flares at zero-5 minutes, its green warning flares at zero-2½ minutes and its aiming point a cluster of three red and three white - at zero hour. The second Mosquito was to repeat the procedure three minutes later. All flares were to ignite at 18,000 feet and would burn for 2½ minutes.

All bombing aircraft were ordered to approach the target on a heading of 197° magnetic, so that the warning flares would ignite on their track, and to bomb the marker flares on exactly this heading, one minute after they had ignited.

All Lancasters were to carry 1 x 4,000 lb. H.C. plus 4 lb. incendiaries; the incendiaries to be released 10 secs. after the H.C. bomb, while continuing on the same heading of 197°M.

#### Sorties

4.	(a)	No. of aircraft despatched.....	82
	(b)	" reporting attack on primary area.....	51(62.2%)
	(c)	" " alternative area.....	6(7.3%)
	(d)	" abortive sorties (technical defect.....20) (attacked by E/A..... 1)	21(25.5%)
	(e)	" aircraft missing.....	4(4.9%)

#### Weather Experienced

5. Home Bases: Rain and low cloud, with poor visibility, spread north from the S.coast during the night, affecting the whole country by dawn. Meanwhile, the southern areas slowly cleared.

Route and Target:- Clouds: variable amounts of cloud at different levels: 6-10/10ths high cloud, 5-10/10ths medium cloud, base 15,000 feet, to 20,000 feet. Well broken low cloud, tops 3,000 feet. Some aircraft found cloud over the target.

Visibility: Poor, owing to thick ground haze.

Moon: Full and above the horizon.

Wind: 19-22,000 feet, 230°/130 m.p.h. en route, dropping to 260°/40 m.p.h. over target.

#### Narrative of Attack

6. Cloud conditions in the target area were not as forecast; instead of cloud to 16,000 feet and nothing above, there was much layer cloud from 15,000 feet and little below. Winds en route were much higher, and at the target much lower than anticipated. This, together with the failure of the first Mosquito, upset the timing of the skymarkers, and it was only by chance that the flares appeared approximately on time. The placing of the skymarkers was also upset by the mistaken forecast of the wind speed. Only 13 Lancasters attacked by the prescribed method, most aircraft bombing on E.T.A. Altogether 51 aircraft (62.2%) reported attack, in the face of heavy and accurate ground defences. Scattered fires were observed through the cloud.

6 aircraft (7.3%) attacked alternative targets, viz: Davenport, Gladbach, Duisburg, a flare-path at 52°17' N. 06°22' E., a flak concentration at 51°07'00' E. and an unknown target in the Ruhr.

4 Lancasters (4.9%) did not return.

...../Photographic Evidence



Photographic Evidence7. (a) Night photographs taken with bombing

Only three of the photographs obtained show any ground detail; they are of open country and remain unplotted. The appearance of the searchlight beams, many of which were photographed, indicates that there was a layer of fairly dense haze at ground level.

The photographs show that intense heavy flak was encountered and one aircraft recorded an 11-gun salvo and three 10-gun salvos.

(b) Day Reconnaissance

A P.R.U. cover obtained on 25/1/43 includes only a small strip to the east of the town, where no fresh damage is visible.

Navigational Aids (Gee)

8. 52 of the 79 Gee sorties supplied useful data. The average range obtained was 252 miles, and the maximum 304. 3 Mosquitoes, flying between 25,000 and 28,500 feet, recorded ranges of 282, 286 and 295 miles. Interference was reported as "heavy grass" and "heavy railings".

Blind Bombing Aids (Oboc)

9.

<u>Sortie NO.</u>	<u>Target Attacked</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time Detailed</u>	<u>Time Attacked</u>	<u>Results</u>
		<u>Tracking</u>	<u>Bombing</u>				
(i)	Abortive	Swingate	Triningham I	178°	1945	-	Navigation poor: hit beam in wrong position, and cancelled by ground station. Morse from ground very poor and confusing.
(ii)	Primary	Walner	Triningham I	178°	1948	1943½	Fair run. Met. wind 230/70 Wind en route 230/130 Wind on run up 260/40. This upset the timing.
(iii)	Primary	Swingate	Triningham II	178°	1945	1950	Excellent run.

Defences10. (a) Flak and Searchlights

Intense and accurate heavy flak was encountered, partly predictor control "unseen" and partly barrage. During periods of improved visibility, intense barrage was reported near the line of bomb release, at varying heights between 17,000 and 22,000 feet.

Searchlights were active but, owing to the weather conditions, their co-operation was poor and cones were seldom formed. One reliable observer was of the opinion that the beams were stationary, at an elevation of 60°, in order to produce glare.

(b) Fighters

No. of reported attacks.....	4(4.9%)
" other interceptions.....	12
<b>Total Interceptions</b>	<b>16(19.5%)</b>
	..../In spite

In spite of full moon, weather conditions were not generally favourable for night fighters. Only 10 sorties by controlled fighters were made, most of these being near the minelaying areas. Nevertheless, the Lancasters detailed to Essen reported a high percentage of interceptions. These included four attacks, three of which resulted in substantial damage to the bombers. Me. 110 was claimed as probably destroyed, as it was seen to dive steeply with its port engine on fire.

Casualties

11.	No. of aircraft missing.....	4(4.9%)
	" damaged (a) flak.....	14
	(b) fighter.....	3
	<b>Total Damaged</b>	<b>17(20.7%)</b>

No definite cause can be assigned to the loss of any of the four missing aircraft. One was seen burning on the ground N.W. of Wesel at 1955 hours, claim was overheard at 2038 hours from the Eindhoven-Venlo area, but no other information is available. The large number of aircraft hit by flak in the target area makes this appear a likely cause of some losses.

MINELAYING

Sorties

12.	(a) No. of aircraft despatched.....	85
	(b) " reporting mines laid in primary area....	70
	(c) " abortive sorties (weather.....5).....	9
	(c) " (technical defect.....3)	
	(c) " (attacked by flakship....1)	
	(d) " aircraft missing.....	6(7.0%)
	(e) " mines laid.....	184

Weather Experienced

13. Route:- 10/10ths high cloud to 22,000 feet. 10/10ths medium cloud base 7,000 feet., tops 16-19,000 feet. 7-10/10ths low cloud. Light static. Wind at 20-23,000 feet: 250°/50-75 m.p.h.

Cloud: variable amounts, nil to 7/10ths. Haze and fog patches.

Visibility:- moderate to good.

Moon:- full, rising during the operation.

Winds: 2,000 feet, 250°/25 m.p.h.  
8,000 feet, 230°/15 m.p.h.

Results

14. 70 out of 85 aircraft from 3,4,5 and 6 Groups laid 184 mines off the Frisians.

Enemy Defences

15. Considerable light flak was encountered from the Frisian Islands and from ships.

Eight of the minelayers were intercepted. Three of them opened fire on approaching enemy aircraft, but no attacks developed.

Casualties

16.	No. of aircraft missing.....	6(7.0%)
	" damaged (a) flak.....	6
	(b) fighters.....	0
	(c) other causes.....	3
	<b>Total Damaged</b>	<b>9(10.6%)</b>

The observations of returning crews indicate that an aircraft was seen burning on the ground near Anjuin, and that two others fell in flames, W. of Texel and at Juist. Flak was possibly the cause of the first, and fighter of the second, but no confirmation is available in either case.

### APPENDIX

#### Timing of Attack

##### I. Pathfinder Force

( See paragraph 9 )

##### Main Force

No. of aircraft attacking 8-0' before zero hour.....	3
" 0-15' after zero hour.....	45
" 15-20' after zero hour.....	1
	49

#### Bomb Loads

( of aircraft reporting attack on primary )

II. No. of aircraft carrying flares only.....	2
" H.E. + 4 lb. incendiaries.....	49
	51

MLM/VF.  
BC/S. 26342/1/ORS.  
17th March, 1943.

Target	Group	Type	Sorties	A/C reporting attack on		Alternative sorties		Missing	Damage			Interceptions		Results
				prim. area	alt. area	over en. territ.	not over en. territ.		Fink	Fighter	not en. action	attacked	not attacked	
ESSEX	8	Mosquito	3	2	-	1	-	-	-	-	-	-	-	(P) (A) (M) Tonnage M TDC 87.5- 33.2 7.2 7.6 7.1 7.7 (+ including 1200,000 lb)
	1	Lancaster	29	18	2	-	6	3	2	1AC+1	-	2	8	
	5	Lancaster	50	31	4	5	9	1	1AC+1	1AC	-	2	4	
<b>BOMBING TOTAL</b>			82	51	6	6	15	4	1AC+13	2 AC #1	-	4	12	
WELAYDE HISLOR IS.	3	Stirling	10	10	-	-	-	-	-	-	-	-	1	60 mines
	4	Halifax	25	19	-	2	2	2	1AC	-	1B+	-	3	38 mines
	4	Well.III	3	1	-	-	1	1	-	-	1AC	-	-	2 mines
	4	Well.I	6	3	-	1	1	1	-	-	-	-	-	6 mines
	5	Lancaster	2	2	-	-	-	-	-	-	-	-	-	10 mines
	6	Halifax	15	14	-	1	-	-	1	-	-	-	-	28 mines
6	Well.III	24	21	-	1	-	2	1AC	-	1AC	-	3	40 mines	
<b>MINELAYING TOTAL</b>			85	70	-	5	4	6	2AC +4	-	1B +2AC	-	8	184 mines
<b>T O T A L</b>			167	121	6	11	19	10	3AC 17	2AC +1	1B +2AC	4	20	

(P) = on Primary (A) = on alternative (M) = carried by Missing Aircraft.

BOMBER COMPLAINT REPORT ON NIGHT OPERATIONS 22/23rd JANUARY, 1943.

COLOGNE

SUMMARY

1. 2 P.F.F. Mosquitoes carried out an 'Oboe' range test against Cologne. Each dropped 3 x 500 lb. M.C. bombs on the target, from 28,600 and 30,000 feet respectively. Bursts were seen in built-up areas. No incidents were reported and both returned safely.

The test showed that Cologne was within 'Oboe' range of Trimmingham I, but not within reliable range of Trimmingham II.

Metereological Forecast

2. Midnight fronts:- (1) cold from 55°N. 22°E. to N. of Berlin, becoming warm to Bremen to Edinburgh to 57°N. 06°W., then occluded to Tiroc (2) cold from 57°N. 06°W. to central England, becoming warm to a centre of low pressure off N.W. France (3) cold from this centre to Lyons and Alps.

Home Bases:- Poor visibility in N., with fog in many places; further S., variable amounts of cloud, local fog. 1,2,4,5 and 6 Groups will be difficult or impossible for take-off at dusk, owing to low cloud, rain or drizzle and fog. 1 and 5 Groups will have thick medium cloud. 3 Group: visibility 1,500 - 3,000 yards at dusk, with thin cloud, 1,000 yards or less by 2100 hours. Diversions possible but uncertain in early half of night to Marston-Thorney Island and E.Scotland.

Germany:- S. of front 1, layers of cloud at various levels with good breaks. N of the warm front, a belt of very low cloud and rain. Ruhr: 8-10/10ths cloud at 12,000 feet, patches at 1,500 feet, little between 18,000 and 25,000 feet. Visibility moderate to poor. Winds: 15,000' feet, 220°/45 n.p.h. 20,000 feet, 225°/55 n.p.h. 28,000 feet. 235°/70 n.p.h.

N.Italy:- Broken cloud, fog patches.

N.W. France:- Much low cloud with rain.

Sirties

- 3. (a) No. of aircraft despatched.....2
- (b) " reporting attack on primary area.....2
- (c) " missing.....0

Weather Experienced

4. Home Bases:- Much rain and low cloud in all Operational Groups, except the extreme N., where there were visibility troubles. An improvement spread slowly south later in the night.

Target:- 2/10ths thin cloud. Moon above the horizon and 98% of full.

Results

5.

<u>Sirtie No.</u>	<u>Target attacked</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time Detailed</u>	<u>Time attacked</u>	<u>Results</u>
		<u>Tracking</u>	<u>Bombing</u>				
(i)	Cologne	Trimingham I	Walmer	S. to N.	2000	1959	Fair run: accurate release
(ii)	S. outskirts of Cologne	Trimingham II	Swingate	S. to N.	2002	2016	Signals weak and intermittent.

Enemy Defences

6. Some scattered heavy flak, with approximately 60 searchlights, was reported over the target after bombing.

A few night fighters were operating but neither of the Mosquitoes was intercepted.

Casualties

7. No damage or casualties were sustained.

MLM/VF.  
BC/S. 26342/1/ORS.  
15th March, 1943.

Target	Gp.	Type	Sorties	A/C reporting attack on primary area	Abort. Sorties	Miss-ing	Dam-age	Inter-ceptions	Wt. of bombs dropped primary area
COLOGNE	8	Mosquito	2	2	-	-	-	-	1.5 tons

BOMBER COMMAND REPORT ON NIGHT OPERATIONS: 23/24th JANUARY 1943.

