

~~DECLASSIFIED~~
RESTRICTED

THE R.A.F. IN MARITIME WAR

VOL. VII

PARTS III AND IV

PART III

CHAPTERS 1 TO A

INDIAN OCEAN AND SOUTH EAST ASIA
NOVEMBER 1943 TO AUGUST 1945

PART IV

CHAPTERS 5 TO 7

(Bound Separately)

POST-WAR OPERATIONS IN SOUTH-EAST ASIA

AUGUST 1945 - NOVEMBER 1946

SURRENDER AND RE-OCCUPATION

RECOVERY OF PRISONERS-OF-WAR AND INTERNEES

THE CAMPAIGN IN THE NETHERLAND EAST INDIES.

~~RESTRICTED~~
~~RESTRICTED~~
PREFACE
TO
PARTS III AND IV.

This present volume on the R.A.F. in Maritime war in the Second World War is the final instalment of Vol. VII in the series. It is divided into two distinct parts, III and IV.

Part III gives a full account of air operations in the Indian Ocean and South East Asian waters from the formation of South East Asia Command in November 1943 until the end of the war against Japan in August 1945. It covers the early period when the Air Forces maintained the Allied initiative and while the skeleton Eastern Fleet lay in Kilindini and slowly built up in Ceylon; ^{shows} how the Flying Boat Pool, controlled from Ceylon, protected the vital convoys on which the existence of South East Asia Command depended: and from bases in Aden, East and South Africa, Madagascar, Ceylon, the Bay of Bengal and the remote island bases of the Indian Ocean, watched, deterred and hunted the German and Japanese submarines until their eclipse in the autumn of 1944. The Allied rate of shipping losses was often dangerously high, greater sometimes than in the rest of the western oceans together; and not least among the humane roles of the maritime reconnaissance squadrons was their continuous search for survivors. Every ship loss has been analysed in these pages and it is clear that on no occasion when the R.A.F. was called on for rescue work, and it was feasible to provide it, was it refused.

The other major topics related are the anti-shipping and the aerial mining campaigns and the aircraft carrier operations.

In the late phase of the war under review, it became progressively a campaign against small ships, both coastwise and in harbour; and the results, added to the achievements of our ships and submarines, were decisive.

The record of aerial mining will come as a revelation to the majority of those to whom the Indian Ocean and South East Asia have always been a closed book. The strategy, methods and decisive achievements are of the greatest interest and importance to a nation like the British.

The expeditions and tactics of the carrier-based aircraft are likewise of major interest to the R.A.F. and, enacted as they were in fields of wide manoeuvre, form a priceless extension of knowledge when added to the Royal Navy's exploits in the Mediterranean and placed in the context of carrier operations in the Pacific.

~~RESTRICTED~~

DECLASSIFIED
~~SECRET~~

It was originally planned to end the series with the Japanese surrender in August 1945. However, various considerations led to the decision to give an account of the reoccupation of Japanese-held territories belonging to the British Commonwealth, Siam, French Indo-China and the Dutch Indies. In addition, it was held in important circles that as the recovery of Allied prisoners-of-war and internees was in itself an operation of war, it must be fully reported. This part, it is believed, has proved entirely justified, not least because it portrays the decisive role of the R.A.F. and R.A.A.F. in the greatest mercy mission of the war.

The Cabinet Official Histories Branch viewed the British campaign in the Dutch East Indies as an extension of the war against Japan, a point of view reinforced by the Japanese inspiration and support of the Indonesian declaration of independence and their wholesale training and arming of the Indonesian revolutionaries. As an act of co-operation, as well as for the enlightenment of the services, colleges, and commands, Chapter 7 was conceived and completed. It cannot but prove of the highest value at this present period of the Indonesian confrontation of Malaysia.

DECLASSIFIED
~~SECRET~~

DECLASSIFIED

TABLE OF CONTENTS

CHAPTER 1

THE OPENING OF THE ALLIED OFFENSIVE
(NOVEMBER 1943 TO SEPTEMBER 1944)

Page

Air policy

Strategic control up to 12 Dec.43
Strategic control from 12 Dec.43 onwards
Operational control
The Flying boat pool
Areas of operational control
Flying boat bases
The four main areas of the East Indies Station
Submarine areas
Distribution of general reconnaissance aircraft (1 Nov.43)
A.H.Q. E. Africa organisation and tasks
Air H.Q. East Africa order of battle for East Indies Station (1 Nov.43)
and 1 Jan.44.)
Co-operation between No. 246 Wing and H.Q.B.F. Aden
The special position of the Aden command
Responsibilities of A.O.C. Aden
A.H.Q. Aden dispositions and orders of battle (Nov.43 to Jan.44)
Aden takes over operational control from A.H.Q. Iraq and Persia
Aden standing air patrols
The Free French Potos Flight at Djibouti
Nos. 222 and 225 Groups orders of battle
Control in the Arabian Sea by No. 225 Group

1

The Naval and convoy escort situation

The Eastern Fleet at the close of 1943
Merchant convoys
Convoys in submarine attacks (1942 and 1943)
Convoy routes
Changes in convoy organisation (Nov.43 to Apr.44)

19

Anti-submarine operations in November 1943

Air H.Q. E. Africa
General situation - November
Air operations - November
Reconnaissance by Japanese submarine-borne aircraft

24

Air H.Q. Aden

General situation
Air operations

No. 225 Group

General situation
Air operations

No. 222 Group

General situation
Record air searches
Survivors rescued by Nos. 205 and 321 Squadron

Anti-submarine operations in December 1943

Air H.Q. E. Africa
General situation
Air operations

33

Air H.Q. Aden

General situation
Air operations

No. 225 Group

General situation
Air operations
First enemy attack on an air-escorted convoy.

DECLASSIFIED
SECRET

Page

No. 222 Group

Steps to meet possible threat from Japanese surface forces
Anti-submarine and rescue operation

Enemy submarine forces in early 1944

36

German and Japanese co-operation
The Axis submarine bases
Comparison of policy and methods
German and Italian U-boat reinforcements and dispositions
(January to March 1944)
Japanese submarine dispositions (January to March 1944)

Anti-submarine operations in January 1944

No. 222 Group

General situation
Operations

No. 225 Group

General situation
Operations

Air H.Q. Aden

General situation
Operations

Air H.Q. East Africa

A month of respite

Anti-submarine operations in February 1944

No. 222 Group

47

A month of action and increasing threat
Outstanding rescue search by Catalinas
Destruction of RO-110 by H.M. Ships (11 Feb. 44)
The loss of S.S. Khadive Ismail (12 Feb. 44)
The destruction of I-27 by H.M. Ships (12 Feb. 44)
Loss of the repair vessel Salviking (14/15 Feb. 44)
Loss of S.S. Epaminondas C. Embiricos (15/16 Feb. 44)
Loss of the tanker British Chivalry (22 Feb. 44)
Loss of S.S. Palma (29 Feb. 44)
Lack of Eastern Fleet escorts

No. 225 Group

Air operations

Air H.Q. Aden

General situation
Loss of S.S. Chungchen (4 Feb.) and S.S. Viva (9 Feb. 44)
Sinking of three dhows (8 Feb. 44)
Major attack on tanker convoy PA.69 (23 Feb. 44)
Air search for the submarine

Air H.Q. East Africa

General situation
Loss of S.S. Sutlej (26 Feb.) and S.S. Ascott (29 Feb. 44)
Loss of S.S. Ferris (20 Feb. 44)

~~DECLASSIFIED~~

Page

66 60

The combined hunts for enemy blockade runners and tankers
(January, February and March 1944)

Increase in enemy submarine blockade running
Fuelling difficulties
Failure of first combined Allied search
German plans to refuel U-boats in early February
Sighting of the Charlotte Schliemann by aircraft and destruction
by H.M. ships
Germans forced to make new plans
Catalina strength on Mauritius reduced
Allied plans to intercept the tanker Brake
Location and destruction of the tanker Brake
German plans for U-boats thrown into confusion

The Japanese Fleet in Singapore (February - March 1944)

75 67

Move of major units in late February
Allied naval dispositions to meet the threat
Allied air dispositions to meet the threat
Japanese cruiser raid in the Indian Ocean

Anti-submarine operations in March 1944

No. 222 Group

Strategic air problems
Grave air reinforcement problem
Air Ministry's plan to replace the Catalina by the Sunderland
Comparison of the Catalina with the three types of Sunderland
General enemy submarine situation (March 1944)
Air operations
Loss of S.S. Fort MacLeod (3 Mar. 44)
Loss of S.S. Tulagi (7 Mar. 44)
Bold attack by U.183 on the tanker British Loyalty in
Addu Atoll (9 Mar. 44)
Loss of S.S. Nancy Moller (18 Mar. 44)
Loss of the Dutch S.S. Titsalek (26 Mar. 44)
Loss of H.M.S minesweeper Maclay (prob. 27 Mar. 44)
Summary of air effort

No. 225 Group

General situation
Loss of the tanker H.D. Collier (13 Mar. 44)
Loss of S.S. El Medina (16 Mar. 44)
Air hunt for RO-111
Loss of S.S. John A Pook (19 Mar. 44)
Vain air search for survivors of S.S. Richard Hovey

Air H.Q. Aden

General situation
Loss of S.S. Tarifa (7 Mar. 44) and air sea rescue
Loss of the tanker Grona (21 Mar. 44)
Combined air/navy search for enemy submarine (25-28 Mar. 44)

71

A.R.Q. EAST AFRICA

Operational boundary with the Union of South Africa
U.11.22 defeated by Catalin tactics and sunk (11 Mar.44)
 Japanese and German activity
 Abortive air attack on a Japanese submarine
 Reconnaissance of Diego Suarez, Mozambique and Kilindini by Japanese }
 submarine-borne aircraft.
 Continuation of the hunt
 Rescue of Catalinas

PAGE

Anti-submarine operations in April 1944

97

No. 222 Group

Enemy submarines reduce effort in Indian Ocean
 Concern over Japanese atrocities
 Fluctuations in convoy policy
 Air escort operations
 Submarine attack on S.S. City of Adelaide (30 Mar.44)
 Regatta Catalina's 800 mile flight to assist tanker
Yamhill (11 Apr.44).

No. 225 Group

Decline in submarine threat a welcome relief
 Fall in convoy and shipping lane patrols

Air H.Q. Aden

All quiet in the Gulfs of Aden and Oman

Air H.Q. East Africa

A month of uneasy calm

Anti-submarine operations in May 1944

105

No. 222 Group

The formation of ICGROPS
 General situation
 Air searches
 Air protection of Eastern Fleet on return from air strike }
 on Sourabaya (26-27 May 44)

No. 225 Group

Air convoy escort reduction
 Meteorological flights
 Attacks on enemy shipping

Air H.Q. Aden

Enemy submarine threat annulled by air action

U.852

First and vital attack by No. 621 Squadron
 Second, third and fourth attacks off Ras Hafun
 Fifth attack
 Plan for a triple attack on U.852
 Intervention by No. 8 Squadron
 The end of U.852 (3 May 44)

Air H.Q. East Africa

Watch for German U-boat reinforcements.

/Anti-submarine

DECLASSIFIED
SECRET

PAGE

112

Anti-submarine operations in June 1944

No. 222 Group

General situation

Patrols

Defence exercise Operation "Blitz"

Defence plan Operation "Highball"

Escort aircraft diverted to distressed ship (8 June 44)

Error of 8° latitude in position reported by ship)
under attack (8 June 44)

Air sweeps (9 - 10 June 44)

Air rescue of survivors of S.S. Helen Moller

Constant Catalina sweeps from island air base

Catalina fuel shortage remedied by destroyers (28 - 29 June 44)

Loss of S.S. Nellore

No. 225 Group

Effect of reduction in convoys and submarine threat on air effort

Air H.Q. Aden

Anti-submarine counter-measures and escort

Institution of Gulf of Aden Central (G.A.C.) shipping lane and)
constant patrols from Addu and Diego Garcia

Experimental use of Liberator aircraft in Aden Command

Air H.Q. East Africa

Air operations in a month of uneasy lull

Loss of a Dutch tanker (19 June 44)

DECLASSIFIED
SECRET

Anti-submarine operations in July 1944

No. 222 Group

Enemy submarine dispositions in the Indian Ocean

Acceleration of the enemy offensive

The long search for survivors of S.S. Nellore and S.S. Jean Nicolet

Submarine hunts

Loss of S.S. King Frederick in the 9th channel (19 Jly.44)

A record in general reconnaissance flying hours

Allied naval developments

Destruction of I.166 by H.M. Submarine Telemachus (17 Jly.44)

No. 225 Group

Heavy increase in flying hours

Rescue of survivors of S.S. Shahzada

Sinking of S.S. Tanda and the hunt to exhaustion (15-19 Jly.44)

Air H.Q. Aden

A quiet month in Aden's waters

Air H.Q. East Africa

Adverse effect of malaria on flying boat operations

Control measures and future prospects

Effects of maximum effort on flying boat serviceability

Air/Naval exercise Operation "Mungo"

Catalina attack on Schnorchel U.859 (5 Jly.44)

Attack on a U-boat by S. African Ventura (6 Jly.44)

Sinking of S.S. Director by U.198 (15 Jly.44)

Air and naval steps to meet U-boat threat

The Eastern Fleet in 1944

← The shift in emphasis in operations

Brief epitome of Eastern Fleet operations

Changes of command

Anti-submarine operations in August 1944No. 222 Group

Enemy submarine reinforcements and successes in Indian Ocean

Air operations

Rescue of the Greek S.S. Aspasia Nomikos (24-26 Aug.44)

Air/sea rescue of Superfortress aircraft

No. 225 Group

India re-exhibits coastal lighthouses

A month of routine

Air H.Q. Aden

Conference on airfields and establishments (7-8 Aug.44)

Enemy submarine activity

Loss of S.S. John Barry (28 Aug.) and S.S. Troilus (31 Aug.44)

Air H.Q. East Africa

Area control and administrative changes (March-August 1944)

U-boat offensive in the approaches to the Mozambique Channel

Intelligence accumulates and searches are instituted

Carrier Force 66

Flying boat dispositions in August 1944

No.246 Wing in the hunt for U.198

Force 66 aircraft attack on U.198 (10 Aug.44)

Search by aircraft and ships continued

Destruction of U.198 by H.M. Ships (12 Aug.44)

U-boat reinforcements sink shipping unimpeded

Air and naval hunt for U.862

Catalina shot down by U.862

Two ships in convoy attacked - one sunk (20 Aug.44)

CHAPTER 2. STRATEGICAL AERIAL MINELAYING (1943-1945)

Introduction

**Page
158**

The Allied situation in early 1943

Back on the defensive
1943 - the year of stalemate
The Tenth U.S. Army Air Force
The Fourteenth U.S. Army Air Force
Eastern Command
No. 222 Group
The Twentieth U.S. Army Air Force
Summary of air forces engaged
Survey of mines and methods
Mining organization

159

The Japanese military system in the Outer Zone

Strategy and economy of the Outer and Inner Zones
Need for an understanding of theatre topography
General topography of the target areas
Oil targets
Main Japanese shipping routes in 1943
Japanese minesweeping

169

1943 Operations

1942 prelude
Strategic significance of Rangoon
Preparations
First mining of Rangoon (22/23 Feb.43)
Dispersal versus concentration
Preparations for the second Rangoon lay
Teething troubles
Second lay at Rangoon (27/28 Mar.43)
Third lay at Rangoon (22/23 May 43)
Mitchell lay in the Irrawaddy River (13/14 Jly.43)
Lays at Rangoon (August-November 1943)
Mining forces acceleration of Siam - Burma railway construction
Air plans to knock out Rangoon (December 1943)
Bombing of Rangoon (25 Nov. to 6 Dec. 43)
Lays at Rangoon and Moulmein (4/5 and 5/6 Dec.43)

176

Photographic Intelligence

Photographic reconnaissance (January-June 1943)
Extension of photographic reconnaissance (July-December 1943)
Value to the Air Command and Eastern Fleet of air photographs
Entry of the modern Mesquito (August 1944)
Photographic Reconnaissance Unit operations (August-September 1944)

187

Co-ordination of Minelaying Operations in S.E.A.C. (1944)

Plans
Co-ordination
Problems

193

Operations in the Gulf of Siam by the Strategic Air Force in 1944

Growing strategic importance of the Gulf of Siam ports
Operations in the Gulf of Siam (10/11 Jan. - 29 Dec.44)
Difficulties of maintaining continuity in Gulf of Siam lays
Results of 1944 mining of Gulf of Siam parts.

195

Operations off Burma (January-August 1944)

Major effort to close Rangoon (January 1944)
Effects of minelaying at Rangoon on the German system
Plans for lays off Burma coast
Lays off Burma by 10th U.S.A.F. (April-June 1944)
Lays off Burma by No. 231 R.A.F. Group (May-August 1944)
Changing policy on mines and targets
Chindwin River mining by B-25s (Operation 'Channel') August 1944.
Strategic significance of Andaman Islands in late 1944
Strategic significance of Andaman Islands in late 1944
Minelaying at Port Blair (28/29 Aug.44)

First Operations at Penang (October-November 1944)

Strategic significance of Penang Island
Penang U-boat base
Plans to mine Penang
Aircraft and airfield changes
First mining of Penang
Aircraft and airfield changes
First mining of Penang (27/28 Oct.44)
General satisfaction
Fight to retain Penang's target priority
Storm wrecks second mining of Penang (26 Nov.44)
Results.

Operations by No. 231 Group off Western Burma (September-December 1944)

Recapitulation of operations from January to August 1944
Recapitulation of operations from (September to December 1944)
Pattern of mining in Burma ports (September-December 1944)
The Kra Peninsula and the Pakohan River
First lay in Pakohan River
Ground and air defences and shipping up the Pakohan River
Second lay in Pakohan River
Decision to introduce the acoustic mine
Bombing attack on Khao Huagang port (22 Nov.44)
Combined mining and bombing of Pakohan River area (8 Dec.44)
Lays off other Burma ports (September-December 1944)
Trends in 1944 statistics.

XX Bomber Command Superfortress Operations from Ceylon and India
(1944-1945)

Page
224

The B-29 Superfortress
 The XX U.S. Bomber Command in India
 The charter of the Twentieth Air Force
 S.E. Asia Command's interest in XX Bomber Command
 Settlement of control of V.L.R. air operations
 Oil ports and refineries of Sumatra
 Operation "Boomerang" - the attack on Palembang - plans
 The attack on Palembang (10/11 AUG.44)
 Results of the bombing and mining of Palembang
 Eastern Fleet submarine operations in 1944 in the Malacca Straits
 XX Bomber Command's stay in China (September 1944 - January 1945)
 B-29 large scale mining in the first quarter of 1945 from India
 Strategic significance of Singapore and the Saigon area
 B-29 missions against Singapore and Indo-China waters (25/26 Jan.45)
 Obscure results
 B-29 mission against Singapore (27/28 Feb.45)
 B-29 missions to Singapore, Saigon and Cam Ranh Bay (28/29 Mar.45)
 Delayed arming and ship counters
 Sterilizers
 Devices employed in Singapore lays (28/29 Mar.45)
 Summary of XX Bomber Command's minelaying effort from S.E.A.C.
 A few conclusions on Superfortresses in the C.B.I. theatre.

Minelaying policy developments in 1945

250

Command changes
 Role of minelaying in strategic air plans
 Supreme Commander's conference on Japanese supply
 Increase in mining and ship strikes ordered for April
 Innovations and developments (January - May 1945)
 Acoustic mine supply problems.

Japanese oil targets in the Outer Zone

256

Introduction
 Japanese oil organization
 Production in the N.E. Indies
 Singapore
 Developments in the Japanese tanker situation (1944-1945)

Lays at Singapore by No. 222 Group (March-May 1945)

264

January and February operations at Singapore by XX B.C.
 The first Singapore Lay (26/27 Mar.45)
 The second lay (24/25 Apr.45)
 Tragedy on the third lay at Singapore (30 Apr./1 May 45)
 The last Singapore lay (23/24 May 45)
 Shipping losses to Allied mines at Singapore.

Lays by No. 222 Group off the Sumatra ports (January - May 1945)

268

General survey of operations
 Pangkalan Brandan oil output
 The strategy of repeated small lays
 January 1945 Sumatra lays
 February 1945 Sumatra lays
 March 1945 Sumatra lays
 March a successful month for No. 160 Squadron
 April and May 1945 Sumatra lays
 The single lay at Padang (26/27 Apr.45)
 Abortive attempts to mine Nancowry in the Nicobar Isl.
 Last mining in Sumatra (May 1945)
 Mine sterilization grows urgent.

/Lays by No. 222 Grp.

Lays by No. 222 Group at Penang, Malacca, Klang, Singora and Chumphorn
(January - May 1945)

Standing importance of Penang and Klang Strait areas
Ports feeding Kra Isthmus
January - March lays at Penang and Klang
Mining off Chumphorn (26/27 Feb.45)
March lays at Chumphorn
Resume of April and May lays in Malacca Strait
April lays in Malacca Strait uncover shipping activity
May lays in Malacca Strait
Last lay at Chumphorn and lays at Singora (April-May 1945)

Lays by No. 231 Group (S.A.F.) off Burma and in the Malacca Strait
and Gulf of Siam (January - July 1945)

285

Trends in mining operational policy (January-March 1945)
Grouping of target areas for recognition
Changes in emphasis on target areas (January-July 1945)
Lays off Western Burma and Siam (January - March 1945)
Shipping and defences in mined ports (January - March 1945)
Effort and target changes (April - July 1945)
The acoustic problem
Operational developments (April - July 1945)
Favourable report on minelaying by C.-in-C. East Indies
Station (21 May 45)
Lays off Western Burma (April - June 1945)
Mine and bomb attacks on Satahib Bay and destruction
of submarine depot ship Anghong (30 May - 1 June 1945)
Lays in the Gulf of Siam (April - July 1945)
Shipping and defences in mined ports (April - July 1945)
Summary of No. 231 Group's mining effort in 1945
Gen. Stratemeyer's report to Gen. Arnold (10 May 45)
Ship sinkings on mines laid by S.E. Asia - based aircraft (1942-1945)

Mining by Allied submarines (1942-1945)

303

Interplay of mining agencies
Command
British submarine organization in Far East (1 Sept.44)

U.S. Submarine Operations

304

1st phase - S.W. and Central Pacific (15 Oct. - 20 Dec.42)
2nd phase - S.W. and Central Pacific (16 Mar. - 4 June 43)
3rd phase - S.W. Pacific (2 Oct.43 - 21 Feb.44)
4th phase - S.W. Pacific (19 Aug.44 - 9 May 45)
Accomplishments of U.S. submarines in S.W. Pacific.

British and Netherlands Submarine Operations

306

Summary of effort
1st phase - Malacca Strait (March-July 44)
2nd phase - Malacca Strait and Andaman Islands (16 Sept.44
- 23 Jan.45)
3rd phase - Sumatra and Java (3 Jan. - 10 May 45)

Minelaying by the Royal Australian Air Force
(April 1943 - July 1945)

310

Introduction
Air organization, policy and forces engaged
Assignment of R.A.A.F. aircraft to minelaying (April 1943)
The Catalina Flying Boat
Personnel and planning
Mines
The four phases of operations.

/Phase I Operations

DECLASSIFIED
SECRET

CHAPTER

(Contd.)

Phase 1 Operations

1943

PAGE

316

Decision to mine Kavieng
First three lays at Kavieng (22/23 and 24/25 Apr. and 3 May 43)
Japanese evidence on results of Kavieng lays
1943 lays in the Celebes eastward
Surabaya
Lays at Surabaya (August 1943)

Phase 2 Operations

January - August 1944

321

The oil port of Balikpapan
First mining raids on Balikpapan (February 1944)
Results of one year's mining (April 1944)
Lays in support of Hollandia and Aitape landings (April 1944)
Attack on Surabaya renewed (May 1944)
Hazards of Catalina minelaying
Renewal of attack on Surabaya (July 1944)
Minelaying at the tin port of Pomelan (August 1944)
Aircraft losses

Phase 3 Operations

September - December 1944

329

Reorganization for expansion (September 1944)
Rise and fall of Japanese convoy in 1944
Need for care in making generalisations
Renewal of attacks on Surabaya and approaches (September - November 1944)
Renewal of campaign against Borneo oil ports (September - November 1944)
Mining interdiction in support of Mindoro landings (November - December 1944)

Phase 4 Operations

January - July 1945

335

Lays in the Java - Celebes zone (January - February 1945)
Diversion of effort to South China (February - May 1945)
Last campaign to close the Java - Singapore route (January - July 1945)
Partial and controversial results.

Results

Problem of assessment of results.

339

Short-term results.

Long-term results.

Results in the context of the over-all mining campaign against Japan.

DECLASSIFIED
SECRET

~~SECRET~~
~~DECLASSIFIED~~

CHAPTER 3. AIRCRAFT CARRIER OPERATIONS 1944-1945

Page
342

Introduction

342

The evolution of carrier forces within the Indian Ocean.
Growth and change in the Eastern Fleet.

343

Ships and aircraft

Fleet carriers

Escort carriers - types and tasks

Aircraft strength (1944-1945)

Aircraft performances

Outline of the Eastern Fleet effort (1944-1945)

Outline of the British Pacific Fleet effort (December 1944 - January 1945.)

British Pacific Fleet effort in the Pacific in 1945.

Air strikes by the Eastern Fleet (April-October 1944)

352

Plans for the air strike on Sabang

Forces in Operation 'Cockpit'

Preparations

Operation 'Cockpit', the strike on Sabang (19 Apr. 44)

Survey of results and lessons

Plan for the strike on Surabaya (17 May 44)

Forces in Operation 'Transem'

Operation 'Transem', the strike on Surabaya (17 May 44)

Survey of results

Operation 'Counsellor', the diversion off Sabang (10-13 June 44)

Port Blair and the Andaman Islands

Operation 'Pedal', the strike on Port Blair (21 June 44)

Operation 'Pedal' in retrospect

Plans for bombardment of Sabang (July 44)

Fighter operations at Sabang in Operation 'Crimson' (25 July 44)

Operation 'Crimson' in retrospect

The range of strategic air targets

Plan for the strike on Padang

Operation 'Banquet', the air strike on Padang (24 Aug. 44)

Operation 'Banquet' in retrospect

The air strike on Sigli, Operation 'Light B' (18 Sept. 44)

'Light B' an inconclusive operation

The Nicobar Islands

Allied amphibious strategy

Plan for a diversion in the Nicobars (October 1944)

Operation 'Millet', Phases 1 and 2 (17-18 Oct. 44)

Operation 'Millet', Phase 3 (19 Oct. 44)

Air skirmishes off Car Nicobar (19 Oct. 44)

Cost and dividends of the Nicobar operations.

Carrier operations by the British Pacific Fleet (Dec. 44-Jan. 45)

378

Strategic objective of strikes on the Outer Barrier

Plan for a strike on Pangkalan Brandan

Operation 'Robson', the strike on Belawan Deli and the
fighter sweep (20 Dec. 44).

Operation 'Robson' in retrospect.

Second plan for strike on Pangkalan Brandan refinery

Chronic delays in flying off (4 Jan. 45)

Operation 'Lentil', the fighter sweep (4 Jan. 45)

The Firefly strike

The Avenger strike

Enemy air reactions

Operation 'Lentil' in retrospect.

~~SECRET~~
~~DECLASSIFIED~~

Japanese air defence of Palembang

Statistics of Palembang oil production at the close of 1944

Forces for the Pladjoe strike

Operation 'Meridian' - approaches to flying off position

Form-up and flight to target

The fighter sweep and attack on Pladjoe (24 Jan. 45)

Air battles

Withdrawal and return to carriers

Plan for second strike on Palembang

Order of battle for the second strike, Operation 'Meridian'

Flight from base to coast and target (29 Jan. 45)

Second sweep and strike (29 Jan. 45)

Air opposition (29 Jan. 45)

Aircraft successes and losses in Operation 'Meridian'

Enemy attacks on the Fleet (29 Jan. 45)

Tactical results of Operation 'Meridian'

Strategic results of Operation 'Meridian'

Carrier operations by the Eastern Fleet off Arakan

(January - February 1945)

Introduction

The third Arakan campaign opens

Support by H.M.S. Amber for the Ramree Island landing
(21 Jan.45)

Japanese air attacks on the Fleet off Ramree

Support by H.M.S. Amber for the Chuduba Island landing
(26 Jan.45)

Disappointing outcome to the third Arakan campaign

Photographic reconnaissance and strikes (March and April 1945)

404

Japanese naval and air strategy

Japanese withdrawal commences (February 1945)

Photographic reconnaissance in Operation 'Stacey'

(Photographic reconnaissance off Malaya and airstrike on
western Sumatra in Operation 'Sunfish' (April 1945)

Photographic reconnaissance in Operation Balam (June 1945)

Carrier support for the capture of Rangoon (April-May 1945)

409

Introduction

Co-operation by No. 231 Group in the expedition

Operation 'Dracula' (30 Apr.-6 May 45)

Carrier support for Operation 'Dracula'

The threat of the enemy warships in Singapore

Disposition for Operation 'Bishop' (April-May 1945)

Operation 'Bishop'

Permit and destruction of the Japanese cruiser Haguro

416

(May 1945)

Introduction

Operation 'She (Aliraka)'

Alarm, first engagements and loss of contact

Air and naval interception plans

The enemy force turns back and is again sighted

Early Liberator patrols called off (12-13 May 45)

The net closes

The escape of Force 2 to Penang

The Haguro sighted by Liberators

The Haguro sighted by Avengers

Approach of Force 61 and the end of the Haguro

Carrier aircraft participation in minesweeping operations

425

(July 1945)

Introduction

Operation 'Collie' (2-14 Jly.45)

Operation 'Livery' off Phuket Island (19-30 Jly.45)

First suicide air attack on East Indies Fleet (26 Jly.45)

Last East Indies carrier operation ('Carson') abandoned

Kamikaze and the Tokyo Tai

429

Introduction

The four periods of 'suicide' attacks

Forms of suicide operations

Organization of suicide attacks on ships in the Pacific

Japanese air plans for the defence of S.E. Asia

No. 221 Group prepares for Kamikaze attacks (July 1945)

The true spirit of the Special Attack Units

/The climax of

~~SECRET~~

Page
433

The climax of British carrier achievement in the Pacific

Introduction

British Pacific Fleet reports for duty

Three series of British carrier operations

British air tasks in the Okinawa campaign

Fleet and escort carriers in the Okinawa operation

Japanese Air Force reorganizes before Okinawa

The Kikusui air attack plan

British carrier operations - first three phases
(26 Mar.-7 Apr.45).

Mass Japanese air attacks on U.S. forces at Okinawa

British carriers ordered to attack North Formosan airfields

Air operation against Formosan airfields (12-13 Apr.45)

Sixth and last airfield strike series (20 Apr.45): Fleet
returns to Leyte.

Summary of first period of operations

Summary of carrier operations in May 1945

The air effort and its cost in Operation 'Iceberg'

The creation of the Air Train

The raid on Truk (14-15 June 45)

End of the Okinawa campaign (21 June 45)

British carrier participation in the final air assault on Japan

The task of the British Pacific Fleet in the last phase

Carrier operation (17-19 July.45)

Carrier operations (24-30 July.45)

Late British carrier operations (9-13 Aug.45)

The last British carrier air strike of the war (15 Aug.45)

Admiralty summary of naval air operations (March-August 1945)

Conclusions.

~~SECRET~~

CHAPTER 1. THE END OF THE SUBMARINE WAR AND
THE ANTI-SHIPPING CAMPAIGN OF 1945

Page
461

A. THE END OF THE SUBMARINE WAR (SEPTEMBER 1944-FEBRUARY 1945)

Final developments in the enemy submarine situation

461

The fate of Axis submarines in the last year of the war
U-boat successes (September 1944-February 1945)

Indian Ocean maritime reconnaissance operations (September 1944 to July 1945)

465

Air H.Q. East Africa (September-December 1944)
Change of A.O.C., East Africa (November 1944)
Developments in Ethiopia (1943-1944)
Declining operational effort from E.Africa (Jan.-May 1945)
Reluctance in Aden waters (September to December 1944)
Aden air operations and shipping changes (January-February 1945)
Last words on Aden
No.222 Group policy developments (Sept.44-July 45)
IOGROPS maintains the watch on the U-boats (Sept.-Dec.45)
IOGROPS anti-submarine and reconnaissance operations (Sept.-Oct.44)
Attack on Ro-100 Japanese submarine (Oct.44)
Carrier-borne and land-based air forces hunt the Japanese
submarine (28 Oct.-14 Nov.44)
November operations
Two German U-boats sunk (Nov.44)
The landing of Japanese agents in India
Attack by Liberator in submarine (3 Dec.44)
The probable course of the U-boat (December 44)
Combined air/naval hunts
Submarine threat accepted as virtually ended (Jan.45)
Profit and loss account of the submarine war
Merchant ship losses (1939-1945)
Comparative statistics of Allied merchant shipping losses
Analysis of submarine attacks on the E. Indies Station (1942-1944)
Analysis of all causes of merchant shipping losses (1939-1945)
Aircraft versus submarines

B. THE ANTI-SHIPING CAMPAIGN OF 1945

Page

490

490

Japanese waterborne supply

Introduction

The Japanese change from steel to wooden ships
Singapore the vital link in Japanese power (Winter 1944-1945)
Effect of the loss of the Philippines on Singapore
Identification systems
Sugar Dogs and other small Japanese vessels
Native craft
Military landing craft and supply barges
Camouflage and armament of small craft
~~Japanese facing supply crisis in Burma (March 1945)~~
~~Enemy coasters avoiding Rangoon (March 1945)~~

Anti-shipping operations by Nos. 222, 224 and 225 Groups

503

(1 Feb. - 31 Mar. 45)

No. 224 Group's long campaign against enemy shipping
Squadrons engaged in 1945 operations
Unification of maritime reconnaissance under No. 222 Group
February 1945 operations
March 1945 operations
Operation 'On board' and the annihilation of the Andaman
convoy (26 Mar. 45)
Beaufighters create havoc among small shipping
Japanese facing supply crisis in Burma (March 1945)
Enemy coasters avoiding Rangoon (March 1945)
R.A.F. maritime developments in April 1945

The rival strategies in the last phase

513

Japanese strategy

S.E. Asia Command's expanding horizons and deferred hopes
Evolution of the final plans

Air operations (April - July 1945)

517

Beaufighter anti-shipping operations (April 1945)
No. 222 Group operations (April 1945)
No. 222 Group operations (May 1945)
Japanese naval evacuation from Rangoon
Liberator attacks on enemy naval auxiliaries in the South
China Sea in June 1945
Destruction of a 10,000 ton tanker by Liberators (15 June 45)
Destruction of cruiser Ashigara by H.M. Submarine Trenchant
(8 June 45)
The Japanese shipping position in the South China Sea
(June - July 1945)
Reduced activity off the Kra Isthmus (July 1945)
Check list of events in the last phase

S E C R E T

LIST OF APPENDICES

<u>No.</u>	<u>TITLE</u>
1	Strategic control of General Reconnaissance aircraft - C.O.S. directif 21 July 42.
2	Position of Naval and Air C.'s-in-C. - C.O.S. directif 13 Dec. 43.
3	Nos. 222 and 225 Groups - Orders of Battle - Nov. 43 to Oct. 44.
4	A.H.Q. East Africa Orders of Battle Nov. 43 to 1 Jan. 44.
5	Disposition, strength and serviceability of flying boats - E. Africa 15 Nov. 43 to 15 Jan. 44.
6	Aden Orders of Battle Nov. 43 to 1 Apl. 44.
7	Analysis of U-boat attacks 1942 and 1943.
8	Convoy identification letters.
9	Distance tables.
10	IOGROPS - Formation 1 May 44.
11	Disposition, strength and serviceability of flying boats - E. Africa 1 Mar. to 31 Aug. 44.
12	Hours flown by G.R. operations aircraft during July 1944.
13	Hours flown by G.R. operations aircraft in the Indian Ocean during August, September and October 1944.
14	E. Africa Air Command - development of operational bases - position on 31 Aug. 44.
15	Hours flown by G.R. operations aircraft in the Indian Ocean during November, December 1944 and January 1945.
16	Admiral Somerville's views on air protection of shipping.
17	Principal air officers of S.E. Asia.
18	Types of mine employed in operations by S.E. Asia Command.
19	KX Bomber Command mining effort from S.E. Asia bases.
20	Mining by No. 231 Group (S.A.F.) in 1944.
21	Chronological list of aerial minelaying operations from S.E. Asia.
22	Monthly analysis of mine expenditure from India and Ceylon bases.
23	Mining operations by R.A.A.F.
24	Details of mines laid by Nos. 231 and 222 R.A.F. Groups (January - July 1945).
25	Minelaying operations by U.S. British and Netherlands submarines in Far Eastern waters (1942-1945).
26	Japanese warships, and merchant ships over 500 G.R.T. sunk by strategic mining in the Far East (except Operation 'Starvation') December 1942 - May 1945.

*came.
substitute
something for*

SECRET

LIST OF APPENDICES (Contd.)

<u>No.</u>	<u>Title</u>
27	Japanese convoy routes in S.E. Asia and N.E. Indies.
28	Japanese tanker statistics (1941 - 1945).
29	Aircraft minelaying tactics.
30	Aircraft carrier operations (1944 - 1945) nominal list.
31	Palembang oil refinery production (1940 and 1942-1945).
32	British Pacific Fleet carriers: comparative study of operational conditions (April - August 1945).
33	Japanese First Air Fleet operations against British Pacific Fleet at Okinawa from Formosa and the Sakishimas (25 March - 25 May 45).
34	Native craft.
35	German - Japanese naval co-operation.
36	Enemy submarine lost in the Indian Ocean and neighbouring waters (June 1940 - April 1945).
37	British, Allied and neutral merchant ship losses, Indian Ocean (1939 - 1945).
38	No. 222 R.A.F. Group - Indian Ocean Orders of Battle (1 Apr. and 1 May 45).
39	A.H.Q. R.A.F. Burma, Siam and French Indo-China - Location of operational units (October 1943 - March 1946).
40	R.A.F. Cocos Islands - Monthly orders of battle - (1 Sept. to 1 Nov. 45).
41	A.C.S.E.A. Monthly order of battle (1 August 1945 - 1 Dec. 45).
42	R.A.F. Regiment in S.E. Asia - locations of Wings and Squadrons (September and October 1945).
43	Air Command S.E.A. directive for Operations 'Birdcage' and 'Mustiff' (17 Aug. 45).
44	Air units employed in R.A.P.W.I.
45	Prison life in Java (1942 - 1945).
46	Summary of A.P.W.I. recovered and evacuated from S.E. Asia Command.
47	Indonesian and Japanese organization in the N.E.I. (1908 - 1946).
48	Personalities.

LIST OF FIGURES

<u>A.H.B.</u> <u>Drawing Office</u> <u>Diagram No.</u>	<u>No.</u>	<u>Title</u>	<u>Page</u>
1312	1	India and Ceylon - sea reconnaissance and minelaying air bases and control areas	13
1313	2	Aden Air Command - bases, patrol and control areas	37
1314	3	E. Africa Air Command - flying boat bases and control areas	67
1315	4	Catalina, Liberator and H.M. escort carrier <u>Begun</u> (photographs)	74
1316	5	Flying boat serviceability graph - E. Africa (March - August 1944)	150
1317	6	British and Allied merchant shipping losses (Jan. 43 - Aug. 45)	157
1318	7	IOGROPS organization - diagram	158
1319	8	Aerial mining targets in the Japanese Outer Zone by aircraft based in S.E.A.C. (1943 - 1945)	300
1321	9	Live mine expenditure (1943 - 1945) graph	303
1363	10	Aircraft carrier operations in S.E. Asia 1944 - 1945)	435
1369	11	Japanese small craft - silhouettes	500
1370	12	R.A.F. Station and Fortress Coos Islands (1945 - 1946)	549
1372	13	Air Command S.E. Asia organization chart (1945 - 1946)	552
1376	14	R.A.P.W.I. operations in Java (1945 - 1946)	582A
1371	15	The Indian Ocean	582A
1375	16	Supply and recovery of A.P.W.I. organizational chart (Aug. - Oct. 1945)	582A
1377	17	Air operations in aid of R.A.P.W.I.	582A
1378	18	Allied landings in the N.E.I. (1944 - 1946)	623
1379	19	Military operations in East Java (1945 - 1946)	795
20	20	Summary of operations in the Indian Ocean (1945 - 1946)	800

ABBREVIATIONS

PARTS III AND IV

A.A.	Anti-aircraft.
A.B.	Aden - Bombay convoy.
A/C.	Aircraft.
ACSEA.	Air Command, South East Asia.
A.C.V.	Escort Carrier (British).
A.F.	Allied Forces.
A/F.	Airfield.
A.H.B.	Air Historical Branch (R.A.F.) Ministry of Defence.
A.H.Q.(B).	Air H.Q. Bengal.
A.H.Q.(I)	Air H.Q. India.
A.H.S.	Admiralty Historical Section (now Naval Historical Branch).
A.J.	Aden - Colombo <i>Convoy</i> .
A/J/R.	Air Jungle Rescue.
A.K.D.	Aden-Kilindini - Durban convoy.
ALFSEA.	Allied Land Forces, South East Asia.
A.M.	Air Ministry or Chittagong - Madras convoy.
A.O.C.	Air Officer Commanding.
A.O.P.	Air Observation Post.
A.P.	Aden - Persian Gulf convoy.
<u>A.P.I.</u>	<u>Angkatan Peking Indonesia - Sumatra Indonesian Youth Storm Corps.</u>
Appx.	Appendix.
A.P.W.I.	Allied Prisoners-of-War and Internees.
A/S/R.	Air Sea Rescue.
A.S.V.	Radar equipment for detection of surface vessels.
B-17.	Boeing Fortress aircraft (U.S.).
B-24.	Liberator aircraft (U.S. and Br. adaptations).
B-25.	Mitchell aircraft (U.S.).
B-26.	Marauder aircraft (U.S.).
B-29.	Superfortress aircraft (U.S.).
B.A.	Bombay - Aden convoy.
<u>B.d.U.</u>	German <u>Director of U-boats.</u>

B.H. Banteng Hitam - Black Bulls (or Buffaloes). Secret society.
 (Indo.).
B.K.R. Badan Keamanan Rakyat (Indo.) Paramilitary Group.
B.H. Banteng Merah (Indo.) Red Bulls.
B.M. Bombay - Colombo convoy.
B.P. Bombay - Karachi - Persian Gulf convoy.
Br. British.

C. circa - approximately or about.
Cab. Cabinet.
C.A.S. Chief of the Air Staff.
C.B. Confidential Book.
C.B.I. China-Burma-India (Theatre).
C.C.S. Combined Chiefs of Staff.
C.D. ^{Cape} ~~Cape~~ Town - Durban convoy.
C.G. Commanding General.
C.H. Chittagong - Calcutta convoy.
C.I.D. Committee of Imperial Defence.
C.-in-C. Commander-in-Chief.
C.J. Calcutta - Colombo convoy.
C.M. Durban - Kilindini - Bombay convoy.
C.O. Commanding Officer.
C.O.S. Chief(s) of Staff (British).
C.P. Command Post.
C.V. Fleet Carrier (Br.)
C.X. Colombo - Chagos Isl. convoy.

D.C. Durban - Cape Town convoy.
Dep. Deputy.
Det. Detachment.
D/F. Direction finding.
Div. Division.
D.K.A. Durban - Kilindini. convoy.
D.N. Convoy Cape Town to a set Dispersal Point.
D.P's. Displaced Persons.
Du. Dutch.

E.A.C.	Eastern Air Command.
Encl.	Enclosure.
F.A.A.	Fleet Air Arm.
F.B.	Flying boat.
F.D.S.	Foreign Document Section. Navy Dept.
F.O.	Flag Officer.
F.O.M.F.A.	Flag Officer Malaya and Forward Areas.
G.C.I.	Ground Controlled Interception.
G.H.Q.	General Headquarters.
G.O.C.	General Officer Commanding.
Gr.	Group.
G.R.	General reconnaissance (by maritime aircraft).
G.R.T.	Gross Registered Tonnage.
G.S.	General Staff.
H.B.	Heavy bomber.
H.C.	Calcutta - Chittagong convoy.
H.F.	High frequency.
H.K.	<u>Hikari Kikan</u> - Japanese-sponsored Indian propaganda H.Q. in Java.
H.Q.	Headquarters.
Hr.(s)	Hour(s).
<u>I.</u>	Initial letter denoting Japanese submarine.
I.B.S.	India - Burma Sector.
I.E.	Initial Establishment (aircraft).
I.F.T.U.	Individuals Friendly To Us.
Ind. Div.	Indian Division.
Indo.	Indonesian.
Int.	Intelligence.
Is. Isl.	Island(s)
J.A.	Colombo - Aden convoy.
J.C.	Colombo - Calcutta convoy.
J.C.S.	Joint Chiefs of Staff.

J.M.	India - East Africa - Madagascar convey.
J.P.S.	Joint Planning Staff.
Km.	Kilometer.
K.M.	Kilindini - Mauritius convey.
K.M.P.	U.K. - Mediterranean - Aden convey.
K.R.	Kilindini - Colombo convey.
<u>K.T.</u>	<u>Kempai Tai</u> . Japanese Secret Military Police.
L.B.	Light bomber.
L.C.	Landing craft.
L.G.	Landing ground.
L.R.B.	Long range bomber.
L.R.G.R.	Long range general reconnaissance.
M.A.	Madras - Chittagong convey.
M.B.	Colombo - Bombay convey.
M.B.	Medium bomber.
M.C.	Bombay - Kilindini - Durban convey.
M.D.	Madagascar - South Africa convey.
M.E.	Middle East.
M.K.	Mauritius - Kilindini convey.
mm.	Millimetres.
M.W.	Convey Kilindini - ^{Dispersal} Dispersal Point.
M.p.h.	Miles per hour.
M.R.G.R.	Medium range general reconnaissance.
M.T.	Mechanical transport.
Mtg.	Meeting.
(N)	(Night) - applied to aircraft operations.
N.E.I.	Netherlands East Indies.
N.F.	Night fighter.
N.I.D.	Naval Intelligence Division.
N.O.I.C.	Naval Officer in Charge.
nr.	near.
N.Z.	New Zealand.

O.R.B.	Operations Record Book.
O.S.S.	Office of Strategic Services (U.S.).
P-47.	Thunderbolt (U.S. aircraft).
P-51.	Mustang (U.S. aircraft).
P.A.	Persian Gulf - Aden convoy.
P.A.O.	Principal Administrative Officer.
P.B.	Persian Gulf - Karachi - Bombay convoy.
P.B.Y.	Catalina aircraft (U.S. and Canadian).
P.I.U.	Photographic Interpretation Unit.
<u>P.K.I.</u>	<u>Partai Komunis Indonesia - Communist Party of Indonesia.</u>
<u>P.P.I.</u>	<u>Persatuan Perjuangan Indonesia - People's Front.</u>
P.R.U.	Photographic Reconnaissance Unit.
P.(a)/W.	Prisoners of War.
Q.M.G.	Quartermaster General.
R.A.A.F.	Royal Australian Air Force.
R.A.F..	Royal Air Force.
R.A.P.W.I.	Recovery of Allied Prisoners-of-War and Internees.
R.I.A.F.	Royal Indian Air Force.
R.K.	Colombo - Kilindini convoy.
R.N.I.A.F.	Royal Netherlands Indies Air Force.
R.N.	Royal Navy.
<u>R.O.</u>	Prefix denoting later type Japanese submarine.
R.P.	Rocket projectile.
S.A.C.S.E.A.	Supreme Allied Commander South East Asia.
S.A.F.	Strategic Air Force.
S.A.S.O.	Senior Air Staff Officer.
S.C.	Surface Craft.
S.D.	Special Duty (clandestine).
S.E.A.	South East Asia.
S.E.F.	Single engined fighter.
S.N.O.	Senior Naval Officer.
Sqn.	Squadron.
S.S.	Steamship.

Tac/R.	Tactical reconnaissance.
T.A.F.	Tactical Air Force.
T.B.	Torpedo bomber.
T.C.C.	Troop Carrier Command.
T.E.F.	Twin engined fighter.
T.F.	Task Force.
T.G.	Task Group.
<u>T.K.R.</u> (formerly <u>T.R.I.</u>).	<u>Tentara Keamanan Rakyat - Indonesian National Army.</u>
Trans.	Transport.
<u>U.</u>	Prefix denoting U-boat.
U.E.	Unit Establishment (aircraft).
U.G.	U.S.A. - Aden convoy.
<u>U.It.</u>	Prefix denoting Italian submarine transferred to German/Japanese Command.
U.S.	Australia - Aden convoy.
U.S.A.A.F.	United States Army Air Force.
U.S.N.	United States Navy.
U.S.S.	United States Ship.
U.S.S.	United States Ship.
U.S.S.Bs.	United States Strategic Bombing Survey.
V.C.P.	Visual Control Post.
V.H.F.	Very High Frequency.
W.I.S.	Weekly Intelligence Summary.
W/T.	Radio.
X.C.	Chagos Isl. (Adan Atoll) - Colombo convoy.

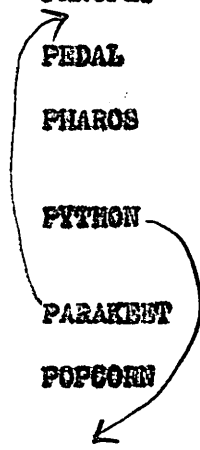
CODE NAMES

ARGONAUT	Yalta Conference (Jan. - Feb. 45).
ARMOUR	E. Indies convoy for Hong Kong landing (Sept.45).
BALSAM	Carrier strike on Sumatra (14/20.6.45).
BAMBOO (see ROUNDWOOD)	Plan for operations against K.R.A. Isthmus - Victoria Point.
BANQUET	Carrier air strike on Padang (24.8.44).
BEECHAM	Occupation of Sabang (3.9.45).
BIRDCAGE	Leaflet drops to P/W camps (1945).
BIBBER	Occupation of Bangkok (14.10.45).
BISHOP	Carrier attacks on Andamans and Nicobars (27/4 - 9/5 45).
BLITZ	Defence air/naval exercise operations to meet Japanese naval threat (14/16 Jun. 44).
BOOMERANG	Superfortress attacks on Palembang (10/11 Aug.44).
BROWN	Cocos Islands.
BUCCANEER	British landing in S. Burma (cancelled).
CAPITAL	Plan for advance into Central Burma from the North.
CHANNEL	Air mining of Chindwin River (Aug. 44).
CLINCH	Plan for operations v Kra Isthmus in Mergui/Tavey area.
COCKPIT	Carrier strike on Sabang (19 Apl. 44).
COLLIE	Carrier operations Andamans - Sumatra (5/11.7.45).
CORONET	Plan to invade Honshu (Mar. 46).
COUNCILLOR	Carrier diversion off Sabang (10/13.6.44).
CRIMSON	Carrier fighters at Sabang (25.7.44).
DRACULA	Capture of Rangoon from the sea with carrier-borne air cover (30/4 - 9/5 45).
DUKEBOB	Interception of Japanese Fleet units by carriers and 222 Gp. (10/16.5.45).
DULCIE	Reoccupation of Padang and Belawan (10.10.45).
EUREKA	Tehran Conference (Nov.45).

C O D E N A M E S (c o n t d .)

- 2 -

GRUBWORM	U.S. air supply for China (5.12.44 - 5.1.45).
HIGHBALL	Combined air/naval plan v possible Japanese naval attack (June 44).
ICEBERG	Capture of Okinawa 1st (Mar. - June 45).
IMPERSONAL	Allied Landings in Java (Sept. - Oct. 45).
IOGROPS	Indian Ocean General Reconnaissance Operations (a unit within 222 Group I.O.).
JULIET	Surrender of Penang (on H.M.S. <u>Nelson</u> 2/9/45) with carrier cover.
LENTIL	Carrier air strikes on P. Brandan (4.1.45)
LIGHT B	Carrier air strike on Sigli (18.9.44).
LIVERY	Carrier air cover for minesweepers (19/30.7.45).
HALFPIST	Plan to capture Singapore.
MASTIFF	Airborne medical teams and supplies for A.P.W.I. (Aug. - Oct. 45).
MASTERDON	Allied occupation of Saigon (27.9.45).
MATTERHORN	Sustained bombing of Japan by U.S.A.A.F. (1943 - 45).
MERIDIAN I & II	Carrier air strikes on Palembang oil (24 & 29.1.45).
MILLET	Carrier diversion off Nicobar Isl. (17/9.10.44)
MUNGO	Air/Naval exercise for defence of Mauritius and Seychelles Isl. (2/8.7.44).
OCTAGON	2nd Quebec Conference (Sept.44).
OLYMPIC	Plan to invade Kyushu (Nov.45).
PANOPLY	Reoccupation of Hong Kong (30.8.45).
PEDAL	Carrier strike on Port Blair (21.6.44)
PHAROS	Development of Cocos Isl. as staging post for multi-engined aircraft (1945).
PYTHON	Plan to evacuate British armed forces from theatres overseas.
PARAKEET	Allied occupation of Madan (12.10.45).
POPCORN	Allied occupation of the Andamans (7.10.45) and Nicobars (18.10.45).



CODE NAMES (contd.)

- 3 -

QUADRANT	1st Quebec Conference (Aug.43).
ROBSON	Carrier air strike on Belawan Deli (20.12.44)
ROGER	Plan for seaborne attack on Phuket Isl. (1945).
ROMULUS	Plan to clear Arakan as far as Akyab.
ROUNDWOOD	Reoccupation of Mergui and Victoria Point.
SALEX MASTIFF	R.A.F.W.I. operations in mid-Java (10.9. - 15.12.45).
SEXTANT	Cairo Conference (Nov. - Dec. 43).
SHACKLE	Landings in Singapore (1945).
SHIELD FORCE	R.A.F. engineer force for Hong Kong (Sept.-Oct.45).
<u>SHO(AKIRAKA)</u>	Japanese evacuation of troops from Andamans and Nicobars to Singapore (9-10.5.45).
STARVATION	U.S.A.A.F. mining of the Shimonoseki Strait (1945).
STACEY	Carrier P.R. operations (22/2 - 7.3.45).
SUNFISH	Carrier attack on Padang (11-20.4.45).
TALON	Plan for seaborne attack on Akyab.
TERMINAL	Potsdam Conference (July 45).
TIDERACE	Reoccupation of Singapore (3.9.45).
TIGER FORCE	Planned force of British L.R.B's for Pacific.
TRANSON	Carrier strike on Surabaya (17.5.44).
ZIPPER	Reoccupation of W. Malaya ports. (9 Sept.45) with carrier cover.

CHRONOLOGY

PART III

1943

3-8 November.

Record air anti-submarine search by No. 222 Group.

13
23 November.

I. 34 sunk off Penang by H.M. S/M Taurus.

16 November.

Formation of Air Command and S.E. Asia (A.C.M. Sir Richard Peirse).

16/17 November.

Mombasa reconnoitred by submarine-borne Japanese aircraft.

20 November.

No. 203 Squadron joins No. 225 Group.

22-26 November.

Sextant Conference at Cairo.

23 November.

Seyshelles Isl. reconnoitred by submarine-borne Japanese aircraft.

23 November - 6 December.

Bombing of Rangoon.

28 November - 31 December.

Eureka Conference at Teheran.

November.

Aden's air strength began enlargement and her responsibilities extended.

Constant U-boat threat.

Aerial mine expenditure still low - 64.

4/5 December.

Heavy air mining of Rangoon began. Cairo Conference discussions on S.E. Asia strategy continued.

5 December.

First Japanese daylight air raid on Calcutta.

13 December.

New C.O.S. directive on strategic control of maritime aircraft.

15 December.

Formation of combined Anglo/American Eastern Air Command at Delhi (General Stratemeyer in command).

19 December.

A.C.M. Sir R. Peirse appointed Allied Air Commander, S.E.A. with General Stratemeyer as Deputy Commander.

21 December.

General Stilwell began second campaign in Burma.

23 December.

1st U-boat attack on an air-escorted convoy.

/ 28 December.

CHRONOLOGY

PART III

1943 (contd.)
28 December.

East Indies Station boundary extended to include Aden.

30 December.

Constant U-boat threat. Rise in aerial mine expenditure to 141.

1944
7/8 January.

1st minelay by the R.A.F. at Rangoon.

10 January.

Allied Forces recaptured Maungdaw, Burma

~~2nd~~ Mine lay at Bangkok by R.A.F.

31 January.

U.S. forces landed on Marshall Isl.

1 January.

Sharp revival in U-boat activity. Air mining had almost closed Rangoon port. Aerial mine expenditure drops to 123.

4 February.

Last major Japanese offensive in Arakan began.

11 February.

Destruction of RQ-110 by H.M. Ships in Bay of Bengal.

11/12 February.

U-boat tanker Charlotte Schlegmann destroyed by H.M. Ships.

12 February.

S.S. Khedive Ismail sunk by I.27.

I.27 destroyed by H.M. Ships.

14 February.

U.It.23 sunk by H.M.S/M Tally Ho.

23 February.

Japanese suffered first reverse in Arakan.

Major U-boat attack on a tanker convoy in I.O.

24 February.

Reports of Japanese naval movements to Singapore area considered by C.O.S.

1 February

Board of Inquiry finds surface escorts

totally inadequate for convoys. Constant U-boat threat. No aerial minelaying.

1-15 March

Japanese cruiser raid into Indian Ocean and South China Sea. Air and naval alerts.

/ 5/6 March.

CHRONOLOGY

PART III

1944 (contd.)

5/6 March.

Allied troops landed in Arakan.

7/8 March.

Final Japanese offensive across Chindwin.

11 March.

Buthidaung recaptured by British, U-boat

tanker Brake destroyed by H.M. Ships.

17 March.

C.-in-C., E. Fleet requests air mining of
Tavoy following Mergui.

24 March.

Major General Wingate. Killed in aircraft
crash.

28 March.

A.V.M. A. Durston replaced A.V.M. A. Lees
as A.O.C. No. 222 Group.

31 March.

Siege of Imphal began. Allied forces
supplied entirely by air.

1 April.

Constant U-boat threat. Aerial mining
resumed - 25 mines.

11 April.

Koggala Catalina's 800 mile rescue flight.

16 April.

H.Q. S.E.A.C. transferred from Delhi to
Randy. Imphal Plain occupied by our
airborne forces and Kohima recaptured.

19 April.

Operation 'Cockpit' - carrier operations,
Sabang.

22 April.

Allied forces land in Dutch New Guinea.

24 April.

Allied air campaign climax against

Japanese communications in Burma.

1 May.

Aerial mine expenditure rose to 58. Convoy
policy fluctuations. Little U-boat
activity.

April - June.

Mine lays off Burma by 10th U.S.A.A.F.

1 May.

Operation 'Expedition' - air sweep, S. of
Ceylon. Formation of ICGROPS within
No. 222 Group.

1-3 May.

Destruction of U.852 by Aden aircraft off
Ras Tefun.

/ 7/8 May.

CHRONOLOGY

PART III (contd.)

1944 (contd.)

7/8 May.

Opening of non-stop R.A.F. mining campaign.

17 May.

Operation 'Trancon' - carrier operations, Surabaya.

31 May - 8 June.

Operation 'Tortoise' - air sweep in Indian Ocean.

May

Aerial mine expenditure rose to 99.

Exploratory attacks on enemy shipping by L.R.B's. Serious U-boat threat.

May-August.

Lays off Burma by No. 231 Group.

8/9 June.

Last mining lays by U.S. 7th Bomb Gr.

10-13 June.

Operation 'Councillor'-carrier diversion near Sabang.

14 June.

Gulf of Aden Central Shipping Lane

instituted as well as constant air patrols from Addu and Diego Garcia.

14-16 June.

Operation 'Blitz' - air naval defence exercise.

15 June.

U.S. forces landed on Saipan Isl.

1st U.S. air attack by land-based aircraft on Japanese mainland.

19/20 June.

Battle of the Philippine Sea.

21 June.

Operation 'Pedal'-carrier operations, Port Blair.

22 June.

End of siege of Imphal.

28-29 June.

H.M. destroyers supply fuel for grounded Catalinas at Diego Garcia.

June

Serious U-boat threat. Slump in aerial mining still continuous owing to long hours of daylight - 50 mines.

/ 2-18 July.

CHRONOLOGY

PART III

1944 (contd.)
2/18 July.

Long air search by flying boats for survivors
of S.S. Hellora and Jean Nicolet.

5 July.

Catalina attack on Schnorehel U.859.

16 July.

Naval convoy system tightened.

17 July.

I.166 sunk by H.M. S/M Telemachus.

21 July.

U.S. forces landed on Guam Isl.

25 July.

Operation 'Crimson' - carrier operations,
Sabang.

July

Acceleration of U-boat offensive. Record
in G.R. air flying hours. No aerial
mining due short nights.

3 August.

Myitkyina captured by Allies. 14th Army
crossed Burma border on Palel-Tamu Road.

7 August.

Air conference in Aden on G.R. operations.

10 August.

1st mining by XX U.S.A.A.F. Bomber Command
(Palembang). Japanese resistance on Guam
ceased.

12 August.

Destruction of U.198 by H.M. Ships
air/naval search.

15 August.

7 New Mosquitoes (684 P.R.) Squadron on first
operations. A.H.Q. E. Africa's area of
control moved to 63° E.

16 August.

Japanese resistance in India ceased.

19 August.

Japanese forces withdrew from India.

23 August.

A.V.M. N.L. Deser succeeded A.Cdr. Mackworth
as A.O.C. No. 225 Group.
Adml. Sir B. Fraser succeeded Adml. Somerville
as C.-in-C. Eastern Fleet.

24 August.

Operation 'Banquet' - carrier operations,
Padang.

August

A month of U-boat reinforcement and major
successes. E.A.C. Mitchell, mined Chindwin
River. Aerial minelaying picked up -
164 mines.

/ 4/5 September.

CHRONOLOGY

PART III

1944 (contd.)

4/5 September.

1st R.A.F. minelay at Bangkok and
Koh Sichang River.

11/16 September.

Octagon Conferences in Quebec. 1st air
mining of Pakchan River.

18 September.

Operation 'Light' - 3 carrier operations,
Sigli.

23 September.

U.859 sunk off Penang by H.M. Submarine
Trenchant.

September.

No. 222 Group, with diminishing operational
commitments, started mobile field
hospital at Kankasanturai and opened
a school of ship recognition (No.2) in
Colombo. China Bay A/F leased to F.A.A.
U-boat threat diminished. No aerial mine-
laying.

5 October.

U.168 sunk in Java Sea by H.Neth.H. }

Submarine Zwaardvisch.

15 October.

Mandalay
Allied offensive ~~within~~ *beginning* began.

17/19 October.

Operation 'Millet I' carrier operations,
of
Nicobars. Formation ~~and~~ Combat Cargo
Task Force in A.C.S.E.A. Tiddim
captured by 14th Army.

19 October.

Operation 'Millet II' - carrier operations,
Car Nicobar.

23/26 October.

Battle of Leyte Gulf.

25 October.

German submarines vacate Penang, move to
Batavia.

27/28 October.

1st R.A.F. mining of Penang (No. 159
Squadron).

October.

No ships sunk by U-boats. All German
U-boats (except U.862) withdrawn from
offensive operations. No. 222 Group
reinforces repair and salvage organization.
160 aerial mines expended.

/ 9 November.

1944 (cont'd.)
9 November.

11/12 November.

14. November.

mid-November.

22 November.

27 November.

30 November.

1 November.

2 December.

15 December.

20 December.

24 December.

1 December.

December.

end December.

1944.

U.S. 527 sunk in Java by U.S. submarines

November.

1st R.A.F. mine lay at Sittang River.

A.C.M. Sir F. Leigh-Halliday killed while

flying out to assume A.C.S.B.A. post.

U.S. 562 left for Europe via Australian waters.

Sir Bruce Fraser appointed C.-in-C.

British Pacific Fleet. Sir A. Power

succeeded as C.-in-C. East Indies Station.

What remained of Eastern Fleet remained

East Indies Fleet.

Sir Guy Carver replaced Sir R. Polson as

Allied Air C.-in-C.

U.S. 566 sunk in Sunda Straits.

A.V.M. Sir Brian H. Baker succeeded A.V.M.

H.S. Kirby as A.O.C. E. Africa.

Aerial mine expenditure rose to 24.6.

Kolera captured by Allies.

Hano captured by Allies.

Operation 'Hobson' - carrier operations.

Sumatra.

Superfortresses attack Tokyo. Last Japanese

air attack on Calcutta area.

No ships sunk by U-boats in Indian Ocean.

Formation of R.A.F. Bengal/Burma.

Aerial mine expenditure rose to 27.0.

U.S. 181 put back to Batavia. No. 222 Group

took over G.H. operations in Bay of Bengal.

R.A.F. gradually took over mining.

1944/expected on 1,206 mines - U.S.A.A.F.

only 199.

CHRONOLOGY

PART III (contd.)

1945

3 January.

Alayab occupied by Allied sea-borne forces.

4 January.

Operation 'Lentil' - carrier operation at
N.E. Sumatra ports.

9 January.

U.S. forces landed on Luzon.

mid-January.

U.510, 512 and 861 sailed for Europe,
where they surrendered.

16 January.

A/Cdre. Mason replaced A.M. A. ('Busty')

Durston as A.O.C. No. 222 Group.

~~January.~~

~~Intervention of IX B.C. drives up aerial
mine expenditure to 895.~~

21 January.

Allied assault on Ramree Isl.

21 January.

Operation 'Matador' - Carrier cover for
Ramree Isl. operations.

21/22 January.

No. 222 Group's first mining operation
(Penang).

22 January.

Ledo Road cleared of Japanese forces.

22/23 January.

No. 160 Squadron opens offensive against
Japanese oil by mining Pangkalan Seesee.

24 January.

Operation 'Meridian I' - carrier operations
against Palembang area.

24/25 January.

1st lay of acoustic mines (Penang).

25/26 January.

IX Bomber Command Superfortresses mined
Singapore (first by any aircraft) and
Indo-China waters.

26 January.

Operation 'Sankay'. Carrier cover for
Cheduba Isl. operations.

29 January.

Operation 'Meridian II' - carrier operations
against Palembang.

1 January.

No ships sunk by U-boats in Indian Ocean.

U-boat threat virtually ended. No.222

Group took over G.R. operations W. coast

of India. ICGROPS and Group H.Q. integrated

staffs. Intervention of XX B.C. drives
up mine expenditure to 895.

/ 1 February.

CHRONOLOGY

PART III

1945 (contd.)

1 February.

1 February - 31 March.

4/10 February.

19 February.

20 February.

22 February - 7 March.

24 February.

26/27 February.

21/28 February.

February.

3 March.

4/5 March.

6 March.

11 March.

19 March.

20 March.

26/27 March.

28/29 March.

March.

Singapore floating dock sunk by U.S.A.A.F.

Anti-shipping campaign by Nos. 222, 224 and 225 Groups.

Argonaut Conferences opened at Yalta.

U.S. forces landed on Iwo Jima.

A.C.M. Sir Keith Park appointed A.A.C. S.E.A. Vice A.M. Sir Guy Carred.

Operation 'Stacey' - Carrier photo recon. operations.

Formation of 'Tiger Force' for strategic bombing of Japan by R.A.F. L.B's. (never operational).

1st R.A.F. mining of Kra Isthmus ports (1st use of A.VII mines).

XX B.C. mined Singapore again.

Gradual return to normal shipping routing. Many ships now unescorted. Aerial mine expenditure 376.

Meiktila captured by British.

XX B.C. Superforts mine Yangtse River from India bases.

Lashio captured by Chinese.

1st all-incendiary raid on Tokyo by U.S.A.A.F.

Supreme Commander's conference on Japanese supply. Increase in mining and ship strikes ordered for April.

Allies captured Mandalay.

1st mining of Singapore by No. 222 Group.

XX B.C. mined Singapore, Saigon and Cam Ranh Bay. This was their last mining operation in S.E. Asia.

Successful month for mining by No. 160

Squadron. Another record month for aerial mine expenditure - 795.

/ 1 April.

CHRONOLOGY

PART III

1945 (contd.)

1 April.

Allies invaded Okinawa Isl.

4 April.

A.V.M. H.L. Desoer appointed S.A.S.O. }

7 April.

R.A.F. Burma.
Japanese 15th Army in Burma defeated.

11/20 April.

Operation 'Sunfish' - carrier operations
against Padang.

12 April.

Death of President Roosevelt.

13 April.

No. 231 Group began use of British A-7
type mine.

circa 14 April.

1st constructional troops land on ^{Cocos} ~~Christmas~~ Isl.
to open an air/naval base (Operation
'Pharos').

19 April.

Indian Air Force became Royal Indian Air
Force.

21 April.

Nos. 8 and 244 Squadrons declared non-
operational.

22 April.

^{Philippines}
End of Central/Philippines campaign.

23 April.

^{Sea}
U.183 sunk in Java by U.S. submarine Rasago.

24 April.

14th Army captured Toungoo. Brig. H.6.

Willmott succeeded A.V.M. Baker as A.O.C
E. Africa.

26/27 April.

Australians landed on Tarakan Isl. (Borneo).

30 April - 9 May.

Carrier support for Operation 'Dracula'
(Rangoon).

1 April.

R.A.F. aerial mine expenditure at record -
592.

1 May.

Allied paratroops landed South of Rangoon.
Pegu occupied by Allies.

2 May.

German forces in Italy surrendered. Prens
captured by Allies. Operation 'Dracula'
(attack on Rangoon) launched.

3 May.

Rangoon captured.

/ 7 May.

CHRONOLOGY

PART III

Unconditional surrender of Germany.

V.E. Day.

Operation 'Bulwark' - carrier interception of Japanese fleet units.

General Stratemeyer's report on raiding to

General Arnold.

Australians occupied Wauke (New Guinea).

Favorable report on mining by C-47's.

B. Indies station.

Officers of A.C.S.R.A. inspect work on

Goose Isl. (No. 189 Staging Post and

Servicing Wing): No. 136 Spitfire

squadron already based on strip.

Combat Task Force disbanded.

Mining and bombing of Satape Bay.

Eastern Air Command disbanded.

Aerial mine expenditure still high at 291

mines. Last month of R.A.F. mining of

Sumatra ports. No. 222 Group takes over

anti-shipping campaign.

U.S.A.A.F. withdrawn from A.C.S.R.A.

Japanese submarine depot ship sunk

sunk by Liberator of No. 231 Group.

1st and only leg by R.A.F. at Satape Bay.

1st and only mine leg by R.A.F. at Truk.

Japanese cruiser Ashigara sunk by H.M.

submarine Trachant.

Australians landed at Buna (Borneo).

Operation 'Belam' - carrier strike on

Sumatra airfields.

S.S. Yoko Kuni (tanker 10,238 G.R.T.)

sunk by No. 222 Group near Bandon.

Organized resistance ended on Okinawa.

/ 26 June.

1945

7 May.

8 May.

10/16 May.

19 May.

12 May.

21 May.

22-24 May.

26 May.

30 May - 1 June.

31 May.

1 May.

1 June.

4/5 June.

8 June.

10 June.

14/20 June.

15 June.

21 June.

CHRONOLOGY

PART III

1945 (contd.)

26 June.

United Nations Charter signed at San Francisco.

June.

Aerial mine expenditure drop to 101.

Work begun on closure of R.A.F. seaplane stations on Can, Kelai and Diego Garcia.

No. 191 Catalina Squadron disbanded. New Sunderland of No. 230 Squadron enter operations.

1 July.

Australian landings at Balikpapan (Borneo).

3/4 July.

Battle of the Bend (Sittang River).

5/11 July.

Operation 'Collie' - carrier operations Andamans - Nicobars - N.W. Sumatra, airfields.

10 July.

Last aerial mine lay of the war (No. 231 Group, at Bangkok).

16 July.

Atomic bomb exploded at Alamogordo (New Mexico).

17 July - 2 August.

Potsdam Conference.

19/30 July.

Operation 'Livery' - carrier operations, Phuket Isl. and Kra Isthmus.

22 July.

No. 321 (Dutch) Liberator Squadron began operations from Cocos Isl.

26 July.

Mr. Churchill resigned Premiership.

27 July.

New Labour Government in Britain. Lord Stanagate appointed Secretary of State for Air.

July.

Aerial mining ends with expenditure of 28: between February 1945 and July 1945, the R.A.F. had sown 67.79 per cent of the total and the U.S.A.A.F. 37.23 per cent.

6 August.

1st. atomic bomb dropped by U.S.A.A.F. on Hiroshima.

7 August.

No. 99 Squadron on its 1st clandestine operations from Cocos Isl.

/ 8 August.

CHRONOLOGY

PART III

1945 (contd.)

8 August.

Russia declared war on Japan.

9 August.

2nd Atomic bomb dropped - on Nagasaki.

14 August.

Japanese accepted Allied demand for
unconditional surrender.

16 August.

V.J. Day. Cease Fire in the Far East.

NOTE: The Chronology for Part IV (Post-War Operations - R.A.P.W.I. and the
W.E.I.) will be found at the commencement of Part IV.

~~RESTRICTED~~

THE R.A.F. IN MARITIME WAR

VOL. VII

PART III

OPERATIONS IN THE INDIAN OCEAN
AND SOUTH EAST ASIA

NOVEMBER 1943 TO AUGUST 1945

CHAPTERS 1 TO 4

3
~~RESTRICTED~~

~~RESTRICTED~~
~~SECRET~~

CHAPTER 1. THE OPENING OF THE ALLIED OFFENSIVE
(NOVEMBER 1943 TO SEPTEMBER 1944)

Air policy

Strategic control up to 12 Dec. 43

On 21 July 42, the Chiefs of Staff had vested in the C.-in-C. Eastern Fleet strategic control of all long range flying boats and long range shore-based general reconnaissance aircraft operating over the Indian Ocean. (1) Operational control of these aircraft was exercised by the Air C.-in-C. India through the A.O.C. No. 222 Group in Ceylon. Short range general reconnaissance and striking force squadrons were always controlled both strategically and operationally, by the local Air Officers Commanding.

The position had become increasingly ambiguous. Now in late 1943, it was believed in some quarters that strategic control was vested in the C.-in-C. Eastern Fleet, in others in the Air C.-in-C. India or in both. There had been divergencies of opinion on the subject of convey defence and the nature of the offensive policy towards enemy submarines. Objection had been taken by air authorities when naval authorities had issued orders direct to air wings as to the way in which flying boats should be used. Although the mutual desire for understanding was great, there was a manifest anomaly inherent in any plan which denied the air commander the right to decide on the best use of his own forces in attempting to meet the needs of his naval colleague. (2) General relief was felt when on 13 Dec. 43, a new (3) directive on strategic control was issued.

(1) For a paraphrase of the full terms refer to Appendix 1.

(2) A.H.Q. E. Africa File 55458 Part IV Encl. 54A (A.H.B.II J.1/184/33(D)).

(3) Refer to Appendix 2.

/ Strategic

~~RESTRICTED~~
~~SECRET~~

Strategic Control from 12 Dec. 43 onwards

The Prime Minister's directive of 23 Oct. 43 to the Supreme Allied Commander, South-East Asia altered the form of general strategic military control in the theatre. The Combined Chiefs of Staff were to exercise general jurisdiction over strategy and the British Chiefs of Staff over operations. The old limits of the East Indies Station were absorbed and enlarged. (1)

The positions of the new Naval and Air Commanders-in-Chief were defined by the Chiefs of Staff on 13 Dec. 43. (2) The need to consider the air aspect of anti-submarine warfare as a whole in the interests of concentration was the basis for investing command of all flying boats, general reconnaissance landplanes and coastal striking force units allotted for operations related to the security of sea communications in the Indian Ocean (3) in the Air C.-in-C. South-East Asia, outside as well as inside the boundaries of S.E.A.C. Strategic control was to be jointly exercised. The Air C.-in-C. was to work in the closest collaboration with the Naval C.-in-C.; and the disposition of units under the Air C.-in-C's command to meet the strategic requirement of the Naval C.-in-C. in accordance with the maritime situation in the Indian Ocean was to be a matter 'for their mutual agreement'. Any misunderstandings should have no further ground for survival.

Operational Control

The Air C.-in-C. exercised operational control through the A.O.C. No. 222 Group in Ceylon (Air Vice Marshal A. Lees, later Air Vice Marshal A. Durston).

/This

(1) Boundaries of S.E.A.C.

(a) Eastern Boundary (previously the dividing line between India and Pacific theatres). - From the point where the frontier between China and Indo-China reaches the Gulf of Tonking, southwards along the coast of Indo-China, Siam and Malaya to Singapore; from Singapore south to the north coast of Sumatra; thence round the east coast of Sumatra (leaving the Sunda Strait to the eastward of the line) to a point on the coast of Sumatra at longitude 104°E.; thence south to latitude 8°S.; thence south-easterly towards Onslow, Australia, and, on reaching longitude 110°E due south along that meridian. (b) Northern Boundary. - From the point where the frontier between China and Indo-China reaches the Gulf of Tonking westwards along the Chinese frontier to its junction with the Indo-Burma border; thence along that border to the sea, thence round the coast of India and Persia (all exclusive to the South-East Asia Command) to meridian 60°E. (c) Western Boundary. - Southward along meridian 60°E (previously the boundary between India Command and Persia - Iraq Command) to Albatross Island, thence south-eastward to exclude Rodriguez Island and thence due southward.

(2) Signal OZ 4064 COSSEA 22. (in Admiralty C.B. 3303(4) Appendix D. A.H.B. Copy No. 35) - given in full in Appendix 2 to this volume.

(3) Including the Gulf of Aden, Gulf of Oman, Persian Gulf and Bay of Bengal.

This officer delegated his own operational control, when necessary, by means of directives issued from time to time to the A.O.C's East Africa, Aden and No. 225 Group and through the appropriate authorities to the S.A.A.F. No. 222 Group exercised a power and flexibility usually only vested in a command, in widespread operations proceeding beyond the horizons of the rest of the India Command. Indeed, at a later stage, when the U-boats had been brought under relative control, it assumed the status, in practice, if not in name, of a coastal command and its commitments were enlarged to cover offensive operations against Japanese installations and sea communications in the Outer Zone as part of the over-all strategic plan.

The Flying Boat Pool

Colombo, where No. 222 Group and the Navy worked from a Combined Operations Room, was the nerve centre of control. As submarine threats to Allied shipping developed in one or more of the danger areas of the vast theatre, ^{as} or ~~air~~ co-operation with the Battle Fleet was required, flying boats were concentrated in one or more of the three main air commands - East Africa, Aden or India and Ceylon. It is essential to keep in mind this principle of a common pool of flying boats. It will only mislead if too much consideration is given to local orders of battle. Each command had a certain paper strength, but the establishment and serviceability of squadrons varied widely: there was nothing static about the command strength for long, since so many aircraft were so often on detachment to one or more of the other two commands. The idea of a pool was a reasonable and realistic one, because of the great range of the flying boats ⁽¹⁾ the progressive use of ocean island bases and the need for the utmost flexibility.

The idea of a vast, empty Indian Ocean recedes as a chart of flying boats bases in use in November 43 is studied. Air Headquarters in Ceylon sent detachments down to Addu Atoll and Diego Garcia (in the Chagos Archipelago) and to Kelai Island. ⁽²⁾ Air H.Q. East Africa sent detachments to the Seychelles and Mauritius: and Air H.Q. Aden's flying boats operated ^{from} Socotra Island and Masirah Island off the Muscat and Oman coast. A network of air communications had been created as well as island bases essential to naval escort craft. The South-West monsoon season in late Spring and Summer severely restricted facilities, but did not entirely deter the air units.

/Air

(1) About 1800 miles.

(2) On Tiladummati Atoll in the Maldives.

Air operations fell broadly within the limits of the East Indies Station, but overlapped on its fringes; for example, Aden with its Air Headquarters fell just outside the naval station. (1) East Africa and Aden Air Headquarters were administered by the R.A.F. Middle East, themselves subject to the overriding jurisdiction, from January 1944 onwards, of Mediterranean Allied Air Forces.

The basic difficulties of exercising operational air control over such great distances from Ceylon and of additional local command problems in areas vast in themselves and each subject to its peculiar material, climatic and geographical limitations, had by this period been reduced to manageable proportions. The monsoon had been faced, if never evaded. Constant planning and construction had filled in the vacant ocean with satellite island bases and others were envisaged. The base system employed by flying boats and other maritime aircraft in the expression of air strategy will now be reviewed in the order of Ceylon and India, Aden and East and South Africa.

/ ~~The~~ Areas

(1) In late December 1943, it was brought within its boundary.

(1)

Areas of air operational control

Directives issued from time to time by the A.O.C. No. 222 Group delegated control to the A.O.C.'s East Africa, Aden, Iraq and No. 225 Group (India), referred to the general wishes of the C.-in-C., Eastern Fleet and provided a guide to A.O.C.'s in planning operations.

The operational areas were re-defined in mid-November 1943 as follows:-

A.H.Q. East Africa West of 65°E. and South of 5°N.

A.H.Q. Aden Gulf of Aden and Arabian Sea North of 5°N. and West of 61° 30'E, including the whole of the South Arabian coast from Perim Island up to and including Sharjah (A.H.Q. Iraq and Persia were responsible for all other landing grounds on the West coast of the Persian Gulf together with landing grounds in Persia, even if used by squadrons operating under control of A.H.Q. Aden).

No. 225 Group H.Q. Remainder of Arabian Sea North of 10°N. and a coastal strip 100 miles wide along the West coast of India from 10°N to latitude of Cape Comorin; Bay of Bengal, North of 10°N. including East coast of India up to and including Cuttack.

No. 222 Group H.Q. The remainder of the Indian Ocean and Bay of Bengal.

When No. 222 Group ordered reinforcements to any particular area, they came, on arrival, under the operational command of the A.O.C. of the area concerned for the period of their stay.

(2)

Flying boat bases

In Ceylon, there were three flying boat bases, viz China Bay at Trincomalee, Koggala on the south coast and Ratmalana, south of Colombo. In the Bay of Bengal, there was one at Redhills lake, (south of Madras) and, on the north-west coast of India, one at Karachi. Island bases were used for detachments as far as Diego Garcia Island in the Chagos Archipelago, Addu Atoll (south of the Maldivian Islands) and Kelai Island in the Maldives, all controlled by No. 222 Group.

In the Aden area, there was a permanent flying boat base at Aden, and advanced bases for flying boats at Socotra and Masirah Islands.

(1) Air H.Q. India 555367/O/ACS 13 Nov. 43 in Aden O.R.B. Nov. 43 Appendix 73 Appendix A.

(2) Refer to Figure /.

6

SECRET

On the East African mainland, there were flying boat bases at Mombasa, Nairobi, Kisumu (Lake Victoria) and Dar-es-Salaam and advanced bases at Port Victoria (Mako) in the Seychelles and at Tombeau Bay, Mauritius. In the Madagascar sub-area, there were on the island a permanent base at Diego Suarez and an advanced base at Tulcar, and an advanced base on Pamanzi Island. In the Union of South Africa, there was a permanent base at Durban and advanced bases at Langebaan, Walvis Bay, Zwartkop, Darling, St. Albans and St. Lucia. Long standing difficulties in effecting operational control of these bases from Mombasa were diminishing as Communications over the vast areas involved improved. Some of these bases were used by Wellington general reconnaissance squadrons.

The four main Areas of the East Indies Station

For general air and naval purposes, the East Indies Station was divided into four main areas, named after the cardinal points of the compass. The Southern Area included the Cape and Mozambique Channel as far north as 25° South until 6 Nov. 43, when the boundary with the South Atlantic was moved northward and eastward. (1) The Western Area included the remainder of the east coast of Africa, Madagascar, the Seychelles and Mauritius. The Northern area included Aden, (2) the Persian Gulf and Arabian Sea north of 5° North. The Eastern area included Ceylon and the Indian coast (except that part in the Northern area).

Submarine Areas

For air and naval anti-submarine operations, a rather different system of geographical division was necessary.

/This

(1) On 6 Nov. 43, the boundary between S. Atlantic and East Indies Commands was moved further northward and eastward, bringing the S.W. part of Madagascar in S. Atlantic Command. The new boundary was the parallel of 18° South from the E. coast of Africa to the W. coast of Madagascar, thence down the W. coast of Madagascar to the meridian of 45° E., thence due South. The former boundary was along the meridian of 35° E.

(2) Since 21 Oct. 41, the Red Sea and the port of Aden had been included in the Mediterranean Naval Command. This was changed from 0001 hours on 28 Dec. 43, when the boundary of the E. Indies Station to the N.W. was fixed along the parallel of 15° N in the Red Sea. From this date, the Commodore-in-Chief, Aden, became responsible to the C.-in-C. E. Fleet for protection and operational control of convoys and shipping in the Gulf of Aden, along the S. coast of Arabia and in the Gulf of Oman.

SECRET

3

7

SECRET

This contained seven divisions:-

1. The approaches to the Gulf of Oman and North Arabian Sea and Baluchistan coast.
2. Gulf of Aden and approaches to Aden.
3. East Africa.
4. The Arabian Sea.
5. Maldivé Islands and the waters W., S.W. and S. of Ceylon.
6. Bay of Bengal.
7. Indian Ocean, meaning the deep seas beyond the first six divisions.

/Distribution

SECRET

Distribution of General Reconnaissance Aircraft (1 Nov.43) (1)

On 30 Sept.43, No. 222 Group and the C.-in-C. Eastern Fleet had redistributed the general reconnaissance air forces, reinforcing the Northern and Western areas at the expense of the Southern area, so as to meet the contemporary submarine threat. On 31 Oct.43, the situation was as follows:-

Eastern Area

Ceylon	24 Catalinas (4 amphibian), 10 Liberators, 22 Beauforts.
Madras	5 Catalinas, 1 Beaufort.
Cuttack	1 Liberator.
Allahabad	1 Liberator.
Bangalore	3 Catalinas.
Bombay	3 Catalinas, 9 Beauforts.

Total in area:- Flying Boats 35 - Land-based G.R.A/c 44.

Northern Area

Masirah Island	4 Catalinas (3 amphibian), 5 Bisleys.
Sharjar	13 Bisleys.
Aden	2 Catalinas.
Socotra	4 Catalinas (amphibians)
Karachi	11 Catalinas

Total in area:- Flying Boats 21, Land-based G.R. A/c 18.

Western Area

Mombasa	3 Wellingtons, 4 Sunderlands, 5 Catalinas.
Mogadishu	8 Wellingtons.
Eastleigh	3 Wellingtons.
Dar-es-Salaam	6 Sunderlands.
Kisumu (Lake Victoria)	1 Catalina.
Seydhelles	1 Catalina.
Pamanzi Island	4 Catalinas.

Total in area:- Flying Boats 21 - Land-based G.R. A/c 14.

Southern Area

Durban	5 Catalinas.
Tulear	1 Catalina.
St. Olmans	1 Catalina (amphibian)
Zwartkop	1 Catalina (amphibian)

Total in area:- Flying Boats 8 Land-based G.R. A/c Nil.

Totals in all areas:- Flying Boats 85.
Land-based G.R. A/c ~~85~~ 76.

/Air H.Q.

(1) Monthly G.R. Aircraft Disposition Signal for Oct.43 - C.in-C., E.F. in Aden/3/AIR File Encl. 24A (A.H.B.II J.4/9/1/72(D)): Eastern Fleet War Diary Diary (Admiralty T.S.D. 4454/1943).

Air H.Q. East Africa organization and tasks (1)

R.A.F. commitments in South and East African waters consisted of co-operation with the Battle Fleet (long based at Kilindini and ^{now} in process of concentrating in Ceylon) the conduct of anti-submarine warfare and convoy escort. The dual role of the command in co-operating with the East Indies and South Atlantic stations had led to the creation in the Spring of 1943 of three organizations. So great were the distances in the Command's area that (although in Colombo the C.-in-C. Eastern Fleet was not impressed by the local need for flexibility) this was the only way of meeting its commitments.