LORIENT: DUSSELDORF: Leaflets.SUMMARY.

Lorient. 116 aircraft, including 111 heavies, set out to raid the port base and town of Lorient, which had been bombed in daylight a few hours earlier by the U.S.A.A.P. In bright moonlight, 111 aircraft (95.7%) delivered an attack of extraordinary concentration; the photographic evidence suggests that approximately 90 bombed within 3 miles of the aiming point. Reconnaissance after a series of four raids on this target revealed tremendous damage throughout the town and docks area. Very slight opposition was met, and only 1 aircraft (0.9%) did not return.

Dusseldorf. 80 heavies left towards dusk to attack Dusseldorf, with 3 aircraft to act as sky-markers. 10/10ths cloud prevailed en route and over target, which 57 aircraft (68.7%) reported attacking. Results were observed. Crews saw a fair concentration of fires in the believed vicinity of the primary, but reconnaissance revealed few fresh items of damage. 3 aircraft attacked alternative targets and 2 aircraft (2.5%) did not return.

Leaflets. 4 aircraft dropped leaflets in the area of Rouen. All returned safely.

Metereological Forecast.

A centre of low pressure now over the S. North Sea is expected to be centred over the W. Baltic by midnight, with fronts radiating outwards: (1) occluded from the N. to Mannheim (2) cold from centre to Prague and Alps (3) warm eastwards. An occluded front is approaching Ireland from the Atlantic, and another occlusion is running approximately E. to W., from 57 N. 20 E. to Aberdeen.

Home Bases:- Most areas should be fit at dusk, with little cloud. Local weather troubles should not prevent take-off. Thereafter, visibility will deteriorate; by 2100-2200 hours 50% of operational stations will be in fog, and 25% are likely to be fit by midnight. 3 Group will have best conditions, 1 Group worst. Diversions to S.W., S. coast and W. coast.

Germany:- Widespread fog E. of 15°E; elsewhere, much cloud with few breaks, but in W., where cloud will lift and break in the second half of the night. Route to target: narrow front with convection cloud to 15-20,000 feet soon after take-off. A little cloud to target area where 10/10ths low cloud is likely. Winds on route, probably 290°/50 m.p.h. W. of 5°E., 250°/45 m.p.h. E. of 5°E.

N. Italy:- Variable amounts of cloud.

W. France:- Little cloud, fog developing. Lorient: about half-visibility with cumulus, tops 3,000 feet, some cirrus above but probably little medium cloud. Fair weather en route: wind at 15,000 feet, 290°/30 m.p.h.

LORIENT.Attack.

Zero Hour ..... 2000 hours.  
Period of Attack ..... 2000-2020 hours.  
Route: For routes as briefed and followed, see route map.

4 aircraft of the Pathfinder Force were to act as finders, releasing flares at 2 minute intervals in long sticks running from north to south on the western edge of town. 9 Pathfinder aircraft acting as illuminators were then to drop their flares to the S.W. of the town, after definitely identifying the aiming point. 3 other aircraft were then to drop 3 silver and 3 red T.I. marker bombs on the aiming point in the town. 3 of the illuminator aircraft were to drop their flares 1 hour, the remainder following suit at 2 minute intervals. One third of the force were to carry H.E., the remainder 4lb. incendiary bombs. Incendiaries were to be aimed at an aiming point in the town and H.E. bombs at the shipyards; but incendiaries were to be dropped before zero + 5 minutes.

Sorties.

4.	(a)	No. of aircraft despatched .....	116	
	(b)	" " " reporting attack on primary area .....	110	(94.6%)
	(c)	" " abortive sorties (technical defect .....	5	(4.5%)
	(d)	" " aircraft missing .....	1	(0.9%)

Weather Experienced.

5. Home Bases:- Much fog developed early in the night, and only 91 Group remained clear.

Route:- Little cloud over England, but 6-8/10ths over rest of route, base 2,000 feet, tops to 7,000 feet. Visibility moderate to good.

Target:- Cloud: 0-4/10ths, base 2,000 feet, tops 5,000 feet.

Visibility: Good.

Moon: 94% of full, rising shortly before zero hour.

Surface Winds: Light, variable.

Narrative of Attack.

6. 116 aircraft of 3,4,6 and 8 Groups, including 111 heavies, left at dusk to attack Lorient. Visibility was good, with clear weather over the target, except for some thin cloud towards the close of the attack. All the 13 Pathfinders despatched identified the target visually, and the Main Force found the town brilliantly illuminated in the moonlight by the cascade marker flares. Until obscured by smoke from fires, the docks could be clearly seen. A concentrated attack was delivered against the aiming point between 2000 and 2025 hours. Many large fires were observed in the north and south of the town and on both sides of the Port Militaire, while a huge explosion at 2025 hours increased the burning areas in its vicinity. All crews were agreed as to the success of the operation. One Stirling of 3 Group did not return.

Photographic Evidence.

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

With ground detail, plotted .....	45
" " " unplotted (these photographs are of poor quality and some may be within 5 mls. of A.P.) .....	6
With fire tracks only, unplotted .....	26
Photographs plotted within 3 miles .....	42
" " " between 3 and 5 miles .....	3
No. of aircraft reporting attack .....	111
" estimated to have bombed within 3 miles of the A.P. on photographic evidence .....	90

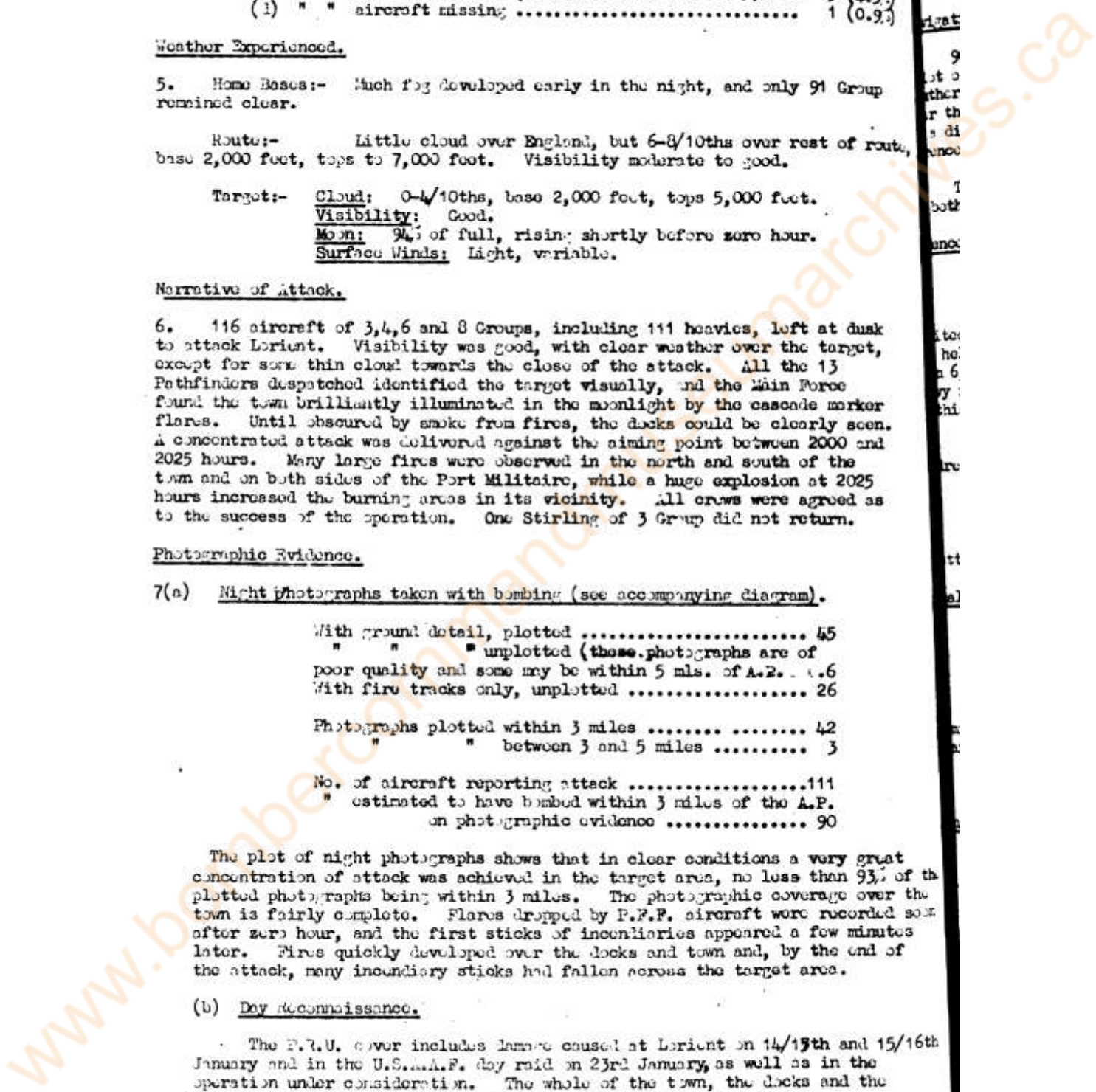
The plot of night photographs shows that in clear conditions a very great concentration of attack was achieved in the target area, no less than 93% of the plotted photographs being within 3 miles. The photographic coverage over the town is fairly complete. Flares dropped by P.P.P. aircraft were recorded some after zero hour, and the first sticks of incendiaries appeared a few minutes later. Fires quickly developed over the docks and town and, by the end of the attack, many incendiary sticks had fallen across the target area.

(b) Day reconnaissance.

The P.R.U. cover includes damage caused at Lorient on 14/15th and 15/16th January and in the U.S.A.A.F. day raid on 23rd January, as well as in the operation under consideration. The whole of the town, the docks and the Keroman Peninsula is covered on prints of good scale and quality.

Extensive damage, mostly caused by fire, is apparent throughout the town, especially in industrial works. The largest areas of devastation are in the old town and on both sides of the Bassin A Flot and the Port de Commerce. These total 58 acres. 10 acres of the Arsenal have been gutted and many incidents are noticeable in the naval workshops, offices and barracks. The

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Abbeville and Bisson Barracks have been partially demolished. The Power Station and Gas Works have suffered damage, together with the Labour Exchange, the Tax Office, the Public Works Department, the Forests and Rivers Department, and the Town Hall. About 250 houses and small buildings have been partly or wholly destroyed.

Operational Aids (Goc).

90 sorties were made, 54 of which recorded fixes to the target. Quite a lot of confusion was caused by the change-over from the Eastern to the Southern chain and back, and there were many reports of additional pulses in the Channel area, which are attributable to the Southern Chain working on a different frequency. There were practically no reports of enemy interference. Possibly they also were confused. J beams were functioning.

The monitor stations reported the ground station service as satisfactory both the Eastern and Southern chains.

Defences.

(a) Ground Defences.

12-20 heavy guns engaged spasmodically. Searchlight activity was very limited: about 8 were in action, but only one aircraft was illuminated. This was held by 3-4 beams for one minute. Many crews reported balloons at heights from 6,000 to 10,000 feet. 53% of the aircraft plotted within 5 miles recorded by flak, suggesting that the intensity was rather less than on the last attack on this target. No light flak was recorded.

Heavy flak was also encountered from l'Ile de Betz, Ploubian, Plestin, and the north end of Belle Ile.

(b) Fighters.

A number of enemy aircraft were seen in the target area, but none attempted an attack.

Casualties.

No. of aircraft missing .....	1 (0.9%)
" " " damaged (a) flak .....	2
" " " " (b) not enemy action .....	1
Total Damaged .....	3 (2.7%)

One missing Stirling was seen to fall in flames when hit by heavy flak E.N.E. of the target on the outward journey. Searchlights were co-operating at the time.

APPENDIX

Order of Attack.

Pathfinder Force.

One aircraft attacked at zero - 7 minutes .....

No. of aircraft attacking 2-0' before zero hour .....	3
" " " " 0-15' after zero hour .....	9

Main Force.

No. of aircraft attacking within planned period (2000-2020 hrs) .....	87
" " " " 0-30' late .....	10
	<u>110</u>

Loads.

No. of aircraft carrying flares + T.I. markers .....	4
" " " " flares + T.I. + H.E. ....	9
" " " " H.E. only .....	35
" " " " 4 lb. incendiaries only .....	<u>63</u>



008

DUSSELDORF.

Plan of Attack.

11. Zero Hour ..... 1950 hours.

Route:- for routes as briefed and followed, see route map.

A sky-marker attack was planned to be undertaken by approximately 30 Lancasters of 1 Group and 50 Lancasters of 5 Group, led by 2 Mosquitoes (+ 1 reserve) of the Pathfinder Force. The latter were to mark the target in accordance with the usual technique. Preliminary warning flares (red steady) were to be dropped at zero minutes on track, and secondary warning flares (green steady) at zero - 2½ minutes also on track. Release point flares (3 red and 3 white) were to be dropped at zero hour. All flares were to ignite at 10,000', burning for 2½ minutes. The entire procedure was to be repeated 3 minutes later. Aircraft of the Main Force were to approach the release-point flares and bomb on a heading of 32° mag., each carrying 1 x 4000 lb. H.C. bomb plus 1,000 4-lb. incendiary bombs. The H.C. bomb was to be aimed with maximum precision at the release point flare: aircraft were to drop the incendiaries after continuing on the correct heading for 10 seconds.