The Advanced Operations Section covered requirements in the area of the Union of South Africa, with a shared interest in Tulcar (Madagascar), No. 246 Wing (2) the East African coast, Pamanzi Island, Mauritius, and the Seychelles and No.258 Wing Diego Suarez, the main air base. (3) Advanced Operations Section was responsible to A.O.C. East Africa (4) that day to day requirements of C.-in-C. South Atlantic were met and, similarly, No. 246 Wing was responsible vis-à-vis the C.-in-C., Eastern Fleet. There was one fundamental difference in the two roles, inasmuch as that C.-in-C., Eastern Fleet had a Fleet Aviation Officer responsible for advising him on all air matters. The C.-in-C. Eastern Fleet could hardly realise the need for air co-operation with the South African authorities in matters such as the operation of Coast Defence aircraft and the balance to be often struck in employment of flying boats in southern and marginal waters. He had always been concerned in the strict application of strategical control by himself and of unified operational control by No.222 Group. The Chiefs of Staff directive of 13 December rightly gave the Air C.-in-C. a share in the responsibility for strategic control of his own units.

/Air

-
- (1) A.H.Q. E. Africa O.R.B. May 43 Appendices A to C.
 - (2) H.Q. at Port Reitz.
 - (3) H.Q. at Nairobi.
 - (4) Detachments used Mauritius.

Air H.Q. East Africa Order of Battle for East Indies Station

(1 Nov. 43 and 1 Jan. 44)⁽¹⁾

The locations of long range reconnaissance aircraft changed frequently and there was a continuous flow of aircraft to and from repair centres. There could be, in the nature of things, nothing stable about their dispositions; but it will be a guide if a glance is taken at the situation on 1 and 15 Nov. 43 of the squadrons controlled by the two wings catering for the needs of the Eastern Fleet, viz Nos. 246 and 258.

Under No. 246 Wing, No. 209 Squadron's Catalinas were based on Kipovu (Port Reitz) with an advanced base at Tulcar: No. 230 Squadron's Sunderlands (2) were based at Dar-es-Salaam. Under No. 258 Wing, No. 265 Squadron's Catalinas were based at Diego Suarez, but still nominally under the operational control of No. 246 Wing. No. 259 Squadron's Catalinas based at Dar-es-Salaam were not under control of No. 246 Wing until 1 Jan. 44.

In a table of dispositions, strength and serviceability of flying boats on 15 November (when Advanced Operations Sections were operating independently for the Union), (3) we find five aircraft at Mombasa, three at Dar-es-Salaam and four on Pemba Island. Of the total of 12 aircraft, 9 were ready to fly. In addition, eight aircraft were under major repairs. Thus, of a paper strength of 20 aircraft, only 45% were serviceable and on 1 December, only about 20%. On 1 January it was 33%.

(4)

Co-operation between No. 246 Wing and H.Q. British Forces Aden

Just as boundary problems often arose in the South with the Union air authorities, so did they with Aden. Nominally, the boundary between Aden and East Africa (represented by No. 246 Wing) was defined as latitude 5° North, but both commands were compelled to co-ordinate operations. It was largely a question of rapid and effective communications.

(1) Refer to Appendix 4.

(2) These were ordered on 31 Jan. 44 to transfer to Ceylon.

(3) There were ^{now} 7-8 flying boats based in the Union of South Africa.

(4) A.H.Q. E. Africa O.R.B. Oct. 43 Appendix A dated 2 Oct. 43.

/ When

When the period under survey opened, agreement had been reached on the subjects of air escort for convoys, submarine hunts and the exchange of intelligence. Aden was to inform No. 246 Wing how far South of Scuisuiban each South-bound Aden - Kilindini convoy was escorted by Aden's aircraft: and No. 246 Wing gave similar information for convoys escorted North of Mogadishu. Mogadishu or Scuisuiban airfields were used as occasion demanded, thus allowing either command the maximum time with the convoy. All that was asked of both units was to keep A.H.Q. East Africa informed in case their intervention proved necessary. No question of operational allegiance was to deter aircraft from attacking submarines beyond their boundary if they were in the best position to do so. Immediate exchange of information on U-boat movements and consultation of each other's signals became the routine.

(1)

The special Position of the Aden Command

After a period of relative eclipse, British Forces Aden moved into prominence at the close of 1943. Aden was the halfway house between West and East and as such was subject to tension from both directions. Its general reconnaissance aircraft were few in numbers and obsolescent and its air bases sorely needed improvement and expansion. Administratively, it was tied to the Middle East: operationally, it had now to face up to new loyalties to No. 222 Group in Ceylon, the authority of the C.-in-C. Eastern Fleet, commitments in the Persian Gulf and the Gulf of Oman bequeathed to it on the decline of H.Q. Iraq and Persia, defence of its frontier with the Yemen and new responsibilities in Eritrea following the extension of its command from 10° to 5° North.

Surveys had established that Aden Command was not flying boat country. One squadron was the limit it could provide for. The future lay with land-based aircraft such as the Wellington, of which modern versions were becoming increasingly available. The theatre was very extensive, e.g. it was over 900 miles from Aden to the flying boat base at Masirah Island, which in turn was still a long way from the Gulf of Oman.

(1) R.A.F., M.E. Operations File 54926(A.H.B.II J.1/184/84(C) enclosures 15A and 46A): Air H.Q. Aden O.R.B. No. 43 Appendix 73.

/ To

To crown the situation, the Aden area had recently become one of the principal hunting grounds of German U-boats and Japanese I-boats, and Aden an increasingly important assembly point for convoys. These facts, added to the stimulus of a newly created command in South-East Asia, provided a favourable ground for overhauling and modernising the local structure. ~~At~~ The commands involved, and the Air Ministry, Admiralty and War Office interchanged information and consulting officers. The resulting situation at the end of 1943 was broadly as follows.

Responsibilities of Air Officer Commanding Aden (1)

The Air Officer Commanding British Forces Aden was responsible for the defence and security of the Colony and Protectorate of Aden, the control of all air and land forces in the area, the coast of Southern Arabia, Somaliland and Ethiopia, (2) and was the Fortress Commander of the Fort of Aden. A combined R.A.F.-Army Headquarters, known as H.Q. British Forces Aden, existed to facilitate general administration of both services.

A.O.C. Aden was responsible to the Air C.-in-C., South East Asia through A.O.C. No. 222 Group (Ceylon) for the operation of all flying boats, amphibians, land-based general reconnaissance and coastal air striking force units based in the above areas for the protection of sea communications in the Indian Ocean including Gulf of Aden, Gulf of Oman, Persian Gulf and Arabian Sea. (3) He was subject to the general direction of A.O.C.-in-C., Middle East in his operational and administrative control of all other air forces (except Transport Command units) in the territories enumerated below in footnote, (2).

The Aden sea reconnaissance area, previously North of 5° South, West of 61° 30'E and South of 19° North, (4) was extended to the Gulf of Oman and as far as Sharjah in the Persian Gulf.

/Air

(1) H.Q., R.A.F. M.E. Administrative Instruction (External) No. 625 dated 22 Feb. 44. (A.H.B. II.1/184/84(C) encl. 98A).

(2) The areas included comprised the Colony and Protectorate of Aden (including the islands of Kamaran, Perim and Socotra), the coast and coastal islands of the Sultanate of Oman and Trucial Oman from the eastern boundary of the Aden Protectorate as far as, and including, Sharjah, British and French Somaliland North of 5° North, and Ethiopia.

(3) In the Arabian Sea there was intentional overlapping with No. 225 Group.

(4) Refer to Figure 2 for boundaries, airfields and flying boat stations.

Air H.Q. Aden dispositions and orders of battle
(November 1943 to January 1944)

During the three months commencing 1 Nov.43, Aden's air strength underwent a radical transformation. It had been decided that the minimum forces capable of dealing with the recurrence of submarine threats in its area were one full Catalina squadron of flying boats/amphibians (unit equipment 12 aircraft) and three squadrons of land-based Wellington XIII's carrying Leigh Lights (unit equipment 16 aircraft).

On 1 November, all that appeared on the order of battle ⁽¹⁾ were No. 321 Squadron, with only 6 Catalinas (although loans had at times increased their holdings to 14 aircraft) and No.8 Squadron, with 16 Blenheim V's (converted from their original light-bomber role to maritime reconnaissance.) These figures were unaltered on 1 December. In the meantime, the reinforcement plan was developing. No. 621 Squadron from Air H.Q. East Africa with Wellington XIII's ⁽²⁾ was earmarked for transfer to Aden. No. 244 Squadron from H.Q. Iraq and Persia, employing Blenheim V's, which were now on loan to Aden, began re-converting to Wellington XIII's ~~and was earmarked~~ for transfer to Aden. Blenheim Squadron No.8 also began re-converting to Wellington XIII's. No. 621 Squadron appeared on Aden's order of battle for the first time on 1 Jan.44. On 31 January, the order of battle contained all four squadrons, viz. Nos. 8, 244, 321 and 621. ⁽³⁾

Aden was, by the end of January 1944, in a better position than ever before to augment their escort of convoys. In the autumn, it had been sometimes necessary to employ for harbour and coastal patrols obsolescent Argus, Vincent and Beechcraft aircraft, with Swordfish of the escort carrier H.M.S. Battler, temporarily shore-based at Riyan.

/ Aden

(1) Refer to Appendix 6.

(2) G.R., A.S.V. not torpedo trained.

(3) Catalinas of No.321 Squadron operated from Aden, Socotra or Masirah Island. Other aircraft including Wellingtons, operated from Aden, Riyan, Souciubun, Bandar, Cassin, Socotra, Masirah, Salalah, Sharjah, Khormaksar or Jask.

Aden takes over operational control from A.H.Q. Iraq and Persia (1)

In early November, it was decided to bring certain controls, until then exercised by Air H.Q. Iraq and Persia, under Aden, ^{to} dissolve No. 215 Group, close down the Advanced Headquarters of Iraq and Persia and to transfer certain air bases, (including the seaplane base under construction at Umm Rasas on Magirah Island) to Aden. Aden's operational and administrative responsibilities thenceforward included the whole of the South Arabian coast from Perim Island up to and including Sharjah. Air H.Q. Iraq and Persia, however, continued to be responsible for all other landing grounds in the West coast of the Persian Gulf.

/Aden

(1) R.A.F. M.E. File MS.66229 Pt.IV Encl. 130 (AHB II J1/194/4(D)).

Aden Standing air patrols

The September threat by submarines in the Gulf of Aden and Arabian Sea led to a new series of air and naval security measures. As much shipping as possible was put into convoy although the bulk of shipping still proceeded independently. Approach positions outside focal areas were established for these ships and increased standing air patrols instituted. This plan had attained maturity by January 1944, ⁽¹⁾ when the Catalina squadron and three ⁽²⁾ Wellington squadrons were fully operational.

The Gulf of Oman was covered by three distinct patrols. ⁽³⁾ Convoy approaches to Aden were along three lanes, viz North Lane, South Lane and ⁽⁴⁾ ARD/DKA Lane. Three patrols covered North Lane, ⁽⁵⁾ two South Lane ⁽⁶⁾ and four the Aden-Durban Lane. ⁽⁷⁾

The Free French Potez Flight at Djibouti ⁽⁸⁾

Aden's needs were supplemented by a flight of three Potez 25 ⁽⁹⁾ aircraft operated by the Free French from Djibouti (Somali). Daily routine patrols and occasional scrambles were carried out. The C.O. was captain de Contolon. One of his two pilots had been trained on Blaisys in Great Britain. As will be seen from Figure 2, the aircraft covered a useful area from the Red Sea entrances south as far as Berbera. In addition, a daily dawn patrol was flown in the Gulf of Tajura. Aircraft refuelled at Berbera.

-
- / nos.
- (1) File Aden/298/3/AIR 1 (A.H.R.II J.4/9/2/5).
 - (2) Refer to Figure 2.
 - (3) Stronghold, Fishnet and Maritime.
 - (4) Aden-Kilindini - Durban and vice versa.
 - (5) Pear, Lemon and Apple.
 - (6) Mango and Fig.
 - (7) Melon, Grape, Peach, Plum.
 - (8) File Aden/3/AIR Encl. 48A and 57A (A.H.R.II J.4/9/1/72 (D)).
 - (9) A single-engined biplane, the upper wing overshadowing the lower to a very pronounced extent.

No. 222 and 225 Groups orders of battle (1)

On 15 Nov.43, No.222 Group, whose Air Officer Commanding was A.V.M. A. Lees (2) and whose headquarters were at R.A.F. Station Colombo, controlled seven R.A.F. stations on the island: these were China Bay (near Trincomalee naval base), Ratmalana, Keggala, Vavuniya, Sigiriya, Dambulla and Minneriya. The operational aircraft squadrons available for maritime operations and defence were based on the first six named and, out of the monsoon season, advanced island bases far in the Indian Ocean at Addu Atoll, Diego Garcia and Kelai Islands were used for detachments of Catalinas.

The group's Catalina maritime reconnaissance squadrons were three in number, viz. No.321 (Dutch) Squadron at China Bay (with a detachment at Ratmalana), and Nos. 205 and 413 at Keggala. There were two Beaufort squadrons with the dual role of tor-ado bomber and maritime reconnaissance - viz. Nos. 22 and 217 - both at Vavuniya, which also housed a night Beaufighter squadron for the defence of ports - No.89. (3) No.160 Liberator Squadron at Sigiriya^{was} employed alternatively on photographic or maritime reconnaissance, convoy escort or anti-submarine operations.

There were three Hurricane squadrons for the defence of Ceylon and shipping. These were No.17 at China Bay, (4) No.273 at Ratmalana (5) and No.30 at Dambulla. (6) There were satellites and advanced landing grounds at Vavuniya, Kalomutiya and Konariya. (7)

/No. 225

-
- (1) Nos. 222 and 225 Groups O.R.D. Appendices.
 - (2) C.B., C.B.E., D.S.O., A.D.C.
 - (3) It arrived 23 Oct.43.
 - (4) Transferred during January 1944 to Minneriya - 20's.
 - (5) 2B's.
 - (6) 2C's. To move to R.A.F. Station Bohasari. Not yet operational.
 - (7) Refer to Appendix 3 for details of units and locations.

No. 225 Group had available for maritime operations three Catalina and one Liberator squadron based as far afield as Karachi up the west coast and Cuttack up the east coast of India. Two of the Catalina squadrons were based at Karachi/Korangi Creek (Nos. 191 and 212) and the third No. 240 at Madras/Red Hills Lake. No. 354 Liberator Squadron was based at Cuttack and No. 203 Wellington Squadron at Santa Cruz. There were, in all, 25 Catalinas and 7 Liberators available. A fighter defence Hurricane squadron was re-equipping at Madras. (1)

Tasks allotted to Nos. 222 and 225 Groups

The tasks allotted to these two groups were five in number:-

- (1) Medium and long range maritime reconnaissance over the Bay of Bengal, trade routes south of Ceylon, and the Arabian Sea as far West as the Gulf of Oman.
- (2) Anti-submarine patrols and shipping escort.
- (3) Defence of Ceylon and Southern India against seaborne attack.
- (4) Defence of ports in Ceylon and on the east coast of India against air raids.
- (5) Long range photographic reconnaissance of Northern Sumatra and the areas adjoining the Andaman and Nicobar Islands. (2)

/Control

-
- (1) See Appendix 3 for order of battle.
 - (2) Later, shipping strikes were added to the list.

SECRET

18

Control in the Arabian Sea by No. 225 Group

As time proceeded, No. 225 Group became increasingly involved in the great sea areas of the North Arabian Sea, the Baluchistan coast and the Gulf of Oman, took over responsibilities previously held by Air H.Q. Iraq and Persia and closely controlled flying boats operating from Masirah Island. Bombay was the hub of these activities and a combined operations room was established there. A R.A.F. Commander was appointed to co-ordinate all general reconnaissance operations in the area of the East Arabian Sea under direction of A.O.C. No. 225 Group. Bombay passed orders direct to the station operations room at Korangi Creek (Bombay) and to detachments operating from Jiwani or from advanced bases at Trombay and Coochin and to any shore-based G.R. aircraft stationed at Karachi or Bombay. The R.A.F. Commander at Bombay was responsible for movements of aircraft to or from Masirah Island. Aden controlled operations.

/ The

SECRET

The naval and convoy escort situation

(1)

The Eastern Fleet at the close of 1943

Withdrawals of ships during 1943 for operations in more active areas had reduced the Eastern Fleet temporarily to below the strength even of a trade protection force. It had been confined to the west side of the Indian Ocean, for it was undesirable to operate in the Ceylon area without aircraft carriers. By July, it had practically ceased to exist, except for a few destroyers, corvettes, gunboats and sloops for escort work. These ships, totally inadequate to meet the massive volume of convoy tasks, moved from area to area through the year to meet sudden submarine threats. Now plans to reinforce the Eastern Fleet began to mature.

The headquarters of the Eastern Fleet had remained at Kilindini. It was now decided that Colombo was to be the main Fleet base. The danger of invasion of Ceylon by the Japanese was considered to have receded, but there remained the possibility of attacks by submarines ^{or} ~~submarines~~ by carrier-borne or land-based aircraft from northern Sumatra or Port Blair in the Andaman Islands. The Chiefs of Staff therefore revised their plans in August. On 4 September, the C.-in-C., Eastern Fleet transferred his headquarters to Colombo. The strength of the Eastern Fleet based on Colombo only increased by slow degrees; Ceylon bases continued to be used only for local defence and escort forces and occasional visits by cruisers. Ambitious plans for (2) the construction of naval air stations in India and Ceylon were pushed forward. Work proceeded on naval facilities at Trincomalee, Bombay, Calcutta, Madras, Vizagapatam, Cochin and Nandapam. By March 1944, the amphibious and naval air forces, with a balanced fleet headed by four battleships based on Ceylon could be fed and maintained, but there was still no immediate prospect of increasing this capacity without developing the facilities of the Indian Ocean as a whole in East and South Africa, the Red Sea and Egypt.

(1) Admiralty C.B.3303(3) and C.B.3303(4).

(2) By March 1944, the 5 naval air stations in southern India and Ceylon could support 34 F.A.A. squadrons and repair some 400 aircraft.

In early January 1944, Admiralty reinforced plans began to achieve practical expression, although arrivals continued for some time to fall behind local hopes. In February, the process was accelerated to meet a surprise threat from the Japanese Fleet which had moved into Singapore from Truk in the Pacific. Air defence of the Fleet base in Ceylon and the air strike force in the Bay of Bengal were augmented.

Merchant Convoys

Different interpretations were often put upon the word convoy. When the Admiralty referred to 'a general convoy system' it no doubt had in mind a regular schedule of convoys of the kind in operation in the Atlantic, i.e. organized groups of merchant vessels sailing in formation under the protection of one or more warships. In both the Naval War Manual 1947 and Naval Control of Shipping in War 1948, the definition is qualified as 'an organized group, usually (but not necessarily) escorted by combatant forces'.

To an Air Commander in the Indian Ocean called on for protection and forced to relate his meagre escort forces to a given group of shipping, the latter of the two definitions given above was the one on which he worked. To him, there were three types of convoys, namely:-

- (1) Convoys well escorted by surface craft.
- (2) Convoys poorly escorted by surface craft.
- (3) Convoys without surface craft escort.

All through 1943 and 1944, two approaches to the philosophy of convoy in the Indian Ocean were in contention. The first, of which the Admiralty was compelled to act on occasion as spokesman, was that by the relaxation of convoy, more independent ships could transport more material more quickly to South-east Asia, where the Allies were to take the offensive. The second, in favour of which a vast volume of evidence had accumulated, was that it had been, and would be, proved that the convoy system was the more economical in the long run, since the average losses in convoy to submarines were less than in independent sailings. It was common knowledge that submarines preferred attacking ships, but it was observed that they also attacked convoys.

/Convoys in

Convoys in Submarine Attacks (1942 and 1943)

An analysis of enemy submarine attacks in 1942 and 1943 prepared by C.-in-C. Eastern Fleet (1) lends colour to the claim that convoys were the safest method for shipping in the Indian Ocean. In 1942, 91 ships had been attacked and 59.5% of these sunk. In 1943 only 76 ships had been attacked, but, owing to the greater efficiency by a larger influx of German U-boats, 65.89% of those were sunk. The increase of escort vessels and aircraft in 1943 made a proportion of convoys through threatened areas possible. There were few and not very successful attacks on convoys and never more than one merchant vessel had been lost in any given convoy. But there was an increased willingness to attack convoys, for the percentage of attacks on a vessel in convoy in 1943 was 7.9% (6 ships) as against only 1.1% (1 ship) in 1942. Great hopes were placed in the reorganisation of escort vessels and aircraft in late 1943 and the extension of air cover. Yet the vast extent of the Indian Ocean, the shortages of escort vessels and aircraft and the large number of steamships routes traversing the station in all directions made a universal convoy system for all merchant vessels impossible. A time of major risk lay before the Allies. Nothing had yet been done to exclude the chance of Japanese naval incursions into the Indian Ocean. No attack had yet been launched against her Outer Zone. The Germans, although not very active for the moment, still had the means and will to send U-boat reinforcements, provide them with fuel from tankers and strike practically when and where they chose. They could rest, refit and repair at Penang. The Japanese I and RO boats were still a submarine force to be reckoned with, and as time passed, they would both be able to take their pick of a rich variety of targets.

Convoy Routes

The number of convoy routes crossing the Indian Ocean, already lengthy, (2) was increasing in sympathy with the opening of the through passage via the

Mediterranean

- (1) Admiralty C.B.04199/Dec.43. Refer to Appendix 7 for full text.
 (2) Refer to Appendix 8 for a full list with code letters.

Mediterranean and Red Sea, the growing importance of Ceylon as a strategic centre, the mounting material needs of South-East Asia, movements of 'monster'⁽¹⁾ troopships and cargo vessels to and from the Pacific by way of Onslow in West Australia, the build-up of air and naval bases in the island and archipelago areas and of naval stations for the use of carrier forces, to say nothing of normal maintenance of the many air and naval stations round its perimeter. It was at the end of 1943 that the most constructive efforts were being made to rationalise the convoy route system in the interests of more effective air and surface escort. This was especially the case in the area enclosed by the Gulf of Aden, the Arabian Sea, Gulf of Oman, Baluchistan, West India and Ceylon.

Westward of Ceylon, both the Eight and Nine Degree Channels were in frequent and traditional use. Ships on long journeys through central ocean waters passed for security's sake through the Chagos Archipelago near the base of Diego Garcia and the One and a Half Degree Channel or, farther north, by Addu Atoll with its Catalina base,⁽²⁾ close on the Equator. Ships coming up round the Cape came naturally within range of African coastal and Madagascar air and naval bases, although the Mozambique Channel was seldom free for long of U-boats. If sailing to eastwards of the island of Madagascar, ships were routed as far as practicable within range of the island air and naval bases of Mauritius and the Seychelles.

This brief sketch will give some notion of the broad pattern of the huge shipping defence problems confronting the Royal Air Force. The new measures adopted for affording maximum protection attacked the problem at local points, simplified the system of shipping lanes and intensified cover in the areas most threatened. Although the time of Japanese submarine threat could frequently not be accurately predicted owing to the paucity of intelligence, plots of attack areas were a useful guide in planning.

(1) Such as S.S. Queen Mary.

(2) Gan.

Changes in convoy organization (November 1943 to April 1944)

(1)

The submarine threat had necessitated the institution of regular convoys between Durban - Kilindini - Aden, Aden-Bombay direct and Colombo - Bombay, as well as the provision of surface escort for these and convoys into and out of the Persian Gulf and a convoy system for 8-13 knot ships between Aden-Durban and vice versa. During November 1943, the submarine threat increased in the Bay of Bengal, so, in early December, Calcutta - Colombo convoys sailed at 8-day intervals. Ships from or for Trincomalee (Ceylon), Madras and Vizagapatam joined or left convoys off these ports. Minimum speed for these JG convoys was now 9 knots. To speed up shipping while preserving security, most shipping was divided into classes according to speed. (2) Certain ships were released from convoy. Several troop convoys sailed, but it was still not possible to escort them all.

The position continued in the new year to cause grave apprehensions. January saw new convoys re-instituted, some ships released from convoy and then, on the sudden re-appearance of submarines, put back into convoy. New routings were ordered monthly. From 17 March to 12 April, all shipping between Aden and the Persian Gulf and between that Gulf and Bombay sailed in convoy. Gradually faults were corrected. Fast ships tended to run independently, delivered cargoes more speedily and were put back into convoy when a U-boat threat reappeared. This was the position at the end of April 1944.

-
- (1) Class A. - 13 knots and over.
 Class B. - 12 knots and over.
 Class C. - 11 knots and over.
 Class D. - All ships eligible for convoy.

- (2) Eastern Fleet War Diary (Admty TSD.4454/1943) for all details on convoys.

/ Anti-submarine

Anti-Submarine operations in November 1943

Air H.Q. East Africa

(1)

General situation

During November 1943, two Japanese and one German submarine operated in the Indian Ocean. The Japanese accounted for the three independent merchant vessels sunk, one in the Gulf of Oman and two off India. The German en route for Penang made no attacks. To assist Aden in meeting a repetition of the recent threat, reinforcements of aircraft were despatched from East Africa until a total of six Catalinas were on detachment to Aden and No. 215 Group (shortly to be disbanded).

In the beginning of the month, a Japanese submarine, reported in the narrows of the Mozambique Channel, made two unsuccessful attacks on S.S. Hallberg. An attack by H.M.S. Quadrant and another ship on 7 November on a reported submarine South of Mozambique went to confirm her presence.

(2)

Air operations

A total of 658 hours were flown on anti-submarine patrols during the month and all convoys were escorted safely. When on 7 November, H.M. ships attacked a contact classified 'submarine' in the position 17° 06'S., 40° 28'E., (3) two Catalinas (4) and one Sunderland (5) searched the area of probability, without result. Further contacts and searches in the course of the month were equally fruitless. Wellingtons (6) co-operated with a Catalina and three destroyers on the night of 21/22 November in a local search. Although never caught, the submarine twice advertised her presence in unusual fashion.

Reconnaissance by Japanese submarine-borne aircraft

A new, interesting feature of the submarine war was the activity during October and November of an aircraft-carrying Japanese I-boat submarine, which made air reconnaissance of various Allied bases. The Chagos Archipelagos

-
- (1) E. Africa O.R.B. appendices: E. Fleet War Diary (Admiralty) C.B.64199/43 (Admty H.S.).
 - (2) E. Africa O.R.B. Appendices.
 - (3) Mentioned above.
 - (4) Of No. 265 Squadron.
 - (5) Of No. 230 Squadron.
 - (6) Of No. 621 Squadron.

/ was

was reconnoitred on 5 Oct. 43, Diego Suarez on 10 October, Mombasa on the night of 16/17 November and the Seychelles on 23 November. There can be little doubt that the same submarine operated between the Diego Suarez and Mombasa sorties, ~~probably~~ patrolling the Mozambique Channel and exciting great interest. At 0215 hours on 17 November, a report was received at No. 246 Wing, that an unidentified aircraft was flying over Mombasa and not showing I.F.F. or displaying navigation lights. No British aircraft were flying in the area.

(1)

A British warship in Kilindini Harbour reported that the aircraft, at under 1,000 feet altitude, was a long wing monoplane with radial engine and twin floats. It was plotted by the R.A.F. leaving the Mombasa area. After its departure, several sheets of tinfoil similar to British 'window' were found. (2)

A Sunderland of No. 230 Squadron was due to take off from Dar-es-Salaam at 0830 hours that day to provide escort to a northbound convoy. In view of the suspicious aircraft sighting, his time of take-off was put forward to 0600 hours. The captain swept a wide area en route to the convoy, but saw nothing. Combined searches of the waters to westward of Pemba Island (just South of Mombasa) by a Sunderland and Catalinas on the 17th and Catalinas on the 18th led to no results. The hunt was abandoned on the evening of 18 November. The submarine-borne aircraft made its final appearance on the 23rd over Silhouette Island, Seychelles. A Catalina of No. 265 Squadron, airborne on a search, was forced back to base by bad weather. The I-boat appears to have pursued her course for Penang and before she reached base, sank the Norwegian tanker Scotia. (3)

(1) Adjacent to Mombasa.

(2) Reports from A.H.Q. E. Africa C.R.D. Apl. 41 Appendix J/AIR/1.

(3) 9,972 G.R.T.

/ Air H.Q.

26

SECRET

AIR H.Q. ADEN

General situation

Aden's area of control was the scene of much activity by a Japanese submarine, plotted on 1 November 480 miles West of Cochin and, by 10 November, in the Gulf of Aden. There she attacked S.S. Samblack with gunfire. After showing traces on the 12th and 13th, she torpedoed and (1) sank the British freighter S.S. Sambridge in the Gulf of Aden, took the Second Officer prisoner and remained about 10 hours in the vicinity. On (2) the night of 29/30 November she sank the Greek S.S. Athenia Livanos (3) East-South-East of Aden.

A heavier scale of attack had been expected but, in periods of no threat, some aircraft were switched from convoy escort to patrols. ~~aircraft~~. The general shipping passing through the area was double the figure for October 1943. A record number of convoys and independent merchant vessels were provided with air escort, viz - 30 convoys comprising 63 escort vessels, 245 merchant vessels, 9 troopships and 28 L.S.T.'s.

(1) In 12° 25'N, 47° 25'E.

(2) 4824 G.R.T.

(3) In 12° 20'N., 44° 00'E.

/ Air

SECRET

Air Operations 7 November

After various reports suggesting an enemy submarine, the threat materialised on the 10th in the form of a signal from S.S. Samblade that she was being shelled. A Catalina left Socotra to investigate, but saw no signs of the enemy. When the British motor vessel Sambo sank 10 miles South of Perim Island, it was at first thought the enemy was on the threshold of Aden itself; but it was later ^{concluded} ~~thought~~ she had struck a mine. Ships and aircraft worked in unison from time to time whenever a promising contact or sighting was made.

When at 1525 hours on the 18th the motor vessel Sambridge ⁽¹⁾ was torpedoed in the Gulf of Aden, her S.S.S.S. signal was not picked up by Aden. The crew took to the boats. Later the M.V. Tarantia came to their aid and despatched an S.S.S.S. message. In response, aircraft began to leave at 1910 hours, but in spite of co-operation with H.M.S. Tavlot, no further confirmation of the submarine's presence was obtainable.

Nothing of any note occurred until the late afternoon of 29 November when the Suez-bound Athena Livanos, sailing independently, was struck by two torpedoes. There was no chance of transmitting an S.S.S.S. and she broke up and sank in 30 seconds. One survivor was picked up 7 hours later by S.S. Ribera, who sent an S.S.S.S. signal. A Vincent aircraft searched the area (about 143 miles E. by S. of Aden) for the submarine and survivors, in company with H.M. Ships. Two Wellingtons continued the search until 1420 hours on the 30th. Many rescues were effected, but the submarine had escaped in the direction of the West coast of India.

/No. 225

(1) 7,176 G.R.T.

28/29

No. 225 GROUP

General situation

The vast area controlled by No. 225 Group from Bangalore began over the Arabian Sea where Aden's authority ceased on 61° 30'E., and North of 10°N. It took in a coastal strip 100 miles along the West coast of India from 10°N. to the latitude of Cape Comorin (8°N., 77° 6'E.); and the Bay of Bengal North of 10°N., including the East coast of India up to and including Cuttack. (1) They were often involved in events in the areas of No. 222 Group and Aden and aircraft were frequently detached from one to the other. Further, because of the number of valuable Indian harbours in its area and its proximity to the military installations in S.E.A. Command, it had a special convoy commitment.

Air operations

In November 1943, the general policy was to concentrate air cover for convoys to threat areas. The November ratio of convoys to independent sailings was 53 : 258. (2) Twenty-three convoys were met and 49 sorties put out as escort; 46 sorties were made on shipping lane patrols. Lower cover for convoys allowed more of these lane patrols. November was a quiet month and no ships were sunk in its waters. Its serviceability percentage was too low for an all-out effort.

On 20 November, Wellingtons of a new squadron - No. 203 - began to arrive. Because the base at Cochin became unserviceable during the N.E. monsoon, an alternative was constructed at Narasapur. (3)

Three enemy submarines were sighted during the month, but only one was attacked. This was on the 4th, when a Catalina from Cochin on convoy escort (4) sighted and attacked a submarine in 08° 41'N., 76° 21'E. (5) Travelling at 16 - 17 knots on the surface, she took avoiding action by turning sharply to port, but the depth charges straddled the wake and probably caused damage. The aircraft was hit in the tail by fire from the Japanese. Contact was lost and never regained, although the search continued until dawn on the 5th.

-
- (1) For air command operational boundaries from 13 Nov. 43 see Air H.Q. India paper at Appendix 73 to H.Q. Aden O.R.B. Nov. 43.
 - (2) 588 hours.
 - (3) 16° 26'N., 81° 42'E.
 - (4) No. 413 Squadron.
 - (5) Near Trivandrum.

S E C R E T

No. 222 GROUP

30

(1)

General situation

November was a quiet month for submarine activity in the Ceylon area and hence more cover for convoys was provided and overworked aircraft conserved. Large convoys (such as Bombay - Colombo 74 and 75 and Colombo - Chagos Islands 11) and naval forces were escorted by Catalinas, all without loss; and Beauforts patrolled coastal shipping lanes to Cochin, Madras and Calcutta. It was correctly adjudged on the 10th that most enemy submarines in the area of C.-in-C., Eastern Fleet had returned to their bases at Penang and Sabang and that there were two on patrol. One of them was in the Persian Gulf area (as Aden found to its cost) and the other in the Mozambique Channel. This latter was the submarine whose aircraft reconnoitred Mombasa and the Seychelles and she was on her way home. On the 27th, she torpedoed and sank S.S. Scotia off the Chagos Archipelago.

General reconnaissance aircraft based in Ceylon flew about 875 hours on anti-submarine escorts, sweeps and searches. Escort was given to six convoys.

(2)

Record air searches

Catalinas participated on two noteworthy occasions. The first effort saved the convoy MB.53 from attack and roughly handled a Japanese submarine. The second was the cause of saving many shipwrecked men from S.S. Scotia.

At last light on 3 Nov. 43, a Catalina of No. 205 Squadron, escorting the slow Bombay convoy MB.53, left the convoy on the S.W.O.'s request that he should cover a straggler astern. At 2210 PG hours, the crew homed on to a contact and, two minutes later, sighted an enemy submarine silhouetted against the moon a few miles off Cape Comorin, (3) attacked it and reported its depth charges as straddling the stern and exploding. The submarine exchanged fire, hitting the Catalina and, after partial submersion, was lost (4) in poor visibility. The search was continued by a Liberator from Sigiriya. After staying with the convoy until relieved by aircraft of No.225 Group, the Catalina landed at Cochin (India), refuelled and returned to base, happy in the

(1) No. 222 Group O.R.B.: C.B.04199/43 (Admty. H.S.)

(2) No. 222 Group O.R.B. Appx. Z.2.

(3) In 08° 42'N., 76° 21'E.

(4) See Figure 1 for No. 222 Group air bases in Ceylon.

knowledge of having saved the convoy and given the submarine a very uncomfortable time.

In pursuit of the submarine, constant air patrols were carried out on 4, 5 and 6 November North of the Maldives and covering the approaches to the 8 Degree and 9 Degree Channels, by Liberators from Sigiriya^{and} Catalinas from China Bay, Keggala and Kelai. Meanwhile, four Beauforts carried out a parallel sweep of shipping lanes to Coochin, refuelled and then flew coastwise to Vavuniya.

On the morning of 7 November, it was believed that the damaged submarine was S.E. of Ceylon, making for Penang. Beauforts, a Liberator and Catalinas continued the search on to 8 November, when, at 1005 hours, the enemy's periscope was sighted roughly 300 miles S.E. of Ceylon by a Liberator of No. 160 Squadron, who attacked abortively. A Catalina, at 1357 hours, straddled what resembled a surfacing submarine with five depth charges but could claim nothing more. The search continued until the afternoon of 9 November, when it was abandoned.

So ended the most intensive search after any one submarine yet carried out by No. 222 Group. In five days, it had been pursued from a point off Quilon to within 240 miles of the Nicobar Islands in an effort totalling to 18 Catalina, 11 Liberator and 4 Beaufort sorties.

(1)

Survivors rescued by Nos. 205 and 321 Squadrons

At 1910 hours on 27 Nov. 43, S.S. Scotia was attacked by a Japanese submarine, believed to be the one whose aircraft reconnoitred Kilindini and the Seychelles on her way home. Two Catalinas were immediately despatched to Addu Atoll near the stricken ship. They were airborne again early in the morning of the 28th to search for survivors from the tanker. Within five hours, they had located a lifeboat and a raft. On its return flight to Addu Atoll (Can air base) one of the Catalinas found another lifeboat with 25 survivors. The search continued throughout the 29th and 30th. Catalinas guided H.M.S. Okapi to the lifeboats until all survivors were rescued. K/No. 205 Catalina's captain, who had flown some 42 hours, received a special message of thanks from Admiral Somerville.

(1) No. 222 Group O.R.B. Appx. Z.2.

(2) 03° 00'S., 69° 03'E.

Anti-Submarine Operations in December 1943

Air H.Q. East Africa

General situation

Activity during December continued to be centred outside the operational area of East Africa Command, whose reinforcements of Aden reached a peak, with 12 Catalinas and a complete Wellington squadron on detachment to Aden, Masirah Island and other bases. Little worthy of report occurred. The submarine threat was receding northwards. There were no German U-boats anywhere on patrol in the area. In the last week, U.178 was off the West coast of India and, during January, sailed back to Germany through East African waters carrying strategic materials: two Japanese I-boats were on patrol and one in passage.

Naval changes (1)

On 6 November, the boundary between South Atlantic and East Indies Naval Commands was moved further northwards and eastwards, bringing the S.W. part of Madagascar in the South Atlantic Command. (2)

On 12 December, as a result of exchanges between Admiralty and Admiral Somerville, the convey system was relaxed in certain conditions of relatively modest, local threats. Personnel ships and combined operation formations were still to sail in convey. These temporary measures played directly in plans for escort.

On 28 December, the boundary of the East Indies Station was extended to the Northwest to include Aden, running along the parallel of 15°N. in the Red Sea.

Air operations

In the first half of this month, only 63 hours of defensive flying were recorded. There were a few dubious reports of enemy submarines. In the latter half, however, the greatest part of the flying time was expended in offensive sweeps pursuant to Operation "Biscuit". This was initiated by No.246 Wing and based on Naval Intelligence, which indicated the possibility of further / reconnaissance

(1) E. Fleet War Diary. (Admity TSD/4454/1943).

(2) The former boundary was along 35°E. The new boundary was 18°S. from the E. coast of Africa to the W. coast of Madagascar, thence down the W.coast of Madagascar to 45 E., thence due South.

reconnaissance of the East African coast in the vicinity of Kilindini and Mombasa by Japanese submarine or submarine-borne aircraft. Tidal, monsoon and moonlight conditions all favoured such an operation. Eight night sorties were made by Catalinas (1) and Sunderlands (2) totalling 95.35 hours and many day flights were made by Fleet Air Arm aircraft based on Tanga and Port Reitz. In addition, Naval units were constantly in the area. No sightings or contacts were made and no enemy action was reported. In the second half of the month, 127 hours of flying time was recorded. (3)

This swing from violent and sustained action to the monotony of weeks of routine flying with no result ~~to point to~~ was typical of the Indian Ocean submarine war. Yet without it, the air units would have been unprepared to meet a threat if it developed suddenly, as it frequently did. Furthermore, it provided a degree of confidence for all whose duties took them along the shipping lanes and was a proved deterrent to the submarines.

/ ADEN

-
- (1) No. 209 Squadron.
 - (2) No. 230 Squadron.
 - (3) E. Africa O.R.B. and appendices.

SECRET

ADEN

35

General situation

The Aden area was the scene of great activity during December. The Japanese submarine which had begun operations in November extended its patrol into December, sinking two ships (1) and damaging others. Three other ships (2) were sunk that month, one 200 miles S.W. of Cochin (India) (3) two in the Bay of Bengal. On 24 December, an outward bound Japanese submarine proceeding northwards along the west coast of India was plotted off Bombay. Shortly after she moved towards the Gulf of Oman and attacked two merchant ships and was still in the area when the month closed. Visual sightings amounted to eleven, a large increase over November. Although many ships were released from standard orders for convoys, all possible air cover was given to ships (4) until clear of the Gulf of Aden.

At the end of the month, the Naval Commodore-in-Chief, Aden, became responsible to the C.-in-C., Eastern Fleet for protection and operational control of convoys and shipping in the Gulf of Aden, along the South coast of Arabia and in the Gulf of Oman. The 3rd Battle Squadron, including H.M.S. Rennow, Queen Elizabeth, Illustrious (flagship) and the escort carrier (5) Unicorn, was transferred from the Mediterranean to the Eastern Fleet and, as the weeks passed, calls for air escorts for naval and merchant shipping increased.

Air Operations

The daily patrols by Free French Potez aircraft from Djibouti were an integral part of Aden's reconnaissance. It was they who, on 1st December, made the submarine sighting which led to a thorough reconnaissance by three Wellingtons of every island, rock and mile of coast between Cape (Ras) Khansir and Zeila (British Somaliland). In spite of this alert, the Greek M.V. Nitsa was

-
- (1) The Greek M.V. Nitsa (4,732 G.R.T.) and the U.S. S.S. Robert F. Heke (7,176 G.R.T.).
- (2) S.S. José Navarro (7,244 G.R.T.).
- (3) Daisy Noller (4,087 G.R.T.) and S.S. Peshawar (7,934 G.R.T.).
- (4) Refer to the air patrols marked on Figure 2.
- (5) Eastern Fleet War Diary (Admity. T.S.D. 4454/1943 and 1944).

/ torpedoed

SECRET

torpedoed at 2145 hours off Berbera on the 2nd while sailing independently and sank with her cargo of coal. No S.S.S.S. could be sent, as the first explosion destroyed the wireless gear. It was not until 1400 Z hours on 5th December that the survivors reached Berbera. It was much too late to consider sending aircraft to the scene of the attack.

At 2000 Z hours on the 3rd S.S. Fort Camosun,^{and} routed independently, bound for India with a cargo of 7000 tons of pig iron, was torpedoed off Ras Khanzir.⁽¹⁾ Within a few seconds, the wireless operator, despatched an S.S.S.S. At 2210 Z hours, a Bisley was airborne for the scene of the attack, but it had no radar. It was followed at 2258 hours by a Wellington. There were no serviceable Catalinas nearer than Socotra. Aircraft were badly placed. The ship reached port under its own steam. Several H.M. Ships proceeded to the area^{and} H.M.S. Bann dropped depth charges without result. The hunt continued over the 4th. Continuous air cover was provided for 58 hours 55 minutes, but the submarine appears to have escaped to the East. It was probably the boat plotted on its homeward trip on 7th December some 300 miles east of Socotra. It was believed that the 7th was the last day of its operation in the Aden area.

— This was a case of failure due to the length of time between the recording of the last known position of the submarine and the arrival of aircraft not fitted with radar, hence too wide an area for a thorough search.⁽²⁾

After a long interval, a surfaced submarine was seen by a U.S. transport aircraft on the 22nd, east of Mukalla on the Hadramaut coast. Aircraft from Aden and Socotra were despatched to the area. On the 23rd, air cover was provided until 1145 hours and two of H.M. Ships steamed eastwards from Aden along the north shipping lane to intercept her. The hunt was known as Operation "Ant" and continued until the 24th.

On the 24th, the U.S. tanker River Raisin reported herself pursued by a submarine in the Gulf of Oman. Three Catalinas from the adjacent base at Masirah Island carried out a square search without results. Other reports, of varying value came in as the days passed. Then, on the 28th, the submarine struck. She torpedoed the American Liberty ship S.S. Robert F. Hoke about 40 miles S.E. of Masirah

(1) In 11°22'N, 46°03'E.

(2) Details of air operations from Aden O.R.B. and appendices.

Masirah Island at 0347 hours in the morning, while bound from Abadan to Mombasa in ballast. After shelling the ship, the submarine disappeared and was not seen again, in spite of a search lasting into the 30th. In response to the distress signal, a Catalina from Masirah Island arrived on the scene at 0556 hours and covered the rescue of survivors by Air Sea Rescue launch. Bisleys and Catalinas from Masirah followed. The reason for the delay in the arrival of the first Catalina was that the main signals installation on S.S. Robert F. Hoke had been shattered and the S.S.S.S. could only be transmitted on the emergency set. It was picked up by Karachi and flashed back to Masirah. Had Masirah air base been able to pick up the message direct, it should have been possible for them to have despatched an aircraft in time to be overhead when the twin periscopes of the submarine were sighted and fired at some 40 minutes after the attack.

On the 30th the tanker Tormus was torpedoed in the same area, but was able to proceed to Karachi under her own steam.

/No. 225

38

SECRET

No. 225 GROUP

General Situation

At least two Japanese submarines operated in December in the areas of Nos. 225 and 222 Groups and another, returning from Europe, was in transit across the Indian Ocean during the second half of the month. Two ships were sunk by them in No. 225 Group's area. (1) Aircraft were borrowed by No. 222 Group to meet a possible threat from Japanese surface forces in the Eastern Approaches and, from 6 to 9 December, inclusive, both groups co-operated in cross-patrols covering the Bay of Bengal and the Ceylon area.

Steps were taken to speed up shipping, divided into classes according to speed. To meet the submarine threat on the East coast of India, route convoy sailings between Colombo and Calcutta were instituted at the beginning of the month; and, at the end of the month, ships bound for Aden from the East coast of India were included in the Aden sector of Colombo-Bombay convoys.

In addition to flying boat facilities already existing at Gan (Addu Atoll) and Diego Garcia Island, boat moorings were laid by the Fleet. There were a few reports of Japanese reconnaissance aircraft over Eastern India.

(2)

Air Operations

The flying boat squadrons put in a record number of flying hours in face of heavy commitments. Liberators entered steadily into reconnaissance work in the Bay of Bengal; some were borrowed from No. 222 Group for a special operation. The rest were based at Cuttack.

Twenty-eight convoys were met, as against twenty-three in November. Three hundred (300) ships sailed independently as against two hundred and fifty-eight (258) in November. In consequence, 459 hours were flown on shipping lane patrols, i.e. about three times the November figure. Anti-submarine patrols, searches, reconnaissance and strikes all rose steeply. (3)

A U-boat already reported in the Bay of Bengal materialised late on the 13th when she torpedoed and sank S.S. Daisy Moeller, on passage from Colombo to Calcutta.

(1) The British S.S. Daisy Moeller (4,087 G.R.T.) and S.S. Peshawar (7,934 G.R.T.)

(2) No. 255 Group O.R.B. appendices Dec. 43.

(3) A/S patrols and searches.

Dec. 17 sorties - 226 hours.
Nov. 2 sorties - 28 hours

Reconnaissance

Dec. 20 sorties - 183 hours
Nov. 1 sortie - 11 hours

Strikes

Dec. 3 sorties - 31 hours

Nov. - -

(1)

Chittagong, about 50 miles off Vizagapatam. All boats got away before she sank. The submarine surfaced, rammed the boats and machine-gunned across the water. Only 16 survivors made land days later out of a total complement of 71. Such atrocities on an ever increasing scale were seen to swell to serious proportions.

As the ship's report of a submarine was made "off frequency", it was only picked up by a merchant vessel in the vicinity. The information arrived at No. 225 Group H.Q. too late for an effective search. On the 16th, Hurricanes and two M.T.B's searched the area. On the 17th, two Catalinas and a Bisley continued searching for S.S. Daisy Woeller, now overdue. Nothing was sighted, but later survivors landed near Masulipatam.

During the following days, several reports of U-boats sightings came in, but no occasion for a hunt occurred until the 23rd, when the Japanese made one of their rare attacks on a convoy. (2)

First enemy attack on an air-escorted convoy

This was the first time the enemy had attacked a convoy in the Eastern Fleet area whilst air cover was being provided. S.S. Peshawar was proceeding in convoy, escorted by a Catalina (No. 191 Squadron) from Karachi, when she was torpedoed at 0620 hours on the 23rd about 50 miles S.E. of Pondichery (the French island). The Catalina gave cover to S.S. Peshawar until she sank at 0826 hours. Continuous day and night air cover was given to the convoy in co-operation with No. 222 Group. Within four hours of the sinking a hunt to destruction was commenced, but abandoned 18 hours later. At 0510 hours on the 25th, a periscope (probably of the same submarine) was sighted. Air escort, extended to cover the hours of darkness, probably discouraged the submarine, which was not seen again. On the 27th, a Catalina (No. 212 Squadron) while on convoy escort, witnessed and photographed phases of an attack by H.M.I.S. Berar on a U-boat off S.W. India in which the enemy was certainly badly damaged.

(1) In 16° 21'N, 82° 13'E.

(2) Reports of air operations from No. 225 Group O.R.B. appendices.

No. 222 GROUP

(1)

Steps to meet possible threat from Japanese surface forces

It had been hoped that December would be quiet like November had been, but it turned out to be very active. The Japanese were vacating their advanced Fleet units from the base at Truk in the Pacific. It was no longer possible for them to operate heavy ships and carriers in the Pacific, where they were faced with overwhelming Allied superiority. (2) There was normally in the Singapore area a force of two 8" cruisers and two to three light cruisers. Any appreciable reinforcement of these units would present a serious threat to Allied plans and positions. So far, little change in the balance was evident, but, as a precaution, Nos. 222 and 225 Groups commenced constant cross-over patrols (Operation 'Buster') on 6 December and continued them over four days. First, five No. 217 Squadron Beauforts were recalled to Vavuniya (Ceylon) from Santa Cruz and all available Catalinas and Liberators put on 'Buster' patrols. Some 750 hours were flown during the four days by Catalinas and 50 hours by Liberators, for the loss of two aircraft. Plans for long range cover were based on a radius of 850 miles and for the light bomber patrol on a radius of 450 miles, both outside figures which left little time for combat. No Japanese naval surface units were sighted. Although premature, the operation proved a valuable warming-up shadow exercise for the real threat when it appeared in all its magnitude a few weeks later.

(3)

Anti-submarine and rescue operations

Numerous convoys and naval forces were escorted between Ceylon and Indian ports, up to the boundary with No. 225 Group and a convoy from Australia to Bombay was escorted through the 8° and 9° Channels by a Catalina (No. 205 Squadron) from Addu Atoll. But the lull in submarine activity was unbroken for nine days of uneasy calm. On the 23rd, S.S. Peshawar was sunk.

(1) No. 222 Group O.R.B. Appendix X.

(2) J.I.C.(44)75(0) Final 24 Feb. 44 in War Cabinet Appreciation J.P.S. (A.H.B.1.D.3/2079).

(3) No. 222 Group O.R.B. Appendix X. Nov. 43.

/ Overlapping

Overlapping with No. 225 Group, No. 222 Group co-operated in the rescue patrols and searches.

The presence of a German U-boat off the West coast of India had been the subject of several reports. It was most probably this U-boat - U.178 - that torpedeed S.S. Jose Navarro a few miles off Minicoi Island at 0600 hours on the 27th. At approximately the same time, a report was received from an escort vessel of convoy MB.59 that S.S. Asian had been sunk in the same area. A Catalina from Kelai Island immediately proceeded to locate S.S. Jose Navarro, whilst two Liberators from Sigiriya searched for the submarine. The Catalina circled the sinking ship, maintaining constant communication with survivors and base, while another Catalina searched for survivors of S.S. Asian. On the 28th a Catalina from Kelai Island re-located the 167 survivors of S.S. Jose Navarro, and stayed with them until they were picked up by an escort vessel which the aircrew had guided to the scene.

On the same day - the 28th - a Catalina from Addu Atoll, escorting a important Kilindini-Colombo convoy through the One and a half Degree Channel, attacked what it took for a submarine. A large patch of oil resulted from depth charges dropped on a suspected wake; members of the crew claimed to have seen an object appear in the middle of the swirl for about 20 seconds and then slide under slowly at an angle of 35°.

Very heavy escort commitments kept the Group at full stretch until the last day of 1943. Some idea of the month's effort may be drawn from statistics. General reconnaissance aircraft had flown 1664 hours. Nineteen convoys and naval forces had been escorted and 167 survivors rescued with air assistance. The amount of air cover afforded to the ever-increasing Eastern Fleet was noticeable. Work had been simplified by using Beaufort aircraft (Nos. 22 and 217 Squadrons) on coastal convoys, reserving longer range aircraft for island bases (to which they were rapidly switched) and for Australia-Colombo convoys.

(1) In 08° 20'N, 73° 35'E.

(2) In fact, it was sunk in collision with MB.59 in bad weather.

(3) No. 413 Squadron.

(4) Photographs of the action were disappointing and not inconclusive.

Enemy submarine forces in early 1944

(1)

German and Japanese co-operation

The first quarter of 1944 saw a sharp revival in enemy submarine activity and a steep rise in his successes against Allied shipping, which outpaced the Allied ability to provide sufficient air and surface escorts. For the necessary background a quick survey of the enemy organization must be made.

German submarines had first reached the boundary between the South Atlantic and East Indies stations at the end of January 1943. Japanese submarines were already operating from Penang, with Port Blair (in the Andaman Islands) as an advanced base, (2) blockade running to and from Europe to collect war materials from German sources. The Germans also despatched submarines to the Far East to bring back cargoes of essential materials, such as rubber and tin, carrying cargoes for Japan on the outward voyage. Casualties in this traffic had been heavy and only justified by Axis needs.

In August 1942, an agreement had been made defining the German zone of operations as South and West of 20°S. and 85°W., but changes had been made from time to time. In 1944, the most lucrative regions were North of 20°S. and West of 85°W., North of Madagascar and in the approaches to the Red Sea and Persian Gulf. German and Japanese submarines now worked independently in identical areas. Submarines of both partners ~~now~~ used Penang, headquarters of the Japanese 8th Submarine Flotilla. Co-operation with the Japanese was not entirely satisfactory. The Japanese Navy was helpful, but the Army was not co-operative. Until late 1943, for example, the erection of a German wireless station at Penang was not allowed. The Germans had no intelligence service of their own there and relied for information on a few personal contacts.

(1) Admiralty C.B.3303(3) and (4).

(2) Admiralty C.B. 3303(3) p. 107.

(1)

The Axis submarine bases

At the end of 1942, Japan had offered Germany and Italy a submarine base, either at Penang, Sabang Bay (off the N.W. end of Sumatra) or a port in the Andaman Islands. Early in 1943, the Germans, disappointed at the effects of the Japanese submarine campaign, decided to enter the area themselves and accepted the offer of a base at Penang. Here, Japanese workshops carried out all normal repair work for the Germans, who found it slow but well done. Docking had to be done at Singapore. All repair material came from Japan, hence delays. Torpedo stocks were provided by German armed merchant cruisers (while they sailed) and blockade runners (ships or submarines). Penang dockyard could just maintain five German and two or three Japanese submarines. At Penang, there was no harbour defence against submarines or surface craft, and no anti-submarine organization or vessels. Surabaya and Tanjong Priok (Batavia) were also used by the Germans. The climate was bad for torpedoes, which rapidly deteriorated and often failed.

(1) Admiralty C.B.3303(3).

Summary of policy and methods

German submarine policy found expression in two forms. The first was the traditional one as practised in the Mediterranean and Atlantic of well organized and offensive patrols in the known shipping lanes and on long distance routes less frequented by air cover. Their efforts bore the habitual mark of good planning and navigation in the face of technical arrears and supply difficulties. As new equipment was forthcoming, boats were fitted in Germany and sent out as reinforcements or replacements. The second form was the transport submarine, whose primary task was to carry strategic materials, but who seldom ignored the opportunity of attacking an independent ship. The submarine transport programme received a new impetus at this point in early 1944 when surface blockade running was abandoned.

The Japanese affirmed that the correct use of submarines was in support of the main Battle Fleet and never expected the Indian Ocean campaign to influence decisively the course of the war. A side issue to them, it was still productive enough to justify allocation of up to eight submarines of the I class to the 8th Flotilla at Penang. They usually avoided convoys and respected well-armed merchant vessels and were ruthless and often cruel in their methods.

Japanese submarines were equipped with hydrophones and acedics but lagged behind the Germans in anti-submarine measures, lacking method and co-ordination. Their commanders were probably not less skilled in tactics than the Germans, but in some respects lacked their experience. Their larger submarines enjoyed considerable underwater endurance. When surfacing or surfaced, they presented better targets, but would fight out the issue. They employed dummy periscopes, flares and oil (as did the Germans) to mislead searching craft or aircraft. (1)

German and Italian U-boat reinforcements and dispositions (2)
(January to March 1944)

In January 1944, the Germans were pressing forward their construction programmes of transport submarines, and converting Italian operational submarines for supply work. The construction of German boats was abandoned in mid-1944. After the Italian surrender in September 1943, the five so-called 'Aquila' submarines remaining were taken over by the Germans, renamed

/U.It.21 ...

(1) Admiralty C.B.3303(3) and (4)

(2) Dispositions of German U-boats from maps 56 to 60 in Vol.IV of this series.

U.It.21, 22, 23, 24 and 25 and given the code name 'Mercator'. Two of them entered the Indian Ocean early in 1944 and formed the subject of some interesting operations. All three Japanese blockade-running submarines in 1944 were sunk outside the Indian Ocean. The Germans, however, continued with notable success to maintain the two policies of open attack and blockade running.

During the relative standstill in November and December, several German submarines were repairing and refitting at Penang. At the end of December, only U.178 was on patrol, off the west coast of India. By mid-January, she was between the Maldives and Ceylon on the return voyage to Germany. She was in the Mauritius area on 30 January. On 19 February, she was leaving the area and by 16 March, had rounded the Cape. She was replaced in the Maldives area by U.532, in the first half of January, who was leaving the area at the end of the month, south-westwards. On 19 February, she was moving across the Ocean, well to the S.E. of Madagascar where she waited until 16 March. The tanker Charlotte Schlieemann failed to appear at the appointed rendezvous and U.178 gave her some fuel. On 16 March, she was on her way back to the Chagos Archipelago, where she patrolled until at least 7 April.

In mid-January, another U-boat - U.188 was passing through the area of No. 222 Group on her way to the Gulf of Aden, where she was patrolling at the end of January. By 19 February, she had been replaced by U.510 and proceeded to the waters round Mauritius, passed it by 1 March and waited for the tanker and refuelled.

U.510 was sent from Germany as reinforcement. On 1 January, she was about to round the Cape. In the latter half of the month, she was in the Mauritius area, but, for about three weeks commencing 19 February, operated in the Aden area. In mid-March, she was on her way to Penang.

The converted Italian submarine U.It.22 was approaching the Cape at the beginning of March. Her sister ship U.It.24 was approaching South African waters from the East at the same period. On 1 March the former was well South of Madagascar, and in mid-March leaving the area for the Far East again.

/ Summarising

Summarising the German U-boat position over the first quarter of 1944, the following figures give the background to the submarine war. The total U-boats in the Indian Ocean on 1 January was one; on 16 and 30 January four; on 19 February, six; on March 1st seven; on 16 March, when a new boat was entering (U.1062) seven; and on 1 April, it had fallen to three.

Japanese Submarine Dispositions (January to March 1944) (1)

To complete the pattern of the enemy forces ranged against Allied shipping and air forces during the first ^{three} month^s, it is only necessary to follow the movements of the Japanese submarines. The ~~sum~~ record will be of standing value for reference in the quarter's record of maritime operations which follows this subsection.

The ocean-going submarines I-162 and I-165 were on patrol in the Bay of Bengal in January, I-162, I-166 and I-27 and the short-range submarines RO-110 and RO-111 during February. At the beginning of March, I-8 joined the flotilla at Penang. Six of the seven Japanese submarines at the base carried out Indian Ocean patrols during March in widely separated areas: these were the North Arabian Sea, off Masirah Island, ⁽²⁾ in the 8° Channel, the waters to the South and South-East of Ceylon, and in the Bay of Bengal. Among them were I-37, I-26 and RO-111.

During the quarter under review, the enemy pursued an offensive policy, which drove the Allied shipping tonnage losses up to a new peak. Although when related to the number of ships at sea they might not appear considerable, they were, in the event, very serious, by reason of the narrow margin on which the South-East Asia Command worked.

/ Anti-submarine

-
- (1) Details from Admiralty C.B.3303(4).
(2) 100 miles, S. of Ras al Hadd.

Anti-submarine operations in January 1944

No. 222 Group

(1)

General situation

The situation grew more threatening in January. After a quiet beginning, a series of attacks in several areas developed, leading to the loss of eight merchant vessels of an aggregate tonnage of 56,213. Five of them were British and three Allied.

No. 222 Group, controlling operations in all areas, found little offensive work for aircraft in its own area, where only U.178 was active. It took the correct view that the enemy respected the vigilance of reconnaissance aircraft, on whom the brunt of escort tasks was still falling. The long range flying boats were therefore evenly distributed to the advance island bases to cover the maximum areas of the shipping routes, now increasingly used by convoys to India and Ceylon.

The main threat was in the Socotra area and the entrance to the Gulf of Aden. In consequence, Aden was reinforced by flying boats of Nos. 209, 259 and 265 Squadrons from East Africa. Wellingtons of No. 203 Squadron commenced operations from Cochin on 17 January, so relieving the strain on Catalinas covering convoys off the West coast of India. Liberators of No. 354 Squadron carried out offensive patrols off the Arakan coast, encountering little opposition.

(2)

Operations

Apart from a brush on the 11th between a merchant vessel and the Japanese submarine returning to base after her successful tour of the Masirah area, the first 11 days were uneventfully passed in escorting Fleet units, covering naval exercises, patrolling and escorting merchant shipping. On the 12th, the Japanese made an abortive torpedo attack on S.S. Triona. A Catalina was airborne at first light to cover a naval force in the vicinity of this attack, but was forced by bad weather back to China Bay. As the bad weather belt prevailed right down to the Equator, it was impossible for put any

(1) No. 222 Group ICGROPS review July 1944 (AHB ILJ50/47/39).

(2) No. 222 Group O.R.B. Jan. 44 Appx. Y.

Catalinas into the area.

The weather cleared on the 13th, when a land-based aircraft escorted a naval force including H.M.S. escort carrier Patroller, who was acting as a 'ferry' carrier.

On the 16th, at 1207 FG hours, S.S. Perseus (10,286 G.R.T.) was torpedeed and sunk by a Japanese submarine in the Pondichery-Madras area, within 30 miles of the sinking of S.S. Peshawar in December. Although the position was in the operational area of No. 225 Group, Ceylon-based aircraft were immediately despatched to Madras. One escorted a convoy through the danger area and two others left for Red Hills Lake (Madras), coming under operational control of No. 225 Group. (1)

Following this sinking, No. 222 Group provided constant air cover on the 18th and 19th. They provided reinforcements of three more Catalinas from Koggala to Red Hills Lake again on the 23rd, after an aircraft from that command had depth-charged a submarine pursuing a convoy. A combined hunt to exhaustion failed to locate the submarine. Continuous patrols and cover for Fleet units filled the following days uneventfully until the 27th.

Late on the 27th, news was received that S.S. Walter Camp (7100 G.R.T.) had been sunk N.W. of Kelai Island. A Catalina (2) detached at Kelai was despatched to look for survivors at first light on the 28th. It returned at last light to Kelai, having seen nothing but a large oil patch. The survivors were found the next day by aircraft of No. 225 Group. Ceylon-based aircraft continued the task; the entire crew of 70 were picked up by H.M.S. Danae.

At about midnight on the 20th, S.S. Port Buckingham was torpedeed, while on passage from Bombay to Durban, S.W. of the Laccadives, somewhere about 07°N, 69°E. The first knowledge of this loss and the position of possible survivors did not arrive until the morning of 1 February, when a message was received from another merchant vessel. The account of the outstanding air search which followed will be found in the record of No. 222 Group's February operations. Convoy escort was increasing. (3)

(1) 12°N., 80° 14'E.

(2) Of No. 413 Squadron.

(3) Hours flown on anti-submarine sorties - 834
No. of convoys and Forces escorted - 25
Survivors rescued with air assistance - 190

General Situation

No. 225 Group controlled a mixed reconnaissance force of five squadrons containing 20-22 Catalinas, 7 Liberators and 16 Wellingtons of varying service-ability quotients. ⁽¹⁾

During January, there was a further increase of independent sailing in the Group area, ⁽²⁾ but a smaller number of hours were flown along the shipping lanes, as a greater number of sorties were required for convoy escort and anti-submarine searches. There was a slight decrease in the number of convoy sailing, but a definite increase in the submarine threat. In consequence, a record number of hours were flown.

Operations ⁽³⁾

The Group was fully stretched all the month on all its normal tasks. Pressure from South-East Asia Command threw up more independent sailing, but the steady movement into the area of naval vessels for the Eastern Fleet provided a non-stop incentive to effort. In spite of various contacts by aircraft and ships in submarines, no actual attack by aircraft was feasible.

There was some delay in sending aircraft on the 16th to the scene of the sinking of S.S. Perseus because the attack was first reported as a "naval accident". Although she was sunk at 0537 hours, definite information that a submarine was responsible did not reach Group H.Q. until 0750 hours. It was fortunate that a Catalina airborne at 0633 hours from Red Hills Lake was on the scene by 0712 hours. In co-operation with three M.T.Bs from Madras the rescue operations were covered.

Commitments in the Gulf of Oman were not forgotten. On the 28/29th, Jiwani on the Baluchistan coast was visited by a Wellington, with a view to further detachments.

/Air H.Q. Aden

- | | | | |
|-----|---|---|-----|
| (1) | No. 191 Squadron Catalinas | - | 71% |
| | No. 212 Squadron Catalinas | - | 61% |
| | No. 240 Squadron Catalinas | - | 48% |
| | No. 203 Squadron Wellingtons | - | 49% |
| | No. 354 Squadron Liberators | - | 68% |
| (2) | 300 in December, 380 in January. | | |
| (3) | 26 convoys met of 50 sailed: 1061 hours flown on escort. | | |
| | 292 hours on patrols and search, 359 hours on reconnaissance: | | |
| | 213 hours on shipping lane patrols. | | |

SECRET

Air H.Q. AdenGeneral situation

January opened with a Japanese submarine operating in the gulf of Oman area. She sank a ship on the 2nd and disappeared. U.188, in the Socotra area by the end of the month, was probably responsible for the sinkings of two cargo vessels in the last week. Handicapped by conditions beyond their control, Aden Command had no chance of making an actual attack on a submarine, although they came very close to doing so on several occasions. They limited the field of action of the enterprising enemy, who returned again and again to the attack.

With effect from 1 Jan. 44, Aden took over the operational and administrative control of R.A.F. Stations Masirah, Ras-al-Hadd and Sharjah from Iraq and Persian Command. Work was begun on Sharjah to convert it into a Wellington base.

Flying times for the month broke all previous records for the command, viz a total of 3206. Operational hours increased by 730. (1)

Operations

On 2 Jan. 44, I-26 renewed the offensive from the Masirah - Ras-al-Hadd area. She torpedoed and sank S.S. Albert Gallatin 75 miles East of Ras-al-Jibsh and left for the East. The ship blew up and sank the next day. She was carrying a cargo of steel, foodstuffs and high explosive from the U.S.A. and was bound from Aden for Bandar Shapur independently. The crew were picked up by the M.S. Britannic on 3 January. When she was hit, the radio operator immediately endeavoured to send out an S.O.S. and the position, but power failed in both transmitters. (2)

The submarine submerged after ship's gunners had fired on her. Twenty-eight minutes after being torpedoed, the Master ordered all hands to abandon ship. A quarter of an hour later, the first aircraft was seen. No trace of

(1) Aden O.R.B. Jan. 44

(2) Ibid, appendix 72.

(3) 7,176 G.R.T. Liberty ship.

(4) Halfway between Masirah Island and Ras-al-Hadd.

(5) Southern terminus of the Trans-Persian railway.

~~Trace~~ of the submarine was ever found, although ^a search was made.

During the following three weeks, evidence was not lacking of the presence of another submarine. Coast watchers and troops of the 2nd Somali Corps sent in reports to supplement aircraft and naval indications. On 25 January, S.S. Fort le Mauve (1) was sunk about 120 miles E.N.E. of Socotra. Two days later, an aircraft of No. 321 reported three lifeboats with men in them, (2) but the actual survivors were not identified as such until they were approaching the mainland 9 days later. Two Wellingtons from Salalah rendered signal service, not only by dropping supplies and sending encouraging messages, but also, after the survivors had landed, in impressing the local Arabs. These Arabs, as a result of the presence of these aircraft overhead, changed their attitude of truculence to one of friendly co-operation.

The submarine moved westward towards the Gulf of Aden and on the 26th, ^{sunk} sinking two ships, both bound for Aden. The first was S.S. Samouri, (3) torpedoed N.E. of Socotra. (4) It was a dark, clear night, when she was hit at 0125 hours and her radio set smashed by the explosion. No. SSSS could therefore be sent. Her survivors were picked up by Allied ships.

At 1900 hours on the 26th, S.S. Surada was torpedoed about 40 miles from Socotra. (5) Early on 19 January, she had sailed from Colombo in a convoy of 15 ships, escorted by H.M.S. Shoreham and two R.I.N. sloops. Air cover was provided by Wellingtons on the 20th and the morning of the 21st and by a Catalina on the afternoon of the 21st. At 0130 hours on 22 January, at 14°N in sight of the coast, the convoy split up and seven ships proceeded with the R.I.N. escort to 14°N, 70°E, (6) which was reached at 0330 hours on 23 January. Thereafter, the ship proceeded independently, with neither escort nor air cover. When hit, S.S. Surada (7) sank in 20 minutes. The commander of the Japanese submarine - an ocean going type of 1800-200 tons - treated the survivors in boats courteously, gave them

/the

-
- (1) 7,130 G.R.T.
 - (2) In 13°17'N, 55°44'E.
 - (3) 7,219 G.R.T.
 - (4) In 13°04'N, 55°45'E.
 - (5) Approximately 13°13'N, 55°15'E.
 - (6) Nearly 300 m S.W. by W of Goa.
 - (7) 5,427 G.R.T.

the course and distance from Socotra and disappeared. The evidence suggests that it had not been possible to send an S.O.S. ^{Not} until the 28th was a Catalina seen. From the morning of the 27th until the morning of the 31st, 187 hours were flown in the area by searching Catalinas, Wellingtons and Bisleys, who met with nothing but disappointment.

S.S. Olga E. Embericos ⁽¹⁾ sailed in convoy in the last week in January from Durban to Delagoa Bay, from which point she proceeded independently. The night of the 31st was very dark, there was no moon and the sea was smooth. At 2100 hours, about 300 miles East of Aden, ⁽²⁾ she was hit on the port side by a torpedo and sank in three minutes. There was only time to launch two boats and 20 members of the crew, including the Master, went down with the ship. The 21 survivors were landed at Aden by S.S. Dramatist. The impression given during a conversation with the commander of the submarine was that it was a Japanese boat with a German commander.

A.H.Q. East Africa

A month of Respite

Activity in the East Africa Command was extremely limited in January 1944. Ten of its flying boats were on loan to Aden and did not begin to filter back until the beginning of February. Effective communications with such remote bases as Tulear (Madagascar) and Mauritius were maintained by the Communication Flight at Eastleigh for the cost of 372 flying hours. The same base controlled a Meteorological Flight, who flew 38 hours in the first half of the month, reporting on the capricious ocean weather.

The passage of U.510 into and across the Indian Ocean was closely watched. On 16 January, she was about 700 miles S.E. of Mauritius. The fact of her presence gave rise to a protracted series of combined operations carried out from Mauritius. These opened when, in compliance with a request from No. 222 Group, two Catalinas of No. 265 Squadron ^{were dispatched} on the 16th. These were joined by another Catalina (of No. 209 Squadron) on the 21st. By the 29th, a total of 133 hours patrol had been flown. Unfortunately, on the 31st, an approaching cyclone forced their withdrawal to Tulear. The warships co-operating included the escort carrier H.M.S. Battler. The combined search was known as Operation "Thwart".

/Anti-Submarine

- (1) Greek of 4,677 G.R.T.
(2) In 12°30' ; 50°10'E.

Anti-submarine operations in February 1944

No. 222 Group — 7

A month of action and increasing threat

February saw a distinct increase in enemy submarine activity in the Gulf of Aden, Ceylon and Maldiva Islands areas. To meet these threats, No. 222 Group reinforced Ceylon with Catalinas⁽¹⁾ and Wellingtons⁽²⁾ from No. 225 Group. Air escort for convoys in the Gulf of Aden and to India and Ceylon increased. The general air and naval escort position improved. Convoys rose from 50 to 62 and air units escorted 39 of them for 116 sorties. The monthly number of ships sailing independently fell from 380 to 246. In January, certain convoys had been suspended but in February some were re-instituted and new routings laid down. In spite of this, more attacks were made on Allied shipping with alarming success, all characterized by ruthlessness and, in the case of Japanese units, by atrocity.

Ten ships of a total tonnage of 64,169, were sunk in the Indian Ocean. Of the eight different attacks made in the area of No.222 Group, none were made while air cover was provided. A full programme of rescue, patrols, escort and naval co-operation was carried out with some notable results. Although losses were severe, they were partly offset by the destruction of two Japanese submarines.

(1) Of Nos. 212 and 191 Squadrons.

(2) Of No. 203 Squadron.

SECRET

Outstanding Rescue Search by Catalinas (1)

The message received in the morning of the 1st that survivors from S.S. Fort Buskingham (2) were afloat in the Laccadive area aroused immediate response in No. 222 Group. Three Catalinas from Koggala (Ceylon) were despatched to Kelai Island equipped with Thornaby bags, and other rescue apparatus. One of them crashed on being airborne in the early hours of the 2nd and its crew were killed. The other two continued their task, but made no sightings that day. On the 3rd, one of those two Catalinas had to return to Koggala with its radio unserviceable and was replaced by another Catalina at Kelai. Meanwhile, aircraft of T/Squadron No. 205 found a lifeboat to the West, (3) with 15 survivors. On 4 February, Catalina M/No.205 Squadron found more survivors and dropped Thornaby bags to them. Another Koggala aircraft (4) flew down to Kelai Island, refuelled and joined the search. All day on the 5th, an aircraft of No. 413 Squadron circled the various rafts and lifeboats and guided a rescue vessel to the scene. They stayed until they saw S.S. Ora picking up survivors at last light. They then returned to Kelai almost out of fuel. The same squadron had two Catalinas searching on the 6th for any possible survivors, but found only empty rafts and lifeboats. On the 7th, it was decided that all had been rescued and the search was terminated. Bearing in mind that the ship was sunk 800 miles from the mainland, these searches, laid on 14 days after the sinking, must be rated as outstanding, even in a long history of such operations.

/Destruction

- (1) No. 222 Group O.R.B. Appx. U, sub Appx. A.
- (2) 7122 G.R.T.
- (3) In 07°16'N., 66°26'E.
- (4) D/No.413 Squadron.

SECRET

Destruction of RO-110 by H.M. Ships (11 Feb. 44)

On 11 Feb. 44, convey CJ.36 (Calcutta to Colombo), was proceeding up the Bay of Bengal, escorted by H.M.I.S. Junna, H.M.S. Ipewich and H.M.A.S. Launceston, when, off Vizagapatam, ⁽¹⁾ S.S. Asphalion was struck by torpedoes. The escorts began a hunt, whilst a fresh escort was sent for. Twelve minutes later, H.M.S. Junna made contact. The submarine, after firing, dived under the convey and bottomed. Several attacks were made on her. At 1750 hours, a run over the target showed the line of RO-110 resting on the ocean bed. At dawn next day, ⁽²⁾ the oil patch covered an extent of nine square miles. This event took place in the area of No. 225 Group, but no aircraft were involved.

The loss of S.S. Khedive Ismail (12 Feb. 44)

There were no indications of enemy submarines West of the Maldives in the few days preceding 12 February, the date of the tragic loss of S.S. Khedive Ismail. No. 222 Group was providing air escort for Floating Dock BL.84A on passage to Trincomalee and for Fleet units in the Bay of Bengal. Early on the 12th, convey ⁽³⁾ KR.8 ⁽⁴⁾ was attacked about 700 miles S.W. of Ceylon. The convey, one of five troopships, was led by the cruiser H.M.S. Hawkins and screened ^{by} two destroyers. ⁽⁶⁾ No air escort was provided, largely because of other pressing commitments. The convey was not zigzagging, as this would have entailed its remaining at sea for another night. ⁽⁵⁾ The escort was zigzagging.

The attacking submarine, I-27, ⁽⁷⁾ approached from ahead undetected by the escorts and hit S.S. Khedive Ismail at 0903Z hours. The ship, who sank within two minutes, was carrying 1,947 passengers and crew, including British and U.S. and East African troops, W.R.N.S., A.T.S. and nursing sisters. More than ⁽⁸⁾ 1,000 persons lost their lives.

-
- (1) In 17° 35'N. 83° 40'E.
 - (2) Admiralty G.B.3303(4).
 - (3) Kilindini-Colombo.
 - (4) In 00° 57'N, 72° 16'E.
 - (5) At that time, the ports were not open at night.
 - (6) No. 222 Group G.R.B. Appendix U.
 - (7) 7,513 G.R.T.
 - (8) The Board of Inquiry considered the decision not to send aircraft to cover the convey in the area of the sinking was justified. (Admty. Hist. Sec.).

/ Destruction

The destruction of I-27 by H.M. Ships (12 Feb. 44)

I-27 was seen from H.M.S. Petard at the moment of the strike and relentlessly pursued by her and H.M.S. Paladin. They attacked and soon damaged her. After pursuing an opposite course to the convoy's, she adopted tactics customary to the Japanese and turned back to the sinking area so as to avoid detection in the disturbed water. H.M.S. Petard, who had lost contact, closed the scene of the sinking where H.M.S. Paladin was picking up survivors. At 1050 hours, before contact was regained, I-27 surfaced about a mile and one-half distant, heading slowly West. Both destroyers turned simultaneously to attack, firing all weapons and scoring many hits, preventing I-27 from manning her guns. In attempting to put a charge under her to prevent her diving, H.M.S. Paladin collided with her and was flooded, seriously damaged and put out of control. One of H.M.S. Paladin's charges did burst under I-27's bow and probably prevented her from diving, for she circled blindly with her periscope carried away for the greater part of another hour. Some idea of the extreme toughness of this submarine may be gathered when it is known that 300 rounds of 4 inch shell and seven torpedoes were fired at her by H.M.S. Petard before she sank. (1)

Loss of the repair vessel Salviking (14/15 Feb. 44)

Air escort rose on the 14th. The floating dock escorted by a Catalina (2) and a Beaufort, reached port safely. A Catalina carried out an anti-submarine patrol due South of Ceylon, partly to cover four independent ships and also in hopes of catching an enemy submarine. As if to justify this effort, a belated report was received at midday that the salvage vessel R.F.A. Salviking had been torpedoed on the 14th about 300 miles S.W. of Colombo (3) en route to Addu Atoll to aid the damaged H.M.S. Paladin. Both the R.F.A. Salviking and her trawler escort H.M.S. Fara fired on the submarine, (believed to be a German), and claimed possible damage. Thirty survivors were picked up by H.M.S. Fara.

(1) Admiralty C.B.3303(4) pp. 189-190: Board of Enquiry paper H.056335/44, quoted in C.B.3303(4) p. 189.

(2) Of No. 413 Squadron.

(3) In 3° 30'N., 76° 30'E.

ADEN AIR COMMAND

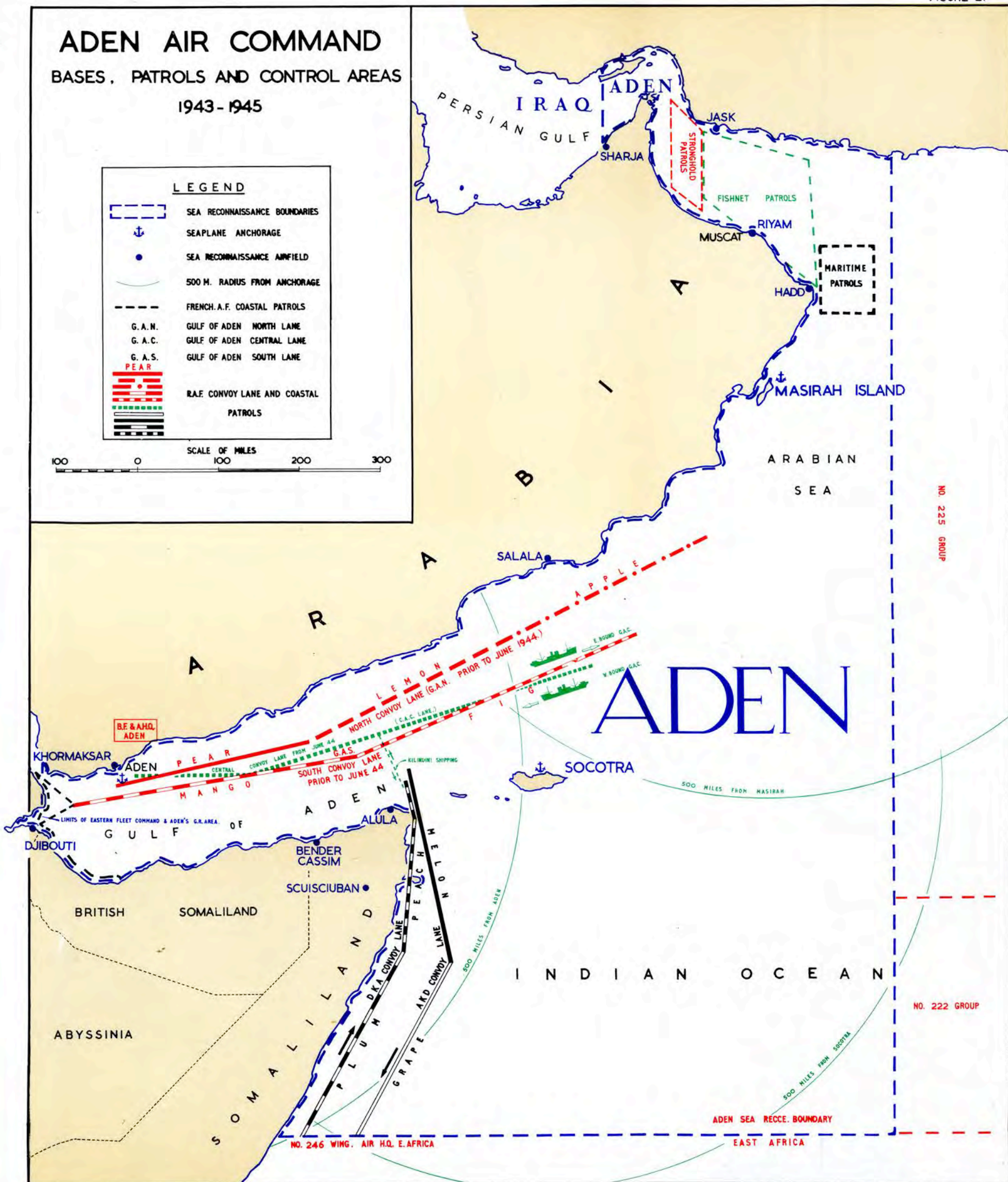
BASES, PATROLS AND CONTROL AREAS

1943-1945

LEGEND

	SEA RECONNAISSANCE BOUNDARIES
	SEAPLANE ANCHORAGE
	SEA RECONNAISSANCE AIRFIELD
	500 M. RADIUS FROM ANCHORAGE
	FRENCH A.F. COASTAL PATROLS
G. A. N.	GULF OF ADEN NORTH LANE
G. A. C.	GULF OF ADEN CENTRAL LANE
G. A. S.	GULF OF ADEN SOUTH LANE
	PEAR
	R.A.F. CONVOY LANE AND COASTAL PATROLS

SCALE OF MILES
100 0 100 200 300



57

S E C R E T

The area between Ceylon and the Maldives was swept all through the 16th and convoys and Fleet units safely escorted.

Loss of S.S. Epaminondas C. Embiricos (15/16 Feb. 44)

It was probably the same U-boat that sank the Greek S.S. Epaminondas C. Embiricos (1) the next night in the One-and-a-Half Degree Channel. Two lifeboats with 35 survivors were sighted on the 18th by two Catalinas detached at Addu Atoll. All sweeps failed to locate the U-boat, whose presence in the area S.W. of Ceylon was again determined by fixes. On the 20th, Catalinas re-located the survivors and saw them picked up by one of H.M. Ships. The U-boat lay waiting.

The Loss of the Tanker British Chivalry (22 Feb. 44)

Only a few days later, another sombre scene was enacted in mid-ocean far from all help. On 22 February, a Japanese submarine torpedoed and sank the ~~SS~~ British Chivalry (2) about 360 miles West of Addu Atoll (3) under brutal circumstances. This appears to be yet another case, which may be of significance, of a ship deprived of its radio facilities. It was not until 36 days later that some survivors were picked up by S.S. Delane and taken to Durban. The ship had been bound, independently, from Melbourne to Abadan.

Loss of S.S. Palma (29 Feb. 44)

At 1240 FG hours on the last day of February, S.S. British Fusilier, proceeding to Colombo, reported that a submarine had fired two torpedoes at her in the position 02°35'N, 79°56'E., (about 150 miles S. of Ceylon). They had missed.

/Two

(1) 4,385 G.R.T.

(2) 7,118 G.R.T.

(3) In 00°50'S., 68°00'E.

S E C R E T

SECRET

Two Catalinas from Koggala proceeded immediately to the spot, one to escort the tanker and one to hunt the submarine, which could not be traced.

Later in the day, about 200 miles from that position, S.S. Palma ⁽¹⁾ was torpedoed and sunk some 25 miles South of Galle (S.India). This was clearly the work of another submarine. Catalinas from Koggala proceeded immediately to the position reported and commenced a long hunt to exhaustion, which lasted well into March.

Hours flown showed a substantial increase - 1,020 in all. Thirty-one Forces or convoys were escorted. At least 86 survivors were rescued with air assistance. Two aircraft were lost.

Lack of Eastern Fleet Escort

The Board of Inquiry into the circumstances attending the sinking of H.M.A.T. Khedive Ismail found that surface escorts available were toally inadequate for the protection of valuable convoys on widely separated routes. There followed exchanges between the Admiralty and the Eastern Fleet. The Admiralty admitted on 18 February ⁽²⁾ that the available escort forces might be insufficient to provide the desirable degree of immunity and it was recognised that risks had to be taken. The C.-in-C., Eastern Fleet replied that the risks were still being accepted. One Bombay-Aden convoy of 20 ships had an escort of only one sloop. The loss of another troopship because of the lack of sufficient escort might have serious repercussions. Mercator's projection, he pointed out, was apt to cause erroneous conclusions to be drawn when considering the Eastern theatre in relation to others more remote ^{from} ~~for~~ the Equator. Comparison of distances between bases provided a better guide. Two trade convoys were reinstituted. Increased air escort was provided for convoys. ⁽³⁾

/No. 225 Group

(1) 5,419 G.R.T.

(2) Admiralty signal 181352. A/Feb. quoted in A.H.S. preliminary draft narrative Admiralty Hist.Sec.).

(3) Admiralty C.B.3303(4) p.191.

59

SECRET

No. 225 Group

Air Operations

Convoy escort sorties rose to a new record at the expense of cover for independent shipping. (1) Although the month was very crowded, nothing spectacular happened in the Group's area. They co-operated as usual with No. 222 Group exchanging flying boats to meet special occasions. There were no opportunities of attacking U-boats although searches were made. The real testimony to all their monotonous effort was the safe arrival of so much merchant shipping and such a variety of Fleet Forces.

The first four Catalinas of a new squadron - No. 357 arrived and the first operational sorties was flown on the 11th from Red Hills Lake (Madras). Detachments operated from Trombay and Coshin throughout the month.

/ Air H.Q.

(1) Summary of G.R. Operations Jan. and Feb. 44

	No		No. escorted		a/c sorties		a/c not met		Hours	
	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.	Feb.	Jan.
Convoys	62	50	39	26	116	87	7	0	1,283	1,061
Independent Sailings	246	380	-	-	(on shipping lane patrols (23 32		-	-	160	213
A/S Patrols & searches.)	8	22	-	-	8	22	-	-	74	292
Recoes.	25	30	-	-	25	30	-	-	376	359
Strikes	5	1	-	-	5	1	-	-	40	10
Total					177	172			1933	1935

SECRET

SECRET

60

Air H.Q. Aden

General Situation

February opened with U.510 still lurking in the approaches to the Gulf of Aden. She was still there at the end of the month. After a lull of 14 days, a convoy was attacked off Ras-el-Kab shortly after midnight on the 23rd. In all, four ships of an aggregate gross tonnage of over 27,000 were sunk and another of 9970 tons was very seriously damaged. Dhows were also sunk. All the indications were that the enemy was determined to wage war in the Aden area, as elsewhere, more ruthlessly and in a more determined manner than before.