Sorties.

12.	(a)	No. of aircraft despatched .....	83
	(b)	" " " reporting attack on primary area .....	57 (6)
	(c)	" " " " " alternative area .....	3 (3)
	(d)	" " abortive sorties (technical defect .....	16
		{ late .....	3
		{ shadowed by E/A .....	1
		{ reserve marker - not required .....	1
	(e)	" " aircraft missing .....	2 (2.5)

Weather Experienced.

13. Home Bases:- See paragraph 5.

Route:- Mainly 10/10ths. medium cloud, tops 18,000-20,000 feet, with 7-10/10ths low cloud, tops 5,000 feet over North Sea.

Target:- Cloud: 10/10ths medium, base 12,000-14,000 feet, tops 14,000 feet.

Visibility: moderate.

Moon: 94% of full, rising shortly before zero hour.

Surface Wind N.W. 'ly, 10 m.p.h.

Narrative of Attack.

14. 28 Lancasters of 1 Group and 52 Lancasters of 5 Group set out towards dusk to attack Dusseldorf, with 3 P.P.F. Mosquitoes (including 1 reserve) to act as sky-markers. Both marker aircraft arrived almost exactly on time, but both received very poor signals. The first aircraft released no warning flares for this reason and, although both dropped release-point flares, these appear to have been obscured by cloud before burning out. Nevertheless, 55 Lancasters reported attack. Results were unobserved, but spoke of a good concentration of fires beneath the cloud.

3 Lancasters attacked alternative targets, viz. Krefeld, a flak concentration 8 miles N.W. of Roermond and a position S.S.W. of Munchen-Gladbach.

2 Lancasters of 1 Group (2.5/3) did not return.

Photographic Evidence.

15. (a) Night photographs taken with bombing.

Most of the photographs returned show 10/10ths cloud, and none have registered ground detail. One aircraft recorded 12 searchlights.

(b) Day Reconnaissance.

The P.R.U. cover includes the whole of the town, except for the most northerly and a strip to the east. The only fresh items of damage revealed are:-

- (i) 6 bays of a steel tubing works have their roofing destroyed by fire.
- (ii) Several houses demolished by H.E.
- (iii) 2 fresh craters near Neuss docks.

Propagational Aids (GEE).

Some interference was experienced on crossing the coast, but the majority of navigators reported that performance was satisfactory. The average range (229 miles) has decreased even further; either the enemy jamming is being more effective or propagational conditions are deteriorating in this direction. The maximum range was only 274 miles. J beams were operating.

Bombing Aids (Oboc.)

Target attacked	Control Stations.		Time detailed	Time attacked	Track	Results.
	Tracking	Bombing				
P.A.	Trimingham	II Swingate	1950	1951	25°	Owing to poor signal a/c was late & out off the corner so that ground station did not send signals for release of warning flares & none were dropped.
P.A.	Trimingham	I Walmer	1953	1953	25°	Good run but very poor signal Accuracy of flares unknown.
	Trimingham	II Swingate	1950	-	-	Reserve a/c not required.

Flares.

(a) Flak and Searchlights.

Moderate to intense heavy flak fire was encountered, almost entirely predictor or "unscored", though a few crews reported barrage fire. Searchlights were active, failed to penetrate the cloud. A number of rocket-type projectiles were reported, bursting up to 25,000 feet.

(b) Fighters.

No. of reported attacks ..... 3  
 " " " other interceptions ..... 5  
 Total interceptions ..... 8 (9.6%)

Approximately 5 sorties were made by controlled fighters over areas in Holland, no combats or claims to success were overheard. All three attacks made were by D's, two of which were claimed by the crews concerned as probably damaged, strikes have been scored at close range. Two Lancasters were damaged.

Statistics.

No. of aircraft missing ..... 2 (2.5%)  
 " " " damaged (a) flak ..... 6  
 (b) fighter ..... 2  
 (c) not enemy action ..... 2  
 Total damaged ..... 12 (14.0%)

Aircraft were reported to have been seen destroyed in the target area at 2010 hours but, as "score-crow" flares were also seen at about the same time, impossible to assess the value of these observations. Since no claims by fighters were heard, and flak at the target was intense and damaged 8 aircraft,

it is reasonable to assume that flak was the cause of both losses. There is, however, no confirmation of this.

APPENDIX.

Timing of Attack.

I. P.F.F.

1st marker attacked at 1951 hours (1' late)..... 1  
 2nd marker attacked at 1953 hours (detailed T.O.T.)..... 1

Main Force.

No. of aircraft attacking 0-10' after zero hour.....52  
 " " " " 10-16' after zero hour ..... 3  
 57

Bomb Loads.

II. Of 57 aircraft reporting attack on primary:-

No. carrying flares only ..... 2  
 " " H.E. + 4lb. incendiaries .....55

LEAFLETS.

19. 4 Whitleys of 91 Group, manned by pupil crews, dropped leaflets in the area of Rouen, and returned without incident.

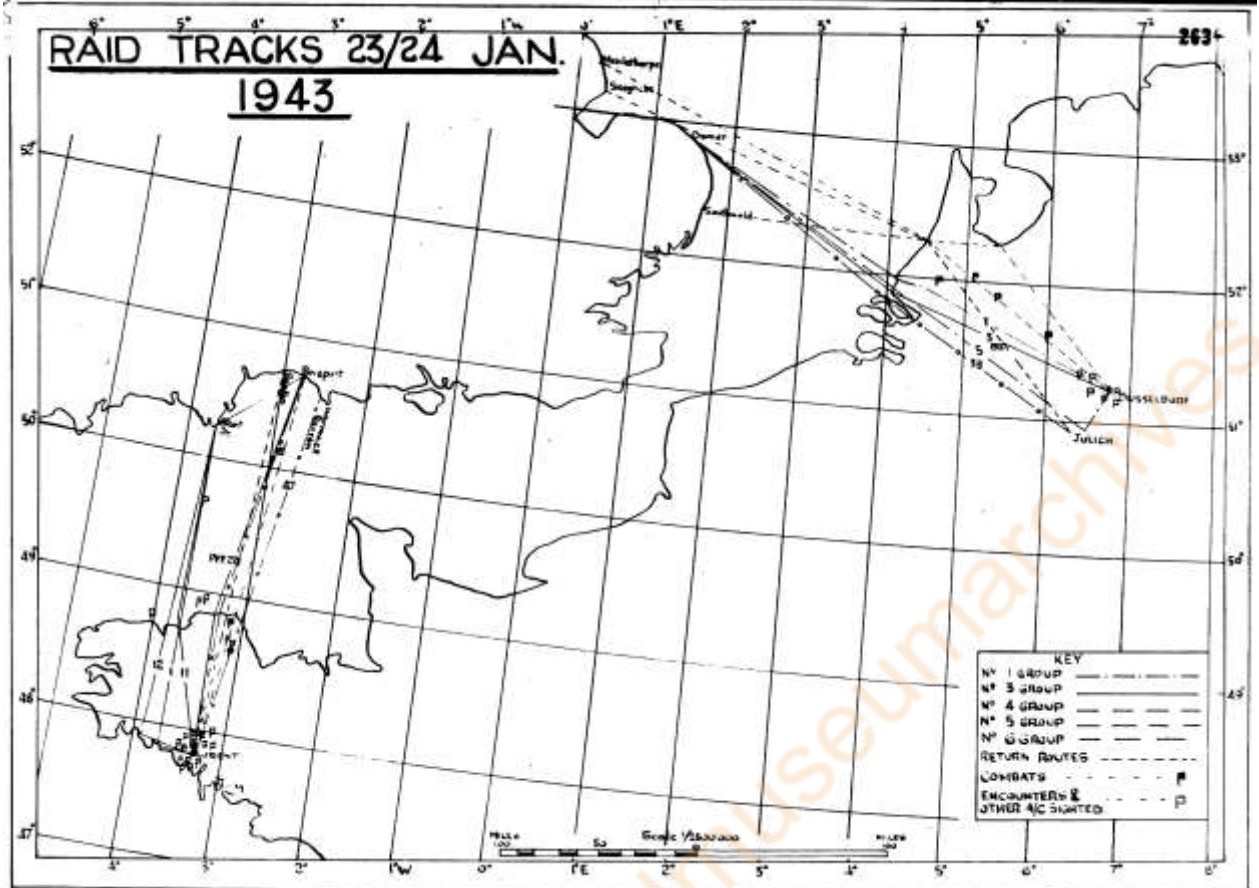
MLM/PVD.  
 BC/S.26342/5/ORS.  
 17th March, 1943.

Target	Group	Type	Aircraft	Primary area	Alternative area	Flares over enemy territ.	Flares over enemy territ.	Flares	BOMBING			Inter-ruptive		Result			
									Flak	Pigsties	Hot	Attacked.	Hot	HL	Ino		
DUNKERQUE	8	Woolfite	3	2	-	1	-	-	-	-	-	-	-	(P)	-	-	
	1	Lancaster	28	19	-	2	5	2	4	1AC	-	2	3	(A)	98.2	90.9	
	5	Lancaster	52	36	3	2	11	-	4	1	2AC	1	2	(M)	3.6	2.6	
		TOTAL	83	57	3	5	16	2	8	1AC +1	2AC	3	5	(M)	3.6	3.9	
LORIENT	8	Lancaster	8(2*)	8	-	-	-	-	-	-	-	-	-	(P)	-	-	
	8	Hullfax	5(1*)	5	-	-	-	-	-	-	-	-	-	(A)	124.7	167.3	
	8	Stirling	4(A*)	4	-	-	-	-	-	-	-	1	2	(A)	-	-	
	3	Well-III	5(2*)	5	-	-	-	-	-	-	-	-	-	(M)	-	-	
	3	Stirling	29	26	-	-	2	1	-	-	-	-	1	(M)	-	-	
	4	Hullfax	50	47	-	-	3	-	2	-	1B	-	7	(M)	-	3.3	
6	Hullfax	15	15	-	-	-	-	-	-	-	-	1	(M)	-	-		
	TOTAL		116	110	-	5	1	2	-	1	1	11	(M)	+ including 552,000 lb.			
BOMBING TOTAL			199	167	3	5	21	3	10	1AC +1	1B +2AC	4	16	(M)	+ including 241,000 lb.		
<u>LEAFLETS</u>																	
Rouen	91	Whitley	4	4	-	-	-	-	-	-	-	-	-				
	TOTAL		203	171	3	5	21	3	10	1AC +1	1B +2AC	4	16				