The air effort increased, but not one aircraft was able to deliver an attack on an enemy highly skilled at evasion, sailing heavily armoured boats. Yet but for the air cover, it is certain they would resort less to submersion with a corresponding danger to shipping. When the month ended, after having been sighted and having escaped, a second submarine still lay in the vicinity. There was an element of mystery about this second submarine still unsolved. Its structure suggested a powerful Japanese type, but its commander appeared to be German.

/ The

SECRET

(4 Feb.)
The loss of S.S. Chungchen and S.S. Viva (4 Feb. 44)

The submarine which eluded air search after sinking S.S. Olga E. Embiricos moved eastward and operated to the North and East of Socotra Island. On 3 February, she torpedoed and sank the U.S. S.S. Chungchen ⁽¹⁾ some 60 miles North of Socotra. S.S. Chungchen, laden with ore, was bound from Cochin ^{for} Aden independently. At 2330 hours, after moonset, on a dark night with poor visibility she was struck by a torpedo. The crew abandoned ship one minute before she sank at 2337Z hours, seven minutes after the attack. Once more, it was a case of destroyed radio instruments and no message reached the outside world until it was too late for aircraft to act. Fifty-one were save, but twenty drowned or killed by the explosion. The submarine surfaced. An officer conversed in very good English, and the submarine left without interfering with the survivors. Some 12-13 hours later, the survivors were picked up by ships and brought to Aden.

Apart from occasional sightings, no near approach to the submarine was possible until she was seen by the Norwegian S.S. Viva ⁽²⁾ who was proceeding from Cochin to Aden with a full general cargo of 6,068 tons. ^{She} ~~The~~ submarine was twice torpedoed at 1756 hours on 9 February in 12°34'N., 58°00'E. (about 240 miles E. by N. of Socotra). Both main and emergency sets were put out of action before any SSS message could be sent. The survivors were picked up 36 hours later, on the 11th by S.S. Marawari. No aircraft were seen by the survivors while in the boats. All units were normally covering the recognized shipping lanes in the Gulf of Aden, Gulf of Oman and the waters in the vicinity of Cape Gardafui ^{receipt of the} and the message received two days after the event again prevented any fruitful action by the air units.

Sinking of three Dhows (8 Feb. 44) ⁽³⁾

An example of killing and destruction for its own sake was the sinking of three dhows late on 8 February by an enemy submarine about 270 miles East of Socotra. For centuries, trade between Arabia, Africa and India had been carried on by ocean-going dhows. On this occasion, three of them ⁽⁴⁾ laden with copra and carrying a few passengers had sailed from Bombay on 30 January for Mombasa, Zanzibar and Dar-es-Salaam. At 2130 hours on 8 February, a large submarine with white conning tower and black hull appeared and machine-gunned the dhows without warning, although within sailing distance, then sank them by ramming. The news ^{/of}

(1) 7,100 G.R.T. - Liberty Ship.

(2) 3,798 G.R.T.

(3) Aden O.R.B. Feb. 44 Appendix 36.

(4) The Fatih-al-Bari, No. 200 of 127 tons, the Sa'd-al-Razaq of 90 tons and the Sa'd-al-Karim, No. 2098 of 80 tons.

Of this attack was received on 13 February in a report from the Sultan of Socotra who gave news, too, of the landing of some of the 76 survivors. Several men had been killed.

Major attack on Tanker Convoy PA.69 (23 Feb.44) (1)

On 15 and 16 February, the presence of a fresh submarine in the Gulf of Aden was again reported approaching Socotra from South or East, probably to operate in the Gulf of Aden approaches. She first revealed her intentions on 23 February, when she attacked Convoy PA.69 with conspicuous success and impunity.

The Persian Gulf-Aden convoy was escorted by H.M.A.S. Tamworth and H.M.I.S. Orissa, the former with defective radar and the latter with defective asdic and no radar. When 180 miles East of Aden, (2) ^{PA.69} she was attacked by a submarine. The British tanker San Alvaro (3) and the U.S. tanker E.G. Seubert (4) were sunk and the Norwegian tanker Erling Brovig (5) was so seriously damaged that she had to be towed to Aden with her back broken. There were some deaths, but H.M. ships picked up the bulk of the survivors.

There was no question of ignoring the gravity of this occasion. The loss was most serious. With the E.G. Seubert 13,600 tons of Admiralty Fuel Oil went down and with the San Alvaro a full cargo of gasoline and Diesel oil. The Erling Brovig was carrying 14,546 tons of Admiralty Fuel Oil. She was struck between tanks 5 and 6 and broke in two. The loss of oil cannot be confirmed, but must have been appreciable. Admiral Somerville was endeavouring to reinforce such valuable convoys of tankers with long range frigates, but troop convoys and other commitments usually rendered this impossible.

Air Search for the Submarine (6)

A Catalina (7) which had been escorting another convoy (BA.62A) was diverted to the scene and began a square search. The convoy so released was diverted to the South of the sinkings, to avoid any further attacks. Thirteen Wellingtons

/continued

- (1) Admiralty O.B. 3303/4 p.190: Aden O.R.B. appendix 36.
- (2) in 13°45'N., 48°56'E.
- (3) 7385 G.R.T.
- (4) 8181 G.R.T.
- (5) 9970 G.R.T.
- (6) Aden O.R.B. Appendix 36.
- (7) Of No. 259 Squadron.

continued the search, operations being conducted by officers sent by air to Rian. Air cover for convoy BA.62A and another in the area was reinstituted. The shipping lanes were swept by three other Wellingtons. Naval units were escorted by Wellingtons and Bisleys. On the 24th and 25th, aircraft from Rian co-operating with a force of destroyers and escort vessels carried on the hunt. On the 26th after a very intensive effort, the search was called off without having led to a kill, to the deep disappointment of Air and Naval Headquarters and all concerned. Some 350 hours were flown on the hunt and over 100 hours on escort duties, all within a period of 72 hours.

The statistics of the months' effort showed that a new record of convoys escorted - 31 in all - had been established. The flying hours total also rose to a record of 2,400 hours on operations and 890 on other tasks. Talks were begun which were to lead to a simplification of the pattern of the shipping channels in the interests of safety from submarine attack.

It had been a calamitous month in the area, even if the tonnage sunk showed a decrease of 4,096 gross tons over the January total. Largely because of the volume of air patrols, only ten sightings of submarines were made as against 16 in January.

/A.H.Q.

A.H.Q. East Africa

Three flying boats of No. 259 Squadron were left with Aden to assist in countering the submarine threat in that area. With what was left to East Africa, and with bad cyclone weather sweeping the island ^{of Mauritius,} it was with some difficulty that the period of crisis in the first half of the month was met. There were submarine threats in the Mozambique Channel at the opening and end of the month. The enemy sank two ships. This rendered considerable redistribution of flying boats essential. Diego Suarez ^{and} Mauritius were reinforced at the expense of Mombasa, Dar-es-Salaam and the Seychelles.

The East Africa Air Command ^{had} passed several months of ceaseless monotonous toil and frustration. Now at last in February and March, it was to fall to its lot, and to Mauritius in particular, to play a part which must be adjudged significant in two successful blows at the enemy's operational and transport organization. The sinking of the submarine tankers Charlotte Schliemann and Brake threw the whole German system out of gear and presented them with a fuel problem that was never satisfactorily solved. The operations in question will be now related as a whole; ~~but~~ they are undoubtedly a major subject in themselves. Before proceeding to those events, note must be taken of other operations during February.

The Loss of S.S. Suttlej (26 Feb. 44) ⁽¹⁾ and S.S. Ascott (29 Feb. 44).

On 26 February, S.S. Suttlej ⁽²⁾ was torpedoed 120 miles S.W. of the Chagos Archipelago, ⁽³⁾ by a Japanese submarine. The first intimation of this event did not reach Air H.Q. until 8 April, whereupon in response to a request from the naval authorities, three Catalinas searched the area for two days without result.

On 29 February, S.S. Ascott ⁽⁴⁾ was torpedoed and sunk, ⁽⁵⁾ and thirty-nine persons were lost about 800 miles N.E. of Diego Suarez, thus confirming a fix of the previous day. Reinforcement aircraft were immediately despatched to Diego Suarez, all in a high state of readiness. A long hunt developed which will be related under March operations. The sinking was attended by brutal circumstances and 39 persons lost their lives.

/On

-
- (1) E. Africa O.R.B. Appendices Q (Feb.) and E/D.T.1 (Apr. 44).
 - (2) 5,189 G.R.T.
 - (3) In 80°S., 70°E.
 - (4) 7005 G.R.T.
 - (5) Position undefined to date.

The loss of S.S. Ferris (20 Feb. 44)

On 20 February, S.S. Ferris was sunk nearly midway between the Chagos Archipelago (1) and Madagascar: 24 hours later, a German U-boat transmitted from the Saya De Malha Bank, (2) not far away. On the assumption that this was the U-boat which had sunk S.S. Ferris, all aircraft at Diego Suarez, Mauritius and Tulear were brought to a state of readiness and reinforcements were ordered to Mauritius. The submarine moved towards the northern end of the Mozambique Channel and was lost. Another redistribution of aircraft was effected, but the strength at Mauritius was left unimpaired. Aden was called on to return three Catalinas detached to her and the move quickly followed.

No. 230 Squadron's Sunderlands were now nearly all on their new base at Koggala (Ceylon).

/The

(1) In 80°32'S., 66°38'E.

(2) Nearly halfway to the N. tip of Madagascar.

The combined Hunts for Enemy Blockade Runners and Tankers
(January, February and March 1944)

(1)

Increase in Enemy Submarine Blockade Running

Plans to use German and captured Italian submarines for blockade running were proceeding apace when 1944 opened. The four survivors of the first 'Monsoon' Group which had sailed from Europe across the Indian Ocean had all returned home, carrying out, like their predecessors and successors, operational patrols on the outward and homeward voyage. Their cargoes were of great value to both the Germans and Japanese consisting not only of precious strategic materials but of scientific apparatus cypher material, and operational data. Some ^{(2) and others} ~~Most~~ were of the LKc type ⁽³⁾ but a few ⁽⁴⁾ (to be augmented in number) were of the LKd 1 and 2 and the VIIf types.

Because of their cargoes, they had fewer torpedoes for attack. The need for special ones for German use was so vital that the U-boats' cannon were ordered to be dismantled and ammunition returned to store. German torpedoes were sent to Penang for U-boat use, because long stowage in the damp climate led to failures in attack. ⁽⁵⁾

Fuelling Difficulties

A 1,200 ton U-boat could just make the passage from Germany to Penang on her initial fuel supply if nothing untoward happened. They were sometimes used to refuel ^{smaller} ~~the 769-ton~~ types so that the latter could carry out longer patrols. The second fuelling alternative was to use Japanese supplies at Penang, a course beset with growing difficulties. Some German commanders approved of Japanese Tarakan diesel fuel oil, apart from its considerable residue. But although there was plenty of crude oil available in the Penang area and although refineries existed that could process oil useable in German diesel engines, the quality of the actual diesel and lubricating oil provided was growing steadily worse. ⁽⁶⁾

The third alternative, one to which the hazards of war and Allied watchfulness forced them to resort increasingly, was to refuel from surface tankers in unfrequented parts of the Indian Ocean. The two ships employed were the

-
- (1) Admiralty C.B. 3303(4): B. & U. war log. (A.H.B.6 copy).
 - (2) 769 tons standard displacement.
 - (3) 1,200 tons standard displacement.
 - (4) 1,100 tons standard displacement. Later the Kb type (1,600 tons) operated.
 - (5) Admiralty C.B. 3303 (3 and 4)
 - (6) B. & U. war log sundry entries: Admiralty C.B. 3303 (3 and 4).

/ Charlotte

(1)
Charlotte Schliemann and the Brake, both old hands and both in the Far East. The
 (2)
Charlotte Schliemann had successfully refuelled U.510 (C.O. Eick) and U.178
 (C.O. Spahr) on 26 January in a position about 100 miles S.E. of Mauritius.
U.178 had continued her passage homeward to Germany with food, rubber and cypher
 materials and U.510 returned to her patrols in the Gulf of Aden.

Failure of first combined Allied Search

On 12 Jan. 44, No.222 Group asked Air H.Q. East Africa to despatch two
 Catalinas to Mauritius to co-operate with the Fleet in an undefined operation,
 which was in fact an effort from Mauritius to intercept the blockade-runners on
 their way to or from Penang. Radio traffic was kept to the minimum and aircraft
 in the Mauritius area observed strict radio silence. On the 20th, a third
 Catalina joined the first two at Mauritius.

January was often a month of bad weather. Winds from the North in daytime
 and the ^{heavy} rainfall were prejudicial to operations. It was not surprising,
 therefore, that the combined search by aircraft and ships was unsuccessful. A
 signal was received on the 30th announcing the abandonment of the operation. A
 cyclone developing about 600 miles to northwards moved rapidly southwards,
 increasing in violence. On the 31st all flying boats had to be immediately
 evacuated to Tulcar (Madagascar) after flying 133 hours between the 19th and
 29th. The elements which had allowed the refuelling from the Charlotte
Schliemann had proved the limitations of the Catalina.

German Plans to refuel U-boats in early February

Encouraged by their successful January operations the Germans ordered a
 repeat operation, this time to refuel U.532 (C.O. Junker) at 1200 hours on
 11 February. U.532 was outward bound from Penang. The Charlotte Schliemann
 sailed from Batavia on 13 January for her mid-ocean rendezvous about 900 miles
 East of Mauritius.

The continued presence of submarines in the sea areas East of Madagascar and
 South of the Chagos Archipelago had kept the East Africa Air Command in a state
 of alert for some time past. Early in January, oil tracks had been sighted S.E.

-
- (1) 7,747 G.R.T.
 (2) She had sailed from Yokohama at the end of Nov. 43, Kobe on 12 Dec. 43,
 Singapore on 24 Dec. 43 and sailed from Batavia on 13 Jan. 44 with orders to
 rendezvous with 3 Italian and 2 German submarines. Later orders must have
 reached her en route (Admiralty Hist. Sec. draft narrative Item 1790 and
B. d.U. war log (A.H.B.6 TR/AU/10).

of the island and continuous fixes confirmed some unusual activity. It was known that submarines were on transit to and from the Far East on blockade-running expeditions and perhaps four others actually engaged in offensive operations. It was to put an end to the uncertainty and in the hope of scoring a much-needed success that a combined operation was planned by No. 222 Group and the C.-in-C., Eastern Fleet, whose forces were slowly being augmented.

Owing to January's cyclonic conditions in the area, the Catalinas based at Mauritius had been withdrawn to Tulear (Madagascar), where there were nine available. Acting on instructions from No. 222 Group, seven Catalinas now proceeded to Mauritius, two of them fitted with long range tanks, as it was expected that the special patrols envisaged would be rather long. One stood by at Diego Suarez and one at Tulear in reserve. ⁽¹⁾ On 7 February, it was thought that it would be necessary to evacuate all aircraft from Mauritius again owing to a cyclone developing and moving South towards Mauritius. Fortunately for the outcome of the whole hunt, the wind never rose above gale force, accompanied by heavy rain; consequently all aircraft remained at their moorings.

The ships co-operating in the search - known as Operation 'Canned' - were H.M.S. Newcastle, H.M.S. Relentless and R.F.A. Olympus (relieved later by R.F.A. Norvinn). Three likely areas were: (A) about 900 miles E. by S. from Mauritius (B) about 700 miles S.S.E. of Mauritius. These were covered from 9 February by H.M. ships without result. The third area (C) was about 400 miles E.S.E. of Mauritius. ⁽²⁾

(3)

Sighting of the Charlotte Schliemann by Aircraft and Destruction by ships

By the evening of 10 February, there were seven Catalinas ready to patrol from Mauritius. Operations were not possible until ^{the forenoon of} ~~evening~~ the 11th and, because of bad weather to the southward, were limited to the first area, viz. about 900 miles E. by S. of Mauritius. ⁽⁴⁾ The second Catalina to arrive in the area sighted an enemy tanker in company with a submarine and at 1455 hours reported their position. ⁽⁵⁾

-
- (1) A.H.Q. E. Africa O.R.B. Feb. 44.
 - (2) Admiralty C.B. 3303(4): Air H.Q. E. Africa O.R.B.
 - (3) A.H.Q. E. Africa O.R.B.: Admity C.B. 3303(4).
 - (4) Of No. 259 Squadron.
 - (5) 23°S., 22°E.

/ Meanwhile

Meanwhile, U.532 had been unable to fuel in the bad weather and had withdrawn. She may or may not have seen the Catalina, but she dived. The Catalina remained with the tanker, reported ^{her} ~~the tanker's~~ course and speed to the co-operating naval forces; then with her fuel running low, she returned to base. H.M.S. Relentless about 100 miles to westward of the enemy, closed at high speed and after a well-conducted search, succeeded in intercepting and destroying the tanker with torpedo and gunfire shortly after midnight on 11/12 February about 500 miles roughly South of Diego Garcia. (1) Forty-one survivors were rescued at the time and, considerably later, a further ten by S.S. African Prince. Catalinas continued the search for the U-boat without results.

Germans forced to make new Plans

On the 12th, U.532 sighted Catalinas twice during her search for the tanker. Failing to find her, she reported back to B. d. U., who unaware of the sinking, fixed a new rendezvous for 1200 hours on the 19th. By the 21st, U.532 was to report whether or not she had found the Schliemann. On the 22nd the tanker was given up for lost. U.532 was ordered to meet ^(still in the Indian Ocean) U.178 on the 26th and take on 50 cubic metres of fuel. U.178 refuelled U.532 on the 29th and suggested a rendezvous with the Brake further South for safety, to supply the remaining U-boats who were all running short. (2)

On 26 February, the tanker Brake sailed from Penang, due at the rendezvous on 11 March. The three U-boats with U.532 leading, were to man areas round the station. On 8 March, U.1824, coming up from South of Madagascar, was also ordered to refuel from the Brake.

(3)

Catalina strength on Mauritius reduced

On 13 February, the operation was completed and the Catalinas on Mauritius carried out convoy escorts on requests from the N.O.I.C. there. If a definite sighting was made within suitable range from Mauritius, a hunt to destruction not exceeding 48 hours was to be carried out; the search was not to extend more than 50 miles from the first sighting. There were no signs of any major operations in the near future, therefore, the detachment at Mauritius was reduced to three Catalinas, two of which were to be fitted with long range tanks. Four aircraft left for Diego Suarez (Madagascar). It was hardly to be expected that the Germans would repeat the same operation in the same area.

- (1) 23° 23'S., 74° 37'E.
- (2) B. d. U. war log.
- (3) Air H.Q. E. Africa O.R.B.

/ German

Allied plans to intercept the tanker Brake (1)

The original plan to intercept the blockade runners was named Operation 'Sleuth' and it involved H.M.S. Illustrious, other warships and some flying boats. In case Operation 'Sleuth' was unsuccessful (as it proved in the event), Operation 'Covered' was to be carried out. This involved the escort carrier H.M.S. Battler, other warships and Catalinas from Tombeau Bay, Mauritius. Various changes were made in these two plans. The naval ships eventually used in Operation 'Covered' were divided into two forces, Force 67 consisting of H.M.S. Newcastle,⁽²⁾ and the carrier H.M.S. Battler, whilst H.M.S. Suffolk formed Force 68. The main forces sailed from Mauritius on 5 March.

The location and destruction of the tanker Brake (12 Mar.44)

On 7 March, D/F bearings of a possible blockade runner were recorded. East Africa's Catalinas were mostly tied down in a hunt for a U-boat in the Mozambique Channel, but those left in Mauritius were ordered on the 10th, when the area of possibility had narrowed down, to search the area 700 miles to S.S.E. of the island; and ships searched the area 250 miles to the S.E. of the island. The Catalinas sighted nothing and no air searches were ordered for the 11th.⁽³⁾

During the afternoon of the 12th, an aircraft from the carrier H.M.S. Battler located a tanker engaged in fuelling submarines. Force 67 was then about 40 miles to the northward. U.188, U.532 and U.169 were

/in

(1) Eastern Fleet war Diary (Admty TSD.4454/1944): Admty C.B.3303(4):
Air H.Q. E. Africa O.R.B.

(2) Flag of Rear-Admiral A.D. Read (commanding 4th Cruiser Squadron).

(3) No report on the operations was issued by A.H.Q. East Africa. This was in deference to No.222 Group who promised a full account later. This promised report does not figure in No.222 Group's papers.

in the vicinity. They sighted two aircraft and a smoke plume at 1620 hours (local time). H.M.S. Roeback was detached and about 1½ hours after the aircraft sighting, she sighted the tanker 13 miles off. She closed, opened fire at 1615 hours ⁽¹⁾ from about 8 miles range and hit the Brake, who scuttled herself. H.M.S. Battler flew off aircraft to attack the U-boats, which they sighted 14 miles from Force 67's position. They attacked the leading U-boat with rockets, claiming a hit. U.168 reported that no damage was done. U.168 picked up the crew, all but four men, in the late day at great risk but with immunity. She dived and, after handing over half the survivors to U.532, proceeded under orders to Penang.

German Plans for U-boats thrown into Confusion

The success of the Allied attacks on the two tankers, coupled with other circumstances, threw the German plans for an accelerated offensive into confusion for some time.

U.188, U.532 and U.It.24 were first ordered to return to Penang. But U. It.24 had only 20 cubic metres of fuel left and asked for new instructions. U.188 had fuelled. U.532 had taken on fuel but no lubricating oil. U.168 had taken on some fuel but not all she needed. U.532 and U.188 asked to be allowed to return to Germany after their strenuous operations for the reasons that they needed Borkum and Naxos search receivers and fresh cypher material. A compromise was reached on both problems. U.532 was to give U.It.24 80 cubic metres of her own fuel and draw lubricating oil from her. U.188 was to return to Germany, U.1062, on the way to the Indian Ocean, was to hand over cypher to U.188 and continue to Penang. U.532, after fuelling U.It.24 on 19 March, was ordered to Penang. All these changes resulted in only one U-boat - U.183 - being left in mid-Ocean to deal with all the valuable traffic passing through. ⁽²⁾

These misadventures in the Indian Ocean were closely followed by the decline and end of Doenitz's plan for outward bound U-boats to refuel from U.488 off the Cape Verde Islands. American escort carriers and ships in the Atlantic accounted for a number of the reinforcements for the Indian Ocean and eventually sank U.488 on 26 Apr. 44. ⁽³⁾

(1) 1615 hours local time = 1215 hours G.M.T.

(2) B. d. U. war log.

(3) R.A.F. in Maritime War Vol. IV. pp. 235-236 (A.H.B.).

SECRET

72

The Germans, angered by the loss of their two most valuable tankers, called on the Japanese for better protection and facilities, contrasting their own losses with the elaborate precautions taken by themselves for the safety of I-29 when she arrived in Biscay in January 1944.⁽¹⁾

/ The

(1) Admiralty C.B. 3303(4).

SECRET

← The Japanese Fleet in Singapore (February-March 1944)

← The Move of Major Units in late February (1)

On 24 Feb. 44, the Chiefs of Staff considered a report of large-scale Japanese naval movements to the Singapore area. In addition to the normal force in that area of two 8" cruisers and two to three light cruisers, seven battleships, four cruisers and two Fleet carriers (with 72 aircraft each) were at or on their way to Singapore. They included the flagships of the 1st and 3rd Fleets. Various reasons for this move were adduced, but the true assessment of the precise degree of this threat hung for some time in the balance. (1)

Singapore was, at the time, relatively secure from Allied air or sea attack. The Eastern Fleet has just received substantial reinforcements, to be based on Trincomalee (Ceylon). The air forces in Ceylon were limited to defensive fighter and sea reconnaissance units.

Allied Naval Dispositions to meet the Threat

Admiral Somerville felt that should such a powerful force make an incursion into the Indian Ocean, he was not strong enough to offer battle and, as in April 1942, might have to withdraw the Fleet from Ceylon to the Maldives. But further cruisers were sent out to him. Action was taken to increase the air protection of the Eastern Fleet base in Ceylon and to augment the air striking force in the Bay of Bengal. By the end of April, the Japanese main Fleet at Singapore consisted of four modern battleships, three aircraft carriers and eighteen cruisers, in addition to the four permanently based older battleships and the S.W. Area Fleet of six cruisers. The Eastern Fleet, with reinforcement incomplete, was not yet a match for this powerful Japanese concentration.

The Admiralty, while seeing the force ^{of} and avoiding action with greatly superior Japanese forces, considered the effect a Fleet withdrawal might have on morale and prestige too great to countenance such a move. The Japanese would appear to have no offensive intentions in the Indian Ocean, they said. On 4 March, the Chiefs of Staff confirmed this belief in a primarily defensive manoeuvre by the Japanese, which was probably, in addition, a holding threat and a deterrent against Allied action. This confidence was not absolute and certain moves to

/strengthen

(1) C.O.S. papers in A.H.B. ID3/2079.



CATALINA
(SEA RECONNAISSANCE)



H.M.S. BEGUM
(ESCORT CARRIER)



LIBERATOR
(MINING, BOMBING & SEA RECONNAISSANCE)

strengthen the Allied position were decided on over and above the planned arrival of major units in February and March. More cruisers were to be sent from Europe, including the French battleship Richelieu: and the U.S. Pacific Fleet agreed to lend the fleet carrier Saratoga.

Some Fleet carriers, with the necessary aircraft, were to be expected and two more submarines were on the way from the Mediterranean.

Allied Air Dispositions to meet the Threat. (1)

Plans were laid for re-equipping the three Hurricane squadrons in Ceylon with Spitfires or Thunderbolts to improve the defences of the Eastern Fleet base. One Beaufighter torpedo squadron (2) was diverted from the Mediterranean and one Liberator general reconnaissance squadron (3) from West Africa. The anti-
shipping strike forces were to be strengthened and concentrated and six heavy bomber squadrons were to operate initially from their present bases in Bengal, landing thereafter in Ceylon and Southern India at bases prepared and stocked for them. (4) Navigators trained in long flights over the sea were to man the bombers. These bomber concentrations did not, in effect, take place. The Liberator and Beaufighter squadrons sent out made up an anti-
shipping wing at Madras until October 1944. Although the threat did not materialise, the organization built up was retained in skeleton form.

Japanese Cruiser Raid in the Indian Ocean (5)

With the Americans approaching their defensive perimeter the Japanese had at that time no intention of entering the Indian Ocean in force. This was made clear by ^{their} the Commander-in-Chief on 8 March. The main operations of the Japanese Fleet were to be carried out in the Pacific: but this did not rule out operations such as raids and one in force was planned in early March. The Allies knew very little of the raid, for it was not until 9 March that a signal was received from S.S. Behar, about 800 miles South of the Cocos Islands, that she was being attacked by a warship. Had they been aware of the strength of the Japanese forces engaged, their sanguine views might well have been tempered with misgivings. However, in the event, it turned out to be a solitary operation of its kind,

-
- /for
- (1) C.A.S. Folder 2079 Sig Encl. A.C.S.E.A. to Air Ministry 4 Mar.44 (A.H.B. ID3/2079).
 (2) No. 47 Squadron.
 (3) No. 200 Squadron.
 (4) The heavy bomber airfields prepared were Trichinopoly and Tanjore (both in India) and Sigiriya and Ratmalana (both in Ceylon).
 (5) All details from Admiralty C.B.3303(4) pp. 183/184.

for fortuitous reasons which might easily not have occurred.

The object of the raid (1) was to disrupt Allied communications in the Indian Ocean. Three cruisers were placed temporarily under the command of Admiral Takasu, C.-in-C., S.W. Area Fleet. Special picked boarding parties were embarked, and it was hoped to capture some ships, for Japan was very short of shipping. Two light cruisers and three destroyers screened the three cruisers out and in of the Sunda Strait. About ten medium bombers and two or three large flying boats based in N.W. Java and Southern Sumatra, were ordered to reconnoitre as widely as possible in the direction of Ceylon and to protect the Main Force. Three or four of the submarines of the 8th Flotilla already operating in the Indian Ocean, were ordered to reconnoitre the main British bases in the Ceylon-Maldivé Islands-Chagos Archipelago area and the West coast of Australia, and to keep watch for movements of Allied task forces and report on shipping proceeding along the main routes. The original operation orders issued by Admiral Takasu have not been traced, but Admiral Sakonju (2) later accepted responsibility for not having questioned the order that all merchant ship crews were to be killed except certain specified categories (3) who were to be kept for interrogation. (4)

The Main Force passed through Sunda Strait on 1 March and set a course to pass South of the Cocos Islands, an area beyond the range of Catalinas on any base controlled by No. 222 Group in Ceylon. Observing wireless silence, they passed the Cocos Islands on 3 March. From 4 to 7 March, they steered a south-westerly course, turning North on 8 March. They had sighted no ships: their presence in the Indian Ocean was at yet unsuspected.

On 6 March, a U.S. submarine reported two large enemy ships passing through Lombok Strait southwards. They were taken for auxiliary cruisers probably out

/on

-
- (1) In Combined Fleet Operation Order No. 73 of 8 Mar.44.
 - (2) Commanding the cruiser Aoba in the Main Force.
 - (3) Such as radio operators.
 - (4) Refer to Admiralty N.I.D.2643/47 and Record Office Case, Cabinet Committee 727 Vol.II.

76

SECRET

was a raid on the trade routes. (1) The C.-in-C. Eastern Fleet on 8 March diverted to the South and West all Allied Shipping between the meridians of 80°E. and 100°E. Nothing more was heard of the enemy and by 16 March the danger of attack on shipping was considered to have ended, and normal routing of ships sailing between Australia and the Northern ports of India was resumed.

On 17 March, a ship arriving at Fremantle reported that she had intercepted at 0419Z hours on the 9th, a message from S.S. Behar, (2) (sailing from Melbourne to Bombay), that she was being shelled by a warship raider in a position about 800 miles ^{South} of the Cocos Islands. (3) It was the Tone which sank S.S. Behar, adjudging it too risky to attempt to bring her into port. S.S. Behar had managed to send a distress signal; and for this reason, Admiral Sakonju, thinking it too dangerous to remain in the Indian Ocean, set course with his squadron for Sunda Straits and reached Batavia on 15 March.

The treatment of the crew and passengers provided yet another instance of the inhumanity the air forces were working so hard to prevent. The Tone's boat picked up a number of survivors of S.S. Behar. After rough handling on board, 15 of these were landed at Batavia. The remainder between 65 and 70 in number, were ~~to be~~ killed on board the Tone. Admiral Takasu died before he could be brought to justice, but after the War, Vice Admiral Sakonju and Captain Mayuzumi, commanding officer of the Tone, were sentenced to 7 year's imprisonment for their part in the murders.

One may with profit speculate on what further depredations the Japanese Main Force might have accomplished had they not picked up the Behar's S.O.S. and consider precisely how little the Allied optimism might have proved justified, realising, at the same time, the ^{sanity} severity of the preparatory air and naval plans to meet future contingencies.

/The

(1) They were, in fact, the Kinu and Oi, on their way to patrol the approaches to the Sunda Strait in preparation for the return of the Main Force - the Aoba, Tone and Chikuma.

(2) 7,840 G.R.T.

(3) 20°32'S, 87°10'E.

SECRET

77

SECRET

The Japanese Fleet stayed in Singapore ~~and the Palaves~~ to refit, repair and refuel. They chose the safest base outside home waters, return to which would have led to an unacceptable "loss of face". The attacks on Truk and the Marshalls had proved they were no match in the Pacific for the Americans. The move to Singapore, although it had few immediate offensive aims, was coupled with the strengthening of their air forces in the Andamans, Nicobar and the Sabang area ^{both} and were reasoned defensive and deterrent moves in the light of possible imminent Allied operations in that area.

/ Anti-submarine

SECRET

Anti-Submarine Operations in March 1944

No. 222 Group →

Strategic Air Problems

No. 222 Group's responsibilities were severely² taxed during March. Firstly, there was their role in the defensive air concentration following the Japanese Fleet's move to the Singapore area, already related. Secondly, they became increasingly stretched in their commitment of cover for the steadily growing Eastern Fleet reinforcements. Thirdly, they were faced with a steep rise in the enemy submarine offensive, which resulted in the loss of 11 merchant ships of a total of 67,658 gross, about ~~A~~ equal to the total losses inflicted by enemy submarines in all other theatres. The effect of the sinking of the two German tankers on the operation of their U-boats took some time to assess precisely; and the Japanese submarines made a special effort, by no means easy to predict and follow. With the Catalina force tiring and convoy commitments rising, the distribution of forces was never anything but a harassing problem.

The grave Air Reinforcement Situation. (1)

Ample evidence has been already provided in this chapter to convince the most sceptical that more long range general reconnaissance aircraft, and the best available, were urgently needed in the Indian Ocean if the U-boat threat was to be adequately met and plans envisaged for the forthcoming offensive phase carried out. The pessimism of the local commands was fully justified when the facts were faced. Catalinas were becoming obsolescent and difficult to maintain with increasing age. More time spent on repair and overhaul left less time for reconnaissance. Serviceability had sometimes fallen to a low figure and this would recur unless the force was increased or an improved type of aircraft was provided. Reserves of aircraft were running down. Only a few Catalinas were equipped with Leigh Lights. None carried centimetric search radar, so that U- and I-boats could ^{their search} pick up ^{their} these transmissions during ^{their} there approach. The situation had been deteriorating for some long time past, with nothing but a trickle of replacements to patch the gaps and no real alleviation. With the increasing ravages of enemy submarines holding up preparations for an offensive in South-East Asia and the Eastern Fleet still far short of its target strength, now was the time for really effective remedial action. But none was forthcoming and promises of future

/Improvements

(1) D.C.A.S. Folder U.2D. (A.H.B. I.D.4/280 enclosures unnumbered).

Improvements were dated a long way ahead. In the meantime, the humane aspect of the problem grew no simpler. Many months of monotonous patrols interspersed with attacks often proven fruitless for lack of modern equipment made the crews stale. They wanted aircraft of greater scope and flexibility, on which they could rely as the offensive developed.

Air Ministry's Plans to replace the Catalina by the Sunderland (1)

The British Air Ministry had no constructive short term plan to meet the strategic needs of the Indian Ocean, but only a very long term plan. On 17 November 1943, they put this to Air Command South East Asia. The American Catalina flying boat supply had proved both in the Atlantic and Indian Ocean precarious both in quality and quantity. They planned the replacement of all Indian Ocean Catalinas by Sunderlands. There was a promising Canadian version of the Catalina coming into production, but it was set back by teething troubles and could not be relied on for useful reinforcements until mid-May.

Air Command South East Asia agreed in principle to accept the Sunderlands although the introduction of four-engined aircraft would dislocate a maintenance system based on twin-engined aircraft. During the months that followed, a series of exchanges developed. South-East Asia grew increasingly sceptical as to whether the lower range of the currently available Sunderland did not rule it out, but the Air Ministry held to its original decision. To appreciate the niceties of the debate, it is necessary to consider the qualities of the various aircraft types.

Comparison of the Catalina with the three Types of Sunderland

The Catalina IV in current use had an operational range with standard tankage of 1800 miles. (2) The Sunderland III would, when fitted with Pratt and Whitney Wasp engines as an interim measure, have a range of 1600 (3) miles and be known as the Sunderland V. The Sunderland IV, which would not come forward in sufficient numbers until mid-1945, would be engined with the Hercules XVII and have an estimated operational range of 2,100 miles. (4) The range of all types could be

/extended

-
- (1) D.C.A.S. U.2D(A.H.B. I.D.4/280).
 - (2) Carrying a full load of depth charges.
 - (3) Ibid.
 - (4) Ibid.

extended by decreasing the load of depth charges and by fitting long range tanks.

The Catalina's A.S.V. was obsolescent. That of the Sunderland V was to be more modern. The Sunderland III's had been operating successfully over wide areas of the Bay of Biscay and the Atlantic in daylight against determined opposition and Air Ministry though their more up-to-date equipment would offset their shorter range. It does not appear that A.C.S.E.A. was convinced.

Leigh Lights, which involved heavy apparatus, were to be fitted in Liberators and Wellingtons, but not in any further Catalinas. Sunderlands had never had Leigh Lights fitted, one of the main reasons being that the additional weight reduced the load of depth charges and range.

It was envisaged by Air Ministry that at some date undefined all the Liberators and Wellingtons in the Indian Ocean would be fitted with Leigh Lights. These Liberators, two squadrons of which were already operating had proved their suitability for Indian Ocean operations, notably on account of their great range and strength, but a suggestion of converting a third squadron (No. 321 Dutch) to Liberators, met with a refusal from Air Ministry. It was most ^{un}likely, they said, that enough Liberators would be available for three squadrons even by the Autumn of 1944.

The only positive move of a practical nature to assist the Flying Boat Pool was the transfer of the Catalinas of a West African squadron to the Indian Ocean. The normal flow of Catalinas increased by slow degrees from 6 in November to 8 in December and 12 in January.

The policy of deferment thus adopted by the Air Ministry towards the Indian Ocean Theatre must not be construed as purely negative. The Air C.-in-C. South-East Asia and the C.-in-C. Eastern Fleet felt that the high rate of shipping losses in the Indian Ocean seemed to justify some strengthening of general reconnaissance aircraft resources at the expense of other oceans. But the Air Ministry had to give the most careful consideration to the rival claims of the world-wide strategical situation, so as to ensure the most effective allocations from an unfortunately limited production of the most vital weapons and aircraft. The build-up for Operation "Overlord" overshadowed all their deliberations. Everything must be sacrificed to the defeat of Germany before accounts with Japan were settled. (1)

/ General

(1) D.C.A.S. U.2 D. (A.H.B. I.D.4/280).

General Enemy Submarine Situation (March 1944) (1)

At the beginning of March, I-8 joined the 8th Japanese Submarine Flotilla at Penang. Six of the seven Japanese submarines based in the area carried out patrols in the Indian Ocean during the month. (2) They operated in widely separated areas: the North Arabian Sea, off Masirah Island, in the 8° Channel, the waters to the S. and S.E. of Ceylon, and in the Bay of Bengal. A good deal of reconnaissance of Allied bases was carried out.

The German U.510, which had operated during late February in the Gulf of Aden and its approaches, remained there from 1 to 10 March, sinking a ship. She then returned to Penang by way of the West coast of India, sinking two more ships en route. U.1062 was rounding the Cape in mid-March on a direct run to Penang. Much time and effort was wasted in the ill-fated refuelling operations which ended in the loss of the tanker Brake. In mid-March, U.183 was passing to southwards of Ceylon on her return journey to Penang. The U-boats, like the Japanese I-boats, reconnoitred island bases and one made a daring attack on a ship in Addu Atoll.

As mentioned above, merchant shipping losses throughout the Indian Ocean as a whole rose to a peak of 67,658 tons (11 merchant ships) and 1 Fleet Crawler to submarines and 7,840 tons (S.S. Behar) to Japanese surface raiders. One convoy was attacked (by RO.111) during the month with the loss of one ship and many lives. These heavy losses, although not considerable when related to the number of ships at sea, were really grave, because of the narrow margin on which the South-East Asia Command was working. Admiral Mountbatten's forces were at the end of a very long line of communications, and though action to replace cargoes was always taken in the United Kingdom as soon as loss at sea was notified, many of the items needed were in short supply and subject to priorities.

To institute the full convoy system planned by the C.-in-C. Eastern Fleet, an additional 36 long-range escort vessels were needed. American-built escort carriers were on their way, but there were none available in the Indian Ocean at

/the

(1) Eastern Fleet XF/1180/1 (Admiralty): No.222 Group O.R.B.

(2) RO.111, I-8, I-26, I-37, I-162 and I-165.

the period. Carriers alone were no answer to attacks on independent ships, he stated. It was only by a combination of convoys and escort carriers that a reasonable degree of protection could be achieved. Meanwhile, the number of convoys escorted by aircraft of the four air formations controlling operations continued to rise, with correspondingly increased security.

The main consolation for the extreme air effort was the safe passage of so much shipping and the destruction of a U-boat by South African Catalina aircraft off Cape Town.

/ Air

Air Operations. (1)

The hunt for the submarine which sank S.S. Palma on the last day of February continued into the first week of March. On 1 March, 7 Catalinas and 1 Sunderland operated from Koggala. One of them directed H.M.S. Balta to the life-boats holding the complete crew of S.S. Palma and saw them safely rescued. On the same day, Dutch Catalinas flew from China Bay to Kelai Island to carry out approaching escort duties. The hunt continued into the 2nd. At 2240 FG hours, on the 2nd, aircraft Z/No.205 Squadron sighted a surfaced submarine half a mile dead ahead in 04°53'N., 79°57'E. (S.W. of the Palma sinking) and attacked it in the moonlight and poor visibility while it appeared to be submerging. From an altitude of 200 feet, the run in took about 20 seconds and the angle of attack was about Red 70° to the submarine's mean line of advance. Six 250 pound depth charges spaced approximately 45 feet were dropped across the submarine's bows; all exploded. The submarine escaped. The hunt recommenced from this position, but was unsuccessful. Convoys in the area were escorted and the situation closely watched.

Loss of S.S. Fort MacLeod (3 March 44).

At 2325 FG hours on the 3rd, another Japanese boat struck and sank S.S. Fort MacLeod 285 miles from the attack of the 1st on the submarine which sank the Palma. A Catalina of No.160 Squadron located the 58 survivors in lifeboats.

Loss of S.S. Tulagi (7 Mar. 44).

On 7 March, S.S. Tulagi (2) was sunk in mid-ocean S.E. of the Chagos Archipelago. (3) No distress signal reached the Allies, so it may be assumed that the radio instruments were put out of action. It was not until the survivors landed on 16 June, after 70 days drifting in boats, that the loss was reported.

/Bold

-
- (1) No. 222 Group O.R.B. Appendix 'A' Mar. 44.
 - (2) 2,281 G.R.T
 - (3) In 11°00'S., 78°40'E.

Bold Attack by U.183 on the Tanker British Loyalty in Addu Atoll. (9 Mar. 44). (1)

On 9 March, U.183 was on her way across the Indian Ocean to the rendezvous with the tanker Brake, with one torpedo left. As she passed Addu Atoll, she observed a tanker lying at anchor. This was the British Loyalty, which had been sunk in May 1942 in the attack by midget submarines in Diego Suarez harbour and salvaged, only to be attacked again South of Diego Garcia. She was now a hulk with a small crew on board. U.183 fired her torpedo through the south-west entrance of the harbour, hit the ship aft, holed her and set her on fire. She did not sink and there were no casualties, but she was left rather more of a hulk than ever.

There were at the time no Catalinas at Addu Atoll, only a Walrus, who searched for the submarine, but without success. A Catalina of No. 413 Squadron was detached to Addu Atoll pending any further sign of U.183. The rest of the available flying boats were fully stretched escorting Fleet units and merchant convoys, covering, in the process, a temporary breakdown of escort vessels on the 20th. U.183 shook off pursuing patrol boats equipped with location gear by using her Aphrodite radar decoy apparatus. (2)

The Loss of S.S. Nancy Moller (18 Mar. 44).

At 0830 FG hours on 18 March, a Japanese submarine sank S.S. Nancy Moller, (3) one of the "old faithfuls" of the Moller Line, about 240 miles S.S.W. of Ceylon. (4) She had been re-routed by signal and was due at Colombo on the 23rd. She could not have received this signal. If she had, she would not have been in the position where she was sunk. The survivors claimed to have re-sighted the submarine on the 19th, but it was not until the morning of the 22nd, when H.M.S. Emerald, bound for Mauritius, signalled that she had picked up 32 survivors of S.S. Nancy Moller, that No. 222 Group received the news of the attack. Obviously it was too late for air intervention.

The Loss of the Dutch S.S. Tjisalak (26 Mar. 44).

On 26 March, S.S. Tjisalak (5) bound from Melbourne to Colombo, was torpedoed at midday by a Japanese submarine about 320 miles E.S.E. of Addu Atoll. (6) The /entire

- (1) B.d.U. war log: No. 222 Group O.R.B. March 44 Appendix 'A'.
(2) B.d.U. war log 10 Mar. 44.
(3) 3,916 G.R.T.
(4) In 02°14'N., 78°25'E.
(5) 5,787 G.R.T.
(6) In 02°30'S., 78°40'E.

entire complement totalling to 112 persons were massacred by the Japanese, with the exception of 5 who escaped. These men were picked up by S.S. Jas. A. Wilder who landed them late on 30 March at Colombo. There seems to have been no opportunity of despatching an S.O.S.

/The

The Loss of H.M.S. Minesweeper MacLoy (probably 27 Mar. 44).

The minesweeping trawler H.M.S. MacLoy⁽¹⁾ left Malé in the Maldives for Colombo, where she was due on the 28th. No clue as to her whereabouts was found until, on the 29th a Catalina searching for her found a patch of oil and an empty lifeboat, but no survivors. It was assumed that she had been sunk by the Japanese submarine on which a D/F fix had been obtained on the 27th.

Summary of Air Effort. (2)

An all time record in flying hours (3220) and the number of Forces and convoys escorted (57) was achieved. Fifty-eight survivors were rescued with air assistance. There had been only the one attack by aircraft on a submarine. One Wellington had crashed. Although the enemy had been active in the area, he had sunk less tonnage than in February and must have respected the strong air cover. The Sunderland squadron transferred from East Africa to Ceylon gave added air weight. Wellingtons and Catalinas on detachment from No.225 Group put out 868 hours in all and the Canadian Catalina squadron flew 700 hours on anti-submarine tests alone, maintaining excellent serviceability.

/ General

-
- (1) 250 tons.
 (2) No.222 Group O.R.B. Appendix 'A'.

General Situation

Japanese submarines disturbed the air cover system throughout the area by penetrating to waters far outside their familiar hunting grounds, sinking four ships, one of them a tanker. The month was one of all-out effort and record hours were flown. (1) Shipping^{lane} base patrols nearly doubled. Forty-six convoys were escorted as against thirty-nine in February. No less than 2763 hours were flown

(1)

TASKS	No.		No. ESCORTED.		A/C SORTIES		A/C NOT MET.		HOURS	
	MAR.	FEB.	MAR.	FEB.	MAR.	FEB.	MAR.	FEB.	MAR.	FEB.
Convoys	71	62	46	39	129	116	Nil.	7	1671	1233
Independent sailings	289	246	-	-	Shipping lane patrols		-	-	299	160
					43	23				
A/S Patrols & Searches.	28	8	-	-	28	8			337	74
Recess	21	25	-	-	21	25	-	-	243	376
Strikes	6	5	-	-	6	5	-	-	67	40
A/S/R Searches	10	-	-	-	10	-	-	-	146	-
Total	-	-	-	-	237	177	-	-	2763	1933
Operational hours flown by No. 225 Group a/c on detachment with No. 222 Group.	-	-	-	-	-	-	-	-	= 864	-
Total hours flown by No. 225 Group A/C.	-	-	-	-	-	-	-	-	3627	-

= This figure may include a few non-operational hours.

87

by aircraft in the Group's area and a further 864 hours by the Group's aircraft in No.222 Group's area, making a total of 3,627 hours. Despite shortages of equipment and personnel, the much heavier maintenance problem was sturdily faced. No.357 Squadron of Catalinas based on Red Hills Lake, Madras, was renamed No.628 Squadron. The usual detachments to Trombay and Cocanada occurred and during the hunt to exhaustion at the head of the Bay of Bengal between the 17th and 20th a Catalina was landed at Willington Reach in the Hooghly River. The number of sailings and the size and importance of the convoys all increased.

Even if many escort duties were uneventful, that very fact enhanced their importance. There were frequent opportunities, which aircraft alone could afford, of passing vital information to convoys and forces.

The Loss of the Tanker H.D. Collier (13 Mar. 44.)⁽¹⁾

On 13 March, I-26 sank the tanker H.D. Collier⁽²⁾ 150 miles S.W. of Karachi.⁽³⁾ It was not until the morning of the 16th that 57 of her survivors were picked up by S.S. Empire Raja and the loss was reported. A Catalina of No.212 Squadron from Korangi Creek was diverted from a flight and another Catalina from the same squadron despatched from Korangi as soon as the news was received, to search for the remaining survivors. A further two sorties ^{were} ~~was~~ flown the following day, but apart from a patch of thin oil some 6 miles square near the sinking, nothing was sighted.

I-26 then attempted to close the Baluchistan coast in order to land agents, but as the weather was too bad, she moved to the area of Masirah Island on the 21st. She afterwards returned to the Pasni area, (near the frontier with Persian Makran) and, during the night 25/26 March, put ashore a party of Indian fifth columnists, who immediately gave themselves up to the nearest authorities.

⁽¹⁾ No.225 Group O.R.B. Appendix 'A': Admiralty C.B.3303(4)p.192.

⁽²⁾ 8,298 G.R.T.

⁽³⁾ In 21°20'N., 60°44'E.

The Loss of S.S. El Medina (16 Mar. 44)

In the morning of 16 March, convoy EO.44, escorted by only two slow vessels,⁽¹⁾ was proceeding from Calcutta to Chittagong, when RO-111, (a short range Japanese submarine), torpedoed and sank at 0947Z hours, the troop transport EL MEDINA⁽²⁾ in the position 20°56'N., 89°40'E⁽³⁾ and escaped. Of the 1200 persons on board, nearly one-third lost their lives, most of them as a result of the explosion.

The Air Hunt for RO-111

It was not known at No.225 Group H.Q. that there was a troopship in the convoy, and this attack was made in an area which up till that time had enjoyed almost complete immunity from U-boats. The news of the sinking was not received at Bangalore until 1148Z hours. Because of the lapse of two hours since the sinking, it was decided to use the aircraft immediately available to provide continuous escort to convoys in the danger area and to conduct a modified search for the submarine. Because of their proximity to the area, and their indifferent telephonic communications with the Group's Headquarters, No.173 Wing were given full discretion to organize escorts and searches. The role of No.225 Group throughout the operation was one of general supervision and the provision of reinforcements. No.224 Group co-operated in the early stages of the search. Two Beaufighters covered the area of the sinking until dusk and, at the request of one of the escort vessels, two Wellingtons assisted the Navy in their search for survivors by dropping flares until dawn on the 17th.

Reinforcements were flown to tactical bases. RO-111⁽⁴⁾ was first sighted at 1540Z hours on the 17th travelling on the surface at an estimated speed of 17-18 knots. A flare released from 500 feet failed to work and the aircraft passed over the submarine. Before an attack could be launched, the submarine crash-dived. A hunt to exhaustion was commenced and sustained,

/with

- (1) The ROHILKHAND and IRRAWADI.
 (2) About 150 m. S.S.E. of Calcutta.
 (3) 3,962 G.R.T.
 (4) Almost certainly the same submarine, as the position was 19°50'N., 88°51'E.

with three breaks, during the next 48 hours. The first break, one of 2 hours 10 minutes, was a serious one. The aircraft affected reached the end of her endurance before she could be relieved. The delay in relief was due to two cumulative delays at Outtask. The Group considered the first, the failure of a controller to appreciate the urgency of a situation, was avoidable. The second was a piece of sheer bad luck. The relieving strike aircraft first detailed went unserviceable immediately prior to take-off. The hunt was continued as planned, but it would have been wiser to expand the search. Aircraft unserviceability caused two further departures from the standard patrols and there was another gap of 54 minutes.

The second sighting came at a most unfortunate time, 43 hours after the aircraft sighting. A vessel escorting a convoy through the area attacked a U-boat contact in the position $20^{\circ}27'N.$, $88^{\circ}40'E.$ The attack was seen and reported by Liberator Z/No. 334 Squadron. Owing to the local bad weather at the dusk period it was impossible to land the surplus Liberators immediately for refuelling and re-arming. Three Liberators and the Catalina were ordered to carry out searches and aircraft Z to co-operate with the escort vessel. After the fifth night the fruitless search was abandoned in spite of good planning and quick turns round. The initial time gap was too wide to bridge with the available forces and the fact that only one naval vessel was engaged points towards the emerging technique of the "Swamp" hunt as ^{an} ~~the~~ ideal way to conduct such operations, provided there is no lack of ships and aircraft.

The Loss of S.S. John a Pook (19 Mar. 44)

Another loss which was unknown at the time and could not be followed up was that of S.S. John a Pook, which was sunk by a U-boat, (probably Japanese), about 300 miles roughly West of Mangalore on the West coast of India, at 1615Z hours on 19 March. Thirty-nine survivors were picked up from rafts by another merchant vessel at 0430Z hours on the 22nd, but it was not until this ship reached Karachi that the news of the sinking became generally known. Catalinas searched on the 28th, but, apart from oil patches in the area, nothing further was sighted.

/Vain

Vain Air Search for Survivors of S.S. Richard Henry. (1)

At 1130 Z hours on 29 March, a submarine (probably Japanese), torpedoed and sank S.S. Richard Henry, bound for Aden from Bombay, at a point about 500 miles W. by S. of Bombay, in the Arabian Sea. No S.O.S. appears to have been despatched. Three lifeboats were launched. The submarine sank two of them by gunfire, but the third, with its 25 survivors, was picked up by S.S. SANCALIA, who landed them on 4 April at Karachi. Although more than 19,000 square miles of sea were searched by Catalinas, S.S. Scythia and Leighton and H.M.S. Flynn, only wreckage from the ship and empty rafts were found. (2)

/General

-
- (1) 7.176 G.R.T.
(2) No. 225 Group O.R.B. March 44 Appx. 'A'.

General Situation

Enemy activity during March was on a reduced scale. There were only two isolated attacks, both on independent ships unescorted by aircraft, and both successful. The month opened with the Japanese submarine, following its successful attack of 23 February on the tanker convoy, well on its way eastwards. U.510 was still in the Socatra area, but moved eastwards during the first week. It made no report of an attack on S.S. Tarifa on 7 March, so it may be presumed this was the work of an I-boat. Another, ^{or} on the same I-boat sank the Norwegian tanker Grena on 21 March. The aggregate gross tonnage of the two lost ships was 15,329.

Serious enough as these losses were, they only represented 0.78 per cent of the 1,946,000 tons of shipping passing through Aden's waters during March. No less than 133 North-bound and 123 South-bound ships passed through the waters of the Gulfs of Aden and Omen and their approaches, while another 22 entered Aden to load or discharge.

There was a small increase of sorties over the February total, owing to the large number (186) on convoy escort. Plans were initiated for improving coast-watching and an R.A.F. Unit was formed at Bender Alula in Italian Somaliland.

The Loss of S.S. Tarifa (7 Mar. 44) and Air Sea Rescue.

The torpedo which hit and sank S.S. Tarifa ⁽¹⁾ on 7 March shattered the radio apparatus, so that no distress signals could be sent. All the crew and passengers except two or three were saved. She sank quickly about 260 miles E. of Socotra on her way from Aden to Melbourne with a valuable cargo of phosphates. The first boat reached Socotra on 12 March and the others were sighted by three Wellingtons based on Socotra ⁽²⁾ on the 13th. All the occupants were rescued with the help of H.M.S. Parrot and H.M.S. Avon.

/Loss

(1) 7,212 G.R.T.

(2) Of No.621 Squadron.

Loss of the Tanker Grena (21 March 44) (1)

At 0900 Z hours on 21 March, the Norwegian tanker Grena was torpedoed and sunk while sailing independently and without air escort off Masirah Island by the Japanese I-26. On 23 March, a signal was received from Ras-al-Hadd that survivors had been landed at 1230 Z hours that day. No S.O.S. appears to have been received. It was too late for direct action, but continuous reports of varying validity came in on most days. There was undoubtedly a submarine, perhaps the same, in the Alula-Socotra area on 25 March.

Combined Air/Navy Search for Enemy Submarine (25 to 28 Mar. 44).

A sighting reported on the 25th from Alula (Somali) materialised in an adjacent position on the 26th. A signal was received from Wellington Q/No.621 Squadron that he was over a submarine in the position $12^{\circ}01'N.$, $50^{\circ}51'E$ (2) which he had seen submerge. A hunt to exhaustion was started and H.M.S. Avon was despatched from Aden and H.M.S. Thyme was detached from convoy BA.66 to search the area. It was intended to continue the hunt until last light on the 27th.

At 1544 Z hours on the 26th, Wellington U/No.621 Squadron reported himself first as over the submarine, then that it was surfaced at 1608 hours, but the last signal indicated the loss of contact. It was not possible to make an attack. Wellingtons (3) and Catalinas (4) extended the search until last light on the 28th. Altogether, 24 sorties were carried out and 225 hours flown, but all to no avail.

Towards the end of the month, it was recommended to the C.-in-C., Eastern Fleet that the two existing shipping lanes should be ~~submerged~~ merged into one lane running through the centre of the Gulf.

/ A.H.Q.

(1) Admiralty C.B.3303(4): Aden O.R.B. Appendix. 41

(2) Off Cape Guadafui.

(3) Of Nos. 8 and 621 Squadrons.

(4) Of No.321 Squadron.

A.H.Q. East Africa

Operational Boundary with the Union of South Africa

On 15 Nov. 43, the South African Air Force had taken over the flying boat commitment in Union waters. The operational link remained: but to all intents and purposes the air commands had closely followed the demarcation lines of the East India Indies and the South Atlantic stations. The records of Air H.Q. do not give details of South African Air Force operations after the separation. The operational area of the East Africa command is shown on Figure with its subdivisions for the assessment of the degree of the U-boat threat. Up to 15 Aug. 44, East Africa's area of control extended to 65° East, but with effect from that date, the eastern boundary was moved westward to longitude 63° East.

(1)
Destruction of U. It. 22 by South African Aircraft (11 Mar. 44)

On 19 Jan. 44, the ex-Italian submarine Ragnolini, originally intended for Japanese service as Akiba 9, but taken over by the Germans and christened U. It. 22, sailed from Bordeaux for the Far East with a miscellaneous cargo. While en route, she was ordered to rendezvous with U. 178 and fuel her on her way back to Bordeaux, a voyage which would thus complete a round trip.

When U. 178 was approaching the rendezvous on 10 March, the area was being continuously patrolled by 'fast land-based aircraft', she reported, and she was forced to remain submerged for most of the time. She again reported constant air reconnaissance on the 11th. On the 12th, she reported to B. d. U. that U. It. 22 was not met at the rendezvous. There was nothing to be seen but a large patch of oil. U. It. 22 had been sunk on 11 March by South African Catalinas D/No. 279 Squadron and P/No. 262 Squadron off the Cape of Good Hope in the position 41° 28'S., 17° 40'E. before she could enter the Indian Ocean.

(4)
Japanese Activity off East Africa

Early in the month, a Japanese-borne aircraft again reconnoitred East African naval bases. I-37 was sighted and attacked off the northern tip of Madagascar. This submarine, which escaped, made her way back to base, leaving the area empty.

- (1) 1,036 tons displacement.
(2) B. d. U. war log.
(3) It was U. 178 who took out Donnas to create the German base at Penang in 1943.
(4) Admiralty C.B.O. 199/44: E. Africa O.R.B. Appendices.

Some of the flying boat and much of the surface craft and carrier effort was devoted to the location and destruction of the tanker Charlotte Schliemann and the pursuit of U-boats in the rendezvous area.

To meet the combined threat of Germans and Japanese the flying boats were redistributed. The Catalinas of No. 259 Squadron which had been operating with Aden Command were recalled; and Mombasa and Diego Suarez were reinforced.

Close anti-submarine escorts were carried out well to the South and North of Pamanzi Island for all convoys.

Abortive Air Attack on a Japanese Submarine (5 Mar. 44) ⁽¹⁾

A Catalina of No. 209 Squadron, while on a transit flight from Mombasa to Diego Suarez during the night of 4/5 March, was diverted to carry out a submarine search. At 0235Z hours, she sighted I-37 off the northern tip of Madagascar, ⁽²⁾ fully surfaced, proceeding on a course 020° at a speed of 10 knots. I-37 dived as the Catalina delivered its first attack, dropping depth charges from 50 feet. Though all the depth charges were estimated to have fallen within lethal range, none exploded. A second attack was made with the remaining depth charge, but this hung up. Two Catalinas were ordered to search the area and obtained a disappearing contact. Diego Suarez was then reinforced by a further seven Catalinas for a hunt to exhaustion. On the assumption that the enemy had moved still further to the North-West, the air forces were redistributed, with Pamanzi Island as the advanced bases. Although five H.M. ships co-operated in the search, it ended in disappointment.

Reconnaissance of Diego Suarez, Mombasa and Kilindini by Japanese Submarine-borne Aircraft

The eastbound Japanese submarine which was presumed to have sunk S.S. Asscott on 29 February and had been thus hunted to the North of Madagascar launched an aircraft, which reconnoitred Diego Suarez harbour on the night of 4/5 March in bright moonlight. It appeared to be a single-engined float plane and was picked up by sound and radar about three minutes before its approach. It made one run over the outer harbour at 1500 feet altitude and departed towards the West.

On receipt of the warning of its approach by No. 246 Wing Catalina F/No. 209 Squadron already airborne was diverted and the attacks and searches described above organized.

(1) E. Africa Intelligence Summary No. 53 March 1944.
(2) In 11° 52'S., 48° 45'E.

At 2340Z hours on 13 March, an enemy aircraft, almost certainly the same, flew over Mombasa, approaching from seawards in a glide from 1,500 to 500 feet, flying along Kilindini harbour and Likoni Point and turning away to the South. It was showing one white light which was extinguished when anti-aircraft fire from three batteries was opened. The anti-aircraft battery at Likoni Point thought at first that it was a Catalina in distress, owing to the similarity of engine noise, but later saw the indistinct silhouette of the Japanese aircraft, ^{and} a blue light (presumably the exhaust). ~~also being seen.~~ It climbed and left the Mombasa area on a bearing of 185° and was followed by radar to a range of 30 miles. Two R.N.A.S. Swordfish were scrambled from Port Reitz to search the Pemba and Zanzibar Channels, but their efforts, like those of Catalinas in the Pemba area, were unsuccessful. (1)

Continuation of the Hunt

On the evening of 15 March, I-37 was fixed to be within 100 miles of 07°S., 45°E. and a Catalina of No. 259 Squadron on convoy duty was diverted to the area, but gained no contacts. The same evening, H.M.S. Lulworth carried out an attack on a contact in 05° 17'S., 41° 59'E. A hunt to exhaustion was carried out by five aircraft from Mombasa but no further contacts or sightings were obtained.

It was expected that I-37 would attempt to reconnoitre the Seychelles and aircraft there stood by for a final effort. Instead, I-37 moved across the Indian Ocean. At 0900Z hours on the 19th, she fired three torpedoes at the tanker British Unity in 24°S., 59° 05'E. One of them hit her, but, as had happened to German U-boats before her, it failed to explode. On receipt of a distress signal from the British Unity, two Catalinas were despatched to aid her, but found her safe and no sign of the submarine.

Rescues of Catalinas

For the whole period of the submarine threat, convoys had been escorted by aircraft from Pamanai, Mombasa and later the Seychelles. By the 31st, aircraft of East Africa Command had flown a total of 69 sorties, totalling 1,108 hours 14 minutes operational flying. Sixty-two ships, from troopers to boom defence vessels and twenty-four escort vessels were given anti-submarine protection without loss of ships.

(1) E. Africa O.R.B. March appendices.

Catalinas sometimes ran into serious trouble on their long flights in fitful weather. On 21 February, Catalina S/No. 209 Squadron force-landed at one of the Aldabra Islands ⁽¹⁾ with engine trouble. There were no facilities for aircraft in this lonely atoll, but with the help of H.M.S. Sondra, Pinnacle 94 and other aircraft of East Africa Command, the engine was changed for a new one on the water and, with spares and heavy tools brought by the ships, the aircraft was salvaged and left the lagoon in early March for base.

March closed with a comparable piece of teamwork. Catalina A/No. 250 Squadron, airborne from Mahé in the Seychelles, escorted an eastbound convoy as far as 65° 28'E. On returning, the crew failed to locate base and at 2130Z hours on 31 March ditched in a position 40 miles South of the Seychelles, the captain landing his aircraft safely on the sea, which was fortunately calm. Another Catalina from Mahé located her and homed H.M. Trawler Mastiff on to the flying boat. H.M.S. Mastiff towed aircraft A undamaged into Mahé.

/ Anti-submarine

(1) 18 miles North of Assumption Island.

Anti-Submarine Operations in April 1944No. 222 GroupEnemy Submarines reduce Effort in Indian Ocean

During April, after their rough handling in March, enemy submarines were mostly either at base or making for base. Between 1 and 7 April, U.1062 continued her course from South of Mauritius to South of the Chagos Archipelago on to Penang. U.532 left the Chagos area on about the 7th for Penang. Meanwhile, a reinforcement from home rounded the Cape on the 16th. This was U.852, who was nearing Somali at the end of the month for patrol in the Gulf of Aden.

RO.111 had returned to Japan in March for refit. Of the remaining Japanese submarines, one operated in the Maldives area and another lurked far to southwards in the hope of catching ships on the Fremantle - Colombo route, out of range of aircraft from South Ceylon and Maldive Islands bases.

No ships were lost in the Indian Ocean during April and only one attack was made by an enemy submarine.

(1)

Concern over Japanese Atrocities

Behind the concern felt on account of the shortage of escort vessels lay the shadow of the atrocities with which sinkings by Japanese submarines were increasingly marked. The majority, if not all, of the Japanese commanders of the 8th Submarine Flotilla at Penang were guilty of some bloody crimes.

In early April, the C.-in-C. Eastern Fleet expressed his concern at the possible effects of these atrocities on Allied merchant seamen and felt that some remedy should be found. The Admiralty stated that everything possible was already being done but that their representations to Japan through the Swiss Government were met with lies and evasions. They suggested the trial of bolder diversionary routing to counter the Japanese use of float planes in locating ships and proposed that Diego Garcia should be used to provide air cover for the Africa - Ceylon and Australia routes, the increased length of voyage being accepted. Admiral Somerville would have liked to see permanent detachments of flying boats at Diego Garcia, Addu Atoll and Kellar Island, but he knew that the strength was insufficient. Aircraft had to be continually switched to meet local threats, with the main concentrations in the main shipping areas. With continual and increasing troop movements towards South-East Asia, the East coast of India was a special air commitment.

(2)

See Appendix 16 for full text of this signal and the supporting signal from the Command S.E.A. to Air Ministry.

(1) Admiralty C.B.3303(4) pp. 194-195.

(2) Signal from C.-in-C. E.F. to Admiralty 17 Apr 44 (A.H.B. II J.50/1057/15) kind. End. 52A / Fluctuations A

(1)

Fluctuations in Convoy Policy

Changes in April in convoy plans reflected the close margin of Allied supplies. On the 12th, as the threat in the Maldives area persisted, all Bombay - Aden shipping was once again held for convoy. On the 19th, the measures were again eased. A speeding-up of the flow of shipping was achieved by releasing all ships of 11 knots and over from AB - BA, AP - PA, BM - MB and BP - PB routes. (2) On the 20th, a U-boat threat appeared off East Africa and measures were re-imposed on Kilindini - Durban sailings. ~~On the 21st a U-boat threat appeared off East Africa and measures were re-imposed on Kilindini - Durban sailings.~~ On the 24th, all trade shipping was released from routes AB- BA, BP - PB, AP - PA and MB - BM, so the only shipping remaining in convoy (with the exception of troopships and specially escorted ships) were on the JC - CJ and the CH - HC routes. New routing orders were issued and shipping carefully dispersed. But there were still not nearly enough escort vessels on the station and the strain and responsibility lying on the air formations was very heavy.

Air Escort Operations

The Group decided to meet the heavy escort duties from Ceylon by releasing Beaufort aircraft for them, thereby conserving Catalinas and Sunderlands for enemy threats further afield, for example in the Chagos Archipelago. A new type of task developed in April, when the Group's aircraft covered the Eastern Fleet during the attack on Sabang - Operation 'Cockpit' - (3) by the reinforced carriers as a diversion for the American attack on Hollandia. Escort duties continued unabated through the month; their charges included the third and last section of Trincomalee's floating dock, American troopships, naval forces, the French battleship Richelieu and escort carriers.

Submarine Attack on S.S. City of Adelaide (30 Mar. 44)

Just before midnight on the 1st, a D/F fix was obtained on a homeward bound Japanese submarine S.E. of Ceylon. A series of sweeps and searches followed. Keggala aircraft were flown down to the island bases to begin a sweep on the 3rd for another Japanese submarine believed to be lurking there - six to Addu Atoll and four to Diego Garcia. During the afternoon of the 2nd, S.S. Tanda signalled that

-
- (1) Eastern Fleet war diary (Admiralty TSD.4454/1944).
 - (2) Refer to Appendix 8 for details of convoy letterings.
 - (3) Fully described in the next chapter.

she had intercepted a message from survivors of S.S. City of Adelaide torpedoed on 30 March in 11° 13'S. 80° 30'E (about equidistant from the Cocos Islands and Diego Garcia on the Fremantle - Suez route). ^{H.M.} Ships were diverted to pass through the area and an air search from Diego Garcia was planned to be carried out after the sweep for the submarine off Addu Atoll. Neither sweep met with any success. Both Japanese retained strict wireless silence (unlike some of their German colleagues). On the 7th, as some 600 hours had already been flown searching for the Japanese off Addu the operation was called off. If it had continued, there would soon ^{have been} be no serviceable aircraft left to meet the German threat when it reopened.

Koggala Catalina's 800 Mile Flight to assist Tanker Yamhill (11 Apl. 44) (1)

The enemy's silence lasted for several days until 0730 FG hours on 11 April, when the tanker Yamhill bound independently for Fremantle from Bahrain reported that she was being pursued by a submarine in the position 03° 18'N 67° 09'E (about 800 miles S.W. by W. of Ceylon). A running battle ensued for two hours, but the ship then pulled ahead and, after another seven hours steaming, shook off her adversary.

Flying boats had by now been withdrawn from the island bases and the nearest available were in Ceylon. On receipt of the first message from the ship, Catalina C/No. 413 Squadron from Koggala was prepared and was airborne at 1000 hours. At 2020 hours, she had covered the distance of some 800 miles and met the tanker, ^{whose} crew must have been very glad to see a friendly aircraft. The Catalina stayed with her for four hours, ^{and was waterborne} landing back at Addu Atoll after 20 hours flight. A point of some interest is that at 1100 hours the Japanese broke silence (a most unusual course for them) revealing herself as either the one which had been operating in the Maldives area or a fresh one commencing a tour.

On the 13th, Catalinas from Koggala followed up a ship's report of flashing lights East of the Chagos Archipelago and came upon two rafts. They guided H.M.S. Flemingo to these rafts which carried 18 Lascars from S.S. Sutley who had been afloat for 50 days. They had drifted some 500 miles N.W. from the sinking and must have moved in a clockwise circle passing between the Chagos and the Maldives and were, at the time of rescue, moving steadily towards enemy territory.

18 March was the first day for many months on which no sorties were flown by the Group. It was the last of the kind for many a long day. The submarine threat died down as the month ended, but on the 29th a Japanese submarine was

located some 300 miles East of Ceylon. The Japanese who followed the Yanhill returned to base. The lull was correctly taken to be part of the calm that always preceded a storm.

General reconnaissance aircraft had flown 1878 hours, escorted 35 Forces and convoys and assisted in the rescue of 18 survivors. One Liberator had crashed on take-off for a diversionary flight over the Andamans.

/No. 225

No. 225 Group

Decline in Submarine Threat a welcome Relief

April was noteworthy for a complete standstill in enemy submarine offensive operations in the area. This afforded the squadrons a welcome respite, after their strenuous experiences of March, in which to repair and maintain their well-worn aircraft. The improvement recorded at the end of the month in four of the seven squadrons is a clear index of what even a brief break can do for service-ability. (1)

No. 200 Liberator Squadron was a newcomer, only just in time to fly its first operational sortie on the 29th. These Liberators will be borne in mind as the group goes over to the offensive in the following months. Already, engagements with enemy aircraft over the Japanese Outer Zone and occasional strikes on enemy shipping had been recorded. (2)

(1) Comparison of April aircraft serviceability percentages with previous 3 months.

Squadron	Base	Aircraft	April	Previous 3 months
No. 191	Korangi Creek	9-8-9 Catalinas	62	63
No. 212	Korangi Creek	9 Catalinas	54	62
No. 203	Santa Cruz	14-16 Wellingtons	61	52
No. 200	St. Thomas Mount	11-12 Liberators	18	-
No. 240	Redhills Lake	8 Catalinas	75	57
No. 628	Redhills Lake	3-4 Catalinas	47	34
No. 354	Outback	12-10 Liberators	80	72

(2) This topic will be treated under a separate heading.

/ Fall

Fall in Convoy and Shipping Lane Patrols

During April, a still larger number of convoys sailed within the group area. The decrease in the number of hours flown on convoy escort compared with the March figures (shown in a footnote a few pages earlier) was due to the decline in the submarine threat. There were three cases of aircraft not meeting a convoy. The first of these was due to bad weather which forced the aircraft back to base: the second was unavoidable, as the convoy entered port ahead of schedule: in the third, a faulty compass was the cause. The number of independent sailings decreased. ⁽¹⁾ There were no sightings of U-boats by any source and no ships attacked or sunk by submarines in this area. The detachments and returns between No. 225 and No. 222 Groups balanced each other out at the close of the month.

(1) General Summary of Operations for April 1944 - No. 225 Group

	No.	No. escorted	A/C sorties	A/C not met	Hours
Convoys	77	43	125	3	1,537
Independent Sailings	217	-	Shipping lane patrols 16	-	93
Anti-submarine Patrols & Searches	0		0		0
Recess	28		28		286
Strikes	3		3		32
A/S/R Searches	5		5		84
Total			177		2,032
Operational hours flown by No. 225 Gr. A/C Detachts.			16		180
Total operational hours of No. 225 aircraft			193		2,212

/ Air

Air H.Q. Aden
(1)

All quiet in the Gulf of Aden and Oman

The month of April witnessed a complete absence of enemy submarines from Aden's waters until the very end. There were no attacks on shipping, no confirmed sightings and no fires. It was only on the 28th that a naval report of a submarine apparently approaching the area from the South was received. (2)

The respite was most welcome and gave opportunities for joint air/naval exercises in submarine recognition, a subject unfamiliar to some of the newly-arrived Wellington pilots. The complete absence of enemy submarines naturally resulted in a drop in both the number of sorties (3) and flying hours. (4) A large proportion of the air effort was expended on escort work. (5) During April, 11 convoys (consisting of 52 ships), 247 independents and 8 warships, making a total of 307 with an aggregate tonnage of 2,093,000, passed through the areas of the Command. (6) Special precautions were necessary because, in addition to a number of troopships, two of H.M. aircraft carriers, the French battleship Richelieu and the cruiser H.M.S. Danae were included.

One Wellington came down in the sea off Riyah with engine trouble. Its crew were rescued by other aircraft. Survivors from torpedoed ships were located. (7)

Air H.Q. East Africa

A month of uneasy Calm

Although the enemy refrained from open attack, the silent passage of U.852 between the 16th and the 30th from the Cape up through the Mozambique Channel towards her appointed billet in the Gulf of Aden kept the Command on tenterhooks, called for full convoy escort duties and redispersions of aircraft at intervals, including the despatch of three aircraft on detachment to operate over South African waters. (8) All escorts were carried out without incident, and no

-
- (1) Aden O.R.B. and Appendix E.31.
 - (2) Report by S.S. Franklin P. Mall in position 15° 08'N. 57° 10'E. Wellingtons from No. 8 and 244 Squadrons carried out a fruitless search.
 - (3) 189 as against 314 in March.
 - (4) 1,231 as against 2,268 in March.
 - (5) 91 sorties, totalling to 655 hours.
 - (6) The monthly average for the 6 months ending with April was 301.
 - (7) 10 sorties, 77 flying hours.
 - (8) A standard form of co-operation with the South African Air Force, covered, as already explained by the existence of the liaison organization known as Advanced Operations Unit under command of Air H.Q. East Africa.

/ sightings

sightings or contacts were obtained. The Germans knew the rich choice of targets awaiting U.852 in Aden and Arabian waters too well to risk her sharing the fate of U.It.22 in March.

The weather grew increasingly turbulent. In the early part of the month, a cyclone developed to S.W. of the Seychelles causing strong S.W. to S. winds there. It moved slowly in a generally southerly direction over Madagascar, causing considerable damage at Reunion Island on the 11th and leaving behind it strong westerly winds over the area between Madagascar and the Seychelles. An emerging inter-tropical front oscillated. Heavy rainfall followed in some areas. On the mainland anti-locust flights were carried out.

/Anti-submarine

Anti-Submarine Operations in May 1944

No. 222 Group

The Formation of IOGROPS

The sharp rise in enemy submarine attacks in the first quarter of 1944 aggravated the long felt need of greater unification of the maritime reconnaissance air forces. It was considered that greater efficiency and mobility would be obtained if all these forces operated under a single director. The system actually existing to this point had left a large measure of autonomy to A.H.Q. East Africa, B.F. Aden and No. 225 Group, although nominally both strategic and operational control had been exercised by A.H.Q. S.E.A.C. through No. 222 Group. In view of the manpower shortage and the vast area to be controlled, it was decided that this single direction could be best achieved by appointing a deputy to an A.O.C. of one of the general reconnaissance formations, who, with an additional eight officers on the staff, would be largely responsible for the implementation of unification throughout the Indian Ocean. It was essential that this staff should be located where it could plan general reconnaissance operations with the staff of the Eastern Fleet.

On 1 May 44, this staff became part of No. 222 Group, Ceylon, where it commenced to operate under the direction of the Air Officer Commanding, A.V.M. A. Dursten. (1) In order that this additional staff should not be confused with the group staff not concerned with the whole of the Indian Ocean operations, it was decided that they should assume the title 'IOGROPS', Indian Ocean General Reconnaissance Operations.

While the Deputy Officer Commanding had certain duties to perform with H.Q. No. 222 Group, his main responsibility was with 'IOGROPS', whose function was to organize and supervise the operational effort of general reconnaissance formations in the Indian Ocean. This included the standardisation of operational procedure, tactics, training, intelligence and signals. The primary function of the staff was to travel round commands, formations and units in the Indian Ocean to advise on and co-ordinate systems. (2)

-
- (1) Previously S.A.S.O., Coastal Command.
 (2) No. 222 Group O.R.D. May 44 Appendix B: refer to Appendix 10 of this volume for the full text of No. 222 Group Administrative Instruction No. 172 of 1 May 44.

General Situation

The new staff of IOGHOPS had ample time in May to take up its duties. Once again, there were no sinkings in the whole of the Indian Ocean, with the exception of one Maldivian dhow. In view of the fact that there was one, and for a time, were two submarines operating in the Group area, it is fair to conclude that the air cover provided to shipping was good enough to prevent the enemy attacking. The Japanese submarine fixed leaving Sumatran waters at the end of April apparently had the primary task of landing agents. Nevertheless, had an opportunity of attacking unprotected shipping presented itself, it would have run to form and taken it. At the end of the month, the Japanese boat returned to base, leaving a German U-boat somewhere South of Ceylon.

(1)

Air Searches

On the 3rd, a parallel track sweep South of Ceylon was carried out in the estimated track of the Japanese submarine fixed on 29 April. Six Catalinas from Koggala were airborne before first light and at 0916 hours, aircraft Y/No. 413 Squadron sent a signal suggesting the presence of a U-boat: while flying in scattered cloud at 3,000 feet, the pilot sighted a well defined wake 'as from a surface vessel' some 16 miles ahead. This wake lasted for 5 minutes as the aircraft approached and when the position was reached 7 minutes after the sighting the wake had disappeared. Then commenced a hunt to exhaustion from the sighting position (01° 47'N., 80° 20'E) about 320 miles S. by E. of Ceylon. Four Catalinas carried on the hunt. Nothing was seen except an unusual number of porpoises. The hunt was called off on the morning of the 4th on the assumption that the Japanese had escaped. A new search opened on the 5th with a sweep by three Catalinas East of Addu Atoll. No sightings were made, but further indeterminate bearings indicated that she was in the general area South of Ceylon and moving West. It was most unusual for Japanese to break radio silence repeatedly, as this one did.

On the 6th, three Liberators (No. 160 Squadron) flew an offensive anti-submarine sweep to the East, to within 60 miles of Cor Nicobar, in the hopes of catching any submarines moving out from Penang via N.W. Sumatra, but made no sightings. By the 10th, the Japanese submarine, now silent, was estimated to be somewhere off the West coast of India. It made no attempt to interfere with the

(1) No. 222 Group O.R.B. May 44 Appendix BZ.

Fleet auxiliary Shenking while proceeding (escorted by a Catalina) from Addu Atoll to Colombo. Sweeps round the Maldives and the 80 and 90 Channels proved fruitless.

It was not until the night of 14/15 May that the first undeniable evidence of the presence of the Japanese submarine appeared. H.M.S. Geraldton reported rescuing four survivors from a dhow which had been sunk on the night of the 10/11th in the eastern end of the Khardiva Channel. On the evening of the 17th, it was reported that five Indian agents had been landed from the submarine by rubber dinghy at Erode, near Trichinopoly and captured. A little after midnight on the 18th, a Liberator was airborne to sweep an area East of the Maldives and the search was continued the following night by six Catalinas from Koggala; but nothing was sighted. Fixes towards the end of the month far to eastwards seemed to prove that the Japanese boat was on her way back to Penang. There were signs (1) on the night 11/12th of a German U-boat moving out towards Ceylon.

During May, a total of 1699 hours were flown by aircraft in the Group area. The number of Forces and convoys escorted was 14. There were no rescues. Two aircraft were lost, viz. one Catalina which crashed on take-off and another which crashed into the sea while on a practice depth charge dropping exercise.

Air Protection of the Eastern Fleet on return from Air Strike on Sourabaya
(26 - 27 May 44) (1)

The biggest task undertaken by the Group's aircraft was the protection of the Eastern Fleet on its return from Operation 'Transem' (2) the carrier-borne air strike of 17 May on Sourabaya by a combined British-American force known as Task Group 585. It was believed that the enemy would attempt to intercept the Fleet with submarines. In consequence, air units flew constant sweeps and searches to meet this threat.

The cover operations which opened on the 26th and ended with the safe return of the Fleet to Trincomalee on the 27th, involved a total of 50 sorties. Liberators maintained constant escort sweeps ahead of the Force; Catalinas from Koggala carried out an anti-submarine parallel track sweep south of Ceylon, Liberators and Catalinas patrolled East of Ceylon; and Beaufort and Fleet Air Arm Barracudas, (from Ratmalana and China Bay respectively) covered the approaches to Colombo and Trincomalee. The effort flowed non-stop throughout the night of

(1) No. 222 Group O.R.B., May 44 Appendix BZ.
(2) Detailed in a following chapter.

the 26/27th. There were no incidents and no sign of the enemy. No D/F fixes were obtained, although a considerable amount of key-pressing was heard. This did not enable a good D/F fix to be obtained but indicated that at least two submarines were lurking in the vicinity. ⁽⁴⁾

/no. 225

No. 225 Group

(1)

Air Convoy Escort Reduction

The number of hours flown on convoy patrols was less than at any time since December 1943. This decrease was due partly to the reduced number of sailings, but primarily to a decision by No. 222 Group to be less generous in providing air escort when the U-boat threat was as low as it was during May. All convoys due for air escort were met. The usual detachments were made to Trombay, Cochin and Cocanada and two Liberators (No. 200 Squadron) were detached on the 25th to Cuttack. These detachments facilitated an increase in shipping lane patrols to cover independent shipping.

Meteorological Flights

Every year during the periods 1 April to 15 June and 1 October to 31 January, there was a likelihood of cyclones forming in the Bay of Bengal, North of the Andamans and moving in to the Arakan coast. In the absence of reports from shipping (unobtainable at the time), early information of the formation of these cyclones could only be obtained from aircraft. In the second week of May it was decided to obtain these data by daily meteorological flights.

(1) No. 225 Group - Summary of G.R. Operations - May 1944

	No.	No. Escorted	A/C Sorties	Operational Hours
Convoys	57	32	80	926
Independent Sailings	446	-	<u>Shipping Lane Patrols</u>	232
Anti-submarine Patrols and Searches	3	-		22
Recces	30	-	30	293
Strikes	3	-	3	31
Met. Flights	14	-	14	195
A/S/R Searches	1	-	1	10
<u>TOTAL</u>	-	-	170	1,709

/ From

From 13 to 29 May, Liberators of No. 354 Squadron at Cuttack were routed directly back to base from their normal 'Maxim' patrols, from the southernmost point of these patrols. This return leg carried them across the northern part of the Bay of Bengal and ^{they} were used as a Meteorological Flight. Special meteorological sorties in the southern ^{portion} position of the Bay of Bengal were flown daily, commencing 17 May, by No. 628 Squadron (Rad Hills Lake, Madras) occasionally replaced by No. 240 Squadron. These flights were arranged to pass through:

- (a) During April and May - Two points at least 150 miles apart on Longitude 90° East, between Latitudes 10° and 15° North.
- (b) In June - Any point of Longitude 90° East, between Latitudes 16° and 18° North.

The information obtained proved of considerable value to both the Air Forces and the Fleet in operational planning. ⁽¹⁾

Attacks on Enemy Shipping

This was a period of transition. Nothing approaching the systematic war on enemy Mediterranean shipping had yet been attempted in this area. From time to time, long range Liberator aircraft carried out experimental operations against the enemy's shipping on the fringes of his Outer Zone, but it would be incorrect at this stage to interpret them as any more than light exploratory passes. They had their value in familiarising aircrews with the convolutions of the enemy-held coastline and the nature of his seaborne supply system. So far, all the targets were small craft.

On the 6th, a Liberator of No. 354 Squadron made three circuits of Diamond Island at the mouth of the Bassein River, (one of the outlets of the Irrawaddy) and attacked a large country craft, apparently ineffectively. On the 20th, another Liberator hit a 40 foot barge, five 40-foot Sandows and buildings at Gwa on the Arakan coast.

/ Air H.Q.

(1) No. 225 Group O.R.B. and Appendix A - May 44.

SECRET

Air H.Q. Aden

Enemy Submarine Threat Annulled by Air Action

The month of May opened in sensational fashion with the sighting and subsequent destruction of U.852 off the Somali coast after persistent air attacks. She had just entered the waters of Aden Command after having tied up the reconnaissance units of Air H.Q. East Africa for a fortnight and had had no opportunity of delivering an attack in Aden's area, so rich in targets. The German U-boat Command appears to have under-estimated Aden's air strength and organization and were deterred from sending another U-boat to the area until the month of July. The threat in May to shipping was therefore completely lifted in the first few days of the month, during a vital period of reinforcement, by air action alone.

The result of this success was a reduction in other offensive and defensive air operations. (1) There were 76 sorties on offensive sweeps against 84 in April and 38 on defensive escort as against 101 in April. Sorties for submarine hunts, on the other hand, rose from 7 to 22, because of the attacks on U.852 by Nos. 8 and 621 Squadrons on the 2nd and 3rd.

U.852 (2)

To understand the complicated manoeuvres that led to the scuttling of U.852, its class and crew should be defined. U.852, commanded by Captain Heinz Eck, sailed on 18 January from Kiel with orders to attack shipping between Aden and /Bombay

(1) Comparative Tables of Operations. April-May 1944 - Aden

Type of Sorties	April			May		
	No. of Sorties	Flying Hours	Ms.	No. of Sorties	Flying Hours	Ms.
Escort (Defensive)	101(a)	713	45	38(b)	300	55
Anti-Submarine Sweeps (Offensive)	84	457	00	76	442	35
Submarine Hunts (Offensive)	7	50	50	22	130	10
TOTALS	192	1,221	35	136	873	40

(a) Includes 10 air/sea rescue sorties.

(b) Includes 3 air/sea rescue sorties.

(2) B.d.U. war log: Admiralty C.B.3303(4) p.198: Aden O.R.B. May appendix E.34.