(P) = on primary, (A) = on alternative, (M) = carried by floating aircraft

**RAID TRACKS 23/24 JAN.**  
**1943**

263

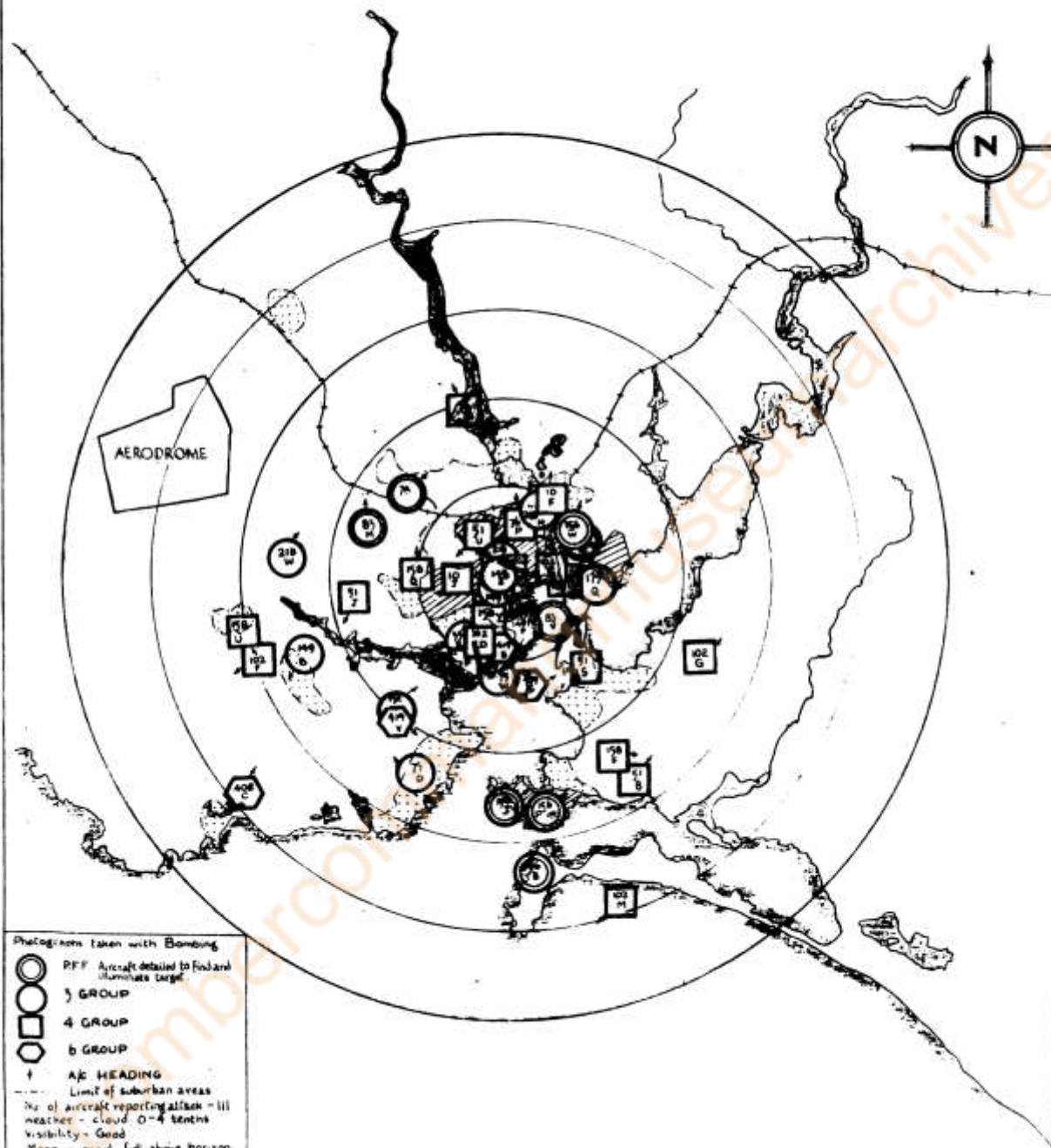


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**SECRET**

**FINAL PLOT OF NIGHT PHOTOGRAPHS**  
TAKEN 23/24<sup>th</sup> JANUARY 1943 TARGET LORIENT

264



Photographs taken with Bombing

- PFF Aircraft detailed to find and illuminate target
- 5 GROUP
- ◇ 4 GROUP
- △ 6 GROUP
- ↑ AC HEADING
- Limit of suburban areas
- No. of aircraft reporting altisek - ill
- weather - cloud 0-4 tenths
- visibility - Good
- Moon - nearly full, above horizon.

Scale: 1 inch = 1 mile

ORS 6 C 2124  
Date: 2/43 Tracer: 501  
Ref: R. 25 Cont: 4. 279

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 26/27th JANUARY, 1943

LORIENT: Shipping in Gironde River: Leaflets.

Lorient

1. 156 aircraft, mostly medium bombers, set out towards dusk for the fourth night raid on Lorient this month. Visibility in the target area was impaired by cloud, haze and smoke, but 134 aircraft (85.9%) reported attack. Fires were started in the dock and Keromen areas. The opposition encountered was again slight. 3 aircraft (1.9%) did not return.

Shipping in Gironde River

9 Halifaxes of 6 Group were detailed to attack shipping targets in the Gironde estuary. Unbroken low cloud en route forced a number of crews to return early, but 3 aircraft bombed the docks at Bordeaux through fog and heavy cloud. Results were unobserved. No losses or casualties were sustained.

Leaflets

17 out of 18 aircraft dropped leaflets over specified areas in France. No losses or casualties were sustained.

Meteorological Forecast

2. Midnight front: occluded from 57°N. 17½°E. to Stettin to Nurnberg to 47°N. 06°E., becoming cold to Limoges to Gironde, then warm to W. Ireland.

Home Bases:- Generally fit for early take-off, and for return at about 0200 hours. Visibility troubles to 0400 hours, with risk of low cloud and rain; but this should not affect Operational Groups. Low stratus will reach 91 Group towards midnight, and spread N.E. over 92 Group, probably troubling the south coast. At 0200 hours, visibility will locally be limited to 1-2,000 yards in 1, 4, 5, and 93 Groups.

Germany:- Little cloud and good visibility N. and W. of frontal belt. N. coast: broken layer cloud. Ruhr: much strato-cumulus, breaks probable.

N. Italy:- Patches of layer cloud, good clearances. No difficulties over first part of route, but layers of cloud over Alps extending to 15,000 feet, with patches above. Milan: well-broken strato-cumulus with patches of medium, poor visibility, risk of fog late in night. For T.O.T. 0300 hours, return conditions at bases very doubtful, due to fog or rain. and low cloud. Genoa: well broken strato-cumulus, moderate visibility. Turin: 10/10ths strato-cumulus, expected to persist (Pampa report).

W. France:- Much medium and low cloud near the front, both broken N. and W. of belt. Lorient: much strato-cumulus, probably 8-10/10ths. Broken medium cloud. Visibility good.

...../LORIENT.

LORIENTPlan of Attack

3. Zero hour. . . . . 1950 hours.

Period of Attack

Pathfinder Force.....from 1950 hours.  
Main Force.....2025-2045 hours.

Route:- For routes as briefed and followed, see route map.

The Pathfinders were to mark the target by fire-raising. 2 Halifaxes acting as "finders" were each to drop a long stick of 10 bundles of flares, at 8 second intervals, in a N. to S. direction along the west side of the town. These aircraft were then to revert to the role of illuminators and, together with another Halifax, were to drop flares at zero + 1 minute in a N. to S. direction across the aiming point, when it had been positively located. The third Halifax was to release a second stick of flares across the aiming point at zero + 3 minutes. All Pathfinder aircraft were to act as fire raisers, dropping their incendiaries in a salvo with maximum precision on the aiming point. The Stirlings, however, were to carry out two separate runs, dropping salvos of half their incendiaries on each run. In addition to the three flare-carrying Pathfinder aircraft, 3 Stirlings and 1 Halifax were to act solely as fire raisers.

The Main Force was to bomb the fires started by the Pathfinder Force, whose incendiaries were to be dropped in as great a concentration as possible to help differentiate from the decoy. The Main Force was planned to consist almost entirely of Wellington aircraft, 2/3rds. of which were to carry incendiary loads and 1/3rd H.E. 4 selected crews in each Group of the Main Force were to carry flares, to fix the position of fires seen in the target area. Crews were to bomb from as low a height as possible, and from below any medium cloud.

Sorties

4. (a) No. of aircraft despatched.....156  
(b) " " " reporting attack on primary area.....134(85.3%)  
(c) " " abortive sorties (technical defect.....14)  
(weather.....2)  
(flak from on.convoys.. 1)..... 19(12.2%)  
(fighters.....1)  
(crashed after take-off) 1  
(d) " " aircraft missing..... 3(1.9%)

Weather Experienced

5. Home Bases:- Moderate visibility, little low cloud in Operational Groups.

Route:- Little low cloud over England, increasing to 6-10/10ths strato-cumulus, base 1,200-1,500 feet, tops 5,000-8,000 feet, with 4-6/10ths medium cloud at 13,000 feet above. Visibility good.

Target:- Cloud: Very variable layer cloud, base 1,500 feet, tops 5,000-8,000 feet, breaking at times, but also increasing to 10/10ths. 4-6/10ths medium cloud, base 12,000-13,000 feet, tops 14,000-15,000 feet.

Visibility: Moderate.

Moon: Below the horizon.

Surface wind:- S.W'ly, 10 m.p.h.

...../Narrative of attack.

Narrative of Attack

6. 156 aircraft of 1, 3, 4, 6 and 8 Groups, including 133 Wellingtons, set out towards dusk for the fourth night attack on Lorient this month. 134 aircraft (85.9%) reported attacking the primary. Weather in the target area was cloudy, with occasional clear patches, and visibility was marred by haze and smoke. A few Pathfinders found early gaps, but in general the attack was delayed. Some aircraft were able to identify the aiming point, and fires were reported in the dock and Keroman districts, but the greater part of the attack was scattered over a wide area. 3 aircraft (1.9%) did not return.

Photographic Evidence7. (a) Night photographs taken with bombing

With ground detail, plotted.....	20
" " " unplotted (probably vicinity of Lorient).....	1
" " " unplotted.....	12
With fire tracks only, unplotted.....	16
Photographs plotted within 3 miles.....	15
" " between 3 and 5 miles.....	2
" " outside 5 miles.....	3
No. of aircraft reporting attack.....	134
No. estimated to have bombed within 3 miles of the aiming point on photographic evidence.....	61

The sample of photographs on which the above estimate is made is so small as to be unreliable.

The distribution of the plotted photographs suggest that in the conditions of 4-6/10ths cloud which prevailed over Lorient, aircraft had difficulty in identifying the target. A few aircraft bombed the built-up area, but the main weight of attack seems to have spread two miles north to the outskirts of the town, where dispersed bombing developed. Many sticks of incendiaries were photographed in that area.

(b) Day reconnaissance

No separate P.R.U. cover was undertaken for this operation. Details of damage caused in this raid and that on the night of 29/30th January will be published in Night Raid Report No. 254.

Navigational Aids (Geo)

3. Sine-wave and square-type jamming were experienced, with much "grass" near the target, and apparently the signals when received were on the whole weaker. However, of the 102 GEE reports analysed, 63 showed fixes to the target, some navigators giving fixes taken with bombing. This target coverage has been customary at Lorient, so that it was again specified that the Gee homing technique could be used for approach to the target. J beams were in use. The performance of the ground stations was reported as satisfactory by the Monitoring Station. During the critical period, 1930-2100 hours, there was one interruption, at 1931 hours, when the C pulse was off for 55 secs.

Defences9. (a) Flak and Searchlights

The moderate heavy and light flak encountered was mostly inaccurate. Light flak "hose-piping" was observed with searchlights mainly to the N. and W. of the town. Ballons were seen over the town and dock are up to 8,000 .../feet.



feet.

31% of the aircraft plotted within 5 miles of Lorient recorded heavy flak, a considerable decrease compared with the attack on the night of 23/24th January. As before, no light flak was recorded.

(b) Fighters

There was no evidence of any activity by controlled night fighters and no attacks were made. A number of enemy aircraft were seen, however, and 11 bombers reported interceptions, mainly by enemy aircraft carrying lights.

Casualties

10.	No. of aircraft missing.....	3(1.9%)	
	" " " damaged (a) flak.....	0	
		(b) fighter.....	0
		(c) other causes.....	4
	Total Damaged.....	12(7.7%)	

Observations of returning crews indicate that an aircraft was lost, possibly to flak, at Lorient. It was seen to fall in flames and explode on the ground. Nothing is known of the two other missing aircraft.

SHIPPING IN GIRONDE RIVER

Sorties

11.	(a) No. of aircraft despatched.....	9
	(b) " " " reporting attack on primary area.....	3
	(c) " " abortive sorties (technical defect.....2)	6
	(c) " " " (weather.....4)	
	(d) " " aircraft missing.....	0

Weather Experienced

12. Route and Target:- 10/10ths low strato-cumulus, tops 4,000-5,000 feet. Fine weather above cloud. Fog in target area. Moon above the horizon and 74% of full.

Results

13. 9 Halifaxes of 6 Group were despatched shortly after 0200 hours to attack shipping in the Gironde river. ~~Unbroken~~ low cloud on route made pinpointing difficult, and 4 aircraft were unable to identify the target area. 2 others had to return owing to technical defects. The 3 aircraft that reached the primary found it obscured by thick masses of cloud, with fog lying over the river banks. They bombed the docks at Bordeaux, with unobserved results.

Enemy Defences

14. A little accurate flak, both heavy and light, was encountered, especially N.E. of Bordeaux, where 2 searchlights were in action. No night fighters were observed.

Casualties

15. None.

LEAFLETS

16. 17 out of 18 aircraft from 91, 92 and 93 Groups dropped leaflets over specified areas in France. The remaining aircraft had to return early owing to a technical defect. No damage or casualties were sustained, and all our aircraft returned safely.

A Whitley sighted a Fw 190 near Pecamp, but it disappeared without attacking.

MLM/VF/JT  
BC/S.26342/5/ORS  
23rd. March, 1943.

APPENDIX. (Lorient)Timing of AttackI. Pathfinder Force

No. of aircraft attacking 0-10' after zero hour.....	4
" " " " 10-45' after zero hour.....	<u>7</u>
	11

Main Force

No. of aircraft attacking 20-0' early.....	31
" " " " within planned period (2025-2045 hours).....	88
" " " " 0-15' late.....	<u>4</u>
	123

Bomb Loads

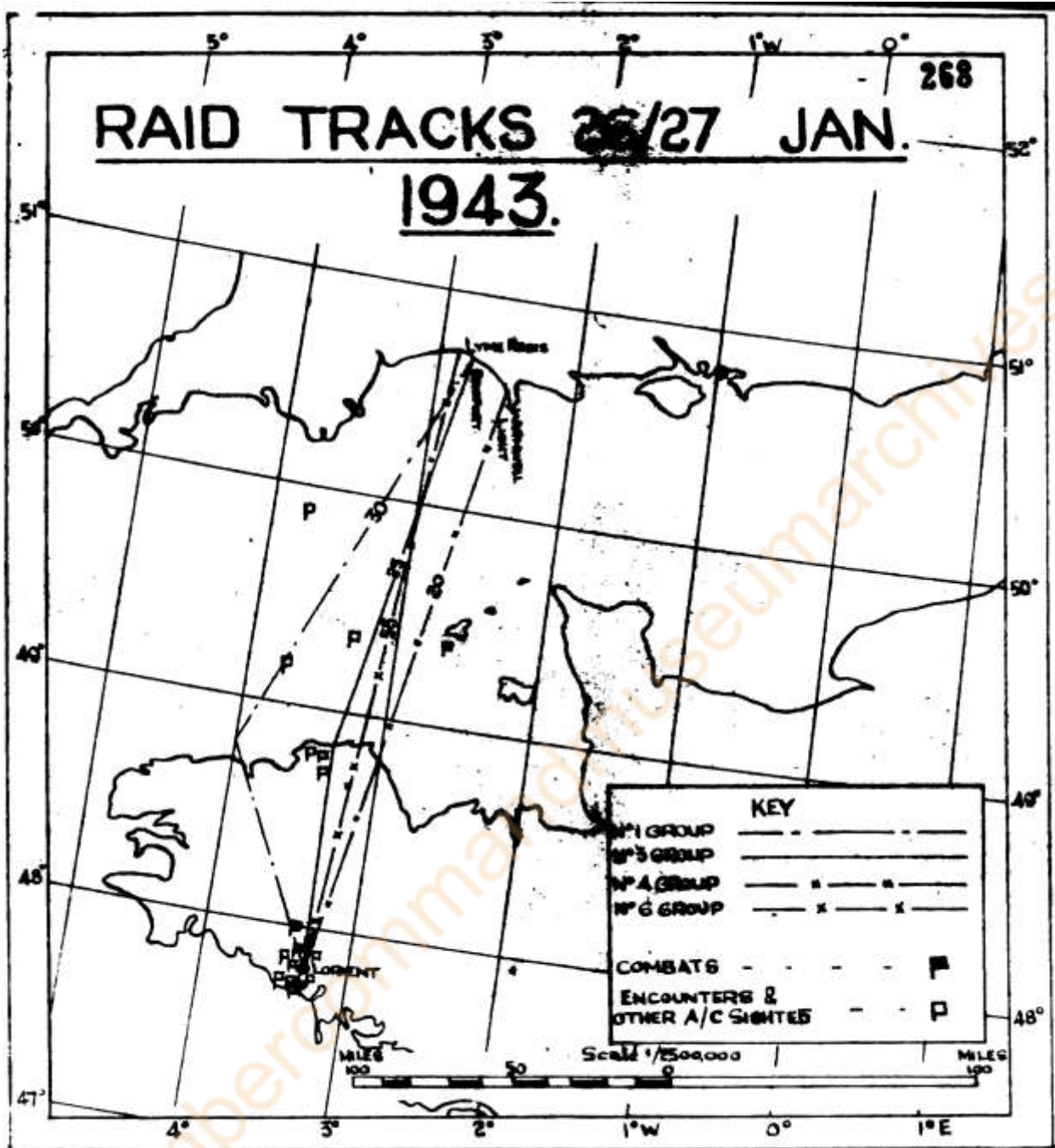
## II. ( of aircraft reporting attack on primary).

No. of aircraft carrying flares + T.I. markers.....	1
" " " " flares + T.I. + H.E.....	6
" " " " flares + 4lb. incendiaries.....	4
" " " " 4lb. incendiaries only.....	74
" " " " H.E. only.....	44
" " " " H.E. + 4 lb. incendiaries.....	<u>5</u>
	134

			primary area	alt. area	over en. territ.	not over en. territ.	risk	fighter	not en. action	retained	not attacked		
LOSERY + including 1 P.V.C. u/t which attached with the Main Force	8	Londoner	8	8	-	-	-	1	-	-	-	2	
	8	Halifax	4	3	-	1	-	-	-	-	-	-	
	8	Stirling	3	1	-	2	-	1	-	-	-	-	(P)
	1	Well.III	35	29	-	1	-	2	-	-	1	-	(A)
	1	Well.IV	16	15	-	-	-	-	1.0	-	-	-	(L)
	1	Londoner	3	1	-	-	-	-	-	-	-	-	
	3	Well.III	12	11	-	-	1	-	-	-	-	-	
	4	Well.III	9	9	-	-	3	1	1.0	-	-	-	
	4	Well.II	11	10	-	-	2	-	-	-	-	-	
	6	Well.III	48	45	-	-	2	1	18	-	-	4	
6	Well.X	7	6	-	-	1	-	+3	-	-	18		
		TOTAL	156	134	-	3	16	3	18	-	28	11	
								+7	-	+2.0	-	-	
Shipping GIRONS DIVER	6	Halifax	9	3	-	3	-	-	-	-	-	-	(P)
		BOMBING TOTAL	165	137	-	6	19	3	18	-	28	11	
								+7	-	+2.0	-	-	
LEAFLETS ORLEANS	91	Whitley	1	1	-	-	-	-	-	-	-	-	
LILLE:RUIMS: PARIS	92	Well.III	8	8	-	-	-	-	-	-	-	-	
ROUSE	93	Well.III	5	4	-	-	1	-	-	-	-	-	
	93	Whitley	4	4	-	-	-	-	-	-	-	1	
		LEAFLETS TOTAL	18	17	-	-	1	-	-	-	-	1	
		TOTAL	183	154	-	6	20	3	18	-	28	12	
								+7	-	+2.0	-	-	

\* These 21 a/c were not fitted with Gee.

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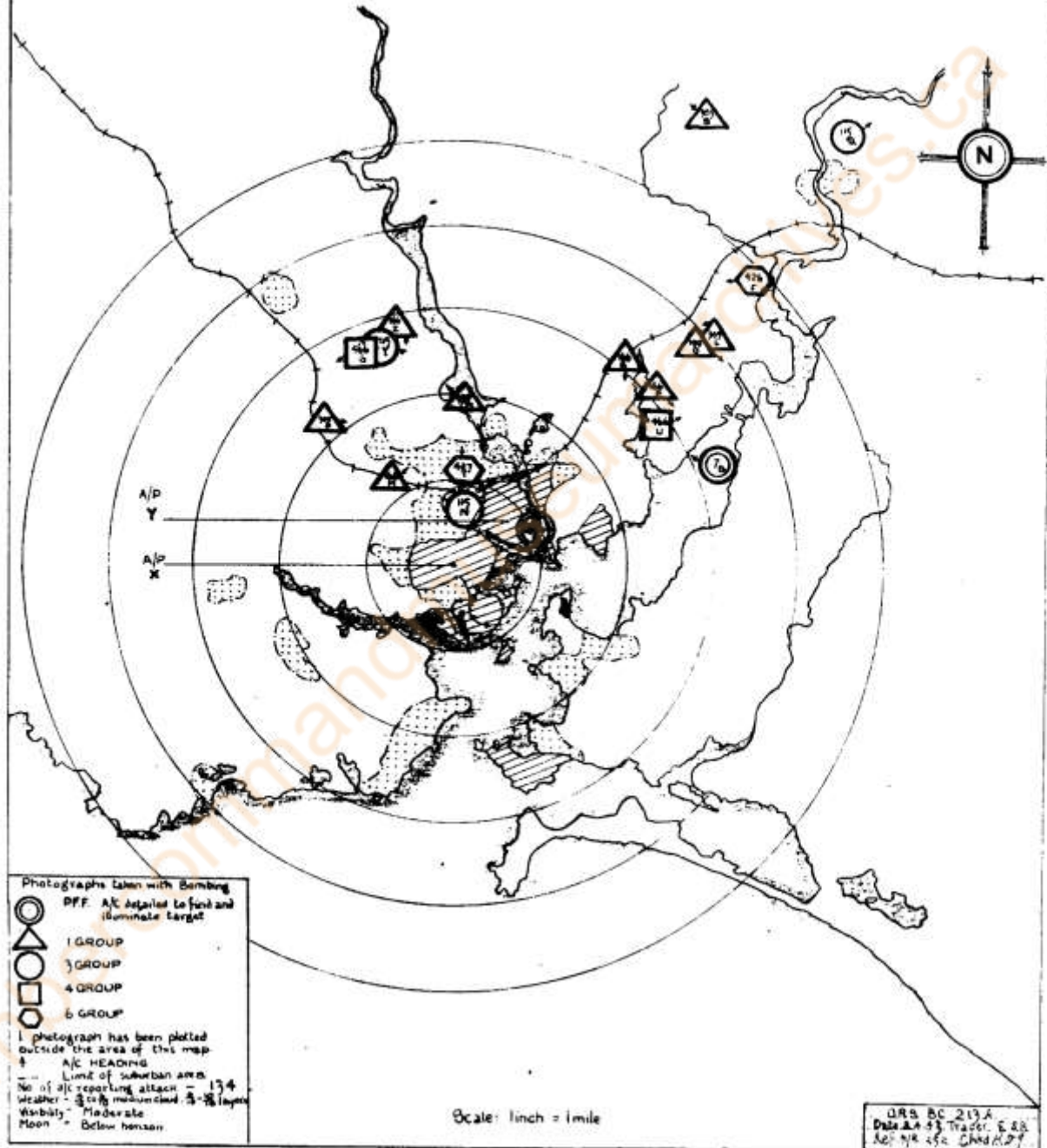


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SECRET

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# FINAL PLOT OF NIGHT PHOTOGRAPHS TAKEN 26/27<sup>th</sup> JANUARY 1943 TARGET LORIENT



COPY NO. 16

BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 27/28th JANUARY, 1943.DUSSELDORF: Minelaying (Frisians, N. France, etc)SUMMARY

Dusseldorf The ground-marking technique was employed in an attack against Dusseldorf, for which 162 aircraft of 1,4,5 and 8 Groups were detailed. Dense cloud, encountered en route, extended to the target, which was completely obscured. However, most aircraft of the Main Force saw the glow of the target markers and altogether 131 (80.9%) reported attack. Results could not be observed, but crews reported a fierce concentration of fires beneath the cloud.

A reconnaissance covered only a small part of the town, so that the success of the attack cannot be accurately assessed.

6 aircraft (3.7%) did not return. One other was totally destroyed on landing.

Minelaying 54 aircraft of 1,3,5 and 6 Groups were despatched to lay mines off the Frisians, the Dutch coast, the west coast of France, and in the western Baltic. 49 reached their targets, and 161 mines were laid, including 110 in the Frisians area.

1 aircraft did not return from the Cadet Channel.

Metereological Forecast

Midnight front: warm from Shetland to 57°N. 07°E., becoming cold to 56°N. 17°E.

Home Bases:- Increasing low cloud and rain in N., variable cloud and moderate visibility in E. and S.E. early in night, with threat of low cloud and rain later. All Groups will be fit for take-off, and for return up to midnight, with 8-10ths cloud at 1,000-1,500 feet; but there is a chance of rain and low cloud down to 1,000 feet in 4,5 and 6 Groups by 2200 hours. After midnight, the latter conditions will probably become general. Training Groups expect an earlier deterioration.

Germany:- Layer cloud, with good breaks inland, especially in Rhine valley, but few over N. Sea coast or east Germany. Ruhr: 6-9/10ths strato-cumulus, tops about 8,000 feet; 5/10ths thin alto-stratus.

N. Italy:- Little cloud, but much fog over Lombardy Plain. Genoa may be clear, but 8 Group would be unfit for return from this area. Peaks of alps clear.

France:- Much medium and low cloud in N.W., dispersing south of Nantes. Well broken layer cloud in central and southern areas.

Mining areas:- S.W. France: fit. Frisians: little low cloud, base above 1,500 feet. Kattegat: well broken cloud. Baltic: uncertain, probably cloudy, base not below 1,000 feet.

DUSSELDORFPlan of Attack

Zero hour.....2000 hours.

Period of Attack

P.F.F.....2000-2013 hours  
Main Force.....2000-2015 hours

Routes: for routes as briefed and followed see route map.

...../5 Mosquitoes

5 Mesquitos equipped with Oboe (4 markers + 1 reserve aircraft) were detailed to mark the target by dropping salvoes of red marker bombs at zero, zero + 3, zero + 10 and zero + 13 respectively, the first salvo consisting of 3 and the others each of 4 bombs. In order to provide continuity between the red markers, Lancaster aircraft were to drop green marker bombs in salvo 6, as follows:-

3	Lancasters	at zero + 1
1	"	zero + 4
2	"	zero + 5
1	"	zero + 6
1	"	zero + 7
1*	"	zero + 8
1	"	zero + 11
1	"	zero + 12

The Main Force of Lancaster and Halifax aircraft was instructed to attack exactly as the red markers, if they were burning, otherwise in the centre of a cluster of green markers, which could be approached on any desired heading. Crews were warned not to be led astray by fires or ground features but to attack at the markers. The attack was to be carried out from as high as possible, aircraft keeping above 18,000 ft. over defended areas. One bundle of red bombs was to be dropped at zero-2 minutes north of the target, as a warning that attack was about to commence.