SECRET

Bombay. She was a standard 1200 tonner, 250 feet long, fitted with radar and a helicopter kite for observation purposes. Her armament consisted of one 105 mm and one 37 mm gun, three 20 mm cannon, two .300 machine guns and six torpedoes, of which two were recovered intact.

U.852 proceeded on her long course North of the Faroes and down the central waters of the Atlantic. On 13 March, she was N.N.E. of Ascension Island. There she torpedoed S.S. Peleus and murdered her crew. They were, therefore, a set of men with blood on their hands who would stop at nothing to achieve their ends; and had they reached their goal, it would have gone hard with every isolated ship that came within sight or hearing of them. But this was not to be. Most of them were taken prisoner; and after the war, Eck the commander and two other officers were sentenced to death and others concerned to long terms of imprisonment.

First and vital Attack by No. 621 Squadron (2 May 1944)

As U.852 approached the Somali coast on 1 May, Wellingtons of No. 621 Squadron from Riyan, Socotra, Bender Cassim and Souisciuban bases, forwarned by the East African command of an intruder, had established a day and night pattern of patrol over the waters South of Cape Guardafui. Aircraft E, (1) in the early hours of 2 May, descended to 3000 feet altitude to evade a towering mass of cumulus ahead. Ten minute afterwards, the front gunner, acting as visual look-out, sighted a wake at 8 miles to starboard, ~~This wake was~~ confirmed as that of a submarine. They signalled to Air H.Q. Aden. The Captain checked that all six depth charges had been properly selected and fuzed, handed them over to the Second Pilot and took over the controls. He descended, with undercarriage down, to 800 feet at one mile range from the submarine and had 80° to turn to port to meet her head on. As he turned, U.852 started to dive, leaving a heavy swirl and keeping quite straight. The Captain straightened out at 1,200 yards range and not more than 400° to go in at 10° to the submarine's track. The Front Gunner opened fire with long bursts with both guns. The tracer could be seen consistently hitting the base of the conning tower. On the run in, the Captain reckoned that only the conning tower would be showing when he arrived. Basing his judgement of distance on a target towed for practice at an Officers' Training Unit, 150° behind a launch, he aimed the first depth charge to strike 250° ahead of the still visible conning tower. (2)

/It

(1) Captain:- Flying Officer Mitchell. 2nd Pilot:- Warrant Officer Riddell. Navigator:- Sgt. Gomersal. W/T Operator:- Flight Sgt. Turner. Front Gunner:- Sgt Stevenson. Rear Gunner:- Sgt. Philip.

(2) No. 621 Squadron O.R.B. May 44 Appendix E/2 for this and the following other attacks on U.852

It was very early in the morning. The sun was low, but on his port beam and caused no glare. Both pilots saw large bubbles in the foaming swirl of the conning tower, half of which was still visible when they passed over it. The front gunner kept firing bursts until the guns were fully depressed. The navigator, standing in the astrodome, noticed the aircraft suddenly rise and then saw all the depth charges apparently hanging in mid-air. They all fell dead in line with U.852 and the last one entered the swirl. The rear gunner saw the tails of the last two depth charges hurled into the air, the others having gone off and left plumes of water. Within 3 minutes of release, the first sighting report had been made out. The oil patch was photographed. The Captain saw a white foaming ring beyond the oil patch with what appeared to be the nose of the U-boat rising at 50° to the horizontal. The nose sank: the submarine surfaced and began firing on the aircraft.

The Wellington's attack had fractured the main inlet pipe. The vessel was flooding badly and only able to surface by blowing all air containers and driving the boat to the surface. She surfaced at an angle of more than 45°: all water ran aft, flooded the engine room and started a fierce fire. (1) The U-boat changed from light anti-aircraft to the 37 mm gun aft at 0525 hours. The Wellington turned to port and made off into the sun, taking corkscrew evasive action. *The pilot* He returned over U.852 and fired, raking the deck and firing tracer into the conning tower until return tracer ceased. Then U.852 opened up with 105 mm shells at 3 miles and continued it to a range of 7 miles, reopening fire each time the Wellington closed to 4 miles.

Captain Eek now began to reveal himself as a master of tactics. *Once more in control of his vessel,* He kept turning to keep on a course parallel to aircraft E, whose Captain tried unsuccessfully to lead him to West and towards the land. Two hours and ten minutes had passed since E had dropped his depth charges, when the Captain saw another white Wellington - aircraft U - about to attack U.852 closer in. It was too late for E to close and create a diversion, so, near the end of its endurance, it returned to land at Sowscuban with only 30 gallons of fuel, all in the tank of one engine at 0815 hours, after a 7 hours 10 minutes flight.

/Second

(1) Admiralty C.B.3303(4) p.198.

Second, third and fourth attacks off Ras Hafun

Wellington U was airborne from Socotra Island at 0520 hours on 2 May. At 0623 hours, U.852 was sighted on the surface and attacked with six depth charges, which straddled the submarine about 100 feet ahead of her bows: the front gunner emptied his ammunition into her. The 4.7 inch gun and 20 millimetre cannon were fired at the aircraft. Aircraft U shadowed U.852 until 0856 hours, leaving her (when relieved) still on the surface.

At 0640 hours, Wellington F was airborne from Bender Cassim; when the pilot sighted the U-boat, he made two attacks, dropping four depth charges in the first and two in the second. The gunners raked the decks of the U-boat, causing casualties. Two of the depth charges were reported as bursting very close to the boat, who returned the fire, taking sharp avoiding action. Attacks were made possible by a diversion created by Wellington T. Wellington U shadowed her until, discovering an oil leak, the pilot was forced to leave for base two hours before his endurance limit was reached.

Fifth attack

Wellington T, airborne at 0610 hours at Socotra, was directed to make for the combat area and found the U-boat at 0735 hours at the end of an oil streak. ⁽¹⁾ At 4 miles, the aircraft was met by a burst of anti-aircraft fire. The pilot manœuvred ahead of U.852, but a head on attack was foiled by Captain Eck's tight turns. Three runs were attempted, two of them pressed home to the extent of gunning the decks. No depth charges were dropped yet, owing to the broadside position. The canvas fairing of the aircraft prevented rotation of the front gun turret, so was torn away with an axe. It was during the diversion thus created by T, that F had attacked with depth charges down the U-boat's track. While this was happening, T, with her front guns, reduced the fire from U.852 to silence. Owing to the pilot's violent evasive action while shells were coming up, the Captain dropped the depth charges, observed to explode some 20 yards on the starboard side of the U-boat. T passed over and fired, claiming three hits among the gun crews. Eck made continued sharp turns to port, rendering the run in extremely difficult. At the end of the attack, the front /gunner

(1) In 10° 51'N, 51° 53'E, still off Ras Hafun, on which isthmus stands the village of Dante (or Hafun) used by Allied aircraft as a landmark.

gunner had one gun out of ammunition, and the other with a first position stoppage. Aircraft T, was ordered back to Socotra, 100 minute flying time away, but, rightly taking the initiative himself, ^{flew} on to Soussiuban, only 30 minutes off, and re-armed.

Plan for a triple Attack on U.852

The Wing Commander at Soussiuban then planned a triple attack by Wellingtons Q, D and T. on the U-boat. Q had engine trouble and failed to be airborne. The U-boat had meanwhile doubled on her tracks and proceeded in a south-westerly direction towards the coast South of the Isthmus of Hafun some thirty miles in. It was only after a two-hours' search that Wellington T came on the U-boat: several other aircraft were in the vicinity. T tried homing on to the enemy with radar as well as radio. Some confusion resulted. Wellington T dived low to investigate a large oil patch with a flame float burning at its end. Wellington D/No. 621 Squadron followed him down and believing this (in error) to be the position of the U-boat, dropped a stick of depth charges. This was at 1256 hours. At 1310 hours, T, in the face of thick fire, went in, hoping to drop his depth charges, but at the last moment, Captain Eck swung his boat round and balked the drop. The air gunner opened up and saw four Germans fall. Another Wellington showered bullets down on the U-boat and left the air clear for T's last dive. A stick was dropped from the starboard beam right across U.852, just forward of the conning tower; the second and third depth charges straddled her. A huge column of spray rose and hid the submarine, but when the plumes had subsided, U.852 was observed still moving on her old course, apparently undamaged. It was believed that the last depth charge failed to explode, but owing to the state of the submarine when boarded later, the success or failure of this, as well as the second to sixth attacks, must remain unknown.

Efforts were made to home a naval vessel in the vicinity on to the U-boat, but had to be broken off when T reached the end of its endurance and flew back to Socotra. H.M.S. Falmouth had been ordered at 1206 hours to proceed to assist in the hunt, but through faults in communications and the evasive course of U.852 she did not sight ^{her} until dawn on the 3rd.

Intervention by No. 8 Squadron (1)

The situation of the U-boat when Wellington T of No. 621 Squadron left her was grave but not hopeless. If Heinz Eck could keep on a course, even if /surfaced

(1) No. 8 Squadron Operations O.R.B. May.

surfaced, and there was enough ammunition left to fight it out with until the hours of darkness, there was still a chance of getting away by night, either eastward into mid-ocean or, by hiding up by day under the land, proceeding south by stages and so round the Cape back to a rendezvous with another U-boat. If any such plan was considered, No. 8 R.A.F. Squadron's Wellingtons ruled it out.

The friendly rivalry between Nos. 8 and 621 Squadron added zest to the day's proceedings. No. 621 was fortunate in being active in the area of first sighting, but No. 8 began operations as soon as possible. The first aircraft airborne, at 0850 hours, failed to locate the U-boat and had to land at Souisciuban with engine trouble. The second Wellington, G, after some initial difficulties, located U.852 (1) and, under fire, ran in for an attack. This was foiled by a sharp turn to starboard of 90° by the U-boat. With only one gunner, the deck was machine-gunned. In the second attack, which was made at 1355 hours, G used evasive action, finally coming in out of the sun with a steep turn to starboard, and passing over the U-boat's starboard quarter towards its port bow just behind the conning tower. The whole stick was seen to straddle her, while the front turret was firing with its single operational gun. Keeping base advised, G shadowed U.852 for three hours, keeping out of range of its 105 mm gun. Another aircraft - J - of the same squadron, was ordered to attack, but made no contact. Wellington G dropped a flare at 1550 hours, lost ~~first~~ radar contact as U.852 came under the land and then at 1658 hours, lost touch ~~with the U-boat~~ *altogether.*

A visual search was carried out up and down the coast in the hope that the U-boat's wake would be visible by moonlight. Nothing was seen until 1655 hours, when U.852 was found lying stationary off the shore with a large oil patch round her. ^{G,} ~~was~~ anxious to do nothing to encourage Eck to move from his position, did not circle but remained at long range. He lost contact again and, at the end of his endurance, returned to Souisciuban, to find that an armour piercing shell had damaged his port engine.

The locations furnished by "G" were supplemented by those from aircraft ^X~~E~~. He found U.852 at 0200 z hours on 3rd May, lying in shallow water, 40 yards from the Shore at Bender Bela. (2) At 0220 z hours, aircraft D, also of No. 8 Squadron sighted her, too. He received permission from H.M.S. Falmouth, then in the vicinity, to attack, but his depth charges failed to explode, probably owing to the shallowness of the water. /The

- (1) In 09°56'N., 51°03'E.
(2) In 9°35'N, 50°43'E.

End of U.852 (3 May 44) ~~(3 May 44)~~

There was now no sign of life aboard U.852. At 0225 Z hours on 3 May, as Wellington X was flying over the boat at about 900 feet altitude, a violent explosion was seen. The vessel blew up, throwing debris over 1,000 feet into the air: both the stern and the ^{bow} ~~blew~~ were blown off. H.M.S. Falmouth, two miles away at the time, landed an armed party which, assisted by parties from two other ships, took prisoners 42 of the crew, including the Captain and four officers. The remaining seven of the crew had been killed by machine gun fire from the aircraft of Nos. 621 and 8 Squadrons. One Wellington of No. 8 Squadron covered the evacuation of the U-boat crew: ^{another} ~~and other~~ aircraft of the same squadron, arriving too late for action, returned to base. Two other aircraft (1) co-operated in the search for survivors, but made no sightings. In addition to the crew, a considerable amount of equipment of high intelligence value was secured. This included charts, ammunition, torpedoes, cannon, radar gear and a helicopter kite.

Summing up the operations, it is clear that the reinforcement of the station with Wellingtons had been fully justified. Wellingtons in adequate strength could neutralize the effect of large calibre U-boat anti-aircraft fire, although this could, in able hands, be highly dangerous. Provided a crew, even an immature one, conformed to the long-established principle of depth charge dropping attack and was ^{well} ~~was~~ quick enough to anticipate the refinements of German manoeuvre, they could deliver a decisive blow. The fact that the U-boat remained surfaced and was able to proceed for 24 hours after the initial and following attacks brings the problem into the field of debate. One or more following attacks should have inflicted greater damage than was in fact done. It may have resulted from the difference between the drift of the surfaced U-boat (approximately 24 feet), and the depth setting of the depth charges (²⁵ ~~approximately 24~~ feet). It was believed that it was not the first occasion that an accurate depth charge attack had failed to sink a surfaced U-boat, though in the majority of such cases, success had been achieved. The minimum safe height for dropping anti-submarine bombs was 600 feet and therefore subject to inaccuracy. It remained uncertain whether they were applicable either as the sole method or in combination with depth charges.

/There

(1) Aircraft H/No. 244 Squadron and D/No. 621 Squadron.

There was too, ^{another} ~~other~~ problems still unsolved, namely the degree of the effect of the climate (Aden is one of the hottest places in the world) on depth charges and their dropping mechanism and on guns. It was the result that mattered most, whatever the lessons for the future were. Aircraft of British Forces Aden had ensured the safety of all shipping passing through its waters for two more critical months. (1)

/ Air H.Q.

(1) B.F. Aden Nos. 8 and 621 Squadrons O.R.Bs and appendices.

Air H.Q. East Africa

The Watch for German U-Boat Reinforcements (1)

No sooner had precautions lifted in the northern sector of No. 246 Wing and U.852 been trapped off Ras Hayun by Air H.Q. Aden's aircraft, than a new threat developed off the Cape. On 1 May, U.843 was passing Capetown, followed at intervals by U.196, U.181, U.537 and U.198, in that order. On 15 May U.843 was S.E. of Madagascar on its direct route to Penang. U.196 was rounding the Cape, with U.181 not far astern. By the end of the month, U.843 and U.183 were in the Chagos Archipelago area. U.196 was proceeding up the eastern waters off Madagascar en route for her patrol billet off the southern tip of India. U.181 was approaching the southern tip of Madagascar and U.537 was rounding the Cape. There were therefore, at the end of May, five German U-boats at sea in the Indian Ocean, and probably one Japanese. None of these submarines, while in the waters of the East Africa Command, molested any shipping.

None the less, the increasing threat compelled the expenditure of 16 sorties on convoy escort flying, all carried out without incident. Three aircraft of No. 265 Squadron remained on detachment in South Africa, carrying out convoy escort work. Various contacts, some misleading, were made, but no sightings or attacks developed. Aircraft were redispersed. (2)

The weather worsened towards the end of the month. Only three Catalinas arrived as reinforcements.

Anti-submarine

(1) A.H.Q. E. Africa O.R.B. and appendices. B.d.U. war log: R.A.F. in Maritime War Vol.IV. Maps No. 64, 65, and 66. (A.H.B.).

(2) First Dar-es-Salaam and then Mombasa were reinforced. Pamanzi Island was first stripped of aircraft, then reinforced with 5 Catalinas. Tulear, which had had no aircraft since 1 March, was built up on the 31st to 4 Catalinas. For table of dispositions 1 Mar to 31 May refer to Appendix //.

Anti-Submarine Operations in June 1944

No. 222 Group

General Situation

During the greater part of the first week, the German U-boat in the area South of Ceylon lay low. The calm was broken on the 8th. Two transports were engaged with a German U-boat and escaped. There were further engagements with U-boats who showed an unusual coyness in the face of resistance. There was a plethora of reports from all sources and some conflicting (including Maldivian natives) of the presence of U-boats. Four German U-boats were moving across the Indian Ocean, some running the blockade. There was one Japanese for certain. One ship was sunk in the Group's area. (1)

Patrols

The wealth of reports and their varying reliability provided a poor basis for operational planning. Fortunately No. 222 Group, and now its offspring IOGROPS, were busy formulating an improved pattern of patrol, using the available forces more economically in the light of accumulated experience. On 1 May, a sweep known as Operation "Expedition" had been designed to cover the area South of Ceylon between the parallels 0° to 5°N and the meridians 76° to 82°E with six Koggala Catalinas. (2)

Towards the end of May, it was concluded that an area of probability for enemy U-boats could be assumed and a more elaborate patrol pattern - known as Operation "Tortoise" - was justified. The area, which could be fairly accurately defined from day to day, was within range firstly of Diego Garcia (in the Chagos Archipelago) then of Addu Atoll and finally of bases in Ceylon. Diego Garcia played a key role in the design and a senior officer was appointed there to control operations. The force involved was largely one of Catalinas, with a few Liberators co-operating. The tasks for each base are defined in the

/Footnote. (1)

(1) S.S. Helen Moller.

(2) No. 222 Group G.R. Operations Order No. 2 dated 1 May 44 in No. 222 Group O.R.B. May Appendix AB.

Footnote. (1) The sweeps were to last until the end of 8 June. (2) This plan was subject, in the event, to modification.

The Defence Exercise Operation "Blitz". (3)

Across the Bay of Bengal, Japanese naval and air forces presented a continuous threat. Even though they took little or no action, their presence could never be ignored, however reassuring the intelligence forecasts. The Eastern Fleet had now begun to go over to the offensive without provoking any violent reaction. This position did not, however, lull the South-East Asia Command into a false sense of security, and the month of June saw the enactment of an important combined exercise, known as Operation "Blitz".

It began at 1200 IC hours on 14 June and ended 48 hours later. The Naval Force 68 had just returned to Trincomalee on completion of Operation "Counsellor" (4) designed to give the enemy the impression that a British carrier force was about to attack Sabang in the early morning of the 12th, but had cancelled the operation and withdrawn to Ceylon. (5) The intention of Operation "Blitz" was, firstly, to exercise and test the radar cover, air warning system and fighter and gun defences in Ceylon and, secondly, to exercise the torpedo bomber striking force in attacking a Carrier Task Force. Aircraft carriers of the Eastern Fleet operating Barracudas and Corsairs played the role of the enemy carrier task force and Wildcats and Seafires provided fighter protection for the carriers.

/Six

(1) Operation "Tortoise".

Catalina

31 May	3 sorties from Diego Garcia
1 June	3 sorties from Diego Garcia
2 June	will be devoted to servicing aircraft
3 June	3 sorties from Diego Garcia
4 June	3 sorties from Diego Garcia or Addu Atoll
5 June	3 sorties from Koggala or Addu Atoll, provided the aircraft at Addu Atoll have not flown on 4 June
	3 transit sorties from Diego Garcia to Koggala, sweeping en route.
6 June	3 sorties from Koggala
	3 transit sorties from Diego Garcia to Koggala, sweeping en route.
7 June	3 sorties from Koggala
8 June	3 sorties from Koggala .

(2) For full details refer to No. 222 Group O.R.B. June Appendix T.

(3) No. 222 Group O.R.B. June Appendix D.

(4) C.B. 3303(4) p.213 .

(5) No enemy reactions were detected and no enemy aircraft sighted.

Six squadrons were allocated by No. 222 Group for the defence exercise, (1) all of them already existing in Ceylon. (2) The exercise passed off without unfavourable comment and with only one aircraft casualty.

Defence Plan Operation "Highball" (3)

A plan to locate and destroy any enemy surface forces which might attempt operations against Allied bases, ports or sea communications on the East Coast of India and the island of Ceylon matured in June. It involved a Strategic Air Force striking force and reconnaissance and strike air units from Nos. 222 and 225 Groups. Two airfields in Ceylon were to house two Liberator squadrons from India and advanced airfields in India were earmarked for squadrons of Wellingtons, Liberators and Mitchells, all of the Strategic Air Force.

Escort Aircraft diverted to distressed Ship (8 June 44)

After a busy week escorting and following up slight indications of a U-boat in the Maldives area, definite warning was given on the 8th, when an SSSS was received at 1445 FG hours from S.S. Carola in a position about 400 miles N.N.E. of Diego Garcia. The ship, bound for Fremantle from Colombo, reported sighting a submarine. Immediately, a Catalina which was escorting the troopship S.S. Pulaski some 300 miles North was diverted to the scene. At 1649 FG hours, another SSSS was received, this time from S.S. Peter Silvester, ~~also~~ bound for Colombo from Fremantle. She had fought a gun battle with the surfaced submarine, clearly the same boat.

Error of 8° Latitude in Position reported by Ship under Attack (8 June 44)

S.S. Peter Silvester reported her position as on 10°20' South latitude, whereas the true position was, in fact, the one estimated by air track plot as 02°05' South. It would be revealing if the reason for the gross error of upwards

/of

(1) No. 222 Group Operational Instruction Blitz 10 June 44 in No. 222 Group O.R.B. June Appendix D.

(2) Unit	I.E. Number and Type of Aircraft	Location
No. 17 Sqn.	16 Spitfires VIII	Minneriya
No. 135 Sqn.	16 Thunderbats I	Minneriya
No. 89 Sqn.	14 Beaufighters Mk.IV	Minneriya
No. 273 Sqn.	16 Spitfires VIII	Ratmalana
No. 22 Sqn.	8 Beaufighter Torpedo Bombers	Ratmalana
	8 Beaufort Torpedo Bombers	Ratmalana
No. 217 Sqn.	16 Beaufort Torpedo Bombers	Ratmalana

(3) No. 222 Group O.R.B. June Appendix U.

of 500 miles could be found. Probably if the average strength of the radio staff on the average transport were established, it would be found to be entirely inadequate for the security of the ship and efficient communications with the air and naval bases concerned in the protection of Allied sea transport. If, on account of the manpower shortage, some ships only carried one radio operator, there must clearly have been periods during which he slept. It needs three watches to cover a long voyage. Such problems in detail lie beyond the scope of this narrative, but when such an error as above reported occurs after a series of tragic sinkings without the despatch of distress signals, they clearly must be taken into account in any final assessment of the subject of Indian Ocean sea communications in the Second World War.

Air Sweeps (9 - 10 June 44)

The Catalina diverted to the area saw no sign of the submarine and two Liberators searched without success during the night. On the 9th, three Catalinas were despatched to Addu Atoll base to meet the threat. On the 10th, they carried out a parallel sweep East of the Maldives (one returned early with engine trouble). During the day, both the ships who had sent distress signals reported that they were safe and proceeding on their course. A Catalina of No. 205 Squadron continued escort to the troopship S.S. Pulaski and another aircraft carried out a sweep from Diego Garcia to Koggala. On the 11th, the same route was swept, also without any sightings.

Air Rescue of Survivors of S.S. Helen Moller (1)

At 1823 hours on 5 June 44, S.S. Helen Moller, ⁽²⁾ proceeding independently from Colombo to Fremantle, was torpedoed and sunk in the position 4°28'S., 74°45'E. ⁽³⁾ It was not until S.S. Empire Confidence landed 43 survivors at Colombo in the early afternoon of the 11th, nearly six days later, that firm evidence of a German U-boat in the area South of Addu Atoll was provided. The four Catalinas in the air and a fifth flying from Kelai Island to Diego Garcia kept a good look-out. A fifth Catalina ⁽⁴⁾ found 26 other survivors about 90 miles from Addu. ^{was waterborne} He landed at last light there and re-located the lifeboat and eventually homed H.M.S. Okapi, (steaming some 60 miles to eastward), to the survivors.

/Constant

(1) No. 222 Group O.R.B. June Appendix V; Commander Rowbotham Admiralty Hist. Sec. letter 19 Aug.58.

(2) 5,239 G.R.T.

(3) NOIC Addu Atoll says 4°18'S., 74°30'E.

(4) C/No.413 Squadron.

Constant Catalina sweeps from island bases

From 13 to 30 June, Catalinas based on Diego Garcia, Addu Atoll and Ceylon intensified the pattern of escorts and sweeps with the object of keeping down the submarines, one of which still lurked in the Maldives area. On the 13th, Catalinas continued to cover Australia - Ceylon shipping, routed along longitude $74^{\circ}30'E$. Three aircraft from Diego Garcia flew a parallel track sweep from 5° South to 3° North, aided by another Catalina. On the 14th, two flying boats from Addu Atoll swept the shipping route and two searched the $1\frac{1}{2}^{\circ}$ Channel, a favourite area for lurking U-boats. As the days passed, the area of sweeps was elaborated to include 03° 'N to $07^{\circ}20'S$ outh, 20 miles either side of longitude $74^{\circ}30'E$ and East of the Maldives. (1)

A report from the Liberty Ship S.S. Frank Cooper on the 16th that she had fired on a submarine was investigated without result. The vessel proceeded on her course to Laurence Marques unharmed. Day after day, air sweeps were varied and extended. They continued to cover the longitude of $74^{\circ}30'E$, from 3° North to 1° South, from 2° to 8° South East of the Maldives, $3^{\circ}40'$ South to $5^{\circ}20'$ North, from the Maldives to Koggala, as far as 92° East, S.E. of Ceylon, between $78^{\circ}30'$ and $79^{\circ}30'$ from 6° North to 2° South, N.E. of Diego Garcia, and from Addu to Colombo. (2)

Another report of a submarine came in on the 23rd, when S.S. Ida M. Tarbell reported firing on a submarine in $5^{\circ}45'S$, $74^{\circ}23'E$. A Diego Garcia Catalina arrived on the scene and exchanged signals, but nothing further transpired. Constant sweeps by Liberators, Catalinas and Sunderlands failed to locate the submarine, if such it was. (3)

Catalina fuel shortage remedied by destroyers (28-29 June 44)

The programme of constant sweeps and patrols by aircraft from island bases was rudely interrupted on 28 June, when rust content in the petrol stores at Diego Garcia prevented the Catalinas from flying. Two of H.M. Destroyers left Addu Atoll once with fuel for the grounded aircraft and Sunderlands promptly left Koggala for Diego Garcia. Owing to lack of fuel at Diego Garcia, there was little flying on the 29th, apart from air escort to a convoy and a night patrol S.W. of Galle (Ceylon).

/ Aircraft

- (1) No.222 Group O.R.B. June Appendix V.
- (2) Ibid.
- (3) Ibid.

Aircraft of No. 222 Group flew 1986 sorties on general reconnaissances during June and escorted 19 Forces and convoys. Twenty-six survivors were rescued with their assistance.

The Loss of S.S. Nellore

Unknown to the air and naval headquarters, another ship was sunk in June. This was S.S. Nellore, (1) sunk in 7°51'S, 75°20'E on the 29th. Nothing was known of the affair until 4 July, when aircraft of No. 222 Group located survivors. As the air operations involved come under July operations, the full account of the air rescues will be given in the next sub-section of this narrative.

No. 225 Group

Effect of Reduction in Convoys and Submarine Threat on Air Effort

Owing to the reduction in the number of convoys to 34 and the almost complete absence of a U-boat threat in the Group area, the number of hours flown on convoy cover and anti-submarine patrols reached a new low level of 827 hours. Independent sailings remained about the same - 423 as compared with 446 for May. Only two rather dubious sightings were reported. The more likely of the two, reported on 25 June by S.S. Clan Maciuraith in driving rain and cloudy weather, was investigated by three Wellingtons and two Catalinas without result. The position (9°35'N, 75°50'E) was nowhere near that of the sinking of S.S. Nellore four days later.

There was only one convoy not met by aircraft detailed as cover, and this was the result of bad weather, which forced the aircraft (B/No.240 Squadron) to return to base. If the procedure of searching to 30 miles ahead of the estimated position of the convoy had been fully carried out, it was thought possible that the convoy might have been sighted while the fair weather held. In July, the distance ahead of the estimated convoy position was increased to 50 miles for search. A feature of the month was the considerable number of detachments of aircraft to ~~the areas of No. 222 Group~~ the areas of No. 222 Group (Sigiriya and Koggala) and of Aden (Aden and Socotra). The total number of hours flown by No. 225 Group's aircraft during June, including the 598 hours flown by its detachments outside, reached the total of 1823 hours.

/Air H.Q. Aden

(1) 6,942 G.R.T.

SECRET

126

Air H.Q. Aden

Anti-Submarine Counter-Measures and Escort (1)

June was uneventful. No enemy submarines operated in Aden's waters. There was a state of alert, marked by intensive air sweeps, during the early part of the month. This was partially relaxed when it was realised that three German U-boats, which had rounded the Cape, were heading eastwards across the Indian Ocean. A total of 96 anti-submarine sweeps were flown (20 more than in May) while the number of hours flown on sweeps during June was 688 hours 20 minutes, the highest since January. Sweeps by Catalinas increased, an index of the pressing need in the Command for long range aircraft. Wellingtons carried heavier armament and had proved their merits in bringing U.852 to bay in May, but the area of Aden's responsibility comprised an immense area of water.

Sixty sorties were flown on convoy escort (as against 38 in May).⁽²⁾ This work was heaviest towards the middle of the month; and although the total number of convoys passing through was only five, they were large ones, totalling 107 ships in all. There were 186 merchant vessels and 3 H.M. Ships sailing independently. A grand total of 296 ships aggregating 2,142,000 tons sailed through the Command without incident, thanks largely to the successful efforts of Nos. 8 and 621 Squadrons in early May.

Institution of the Gulf of Aden Central (G.A.C.) Shipping Lane and constant Patrols from Addu and Diego Garcia (14 June 44)

As a result of joint air/naval consultations, it was decided that, in order to afford better protection to shipping in the Gulf of Aden, a G.A.C.

/(Gulf)

(1) Aden O.R.B. June 44 Appendix E.94

(2) June 1944 Air Effort, Aden .

Type of Sortie	No. of Sorties	Flying Hours	
		Hrs.	Ms.
Escort (Defensive)	73	618	10
Anti-Submarine Sweeps (Offensive)	96	688	20
Submarine Hunts (Offensive)	0	0	0
Totals	169	1306	30

SECRET

(Gulf of Aden Central) Lane should be instituted as an improvement on the G.A.S. (Gulf of Aden South) and G.A.N. (Gulf of Aden North) Lanes. The G.A.C. Lane was to run from the end of the Aden Swept Channel in a direction 090° to 48° East and from thence to a position 14°50'N, 55°E. Ships from Kilindini were to join or leave this lane at 50°30'E. All East-bound shipping was to keep to the North, and all West-bound shipping to the South, of this line.

Another forward step affecting the security of shipping using Aden's waters was to route all ships sailing to and from Ceylon, Cochin or Australia along 74°30'E, between 5°N and 5°S, this line to be constantly patrolled by aircraft under No. 222 Group based on Addu Atoll and Diego Garcia. (1) These patrols have been already noted above under the record of No. 222 Group's June operations.

Experimental Use of Liberator Aircraft in Aden Command (2)

In March 1944, at a conference in Cairo, the A.O.C. No. 222 Group had informed the A.O.C. British Forces Aden that squadrons in the Aden Command were to be shortly re-armed with Liberators and asked that airfield runways of sufficient length should be prepared. The suggested ideal length was 3000 yards. (3)

By the beginning of June, no progress had yet been made in the actual operational use of Liberators. The three Wellington squadrons were improving their experience and equipment. On 10 June, two officers began a visit to North East African advanced operational stations to investigate the possibility of basing Liberator aircraft in North East Africa, with special reference to Socotra. On 13 June, one of the two Liberators available (on detachment from No. 222 Group) carried out an anti-submarine sweep East of Socotra. This was repeated on the 16th, 18th, 20th and 25th, with the patrol area extended as far as Masirah on one occasion. Approval was given by H.Q. R.A.F., Middle East (subject to Air Ministry concurrence) for 3,000 yard runways wherever possible for eight airfields in Aden Command (4)

After several trials with the Liberator detachment, the organization thus agreed upon had to be radically altered. The two main reasons for the change

/were

(1) Eastern Fleet war diary (Admty. Hist. Sec. TSD/4454/1944: Aden and NO. 222 Group O.R.Bs.

(2) Aden O.R.B. June 44.

(3) Report Aden/5510/99/Org. 14 Oct. 44 (A.H.B. IIJ1/90/192(B) Encl. 79a).

(4) Khormaksar, Socotra, Masirah, Scuisiuban, Bender Alula, Riyan, Salalah and Bender Cassim.

were firstly, that the natural surfaces at Socotra and Souisouban were so bad that not more than 15 landings could be made by Liberators: secondly, that despite the advantageous strategical position of Socotra Island, the airfield there had the further disadvantage that a 1,300 feet massif constituted a dangerous obstacle for Liberators operating during the South-West Monsoon (May to August/September). Socotra, therefore, would be improved, but only for use as an advanced emergency base. Souisouban was to be developed as a station base, but before it could be so used, permanent surfaced runways would have to be constructed, a task estimated to take 9-12 months. (1)

Air H.Q. East Africa

Air Operations in a Month of uneasy lull (2)

It was not until late in June that it became apparent that German U-boat reinforcements intended to operate in the waters South of Ceylon. An alert persisted while they moved across the waters controlled by East Africa. There were only two firm indications of their progress, viz on 12 and 13 June in the area 15°S, 51°E (East of N.E. Madagascar).

In the first half of the month, a naval appreciation indicated the possibility of three German U-boats moving northwards through the Mozambique Channel; it was decided to give anti-submarine protection to two northbound and two southbound convoys, comprising important ships. These tasks were carried out successfully, on the whole, by No. 209, 259 and 265 Squadrons. Some of the flights were long, up to 18 hours in duration. Three cases of engine trouble emphasised the increasing age of some of the aircraft. The fixes on German units on the 12th and 13th were followed up by searches by four Catalinas on the 14th and 15th, which ^{proved} provided fruitless. On the latter day, two more Catalinas assisted with parallel track sweeps. The effort tailed off as the latter half of the month passed and the area was left apparently quiet. U.198 was, however, still lurking between Reunion and Mauritius when the month closed and U.859 was moving northwards off Port Elizabeth, with orders to operate in the Gulf of Aden.

The

- (1) Report Aden/5510/99/Org. 14 Oct.44. (A.H.B. II J.1/90/193(B) Encl. 79A.
- (2) E. Africa O.R.B. appendices June 44 E/INT/5 and 6.

The Loss of a Dutch Tanker (19 June 44)

Unknown to the air authorities, the Dutch tanker Garoet was torpedoed and sunk just within the waters controlled by Air H.Q. East Africa (1) in the position 12°30'S, 64°E approximately. She was bound from Mombasa (2) to Durban. It was not until 30 June that the first survivors were picked up. (3) The report of air rescue will be found in the record of July operations.

/ Anti-submarine

-
- (1) In June 44 these extended to 65°E.
 - (2) West coast of India.
 - (3) Her tonnage was 7188 G.R.T.

SECRET

Anti-Submarine Operations in July 1944

(1)

No. 222 Group

Enemy Submarine Dispositions in the Indian Ocean

122
129 A

The enemy background of movement in this month was on the following broad lines. When July opened, U.196 was patrolling in the area between the Laccadives and the southern tip of India, i.e. on the borderline between No. 225 and 222 Groups. U.181 was patrolling off the Maldives. U.537 had nearly finished ^{her} its trans-oceanic voyage to Penang and was passing just South of Ceylon. U.198 was East of Mauritius. U.859 had rounded the Cape and was passing up off Port Elizabeth on the way to her billet off Socotra.

At the end of the month, U.181 had left the Laccadives for Socotra, where she was joined by U.859. U.196 was still in the Maldives area. U.198 had sailed south towards South Africa, but was now returning towards the Mozambique Channel. U.1062 was passing South of Mauritius on a transport run to Germany. Two Japanese were lurking in the Maldives area.

The general position was that there were three active German U-boats and two Japanese to contend with during July.

Acceleration of the Enemy Offensive

In spite of Allied air vigilance, surface escort, submarine operations and counter-attacks by merchant ship gunners, the enemy was clearly determined to do everything possible to hinder the build-up in South East Asia Command. In this purpose he was partially successful in that he sank five Allied merchant ships (2) (four British and one American). One Japanese submarine (3) was sunk in the Malacca Straits. Details of these operations are related below.

The enemy was sometimes reckless. One U-boat broke wireless silence for 7 hours, so giving away his position. There were more sightings than usual of surfaced submarines and several abortive attacks on them. The Japanese seemed to relish counter-attacks by ship's gunners even less than ever, but continued their practice of machine-gunning helpless men in boats and rafts. Independent ships on lonely reaches of the sea remote from air cover were still the favourite targets and the localities of the sinkings were well chosen. But there is no doubt that the improved pattern of air patrol and the growth in the strength of naval escort

-
- (1) Details of operations from No. 22 Group O.R.B. July 44 Appx. O.
(2) U.S. S.S. Jean Nicolet: S.S. Shahada, S.S. Director, S.S. Tanda and S.S. King Frederick. Their total tonnage was 30,176 G.R.T.
(3) I.166.

SECRET

/ craft

SECRET

~~123~~
129B

craft kept the enemy down and prevented much more disastrous losses than actually occurred. Both Germans and Japanese were taking greater risks than before and staying at sea to the very limit of their endurance before returning to Penang. Meanwhile, in Germany, it was being realised that a turning point in the submarine war had been reached. The losses inflicted had been overtaken by Allied construction. But in the Indian Ocean, there was no relaxation of vigilance by air and naval forces, for in addition to their merchant charges, they now had to cover the new naval forces in the execution of their offensive sorties against the Japanese Outer Zone.

/The

SECRET

124
129c

The long Search for Survivors of S.S. Nellore and S.S. Jean Nicolet

Unknown to the air and naval headquarters, S.S. Nellore, the old P and O liner, had been sunk on 29 June by a Japanese submarine in mid-ocean while bound for Fremantle from Bombay. Her survivors drifted along in boats in the Chagos Archipelago. At 2015 FG hours on 2 July, an SSSS was received from the 7176 ton American S.S. Jean Nicolet, bound for Colombo from Fremantle. She had been torpedoed by a Japanese submarine in a position about 190 miles S.S.E. of Addu Atoll. (1)

It will be recalled that when June closed the main submarine threat was in the Maldives area, with minor threats of West India and Ceylon. A Catalina (2) detached from Koggala to Addu Atoll was, therefore, patrolling the shipping route East of the Maldives when the appeal arrived and was diverted to the area to locate the ship. At 2340 FG hours, a D/F fix was obtained on a Japanese submarine in the area. This came as a surprise to Allied Intelligence, but was confirmed early on the 3rd when Catalina Z/No. 413 Squadron, which was at the extreme northern end of its patrol, reported being over a blazing ship close to the first reported position. Just before dawn, the same aircraft reported a probable U-boat in the vicinity and at 0844 FG hours, reported 15 survivors in the water, and clinging to wreckage, ~~from the sunken vessel.~~

(3)
On receipt of the news of the attack, three Catalinas were airborne from Diego Garcia on a parallel track sweep. ~~On news of survivors arriving, one of~~ ^{another} them was successful in locating survivors and ~~one~~ reported what appeared to be a U-boat from 10 miles South of the sinking. While the search was expanded, two Catalinas from Koggala were airborne at midday. They dropped Thornaby bags and proceeded to hunt the U-boat. At midnight, three Liberators from Sigiriya took over for the night and landed at Gan (Addu Atoll). While all this was proceeding, Catalinas swept the shipping route East of the Maldives and escorted the R.A.F. Auxiliary Shenking which was crossing the danger area carrying fuel for the Catalinas at Diego Garcia. East coast troop and freight convoys were also escorted.

-
- (1) 3° 28' S., 74° 30' E.
 - (2) Of No. 240 Squadron.
 - (3) Of No. 413 Squadron.

/ During

During the night, another lifeboat was sighted by an aircraft from Diego Garcia some 150 miles south of the position where S.S. Joan Nicolet was sunk. This was followed up by another aircraft from the same base and confirmed as containing survivors from S.S. Nellora.⁽¹⁾ A Catalina of No. 413 Squadron guided H.M.S. Hama to the 23 survivors of S.S. Joan Nicolet, who reported an attack by a large Japanese U-boat with twin 4 inch guns which they used to shell the boats. Aircraft reported upwards of one hundred other shipwrecked sailors in the Chagos area.

Semaphore flags were dropped by aircraft to the men from S.S. Nellora on the 4th. At the end of the day, some 140 survivors of the Nellora's full complement of 341 had been contacted. R.A.F.A. Shenking arrived safely at Diego Garcia. Two Catalinas from Diego Garcia stayed over the boats until the 6th, when they guided H.M.S. Lossie to the rescue of 106 survivors. On the 7th, a Catalina from Diego Garcia searched the atolls, but found nothing. Catalinas directed H.M.S. Lossie to the boats on the 8th and 9th, by which time the total rescued from S.S. Nellora had reached 147. A Sunderland of No. 230 Squadron ferried 105 of them from Diego Garcia, where food supplies were running low, to Addu Atoll, where after a meal, they were put on board two waiting ships.

The long search for the crew of S.S. Nellora went on. H.M.S. Lossie reported possible human beings on one of the many small atolls. She could not pass the dangerous coral reefs, but Catalinas did and on the 11th found another 50 in a boat. Bad weather sometimes forced them back to base. It was not until the end of the 16th that the air search was abandoned. Since the sighting of the first lifeboat on 4 July by aircraft O/No. 205 Squadron, thirty-four long sorties had been flown. Aircraft of No. 222 Group and H.M.S. Lossie between them had rescued 234 valuable lives from S.S. Nellora but 107 more were never found.⁽²⁾

In the course of these proceedings and other escort tasks and submarine searches, news came late on the 15th of the sinking of yet another ship - S.S. Tanda - in No. 225 Group's area. The air operations following thereon involved the immediate pooling of the available resources of Nos. 222 and 225 Groups. The account of them will be found under the heading 'No. 225 Group'.

/Submarine

- (1) 6,942 C.R.T.
- (2) All details from No. 222 Group C.R.B. appendices.

126
129 E

Submarine Hunts

Anti-submarine sweeps began with the first day of the month S.W. of Ceylon and E. of the Maldives and, as the days passed, were extended to various areas S. of Ceylon and S.W. of India. The sinkings of S.S. Jean Nicolet and Tanda led to immediate concentrations in the specific areas, but in spite of several contacts no chance of a strike occurred.

Just before last light on the 8th, the destroyer H.M.S. Racehorse reported sighting a surfaced U-boat about 21 miles S. of Galle. It dived and the destroyer attacked with depth charges which brought some oil to the surface. Three Liberators, five Catalinas and six H.M. Ships continued a combined search all the 9th. Another U-boat, either the Japanese that sank S.S. Jean Nicolet or the German lurking in the area, was sighted by a tanker on the 9th, but she was lost by searching aircraft. The U-boat attacked by H.M.S. Racehorse was hunted for 60 hours continuously from the night of 10/11 July by five Liberators co-operating with surface vessels, but it was ^{then} concluded that the enemy had either escaped to the S.E. or was hugging the East coast of Ceylon.

On the night 12/13 July, a German U-boat broke radio silence and transmitted on various frequencies for a period of 7 hours. A good fix was obtained and her position estimated to be within 100 miles of 06° 30'N, 78°E. (the southern tip of Ceylon). But by the time the Group's commitments allowed of the collection of 6 Catalinas and 1 Sunderland in the area, too many hours had elapsed for a reasonable chance of success. Even though five Liberators searched during the night of 13/14 July, five Koggala Catalinas from dawn on the 14th and five Sigiriya Liberators during the 15th, nothing was sighted. The U-boat was certainly exercising extreme caution.

On the 21st, two Sunderlands and a Catalina from Koggala extended a sweep off the southern tip of India on to the Nine Degree Channel, ⁽¹⁾ because of an unusual number of independent ships in the area and the possible presence of the submarine that sank S.S. Tanda. During the same day, Catalinas escorted K.R.11 (an important troop convoy bound to Colombo from East Africa) and saw her safely into Colombo at first light on the 22nd. This was a day typical in its variety. A convoy (RK 4) bound for East Africa, the repair ship Artifex and the Eastern Fleet departing on its attack against Sabang were all escorted. On the 27th, two Liberators carried out sweeps ahead of the Fleet returning from Sabang and closely escorted it as far as Trincomalee. The days that followed were usually crowded with similar engagements ⁽²⁾

(1) Refer to Figure

(2) Operational details from No. 222 Group O.R.B. appendices.