#### Sorties

4. (a) No. of aircraft despatched.....162  
 (b) " reporting attack on primary area.....134  
 (c) " " alternative area ..... 11  
 (d) " abortive sorties (technical defect.....19)  
     (weather..... 1)  
     (sickness of crew..... 1)  
     (late..... 1) ... 2  
     (reserve marker-not required.... 1)  
     (cause unknown(a/c crashed  
     after take off)..... 1)  
 (e) " aircraft missing ..... 3

#### Weather Experienced

5. Home Bases:- A warm front crossed the British Isles during the night giving a belt of light rain or drizzle. There was much cloud below 1,000 feet south of a line Wash-Bristol Channel.

Route:- 6-9/10ths. medium cloud over W. North Sea, base 8-10,000 feet, tops 18,000 feet, increasing eastwards to 8-10/10ths. Most of route, 1/10th low cloud, base 1-2,000 feet, tops to 5,000 feet. Visibility moderate.

Target:- Cloud: 8-10/10ths low cloud, tops 5,000 feet, with 9-10/10th medium cloud above, base 8-10,000 feet, tops 14-18,000 feet.

Visibility: moderate

Moon: below the horizon

Surface wind: Wly 5-10 m.p.h.

#### Narrative of attack

6. 124 Lancasters and Halifaxes of 1, 4 and 5 Groups left towards dusk for Dusseldorf, with 5 Mesquitos and 13 Lancasters of 8 Group to act as ground markers. Cloud density persisted at 3-10/10ths en route, and the Ruhr was covered with thick medium and low cloud. Nevertheless, 131 aircraft (80.9%) reported attack.

15 of the 18 Pathfinders reached the target. Their 9,000 feet marker bombs burst above the cloud but soon disappeared into it. Most aircraft had  
 ...../the glow

the glow of these, which remained visible for several minutes. The cloud must have been very thick near the ground, as little was seen of the many incendiaries that were dropped. On the other hand, the glow of fierce fires was reflected in the cloud, and crews unanimously agreed that the attack was well concentrated.

1 aircraft, which lost time en route in evading searchlights, released its bombs over Manchen-Gladbach.

6 aircraft(5.7) did not return.

#### Photographic Evidence

##### 7. (a) Night photographs taken with bombing

Some 80 photographs taken with bombing all show thick cloud without any ground detail. Some fires or flares were photographed through cloud.

##### (b) Day Reconnaissance

The P.R.U. cover excludes most of the town. Only strips in the extreme S. and to the N. and N.E. are covered. A few fresh items in these districts are noticeable, including an H.E. incident in Volksgarten Str., damage to an industrial shed in Himmelgeister Str., and the destruction of some houses in the vicinity of the aerodrome to the N. of the town.

#### Intelligence Information

8. Intelligence sources reported that the Opera House burned for 7 hours and was completely gutted, and that the main railway station was hit and four lines completely blocked.

#### Navigational Aids (Geo)

9. 117 out of the 148 Geo sorties reported useful ranges, with an average of 250 miles and a maximum of 290 miles. On the outward route across North Holland, north of The Hague, very heavy "grass" was experienced. Interference also took the form of "railings", attributed to modulated square waves. The greater ranges obtained on the return route, which was south of the outward route, suggested that the interference was less intense over the Scheldt Estuary than over the Dutch Coast north of the Hague.

#### Blind Bombing Aids (Oboe)

10.

<u>Sortie No.</u>	<u>Target Attacked</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time Detailed</u>	<u>Time Attacked</u>	<u>Results</u>
		<u>Tracking</u>	<u>Bombing</u>				
(i)	Primary	Swingate	Tringingham II	173°	2000	2000½	Good run
(ii)	Primary	Walmer	Tringingham I	178°	2003	2000½	Very poor run-Engine caught fire. Flares probably 1000 yds. short
(iii)	Primary	Swingate	Tringingham II	178°	2010	2009½	Good run
(iv)	Abortive	Walmer	Tringingham I	178°	2013	2012½	Very poor run
(v)	Reserve A/C not required	-	-	-	2000	-	-



Defences

11. (a) Flak and Searchlights

Heavy flak was intense, and accurate considering the height of attack. N.W. of the town, a large cone of approximately 50 searchlights was seen through gaps in the cloud, into which the heavy guns fired barrage.

(b) Fighters

Approximately 14 sorties were made by controlled night fighters in various areas of Holland and N.W. Germany, but some of them were probably directed against the minelayers operating in the Frisians and W.Baltic.

Though a number of interceptions were made, the prevailing cloud and darkness did not present conditions favourable for fighters, and no attacks were reported by the aircraft returning from Dusseldorf. Two bombers, however, opened fire.

Casualties

12.	No. of aircraft missing.....	6(3.7%)
	" damaged (a) flak.....	6
	(b) other causes.....	1
	Total damaged	7(4.3%)

Five of the six missing aircraft were seen to fall in flames, two of these being in the target area...One was hit by flak while held in searchlights and exploded in the air, the other is thought possibly to have been attacked by a controlled fighter. The three other observed cases occurred on the homeward journey, one caused by a fighter E. of Rotterdam, another possibly by a fighter N.E. of Dordrecht, and the third W. of Noordwijk from unknown causes.

Losses may therefore be attributed to flak - 1 aircraft, fighters - 1 + 2 possibles, and unknown causes - 1 aircraft.

MINELAYING

Sorties

13.	(a) No. of aircraft despatched.....	54
	(b) " reporting mines laid in primary area.....	49
	(c) " abortive sorties (technical defect.....1) (weather.....3)	4
	(d) " aircraft missing.....	1 (1.8%)
	(e) " mines laid.....	161

Weather Experienced

14. Frisians:- 8-10/10ths medium cloud, base 8-10,000 feet, tops 18,000 feet. 8-10/10ths layer cloud, base 1,500-2,000 feet, tops 3-5,000 feet. Visibility moderate.

Baltic:- 6-9/10ths convection cloud, base 1,500 feet. Some showers. Visibility good.

W.France:- 10/10ths layer cloud, base 1,500-2000 feet, breaking near targets to small amounts; local fog patches.

The moon was below the horizon during all sorties.

Results

15. 54 aircraft of 1,3,5 and 6 Groups were despatched towards dusk to lay mines off the Frisians and the Dutch coast, the west coast of France and in the western Baltic. 49 aircraft reached their targets, and 161 mines were laid including 110 in the Frisians area. ....../1 aircraft

1 aircraft did not return from the Cadet Channel.

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### Enemy Defences

6. Slight heavy and moderate light flak was encountered off Schiermonnikoog.

Though a few sorties by controlled fighters were probably made against the mine-layers, no attacks developed and only three interceptions were reported.

### Casualties

7. Nothing is known of the missing Stirling.

Two aircraft sustained minor damage from flak. Another crashed from petrol shortage on return and was completely destroyed.

CLU/VP.  
EC/S. 26342/6/ORS.  
4th April, 1943.

### APPENDIX

#### Timing of Attack

##### I P.F.F.

No. of aircraft attacking early (1')	1
" within planned period	10
" 0-10' late	4
	<u>15</u>

##### Main Force

No. of aircraft attacking within planned period	113
" 0-3' late	3
	<u>116</u>

#### Bomb Loads

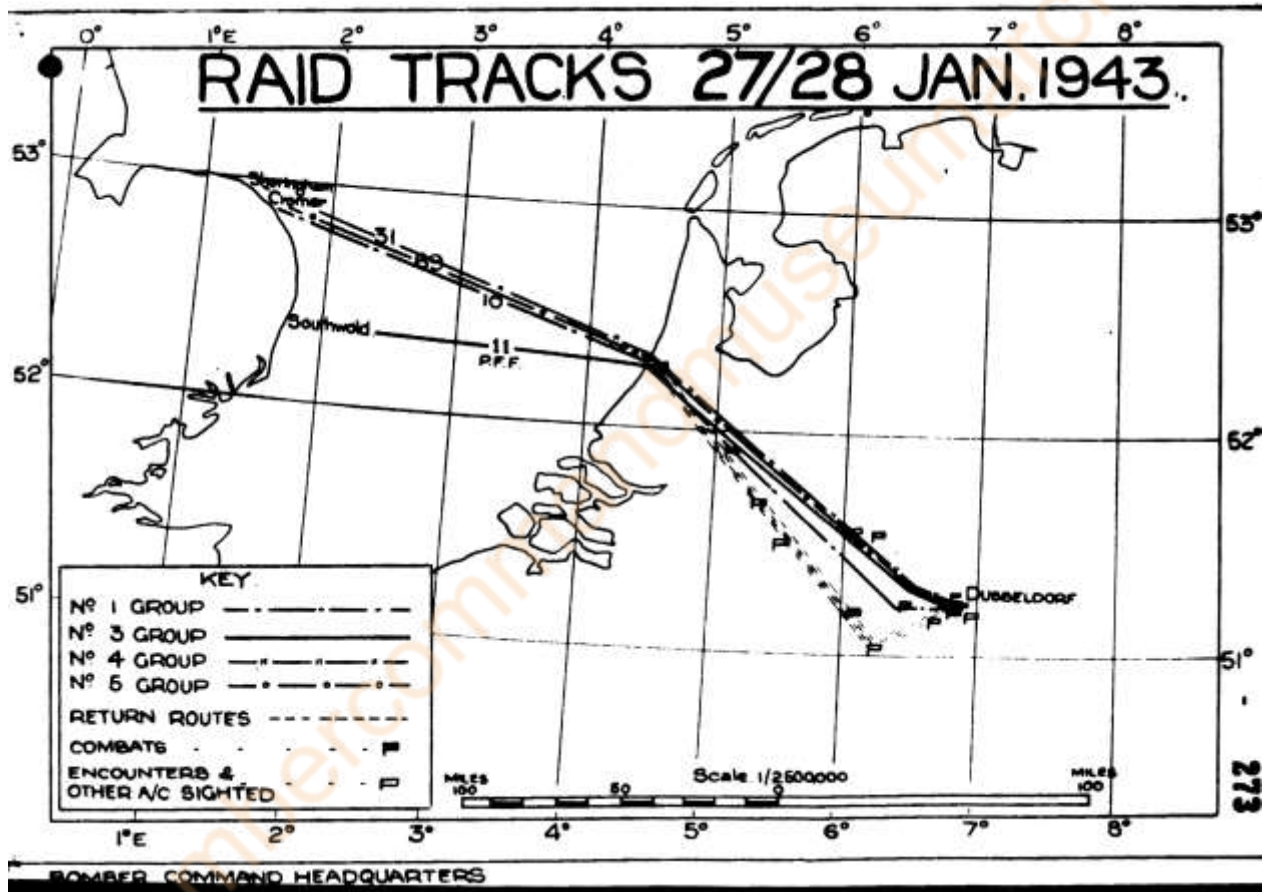
##### II (of aircraft reporting attack on primary)

No. of aircraft carrying H.E. + 250 lb. markers	11
" 250 lb. markers only	3
" H.E. + 4 lb. incendiaries	111
" H.E. only	6
	<u>131</u>

H.E. loads included	5	x 8,000 lb.
	96	x 4,000 lb.
	52	x 1,000 lb.

													963,000	
<b>MINELAYERS</b>														
Frisian Is.	1	Well.III	13	13	-	-	-	-	1	-	-	-	1	26 mines
Frisian Is.	1	Well.IV	2+	2	-	-	-	-	-	-	-	-	-	4 mines
Frisian Is.	3	Stirling	5	5	-	-	-	-	-	-	-	-	1	30 mines
Goede Embury	3	Stirling	8	5	-	3	-	-	1	-	-	-	-	17 mines
Goede Channel	3	Stirling	5	4	-	-	-	-	1	-	-	-	-	16 mines
Frisian Is.	3	Well.III	1	1	-	-	-	-	-	-	-	-	-	2 mines
La Pallice	3	Well.III	5	4	-	1	-	-	-	-	1E	-	-	8 mines
Frisian Is.	5	Longster	10	10	-	-	-	-	-	-	-	-	-	48 mines
S. of Texel	6	Well.III	5	5	-	-	-	-	-	-	-	-	1	10 mines
<b>MINELAYERS TOTAL</b>			54	49	-	4	-	1	2	-	1E	-	3	161 mines
<b>TOTAL</b>			216	180	1	7	21	7	9	-	2E	-	15	

\* These 2 A/C were not fitted with dex.



BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 29/30TH JANUARY, 1943.LORIENT: Minelaying (in France): LeafletsSUMMARYLorient

1. 116 aircraft of 1,4 and 6 Groups set out to attack Lorient for the third time within a week. The Pathfinder Force and 3 Group had been planned to accompany them, but these were cancelled shortly before take-off.

Weather conditions were extremely bad, with 10/10ths cloud from the Channel coast to the target, severe icing and bad visibility. 76 aircraft (65.5%) however, reported attack, by means of navigational aids. No results were observed.

Reconnaissance revealed that this attack and that on the night of 26/27th January added considerably to the devastation caused in previous visits. The lock-gates of Bassin à Flot were damaged, and both control houses gutted. 34 industrial buildings were destroyed or badly hit.

4 aircraft (3.4%) did not return, and a further 3 were totally destroyed on landing.

Minelaying

7 of 17 Wellingtons from 1,3 and 6 Groups laid mines off the west coast of France in poor weather. 1 aircraft did not return.

Leaflets

2 of 5 Wellingtons from 91 Group dropped leaflets in the area of Nantes. 1 aircraft did not return.

Meteorological Forecast

2. Home Bases:- Bases should remain fit all night, with well broken cloud and moderate to good visibility except for very local smoke. A general deterioration may develop from the S.W. late in the night.

Midnight front:- cold front 62°N. 05°E. to 55°N. 13°E. to 50°N 10°E. to S.W. France.

Germany:- Little medium and low cloud, with moderate to good visibility, to within 100 miles N.W. of the front (including the Ruhr, Hamburg, Bremen and Munster). E. and S. of the frontal belt, skies will generally be overcast, with layer cloud and poor visibility. Wind at 15,000 feet, 60-70 m.p.h.: at 20,000 feet, 80-90 m.p.h.

N. Italy:- Much layer cloud. Skies covered.

Lorient:- (a) 1250 hours: Uncertain owing to definite threat of new depression early in S.W. Most probably well broken convection cloud, average 5-8/10ths, base 2,000 feet lowering at times to 1,000-1,500 feet, tops not generally above 10,000 feet. Chance of medium cloud or even rain during early part of night, depending on the movement of the new disturbance. Recommend, therefore, that operation take place as early as possible. Wind at 10,000 ft. 240°/50 m.p.h.: at 20,000 ft. 240°/65 m.p.h.

...../(b)

(b) 1545 hours: The target area is most uncertain. Falls of pressure to L.S. certainly indicate development, and the best that can be expected is much medium and broken convection cloud (5-7/10ths), but there is a distinct risk of generally bad weather with rain and thick cloud.

(c) 1710 hours: Pampa, in position  $47^{\circ} \text{C}$ .  $07^{\circ} \text{W}$ ., reported by W/T 10/10<sup>0</sup> alto-stratus, base 10,000 feet, tops 23,000 feet, with 9/10ths, cumulus below. At Lorient there will be at least this amount of medium cloud, and base may have lowered; the most probable amount of convection cloud is 5-7/10ths.

### LORIENT

#### Plan of Attack

3. Zero hour.....2030 hours

Period of attack:-

Pathfinder Force.....2030 - 2038 hours

Main Force.....2032 - 2050 hours

4 aircraft of the Pathfinder Force were detailed to act as "finders", whose task was to drop long sticks of flares in a N-S direction on the western edge of the town. If definitely able to identify the target, these aircraft were to revert to the role of "illuminators", together with a further 7 "illuminators" each of which was to release its flares in a short stick across the centre of the town. The latter were timed as follows:-

2 at zero hour		
1	"	+ 2
2	"	+ 4
1	"	+ 6
1	"	+ 8

All flare-carrying aircraft were then to act as ground markers, 6 releasing a salvo of 2 green marker bombs on the aiming point in the town, and 5 dropping 2 red marker bombs on the shipyard.

All of the Main Force were to attack the shipyard from zero + 2 minutes to zero + 20 minutes, approaching the target from N. to S. along the C lattice line. The attack was to be made from as low as possible, but not from below 4,000 ft. The bomb loads of these aircraft were to consist of 2/3rds incendiaries and 1/3rd H.B. Aircraft of 3 Group were originally planned to go; but these were cancelled, together with the Pathfinder Force.

Routes:- Most aircraft flew on a direct route from BRIDPORT/START POINT to Lorient and back, but weather conditions made pinpointing impossible. No route map is issued.

#### Sorties

4.	(a) No. of aircraft despatched.....	116
	(b) " reporting attack on primary area.....	76(65)
	(c) " " alternative area.....	1(0.8)
	(d) " abortive sorties (technical defect.....25)	35(30)
		(weather..... 9)
		(late..... 1)
	(e) " aircraft missing.....	4(3.4)

#### Weather Experienced

5. Home Bases:- Frontal rain affected the South coast by 2300 hours, preceded by patches of low cloud below 1,000 feet, especially over high ground. These conditions spread north at about 40 m.p.h. and, by 0300 hours, all Groups except 4 and 6 were affected. 4 Group experienced some low cloud. By 0600 hours rain was falling in all Operational groups, but an improvement gradually spread to all stations.

Route:- 10/10ths cloud, tops varying from 10-20,000 feet. Moderate to heavy rain in cloud tops, severe at bases. Base cloud 500-1,000 feet.

...../Target:-

Target:- 10/10ths layer and convection cloud, tops 15,000 feet or above, base 2,500 feet. Haze. No moon. Visibility nil.

Narrative of attack

6. 116 aircraft of 1,4 and 6 Groups were despatched, the Pathfinder Force and aircraft of 3 Group being cancelled shortly before take off.

In extremely bad weather, with 10/10ths cloud, severe icing and nil visibility, 76 aircraft (65.5%) reported attack, all by means of navigational aids coupled with the signs of concentrated defences. No results could be observed.

1 aircraft experienced trouble with its Gee-equipment and jettisoned its bombs west of Guingamp.

4 aircraft (3.4%) did not return.

Photographic Evidence

7. (a) Night photographs taken with bombing

No successful night photographs taken with bombing were received.

(b) Day reconnaissance

The results of this operation and of the previous attack on the night of 26/27th January are included in a single P.S.W. cover. The whole target area has been photographed, except for a small triangle N.E. of the Bassin A Flot.

Damage is scattered throughout the town and docks with incidents in the vicinity of the Arsenal and the two railway stations. The most notable incident is the complete destruction by fire of both control houses on the west side of the lock-gates of Bassin A Flot. The lock-gates are open, although it is low tide, and the dock is partly empty of water, suggesting injury to the gate mechanism. 7 large, 16 medium and 11 small industrial buildings have been wholly or partly destroyed. 13 other medium-sized buildings have suffered damage, and about 130 houses have been gutted.

Navigational Aids (Gee)

8. 93 Gee sorties were made and 64 of these obtained fixes to the target. Interference was only intermittent, and 9 crews stated that no interference or "grass" was experienced.

Defences

9. (a) Ground defences

Moderate heavy flak was encountered, accurately predicted for height through the 10/10ths cloud. An increase in intensity over that experienced in previous attacks was reported, but this may possibly be a result of the scattered nature of the raid, which facilitated the engagement of individual aircraft. Three aircraft sustained minor damage.

(b) Fighters

No operational activity by German controlled night fighters was heard. The weather was very poor, with no moon, but nevertheless a few enemy aircraft were seen. The 8 interceptions reported included two attacks, neither of which caused damage. Both occurred in the target area.

Casualties

10.	No. of aircraft missing.....	4(3.4%)
	" " damaged (a) flak.....	3
	" " (b) other causes.....	5
	Total damaged	8(6.8%)

If anything is known of the four missing aircraft and there were no observations to indicate the cause of loss.

4.

MINELAYING

11. 17 Wellingtons of 1,3 and 6 Groups were despatched towards dusk to lay mines off the W. coast of France. Weather conditions were generally poor, with rain and 10/10ths cloud, and 7 aircraft were unable to pinpoint. 2 others had to return early owing to technical defects. 7 identified their targets where the cloud was patchy, and 14 mines were laid: 8 off Lorient, 4 off St. Nazaire and 2 off Brest. One aircraft did not return from Lorient, but there is no evidence to suggest the cause of loss. An P.V. 190 seen by a Wellington of 1 Group was successfully evaded and no other opposition was met.

LEAFLETS

18. 5 Wellingtons of 91 Group were detailed to drop leaflets in the area of Nantes. 2 completed their task, and a third jettisoned its bundles N. of Lamballe on account of the difficult weather conditions. One aircraft experienced a technical defect before crossing the English Coast and returned early; the fifth did not return. It was given a third-class fix 10 miles S. of Bristol, but there is no indication of how it was lost.

APPENDIX

Timing of Attack

I. Pathfinder Force:- No attack was made (cancelled)

Main Force:-

No. of aircraft attacking early.....	11
" within planned period.....	46
" 0-5 minutes late.....	12
" 5-10 " .....	4
" 10-15 " .....	3
	<u>76</u>

Bomb Loads

II (Of aircraft reporting attack on primary)

No. of aircraft carrying H.E. only.....	14
" 4 lb. incendiaries only.....	40
" H.E. + 4lb. incendiaries.....	22
	<u>76</u>

MLM/VP.  
BC/S. 2632/3/ORS.  
19th April, 1943.

TABLE 7: Harveying (29/30 January 1963)

Target	Group	Type	Section	A/C reporting attack on		abortive action		Missing	Damage			Interceptions		Results			
				prim. area	alt. area	over en. territ.	not over en. territ.		flak	fighter	not one action	attacked	not attacked	Type of Bombs	H.E.	Inc.	
LORIENT	1	Wall.III	24	17	-	1	5	1	2	-	1E	-	-	(P) (S) (M)	including 2 x 4,000-lb.		
	1	Wall.IV	4*	1	-	-	3	-	-	-	-	-	49.6			97.2	
	4	Halifax	19	15	1	1	1	1	1	-	1B	-	-			0.4	1.6
	6	Wall.III	45	29	-	2	13	1	-	-	2E	1	5			2.7	5.5
	6	Wall.X	2	2	-	-	-	-	-	-	-	-	-			-	-
	6	Halifax	22	12	-	-	2	1	-	-	1	1	1			-	-
BOMBING TOTAL			116	76	1	4	31	4	3	-	3E+1B+1	2	6				
IN HARVEYING																	
LORIENT	1	Wall.IV	7*	4	-	2	-	1	-	-	-	-	1		8 mines		
ST. LOUIS	3	Wall.III	6	2	-	2	-	-	-	-	-	-	-		4 mines		
BUENOS AIRES	6	Wall.III	4	1	-	3	-	-	-	-	-	-	-		2 mines		
IN HARVEYING TOTAL			17	7	-	7	2	1	-	-	-	-	1		14 mines		
EXCEPTS																	
LORIENT	01	Wall.III	5*	2	1	-	1	1	-	-	-	-	-				
TOTAL			138	85	2	11	34	6	3	-	3E+1B+1	2	7				

\* These 16 A/C were not fitted with Gou.

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BOMBER COMMAND REPORT ON NIGHT OPERATIONS, 30/31st JANUARY, 1943.HAMBURG: Aachen: Bochum: Cologne: Essen: Minelaying-(Frisians and W. France)SUMMARYHamburg

1. 148 heavy aircraft of 1,5 and P.F.F. Groups were despatched at dusk to attack Hamburg. The 18 Pathfinders included 13 equipped with H<sub>2</sub>S.

Severe frontal conditions were encountered en route, but cloud broke to 4-8/10ths in the target area, where visibility was moderate to good, although there was no moon. The H<sub>2</sub>S - equipped aircraft identified the target, and dropped flares and ground-markers, which were easily recognised by the Main Force. 94 aircraft (63.5%) reported attack. Results could not be observed.

Intelligence sources reported considerable damage in the harbour area and to the Blohm und Voss yards; but this is not confirmed by photographic reconnaissance.

Great activity by controlled enemy fighters met with little success, probably on account of bad weather. 5 aircraft (3.4%) did not return.

Aachen, etc.

4 P.F.F. Mosquitoes, equipped with "Obes", carried out nuisance raids on Aachen, Bochum, Cologne and Essen. All attacked their targets and returned safely.

Minelaying

11 of 17 aircraft from 1 and 4 Groups laid 22 mines off the Frisians and St. Nazaire. All returned safely.

Meteorological Forecast

2. Midnight fronts: (1) warm from 61°N, 18°E., to 59°N. 13°E. (tip of warm sector), then cold south-westwards to Berlin to Nurnberg and W. Alps (2) cold from Shetlands to S.W. Norway to W. Denmark to Cologne to Bordeaux.

Home Bases:- Variable amounts of cloud. Showery conditions with long clear intervals. Moderate visibility.

Germany:- Along front 2, heavy rain will persist: freezing level 2-3,000 feet. Near this front, cloud will extend to great heights, probably 30,000 feet. 100 miles behind the front, there will be continuous medium cloud. Between fronts 1 and 2 much cloud will prevail, with some breaks. East of front 1, there will be cloud in several layers. Berlin and Hamburg: for an early operation, both targets will have 10/10ths cloud, base 1,000 feet, very thick solid tops at Hamburg to 25-30,000 feet, tops at Berlin not so high but probably above 20,000 feet. After 2200 hours, when the cold front has passed, showery conditions will ensue at Hamburg; there will be extensive patches of cumulo-nimbus, base 1,500-2,000 feet, dropping to 800 feet or lower in showers of rain and hail, with local thunder and lightning. Tops should not extend above 15,000 feet, but patches of cirrus will be found between 20,000 and 30,000 feet. No improvement during the night can be expected at Berlin. Route to both targets; very severe convection conditions, heavy showers of rain and hail, thunderstorms with lightning and severe static, freezing level 2,000 feet, had icing above.

...../Winds en route:

Winds en route: W. of 5-6°E. at 15,000 feet - 240°/60 m.p.h.  
 at 20,000 feet - 230°/75 m.p.h.  
 E. of 6°E. at 15,000 feet - 230°/65-70 m.p.h.  
 at 20,000 feet - 225°/80 m.p.h.  
 at 25,000 feet - 225°/100-120 m.p.h.

N. Italy:- Much cloud over Alps and Lombardy Plain.

N.W. France:- Convection cloud, tops probably above 15,000 feet.  
 Heavy thunder-showers.

HAMBURG

Plan of Attack

3. Zero hour.....0300 hours

Period of attack

Pathfinder Force.....0300-0312 hours  
 Main Force.....0300-0315 hours

Route briefed: Egmond - Hoya - HAMBURG - Bargtheide - Peilworm

14 H<sub>2</sub>S-equipped Stirlings and Halifaxes were to mark the target. En route, each of these aircraft was to release a single bundle of red flares at 52°50'N. 09°09'E. and one bundle of green flares 16 miles short of the target on track. If weather conditions were sufficiently clear, they were to drop a salvo of 4 red marker bombs on the aiming-point, in the following order: 4 aircraft at zero hour: 1 aircraft each minute from zero + 2 to zero + 10: 1 aircraft at zero + 12 minutes. If cloudy conditions prevailed, they were to drop 4 bundles of red flares with green stars to burst at 16-17,000 feet, so that bombs aimed at these by the Main Force on a heading of 35 M. would hit the aiming-point. The same timing would be followed as for ground marking. These red flares would be followed by green flares, dropped by P.F.F. Lancasters (backers up): 2 aircraft at zero hour, 1 at zero + 3, 1 at zero + 5 and 1 at zero + 7 minutes.

The Main Force was to attack from zero to zero + 15 minutes, each aircraft carrying one 4,000 lb. H.C. bomb + 1080 x 4-lb. incendiaries. If the P.F.F. had dropped marker bombs, they were to aim their heavy bomb at the centre of the area marked, and continue straight and level for 10 seconds before releasing their incendiaries. Any heading might be used. If the sky-marking technique had been employed, the Main Force was to approach on an exact heading of 35M., and aim their H.C. bombs at the flares with their bomb-sights set for their own particular height. If more than one cluster of flares was burning, they should aim at the centre of the clusters.

Sorties

4.	(a)	Np. of aircraft despatched.....	148
	(b)	" reporting attack on primary area.....	94(63.5%)
	(c)	" " alternative area.....	2(1.7%)
	(d)	" abortive sorties (technical defect.....29) (weather.....18)	47(31.4%)
	(e)	" aircraft missing.....	5(3.4%)

Weather Experienced

5. Home Bases:- Cloud was generally well-broken till 0400 hours, despite showers and local thunder. Rapidly increasing medium cloud, with rain and low cloud, base 1,000-1,500 feet, spread from the south-west, reaching a line Liverpool-London by 0500 hours, Blackpool-Felixstowe by 0600 hours, and affecting all Groups by 0700 hours.

Route:- Broken cloud off English coast, soon increasing to 7-8/10ths towering cumulo-nimbus, tops 17,000 feet, occasionally 22,000 feet. 10/10ths over Dutch and Danish coasts, tops 20-23,000 feet. Heavy, clear ice in cloud tops, persistent condensation trails above, severe static. Inland over the continent, cloud broke to 4-8/10ths, tops 8-10,000 feet, at times to 16,000 feet. Visibility excellent. ....../Target

Target:- 4-8/10th convection cloud, tops 8,000 feet, isolated tops to 16,000 feet. Thick haze. Visibility fair to good. No moon.

#### Narrative of Attack

6. 148 heavy aircraft of 8,1 and 5 Groups set out. 94(63.5%) reported attack.

5 of the 13 H<sub>2</sub>S - equipped aircraft and 4 "backers-up" completed their task successfully. Both marking methods were used. The Main Force easily recognised the Pathfinder flares, and the great majority attacked within the planned period. Cloud conditions hampered observation, but many fires were seen.

2 aircraft (1.7%) attacked alternative targets, viz., Vochte aerodrome and Bremen.

5 aircraft (3.4%) did not return.

#### Photographic Evidence

7. (a) Night photographs taken with bombing

Two night photographs only have been plotted, at Winterlude and Neudorf respectively, 3½ and 6½ miles from Hamburg. A distinctive group of T.I. bombs (position unknown) has been recognised on seven films; three aircraft bombed in the neighbourhood of the group, and four others ran over the group some time after bombing. Seven further films show plottable ground detail; the remainder, taken from heights between 16,000 and 22,000 feet, reveal thick cloud only.

The films of 22 aircraft recorded heavy flak, in 6-gun and smaller salvos.

(b) Day reconnaissance

A reconnaissance covering the effects of this operation and that on the night of 3/4th February revealed little fresh damage. A large factory producing edible oils and fats has been partly gutted, and a block of flats has been disintegrated by an H.E. bomb. Some houses have also been destroyed.

#### Intelligence Reports

8. Intelligence sources report that considerable destruction was caused, mainly in the harbour area. Empty ships in the Segelschiff Hafen were hit, together with more than one lying alongside the Petersen Kai. Elchn and Voss, Deutsche Werft and several oil tanks were damaged. Some bombs fell in Finkenwarder, and the railway bridge across the Elbe was said to have been hit. The Elmduettel district was still without electricity on Feb. 1st.

#### Navigational Aids (Gee)

9. This was the first occasion on which the frequency 44.9 Mc/s was used by Bomber Command. It had, however, been employed previously on the Southern Chain for other purposes, and was known to the enemy. The enemy soon discovered that we were using this frequency and began to jam it as effectively as the usual frequency. The outward route was across heavily jammed Northern Holland. The jamming commenced at 02.15 hrs., 49 mins. before zero hour, and only 4 fixes were obtained after this time on the outward trip.

Of the 151 Gee sorties made, 84 returned ranges suitable for analysis. The average range was 272 miles. The maximum range, 410 miles, was obtained on the return route, which passed north of Heligoland and across the North Sea. The weakness of the G signal limited the range on the return trip.

#### Blind Bombing Aids (H<sub>2</sub>S)

10. One navigator reported the target to be ill-defined, as the result of violent evasive action. In all other cases it appeared exactly as expected, and 2 navigators obtained positive identification of the dock system.

...../The Stirlings

The Stirlings were unable to use Gee, owing to incorrect timing of the receivers, and conducted their navigation entirely by means of the special equipment. Many landmarks were readily identified.

Defences

11. (a) Flak and Searchlights

The defences, although formidable, were rather below standard for this target. According to early arrivals, the guns and searchlights did not engage until it was clear that Hamburg was the main objective.

Weather conditions were against effective searchlight co-operation, cone formation being moderate and, for the most part, confined to the south and south-west of the town. Some crews estimated the number of searchlights at about 100 within an 8 mile radius.

The heavy guns fired "seen" and "deterrent" fire as far as possible, in co-operation with the searchlights. Some fairly accurate "unseen" fire was also encountered, and a number of crews reported barrage towards the close of the attack.

Light flak fire was slight.

(b) Fighters

Great activity was shown by enemy fighters, 71 sorties being made by controlled fighters in seven identified areas of operation in Holland and N.W. Germany. Two attempted interceptions and one claim to success were heard, the latter referring to a British aircraft said to have been burning over Bremen at 0321 hours. There were no observations by returning crews to support the claim.

In spite of this activity, few fighters were seen, possibly on account of the bad weather conditions and because our total effort during the night covered a large area of Germany and a considerable time.

Only one attack and 5 other interceptions occurred. No details of the attack are known, since the bomber crashed on return, probably on account of damage sustained, with loss of all the crew.

Casualties

12.	No. of aircraft missing.....	5(3.4.1)
	" damaged (a) flak.....	3
	(b) fighter.....	1
	(c) other causes.....	9
	Total Damaged	13(8.8)

One of the five missing aircraft exploded in the air when hit by flak over Bremen on the outward journey. It was held by searchlights at the time. Two more were seen in flames over Hamburg. One of these was a victim to flak, but in the other case the cause was not observed.

Apart from the one intercepted claim by the enemy, there was no evidence of success by night fighters.

Aachen: Bochum: Cologne: Essen

13. 4 Mosquitoes of 8 Group, equipped with "Oboc", were despatched to attack precise targets in the Ruhr. All bombed their objectives through broken clouds from above 25,000 feet and returned safely.

...../over

<u>Target Detailed</u>	<u>Target Attacked</u>	<u>Control Stations</u>		<u>Track</u>	<u>Time Detailed</u>	<u>Time Attacked</u>	<u>Results</u>
		<u>Tracking</u>	<u>Bombing</u>				
Aachen	Primary	Trimingham II	Swingate	64°	2200	2158	Good
Bochum	Primary	Walmer	Trimingham I	176°	2300	2304	Good despite poor signal
Cologne	Primary	Trimingham I	Walmer	36°	2200	2158½	Several miles out.
Essen	Primary	Swingate	Trimingham II	176°	2300	2306	Geo faulty. Hit by flak. Several miles out.

Intense and accurate flak was encountered from Bochum and Essen. One aircraft sustained minor damage.

#### MINELAYING

17 aircraft of 1 and 4 Groups were despatched on a mining operation, 5 to Aachen and 12 to the Frisians. 10 aircraft reached the latter area, where visibility was good with little cloud; but thunderstorms with hail, lightning, icing and 10/10ths cloud compelled all but one aircraft detailed for Aachen to return early. Each of the successful aircraft laid 2 mines. Heavy opposition was encountered and all aircraft returned safely to base, of which 3 were damaged on landing.

#### APPENDIX

##### of Attack

##### Pathfinder Force

##### (a) Stirlings and Halifaxes (H<sub>2</sub>S - equipped)

5 aircraft reported attack, at 0259, 0302, 0306, 0307 and 0308 respectively.

##### (b) Lancasters

4 aircraft reported attack, at 0300, 0302, 0306 and 0316 respectively.

##### Main Force

No. of aircraft attacking early (4').....	1
" within planned period.....	77
" 0-15' late .....	6
" more than 15' late.....	1
	<u>85</u>

##### Flares

(No. of aircraft reporting attack on primary)

No. of aircraft carrying flares and T.I. markers.....	5
" T.I. + H.E. + 4 lb. incendiaries.....	4
" H.E. + 4lb. incendiaries.....	83
" H.E. only.....	2
	<u>94</u>

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 E/A	attacked	not attacked	Tons of Bombs	Incs.
HAMBURG	8 P.F.P.	Lancaster	5	4	-	-	1	-	-	-	1E	-	-	(P) 162.5+ (M) 3.6 (M) 8.9 +(including 2x8,000 lb. 87x,000 lb.)	158.5 1.9 9.0
	8 P.F.P.	Halifax	6	2	-	1	3	-	-	3AC	-	-			
	8 P.F.P.	Stirling	7	3	-	3	1	-	1	-	-	1			
	1	Lancaster	25	15	2	-	7	1	1	1AC	-	-			
	5	Lancaster	105	70	-	4	27	4	1	1E	1E	1	4		
<b>T O T A L</b>			148	94	2	8	39	5	3	1E	2E+ 7AC	1	5		
COLOGNE	8 P.F.P.	Mosquito	1	1	-	-	-	-	-	-	-	-	-	(P) 0.7	-
ESSEN	8 P.F.P.	Mosquito	1	1	-	-	-	-	1	-	-	-	-	(P) 0.7	-
AACHEN	8 P.F.P.	Mosquito	1	1	-	-	-	-	-	-	-	-	-	(P) 0.7	-
BOCHUM	8 P.F.P.	Mosquito	1	1	-	-	-	-	-	-	-	-	-	(P) 0.7	-
<b>BOMBING TOTAL</b>			152	98	2	8	39	5	4	1E	2E+ 7AC	1	5		
MINELAYERS	1	Hell.III	5	1	-	-	4	-	-	-	1AC	-	-		2 Mines
FRISLAN IS.	4	Halifax	12	10	-	-	2	-	-	-	1B+ 1AC	-	-		20 Mines
<b>MINELAYING TOTAL</b>			17	11	-	-	6	-	-	-	1B+ 2AC	-	-		22 Mines
<b>T O T A L</b>			169	109	2	8	45	5	4	1E	2E+ 1B+ 9AC	1	5		