127
129F

The Loss of S.S. King Frederick in the 9° Channel (19 July 44)

The British S.S. King Frederick (1) left Aden for Calcutta on 10 July with a cargo of salt and U.S. mail. While sailing independently at dusk on the 19th, she was torpedoed in the 9 Degree Channel, S.W. of India. (2) The first torpedo, which appeared to approach in a curve, struck No. 2 hold on the starboard side. A second torpedo smashed the radio instruments so that no S.O.S. could be sent. The third torpedo struck the boiler room and the ship sank. The German U-boat came alongside one of the rafts and, after asking in English for the name, tonnage, cargo, loading port and destination sailed off in a westerly direction. After 8 days in the lifeboats, the 23 survivors were picked up by S.S. Shanabe and landed at Aden. There were 25 missing. The survivors were somewhat hazy as to details of the U-boat. Even the date of sinking is in dispute, some records giving it as 19 and others as 20 July.

A Record in General Reconnaissance Flying Hours

The steep increase in enemy submarine activity called forth a new record height in the operational hours flown in No. 222's command. As will be seen in the Indian Ocean totals given at Appendix 12 to this volume, no less than 2,089.19 hours were flown on anti-submarine sweeps and patrols, 679.19 on convoy escort, 522.10 on air sea rescue and 88.45 hours on photographic reconnaissance.

It is not intended to analyse the appendix at this point, but there are a few features in this busy month which are interesting in that they typify the climate and evolution of maritime operations. Thus, it will be noticed that No. 222 Group used detachments of five squadrons from No. 225 Group but only lent the latter one. The presence of Fleet Air Arm Avengers was a sign of the times: another photographic reconnaissance was linked with the growing offensive by surface vessel and carrier operations against Japanese installations in the Outer Zone.

The total of 3397.33 hours flown on all tasks exceeded easily the 1972 hours of No. 225 Group, the 1,113.24 of East Africa, the 753 hours of Aden and the 614.43 of the Coastal Area, South Africa.

(1) 5,265 G.R.T.
(2) 9° 29'N., 71° 45'E.

+28
1296

The pattern of shipping and naval movements is clearly indicated when the totals of forces and convoys escorted is examined. In this field No. 225 Group led ~~the field~~ with 46 charges, followed by No. 222 Group with 40, Aden with 32, East Africa with 13 and South Africa with 11.

Allied naval Developments

During June, a British anti-submarine escort carrier force had begun operating in the Maldives area. Though the Admiralty had recommended the employment of these escort carrier groups as convoy escorts, Admiral Somerville employed the group as an anti-submarine hunting force. The only success of this force occurred in August. (1) Its operations in co-operation with No. 246 Wing will be found under August operations and, later, an assessment of their general value in the exercise of sea power based on operations over several months of 1944. (2)

The convoy system had been relaxed, but this was found to be unwise and, on 16 July, it was tightened again in response to the U-boat threat off western India and routing off India was simplified to allow more comprehensive aircraft lane patrols. (3)

On 11 July, in view of the more favourable situation in South African waters, convoys between Capetown and Durban were suspended ~~periodically~~ and independent sailings resumed from Durban to all destinations. On 21 July, however, after the loss of S.S. Director on the 14th had confirmed the presence of a U-boat in the vicinity of the Mozambique Channel, the C.-in-C. South Atlantic ordered Durban northward and west-bound convoys to be resumed. On 1 August, convoys between Capetown and Durban were re-started, but it was possible to discontinue Durban - Kilindini convoys.

The destruction of I.166 by H.M. Submarine Telemachus (17 July 44)

The 1635 ton submarine I.166, based on Penang, was known to have operated in the Indian Ocean since February. It was identified as early as April 1942 as part of the 30th Submarine Group placed under command of the striking force known as the 2nd Southern Expeditionary Fleet, part of the newly-formed South-West Area Command. (4)

-
- (1) U.198 was sunk.
 - (2) Admiralty C.B.3303(4) pp. 196-197.
 - (3) Eastern Fleet war diary (Admlty. T.S.D./4454/1944.
 - (4) Admiralty C.B.3303(3) p. 24 and C.B. 3303(4) p. 188.

/ Between

Between January and September 1944, the strength of the Eastern Fleet submarine flotillas based in Trincomalee grew from five submarines to nineteen. The density of the submarine patrols in the Malacca Strait was progressively increased, and as more submarines became available, patrols were extended to the north and west coasts of Sumatra and to the shipping routes along the west coasts of Siam and Burma as far north as the Mergui Archipelago. Patrols were maintained in the approaches to Penang and off One Fathom Bank in the Malacca Strait to intercept German and Japanese submarines using the Penang base. There was a considerable number of contacts with U-boats, but only a small proportion of torpedo attacks was successful. The standard of look-out kept in the U-boats was undoubtedly good and generally enabled tracks to be sighted in time for avoiding action to be taken in the flat, calm sea that frequently prevailed in the patrol areas. One of the three successful attacks made was that of H.M. Submarine Telemachus on her maiden patrol.

On 17 July, the twelfth day out, at 0708 PG hours Telemachus sighted the enemy in the position 056° One Fathom Bank 7 miles, speed 18 knots and, 12 minutes later, fired six individually aimed torpedoes at 2,000 yards. One hit, the explosion was heard and the Japanese disappeared. On the night 19/20 July, the Telemachus was hunted by three anti-submarine vessels, one of which was fitted with Asdic apparatus, and, later, by a torpedo boat or destroyer. Five depth charges were dropped over her, causing minor damage. At 0930 hours on the 20th, the hunt ended and the Telemachus continued on her course.

(1)

/No. 225

(1) Admiralty C.B. 3306(3) pp. 49 and 56.

No. 225 Group

Heavy Increase in Flying Hours. (1)

The total of 1972 flying hours achieved by the Group in July, represented an increase of 60 per cent over June. Only 798 hours were flown on escorting 46 convoys and forces, owing to the temporary raising of convoy restrictions in the first half of the month. The great increase in total hours flown was explained partially by a few air sea rescue flights, but principally by a hunt to exhaustion for the submarine which sank S.S. Tanda, a hunt broken by bad weather.

Rescue of Survivors of S.S. Shahzada (2)

On 19th July at 1700 Z hours, in the position 15°18'N, 65°34'E in the Arabian Sea, 300 miles N.W. of the Laccadive Islands, S.S. Shahzada, bound from Marmagoea for Suez, suffered an internal explosion and sank half-an-hour later. No torpedo tracks were seen, but there seems little doubt that it was U.181 that was responsible. (3) The first news of the sinking was the arrival off Bombay on the morning of the 18th of a lifeboat containing 15 survivors. On the 19th, a second lifeboat with 21 survivors reached Talpon in Portuguese territory.

Seven sorties, covering some 20,000 square miles of sea, were flown by Wellingtons and Catalinas of the Group from the 19th to the 20th in an endeavour to locate the third lifeboat. (4) Nothing was found, but on the 22nd, S.S. Megna arrived in Aden with 8 survivors picked up on the 11th. This accounted for a total of 44 out of a crew of 86.

The persistence of Liberators of No. 354 Squadron and a Warwick of No. 292 Squadron, with assistance by the Strategic Air Force, led to the rescue over the end of the month of one of the Group's air sea rescue launches which had broken down and was drifting between Vizagapatam and Calcutta in a strong wind and heavy sea. Bircham barrels containing supplies were dropped to keep the men alive, while in the face of very bad weather, Liberators set out and guided to the scene an escort vessel who took the launch in tow.

/The Sinking

-
- (1) See Appendix 12.
 - (2) 5,146 G.R.T.
 - (3) No confirmation from B.d.U. war log.
 - (4) The fourth overturned on launching.

The Sinking of S.S. Tanda and the Hunt to Exhaustion (15-19 July 44)

On 15 July, the British S.S. Tanda (1) bound from Colombo was torpedoed by U.181 and sunk at 1418 Z hours in a position 345 miles South of Bombay. (2) News of the sinking reached H.Q. No. 225 Group by telephone at 2345 Z hours and two Wellingtons were detailed to carry out searches for the U-boat and a third to co-operate in picking up survivors.

Wellington D/No. 203 Squadron (Santa Cruz) searching to seawards of the shipping lane, on the theory that the U-boat would close the shipping at dusk in search of further targets, sighted, at 1235 Z hours on the 16th, what were at first believed to be two lifeboats five miles away. One minute later, the objects were identified as a half-submerged, almost stationary U-boat with the conning tower and bows still visible. As the aircraft ran in to attack, the U-boat turned sharply to starboard and dived, disappearing completely while the aircraft was still one-half a mile away. At 1237½ hours, the aircraft attacked (one quarter of a minute after the U-boat had disappeared) in the position 13°49'N, 73°42'E. Five depth charges spaced at 60 feet (one depth charge hung up) were dropped along the U-boat's track, at a speed of 150 knots and from a height of 300 feet. The first depth charge exploded 150-200 feet ahead of the swirl. All the depth charges probably overshot. Immediate investigation by the aircraft showed nothing unusual, ^{but} ~~at the time~~, ^{had} the U-boat ^{but} received a shaking-up. Three hundred rounds were fired by the rear gunner along the centre of the swirl, ^{but} ~~it is unlikely that any~~ ^{serious} damage was caused ^{in U.181}, ^{but she made Penang on 8 August.} (3)

A hunt to exhaustion was instituted immediately and continued for almost 60 hours until near dawn on the 19th. The Indian sloops H.M.I.S. Sutlej and Godavari co-operated in the search from dawn and last light respectively on the 17th. One aircraft obtained a possible contact on the 16th. H.M.I.S. Sutlej attacked a contact on the 17th, after which five distinct patches of oil were seen. She lost the contact, regained it one-half an hour later in 12°40'N, 73°49'E and carried out another attack. The high degree of probability of these contacts prompted the removal of the datum of the hunt to a point midway between the two positions of H.M.I.S. Sutlej's attacks and the original position of aircraft D/No. 203 Squadron's contact of the 16th. The last incident

/of

(1) 7,174 G.R.T.

(2) 13°27'N, 74°03'E.

(3) B.d.U. was log 8 and 14 Aug. 44.

SECRET

the hunt was the sighting by Catalina D/No. 212 Squadron (1) of a raft with one survivor, for whom the Captain dropped supplies and distress flares. H.M.I.S. Godavari arrived at the position shortly before dawn on the 18th and picked him up.

This hunt, which involved transit flights of more than 200 miles from Cochin and nearly 400 miles from Bombay and Madras, stressed the need ^{under a serious U-boat threat} for more air bases on the West coast of India and the further development of Cochin base. Plans for the late afternoon and night of the 18th were ^{ruined} ~~ruined~~ by ~~the~~ worsening ~~of the~~ monsoon conditions, which made it dangerous to continue operating Liberators from St. Thomas Mount (Madras). Strong gusty winds upset the timing on the long transit flights, produced serious gaps in the continuity of the searches, led to wastage of effort and handicapped co-ordination of the hunt.

Air H.Q. Aden

A quiet month in Aden's Waters (2)

The lull in U-boat activity in June continued until the last week in July. This was the third month without shipping losses in the command area. Altogether 296 ships passed safely through its waters. Fifty-eight sorties were flown on convoy escorts as against ^{seventy-three} ~~73~~ in June. One major Allied naval unit was escorted through the area. The absence of a submarine threat over most of the month was reflected in the considerable reduction in operational sorties. (3)

During the close of the month, two German U-boats converged on the Socotra area, viz. U.181 from her billet off the Maldives and U.859, who had come round the Cape and up the coast of East Africa. On 26 July, the periscope of one of them was reported by S.S. Benjamin D. Wilson in a position about 36 miles S.E. of Aden: although five aircraft swept the area, nothing was seen. On 29 July, S.S. Benjamin Lundy reported sighting a submarine S.E. of the Kuria Muria Islands. (4) (3) Fifteen sorties were flown, but nothing ^{was} found. On the evening of the 30th, the Master of S.S. William Hume reported sighting a surfaced submarine 2 miles off in the vicinity ~~of~~ S.E. of Aden. The submarine did not attack. Numerous ships /passed

-
- (1) From Karachi.
 - (2) Details from Aden O.R.B. July 44 Appendix E.96. Also refer to Appendix 12 of this volume.
 - (3) Refer to Appendix 12 for statistics.
 - (4) A British group off the coast of Oman.

SECRET

passed safely through these areas and the reason for the absence of attacks are not altogether clear. It can be assumed that the Commander of U.859 was trying out his newly-fitted Schnorchel in the Arabian Sea with considerable circumspection. There were too many aircraft ^{about} for tactical errors to be made with impunity.

Air H.Q. East AfricaAdverse Effect of Malaria on Flying Boat Operations. (1)

Enemy submarines, cyclones, deluges of rain, ^{aging} and insufficient aircraft were by no means the only problems besetting aircrews and ground staff on the East coast flying bases and the inland repair base at Kisumu. The gravest handicap of all, from a long term viewpoint, was the incidence of Malaria, which reached its peak in May and June every year. Although control measures had reduced the dangerous statistics of 1943, the incidence was still too high for the efficient execution of operational commitments. The average loss in time in 6 months for a member of an air crew was about 24 days ^{and} in the case of ground staff about 14 days. At Dar-es-Salaam, the worst spot, no less than 20 per cent of the total personnel contracted malaria in May. At Kipevu the percentage was 15 in June and 12 in May, and at Kisumu it was 7 in May.

It was most unfortunate ^{that} for strategic reasons, the main ^{land} flying boat operational bases had to be situated in the East (a highly malarious belt) and that the repair and maintenance ^{base} (Kisumu) be on the shores of Lake Victoria with an equally high malarial incidence. Climatic conditions overshadowed all others. All these stations were virtually on the Equator and two of them at sea level. The humidity was excessive, the day temperatures in the region of 95° Fahrenheit and the nights sultry and oppressive. Accentuating the burden was the insistence on the wearing of protective clothing and the sleeping under mosquito nets. Restless nights, further disturbed with tropical skin diseases, had drained the men of their energy and lowered their vitality, leaving many an easy prey to the ravages of malaria.

/Control

(1) A detailed appreciation of the situation appears in The Six-Monthly Review of Operations in E. Africa Waters March-August 1944 by A.H.Q. East Africa. (E Africa O.R.B. Nov. 44 Appendix J/AIR/2).

Control Measures and future Prospects

Much had been done to prevent malaria. At Dar-es-Salaam, a highly malarious swampy creek was drained and filled.⁽¹⁾ Two breeding swamps were drained in to a creek one and a half miles away. This open drain, in places 18 feet deep, was lined with concrete inverts, and the sides planted with grass to prevent erosion. Where its path crossed the end of the landing strip, circular drainage pipes were inserted and covered over. Other smaller swamps were converted on the same model and many drains made. The shore in front of the hangers at Kisumu was cleared of weeds and a stone wall impounding the water's edge built over half a mile. (2)

Field control followed traditional practice first applied by the Americans on the Panama Canal and carried into practice by the Allies in such unhealthy areas ^{as} in Eastern Corsica during 1944. Small water collections and seepages were constantly oiled; African dwellings in the vicinity were frequently sprayed. Rigid vigil was kept for miles around for possible new sources of breeding or migratory flights of the anopheles mosquitoes. All buildings were sprayed ^{at} dusk and dawn: protective clothing was worn during those hours: repellent creams were liberally used: messes and offices occupied by night staff had to be proofed with mosquito gauze. Mosquito nets were in universal use.

^{Summarising}
~~Summary~~ of the prospects in late 1944. Air H.Q. East Africa was pessimistic. It was, they wrote, ^{diff} difficult to visualise how the malaria incidence could be further appreciably reduced under the then existing conditions, and so increase the operational efficiency of the Command. Sleeping quarters, designed for tropical conditions, and completely proofed including verandahs, and equipped with electric fans, would, beyond dispute, reduce casualties by at least one-half: ^{as} but the material and labour were not available, these measures could not be undertaken. The modification of ~~phase~~ existing buildings, unsuited for proofing, could only instil a false sense of security and so increase the incidence of the disease.

/Effects

(1) At a cost of £10,000.

(2) Estimated cost £8,000.

Effects of maximum ^{effort} ~~effort~~ on Flying Boat Serviceability

Most of the physical limitations on flying boats operating in the equatorial zone have now been stated. It only remains to study a six months graph of the actual percentages of flying boat serviceability during the most trying period viz. March to August.⁽¹⁾ This is included for reference at Figure 5 and speaks for itself. Attention must be called, however, to three points of interest. Firstly, in periods of low activity such as April and mid-May, oscillation is least and recovery more rapid. Secondly, in months of high activity, especially when the effort rises steeply almost overnight, oscillation is acute and the recovery often remarkable. Thirdly, as the monthly effort grows and the periods of rest dwindle, the drops are most violent and the recoveries even more creditable. The graph for August is indicative of a notable effort in repair, ~~and~~ maintenance and skilful handling by aircrews. But the blank periods at the bottom of the troughs are ominous.

Air/Naval Exercise Operation "Mango" (2)

Although East Africa was very much on the alert when July opened and two German U-boats were known to be in South African waters, it was felt that, in the light of past experience, it was time to test the operational and administrative facilities of Mauritius and the Seychelles when called upon, as they frequently had been, for maximum effort at short notice.

Operation "Mango" lasted from 2 to 8 July inclusive. It was assumed that Mauritius and the Seychelles were at war. On 2 July, ^{seven} Catalinas arrived at Tombeau Bay, (Mauritius) in the late afternoon, to assume the role of Mauritian Air Force. Although the Base Commander had only received warning of the detachment's arrival at noon, the marine craft section dealt ably with the influx of aircraft, which were rapidly refuelled and brought to operational readiness.

For the next three days, two Catalinas each day carried out anti-submarine patrol ahead of the imaginary Mauritian invasion force which was assumed to be

/proceeding

(1) Although the East African Air Command lay South of the southern limit of the South-West monsoon in the summer months, it was subject to seasonal cyclones. For the other half of the year, some of its waters lay within the limits of the North-East and North West monsoons. These were not so violent as the notorious South-West monsoon.

(2) A.H.Q. E. Africa O.R.B. Nov.44 Appendix J/AIR/2.

proceeding due North to the Seychelles, and was liable to be intercepted by the Seychellois Navy, consisting of a number of submarines disposed in the vicinity of Agalega Island. On the 8th, the last day, five Catalinas arrived at short notice at the Seychelles, where the ground organisation functioned smoothly. One accident marred the proceedings. At the end of the day's sweep from Mauritius to Seychelles, one Catalina (1) crashed on landing and six of its occupants lost their lives.

Catalina Attack on Schnorchel U.859 (5 July 44)

U.859, a Schnorchel submarine (2) was proceeding on her northward passage, south-east of Durban, on 5 July. The weather was fair, the visibility 7 miles. She surfaced about noon and was proceeding at 8 knots when ~~sighted~~ sighted by Catalina L of No. 262 Squadron from St. Lucia. (3) The pilot lost height rapidly from 2,200 and, reducing the range, made an undulating approach to avoid the anti-aircraft barrage from the two twin 20 mm U-boat guns. The aircraft was hit in the port wing at 2,500 yards and again by the heavier gun, when a mile away, (4) flying at 400 feet. (4)

U.859 took violent evasive action to port when the pilot tried to get round astern of her for a quarter attack. The pilot then attempted a beam attack on the port side, but at the point of contact, U.859 turned to starboard. The pilot corrected and at a speed of 140 knots released six depth charges, spaced at 60 feet from an altitude of 50 feet: one hung up. At the time of release, U.859 was enveloped in spray churned up by the violence of her turns, but five explosions were seen, one of them 10-15 feet on the port side forward of the conning tower. Four or five minutes were lost while the crew assessed their damage by gunfire. They attacked the second time from 50° astern and a few strikes were observed from 70-80 rounds fired from the front gun. Again the sixth depth charge hung up. U.859 (5) rode out three further attacks on the surface, replying to fire from the aircraft for the first two of these. In spite of all efforts, the remaining depth charge still hung up. After the fifth attack, U.859 submerged.

/One

-
- (1) Aircraft X/No.209 Squadron.
 - (2) B.D.U. war log entry 25 Jly.44 (A.H.B.6 copy).
 - (3) In Union territory, but under command of A.H.Q. E. Africa.
 - (4) Position of attacks 32°22'S, 35°23'E.
 - (5) 1200 tons.

The man was killed, but she continued her journey northward, hoping to catch ships steaming along southerly routes to avoid the monsoon. This had been a determined attack, which deserved to end in a kill. The speed of the attack seems to have shaken the commander of the U-boat, who normally would have dived at once. It was a great pity that the aircraft skidded as the depth charges were released, otherwise complete accuracy might have been achieved. (1) Air H.Q. believed this U-boat sank S.S. Director on the 15th, but, in fact, it was U.198 (2)

Attack on a U-boat by South African Ventura (6 Jly 44). (3)

U.198 (4) rounded the Cape, outward bound some days ahead of U.859 and ^{was} ~~were~~, when July opened, turning on her tracks off the East coast of Madagascar for the area S.E. of Durban in hope of catching any independent ships bound to or from Lourenco Marques, or using the waters either side of Madagascar.

On 6 July, Ventura B of No. 23 S.A.A.F. Squadron, based at Mtubatuba, was on patrol in the waters S.E. of Durban, when a U-boat was sighted in fine weather 8 miles to starboard, surfaced and under way. Unaware, apparently, of the Ventura's presence until they were no more than 3 miles apart, the U-boat reacted smartly on sighting, altering course into its track and firing on it as it passed along the submarine's port beam. The Ventura Captain's error was in not going into the attack head-on in the first place instead of ~~the~~ extending the range and turning for an attack from astern. This manoeuvre robbed him of a victory, for the U-boat had dived and was completely submerged when the aircraft was still a quarter of a mile away. The Ventura's crew released six depth charges from 40 feet, spaced at 60 feet - speed 180 knots, 3 to 4 seconds after U.198 had disappeared. In all, six dinghies, an oil patch and numerous air bubbles appeared. The dinghies may well have been a subterfuge. In his situation report of 6 August 44, the Commander mentions no damage, merely reporting that he beat off "two Hudsons". (5) Four Catalinas (6) were despatched from Tulear (Madagascar) to reinforce South African bases and to search for the U-boat attacked on the 5th. Others swept as far as Mauritius without result.

~~/Sinking....~~ *The Sinking*

-
- (1) Air Strike report given in LOGROPS quarterly review July 1944 (A.H.B. II.J.50/47/39).
 - (2) B.d.U. war log-Sitrep dated 6 Aug.44 (A.H.B. 6 copy).
 - (3) Strike report in LOGROPS quarterly review July 1944 (A.H.B. II.J.50/47/39).
 - (4) 1200 tons.
 - (5) B.d.U. war log Sitrep 6 Aug.44 (A.H.B. 6 copy).
 - (6) V/209, L and K/259 and D/265.

Sinking of S.S. Director by U.198 (15 Jly.44)

On 15 July, the British S.S. Director ⁽¹⁾ bound from Durban for Beira and the Seychelles, was torpedoed and sunk by U.198 in a position 200 miles N.E. of Lourenco Marques ⁽²⁾. There appears to have been no specific air action immediately consequent on the actual sinking. Survivors were not landed in East African ports until 20 and 21 July: but this incident, following on the earlier air attacks and an unconfirmed report of a U-boat attack on the 17th on S.S.

City of Rangoon when just South of Mogadishu, shook the Allied authorities into quick remedial action.

Air and Naval Steps to meet the U-Boat Threat

Air Headquarters moved first. Four Catalinas (mentioned above) swept from Tulear (Madagascar) to St. Lucia (in the Union). Then, Mauritius aircraft laid on a maximum effort of 14 sorties between Madagascar and Mauritius: Tulear-based aircraft covered the south-eastern sector for two days. After S.S. City of Rangoon's report of the 17th, immediate steps were taken to reinforce Mogadishu base with Wellingtons from Aden Command, as at the time the majority of Catalinas were either based at Mauritius or engaged in important convoy escort duty from the Seychelles. Although the anti-submarine patrols were, in the event, not called for, the Wellingtons put in some useful convoy escort.

Air escorts for shipping in the South were laid on early in the month: 10 sorties were flown as escort convoy in the Mozambique Channel; and an eastbound convoy was given air cover to 65° East by Catalinas from the Seychelles, despite very bad flying conditions. Periodic cover and sweeps continued uneventfully to the end of the month.

Independent sailings from Durban to Indian Ocean ports, resumed on 11 July, were stopped on 21 July by C.-in-C. Atlantic and convoys resumed. On 1 August, convoys between Capetown and Durban were resumed, but Durban-Kilindini convoys discontinued. All other ocean traffic from Durban remained in convoy.

Weather was unsettled in the Command's waters until about 25 July, after which conditions became much more settled generally.

-
- (1) 5,107 G.R.T.
(2) Or 400 miles N.E. of Durban.

The Eastern Fleet in 1944

The Shift in Emphasis in Operations

By July 1944, the Eastern Fleet had changed from an inadequate trade protection force, through the stages of a fleet in being, to a small but powerful fighting force. Its fortunes were indissolubly linked with those of the air forces, whether land-based, waterborne or carrier-borne. It was now for the first time in a strong position to fulfil its main objects. These were the denial of the Indian Ocean to the Japanese, the destruction of their potential, shipping and installations, close support of the Army in Burma and the starvation of enemy island garrisons.

The Allied grand strategists deferred the employment of major British naval forces in the Pacific area until 1945. The aircraft carriers in the Eastern Fleet, unused as they were to the opposition of powerful land-based ^{air} forces, were ^{henceby} therefore afforded valuable opportunities of training. Fleet Air Arm stations and aircraft round the Indian and Ceylon coasts were increasing in number. More destroyers were available for escort duties. Submarines added their quota to the minelaying programme so far sustained by the Air Force. All this was slowly bringing about an important shift of emphasis. The burden of shipping protection, which had laid so heavily on the overworked air units, was increasingly shared with the Fleet.

Carrier groups joined occasionally in submarine hunts and, as related below, sank a U-Boat ^{August 1944} in enemy waters, even outside the submarine base at Penang, so bringing pressure to bear at the source of the threat, in the same way as the aircraft from which mines were laid in the submarine ports and those in carriers who bombed the stores of fuel the U-boats used and the refineries that fed them.

After a long and unsatisfactory period of great risk in which it had been impossible to exercise fully sea power at all in the accepted sense in the Indian Ocean, either with ships or aircraft, the pieces were now all on the board and ~~things were~~ falling into place as to provide the ingredients for a definite and full-blooded offensive maritime policy. It is important to note these shifts of emphasis and the ~~actual~~ military background to air operations. In no previous war had the ingredients for the exercise of sea power been so varied.

/Brief Epitome

(1)

Brief Epitome of Eastern Fleet Operations

The full history of Eastern Fleet operations has been covered elsewhere and is available for study. This history must, however, take into account its major movements, in particular those of the aircraft carriers. Carrier-borne aircraft operations will be dealt with in detail in a following chapter. At this point, it is merely necessary to take brief note of the major occasions on which air power itself was exercised from mobile sea-borne bases in 1944.

On 19 April, there had been Operation "Cockpit", (the diversionary air strike on Sabang); this was followed in turn by Operation "Transom" on 17 May, an air strike on Sourabaya; Operation "Pedal" on 21 June, an air strike on Port Blair; Operations "Orimson" on 25 July, the bombardment by the Fleet and an air strike against Sabang; Operation "Banquet" on 24 August, an air strike on Padang; Operation "Light" on 18 September, an air strike on Sigli (Sumatra); the diversionary attack of 17 October on the Nicobars, with an air strike; the attack of 19 October on Car Nicobar; and finally, on 20 December, Operation "Robson", an air strike on Sumatra.

The Japanese were aware that the British forces in the Indian Ocean were not powerful enough to carry out a large-scale offensive and decided that no serious diversion of naval or air strength to South-East Asia should be made that would impair their threatened position in the Pacific. What the Battle Fleet and carriers, with the co-operation of the Ceylon and India air formations, did achieve will be weighed later against the record of their efforts.

Changes of Command

The validity of direct air command running from the Supreme Commander through the Air Commander-in-Chief to the subordinate commands was never in dispute. What troubles were experienced were horizontal and entirely governed by differences in the British and American philosophies of the conduct of the war in South-East Asia.

Matters were very different where the relations between the Supreme Commander and the C.-in-C. Eastern Fleet were concerned. The dispute between these two men was long-drawn out and unfortunate. It stemmed principally from the fact that one fleet had not only to supply the Supreme Commander's maritime needs, but provide for the security of maritime traffic in all the adjacent seas and oceans.

Dispassionate accounts of the pros and cons of the matter may be found elsewhere. (2)

(1) Admiralty C.B. 3303(3), (4) and (5).

(2) Capt. S. Roskill - The War at Sea Vol. III (first draft): Admiralty C.B. 3303(4). ^{/The}

The problems of naval command were finally solved when, on 23 Aug. 44., Admiral Somerville, ⁽¹⁾ who had been C.-in-C. Eastern Fleet since March 1942, was succeeded by Admiral Sir Bruce Fraser, ^{formerly} later C.-in-C. Home Fleet.

The satisfactory results of this change were maintained after Sir Bruce Fraser became C.-in-C. British Pacific Fleet on 22 Nov. 44 and handed over to Vice-Admiral Sir Arthur Power, who was appointed C.-in-C. East Indies Station.

Rear-Admiral Clement Moody, who had been Rear-Admiral (Air), Eastern Fleet since December 1943, was appointed Flag Officer (Air) East Indies Station, ⁽²⁾ thus replacing Rear-Admiral H.C. Rawlings; Rear-Admiral Moody's flag was struck in H.M. Carrier Illustrious and hoisted on shore at Colombo, where he took over the duties of the Flag Officer, Naval Air Stations, Indian Ocean, and was placed in command of all R.N. shore air establishments on the station and all aircraft carriers and escort carriers belonging to the East Indies Fleet. The C.-in-C. continued to operate escort carriers while employed on escort duties.

Anti-Submarine Operations in August 1944

No. 222 Group

Enemy Submarine Reinforcements and Successes in the Indian Ocean

After very long patrols, U.196 and U.537 were recalled early in the month to Penang, but later on, U.198, having made her presence felt in East Africa's waters, proceeded to the South of Ceylon on her course to Penang. For the best part of the month, therefore, the threat in the waters of Nos. 222 and 225 Groups was not grave. At the end of the month, U.859 had left her billet off Socotra and entered their areas of control on her course to Penang, sinking two ships, ⁽³⁾ in Aden's waters before she left. ~~Until that time, Aden had suffered no sinkings~~

~~Sinking the U.198~~

The threat in East African waters was extremely serious all the month. Doenitz had decided to reinforce the Indian Ocean, so that no opportunities would be lost while boats at the end of their endurance lay up in Penang. ^{All were to carry strategic cargoes.} U.198 was already passing Durban on the 1st and U.862, followed fairly closely by U.861, ^{was} approaching the Cape. U.1062 was running the blockade and westbound southwards of Mauritius. By the end of the month, U.862 lay off Mombasa on patrol, U.198 was

/south

(1) He was selected to succeed Admiral Noble as head of the British Naval Mission in Washington.

(2) Short title, F.O. (Air) E.I.

(3) S.S. John Barry (7176 G.R.T.) and S.S. Troilus (7,422 G.R.T.)

south of Ceylon, but U.861 was still off N.E. Madagascar. Between them these U-boats sank no less than seven ships ⁽¹⁾ of a total tonnage of 43,134. The total tonnage lost in August in the Indian Ocean amounted therefore, to 57,732 G.R.T., rendering it again the area of heaviest Allied loss. This was a source of grave concern to ICGROPS, who had looked to the future with renewed optimism as the pattern of their patrols and escorts had been increasing refined and to the C.-in-C., Eastern Fleet, who had balanced the risks to, and needs of, his shipping charges with such care. One of these U-boats was sunk in August, one in September, one in October and two in November. ⁽²⁾

Air Operations ⁽³⁾

The steady diminution of the U-boat threat in No. 222 Group's waters left time for a variety of tasks, ^{of which the} ~~whose~~ general pattern was changing in reaction to the course of exterior events. After brief consideration of the occasional ^{of U-boats} U-boat reports and the tracking of the two boats returning to Penang, it will repay study to take a view of the pattern of the Group's general operations. They differ from these in other months and by other commands, for all the time the factors playing on the balance of sea power were themselves changing.

The shipping situation had been progressively simplified. It was now the policy to keep the Australia-bound shipping, steadily growing in importance, south of Ceylon on one meridian, patrolled by aircraft. ~~These~~ Daily sweeps along the meridian accounted for a high total of flying hours. The Eastern Fleet was both growing and active and calls for escort of major units, such as H.M.S. Howe, on the 1st, H.M.S. Renown on the 17th and S.S. Queen Elizabeth on the 18th, frequently recurred.

Several fixes were obtained on the two U-boats returning to Penang. The last record of radio transmissions was picked up on the 7th from the Sabang-Penang area. Fixes in the Chagos Archipelago confirmed that the Japanese submarine was still lurking thereabouts and a continuous air watch was kept on the area from Ceylon and the island bases, both by aircraft on station patrols and in transit flight. All coastal waters were closely watched, especially in the Bay of Bengal where it was ~~extensively~~ believed that a German U-boat was patrolling

(1) S.S. Empire City (7,295 G.R.T.), S.S. Empire Day (7,242 G.R.T.), S.S. Radbury (3,614 G.R.T.), S.S. Empire Lancer (7,037 G.R.T.), S.S. Nairung (5,414 G.R.T.) S.S. Wayfarer (5,068 G.R.T.) and S.S. Berwickshire (7,464 G.R.T.).

(2) The operations leading to the loss of these U-boats will be related under the appropriate sections later.

(3) No. 222 Group O.R.B. Appendix Z, Aug. 44.

Rescue of the Greek S.S. Aspasia Nemikos (24-26 Aug.44)

On 24 August, a Catalina from Diego Garcia searched without success for the Aspasia Nemikos, who was in difficulties in the approximate position 10°S, 79°E, (some 500 miles E.S.E. of the island), having lost a propeller. A further search all through the 25th was unsuccessful; but during the morning of the 26th, the ship was located by two Catalinas of No. 205 Squadron and the tug Bold was guided to the scene to take her in tow. (1)

Air/Sea Rescue of Superfortress Aircraft

In June 1944, the 20th U.S. Bomber Command, equipped with B-29s (Superfortresses) began operations for the first time in the South-East Asia area from bases in Bengal. Although during June, July and August the southwest monsoon rendered conditions for bombing unfavourable, there were a few spells of fair weather. It was during one of these that a force of B-29s attacked targets on Sumatra on the night of 10/11 August.

Intensive air sea rescue sorties covering the attack were flown by Catalina, Warwick and Beaufighter aircraft of No. 222 Group. These were increased on the 11th, when it was known that one B-29 had ditched about 120 miles East of Trincomalee on the return flight. During these searches, a Warwick crew reported a periscope sighting in 6°N, 85°15'E (i.e. within striking distance of the ditched B-29). A combined search by a Liberator and two destroyers was unsuccessful. The search was renewed on the 12th by Catalina, Sunderland, Warwick, Beaufighter, Walrus and Spitfire aircraft. Signals sent by a dinghy's transmitter were picked up during the morning and, at 1030 FG hours, a Warwick's crew reported being over dinghies holding 10 aircrew survivors. H.M.S. Redoubt was directed to the position and, at 1420 FG hours, signalled that she had effected the rescue of nine living airmen: one had been killed by the ditching. The two days of rescue operations had involved 200 flying hours. (2)

No. 225 Group

India re-exhibits Coastal Lighthouses (3)

The steady decline of the U-boat threat in No. 225 Group's waters brought increasing confidence. On the strength of it, it was decided to light all

/lights

- (1) No. 222 Group O.R.B. Aug.44 Appendix Z.
- (2) For a full analysis of No. 222 Group's operations refer to Appendix
- (3) No. 225 Group O.R.B. Aug.44 Appendix B.

lights on the West coast of India and a number of important ones on the coasts of Ceylon and East India,⁽¹⁾ all at full brilliancy. This move, which would heighten the morale of all sea-going personnel and assist navigation, was not without a more than normal ingredient of risk. Unbeknown to the Allied air and naval stations, patrolling U-boats sometimes used the cover of night to make exact observations on the state of affairs of our major ports and intercept signals which were all duly signalled back to B.d.U.

An example of this lies to hand in an entry in B.d.U's war log for 13 August. In early July, U.537 was sailing South of Ceylon bound for Penang. She lay off Colombo long enough to report that there was no traffic off the harbour or off the South coast, that there was continuous land-based radar on 150 centimetres, and day air activity to a distance of 35 sea miles. On 13 July, she reported an obvious link between specific aircraft radar location signals and the appearance on the scene of two Allied destroyers. But, as will be seen, naval and air successes in the summer and autumn months were to reduce the U-boat threat to manageable proportions.

A Month of Routine (2)

Although a large number of sorties were ordered primarily to maintain the operational efficiency of the squadrons, the number of hours flown on convoy escort was again a record low since November 1943. The reason was again the absence of active U-boats and a reduction in the number of convoys. Twenty-three out of a total of thirty-five convoys were escorted.⁽⁴⁾

Two aircraft failed to rendezvous with their charges: the reasons should be noted. A Catalina flying some 500 miles out to give a short escort to an important Force, was ^{compelled} by bad weather to return to base almost immediately after reaching the estimated position of the Force, and failed to make contact. A Liberator, flying a short sortie before dark failed to meet the convoy JC.59, owing largely to faulty navigation by another Liberator which had provided cover during

/the

- (1) Colombo Block, for example.
- (2) No. 225 O.R.B. August Appendix A.
- (3) 84 sorties totalling 785 hours.
- (4) Anti-U-boat operations totals for Aug. 44 in No. 225 Group's area.

	Total sorties	Hours flown	
		Base to base	On patrol
Convoy cover	84	785	505
Anti-submarine patrols	77	697	600
Total effort	161	1482	1106

the early part of the day. The factor of human error is a constant probability in all operations, but such cases were extremely rare.

Independent sailings rose from 443 to 524, another index of the drop in the local U-boats threat. This called for a correspondingly larger number of anti-submarine sweeps in the coastal lanes.

The only promising episodes in the month followed what was ultimately adjudged a false alarm by the American tanker S.S. Wallowa on the morning of the 1st. Eleven aircraft sorties totalling 137^{hours} were expended in a hunt to exhaustion on the 1st and a sweep of the probable area on the 2nd. The same ship also reported sighting a periscope in the Bay of Bengal off the eastern coast of India, but as this was after last light, the report was treated with reservation. On the evening of the 13th, S.S. Hilda Moller reported a torpedo track in 16°27'N, 82°40'E. A Catalina searched the position without result. There may have been some connection between this report and the dubious one of the S.S. Wallowa on the previous day, as well as with a D/F bearing at 0317 hours on the 15th which placed a German U-boat somewhere between Jaffna and Vizagapatam. No. 225 Group was prepared to act on this rather vague evidence and put forth 19 Liberator and 2 Catalina sorties up to the night of the 22nd/23rd, sweeping the shipping lanes, but no sightings were made. The U-boat was exercising extreme caution. (1)

Air H.Q. Aden

The Conference on Airfields and Establishments (7-8 Aug. 44) (2)

Aden had many problems for resolution, and administrative delays occasioned by R.A.F. Middle East and Air Ministry had been trying their patience for months past in two particularly pressing cases, viz. the difficulty of maintaining the widely scattered air bases and the failure to approve reasonable establishments.

British Forces Aden and No. 222 Group in Ceylon called a conference on 7 Aug. 44 and senior officers of the two commands, including the A.O.C., British Forces Aden (3) and the Deputy A.O.C. No. 222 Group (4) sat down to draw up a case for the improvement of general reconnaissance conditions. Since December 1943,

/three

(1) For an analysis of the 3 months' effort - August-October 1944 inclusive refer to Appendix 13.

(2) Air H.Q. Aden O.R.B. August 44, appendix B/A. /.

(3) A.V.M. F.H. McNamara, V.C., C.B.E.

(4) Air Commodore R.L. Ragg, A.F.C.

th

three general reconnaissance land-plane (1) squadrons had been based in the command, and units from other commands attached for operations from time to time. Aden's Sea areas had been very considerably increased and additional territories and responsibilities had been added to the command from A.H.Q. Iraq and Persia, and A.H.Q. East Africa. After the Aden General Reconnaissance Conference held 21-25 Nov. 43, the Air Officer i/c Administration, H.Q. R.A.F. Middle East had asked for recommendations for increases of establishments and up-gradings of posts. These had been submitted on 1 Dec. 43 but by 7 Aug. 44 had still not been approved.

Most of the senior officers of No. 222 Group (the controlling body in the Indian Ocean) had visited Aden to report on the changing situation and now came out strongly in protest against what appeared to both commands a sample of obstructionism by R.A.F. Middle East. This vast empire, surviving long after the tide of battle had passed beyond its frontiers, had failed to realise the facts and act on them. There was a certain minimum establishment which had to be provided in the Aden command if the control of C.R. operations was to be exercised 24 hours a day and flexibility maintained. A clear statement from Middle East was emphatically called for that they would follow automatically the arrangements made by Air Command South East Asia for implementing direct Air Ministry instructions. (2) If every measure decided upon, approved and adopted by South-East Asia had to await discussion and negotiation with H.Q. R.A.F. Middle East before it was implemented, then the delay would render the whole thing ineffective. So the matter rested for the time being.

There was every chance at the period of basing Liberators in the command and considerable planning for work services at Khornaksar, Suwisiuban, Masirah, Socotra, Salalah and Bender Alula was projected.

Submarine
~~Inc. / Submarine Activity~~

U.859 having narrowly escaped extinction at the hands of Catalina I/No.262 Squadron on 5 July, made her way cautiously northwards between Madagascar and Mauritius. As she was fitted with Schnorchel apparatus, her attack area (it was recorded on 25 July in B.d.U's war log) was extended to the Gulf of Aden. At some time between 14 and 15 August, prisoners-of-war taken off the U-boat stated later, U.859 attacked a "12,000 ton tanker" escorted by two corvettes S.E. of Socotra,

/dived

(1) Wellington.

(2) Air Ministry COSSEA 22, amended by A.M. signals A.L.8, quoted in Aden O.R.B. appendices.

dived and later heard an explosion. This attack was reported to the German Naval High Command as a probable sinking.⁽¹⁾

U.859 remained in the Gulf of Aden area and sank S.S. John Barry on 28 August and S.S. Troilus on 31 August. The details of these losses will be given below. The tonnage sunk in August in Aden's waters amounted to 14,598 G.R.T. After sinking S.S. Troilus, U.859, short of fuel, set course for the Chagos Archipelago, with the intention of making Penang.⁽²⁾

Aden took an optimistic view of the chances of intercepting her, as the escort Carrier Force 66 had moved up from East African waters into Aden's territory after a long and successful hunt for U.198.

The Loss of S.S. John Barry (28 Aug. 44) and S.S. Troilus (31 Aug. 44)

Sighting reports from transport aircraft and fixes from ships from the mid-month onwards established the certainty of an enemy U-boat somewhere in the area 14° to 15° 30'N, and 47° to 58°E. Sorties flown on hunts and searches rose accordingly to a high level.

~~Remains of S.S. John Barry and S.S. Troilus by No. 321 Squadron (3 Oct. 44)~~

On 28 August, S.S. John Barry,⁽³⁾ sailing independently and bound from Aden to Abadan with a general cargo and ~~signalling~~ was struck by three torpedoes from U.859 in a position about 150 miles N.E. of Socotra⁽⁴⁾ and sank in bright moonlight. Thirty-one of the crew were picked up on the 29th by S.S. Sunetta and thirty-five by S.S. Benjamin Bourne. As no S.O.S. is mentioned in the records, it must be assumed the radio sets were put out of action early. The submarine had been heard, but not seen.

Late on the night of 31 August/1 September, S.S. Troilus⁽⁵⁾ was hit by two torpedoes about 340 miles E. by N. of Socotra⁽⁶⁾. The radio operator sent out an SOS on the emergency aerial. The 95 survivors of the crew of 101 were taken off in lifeboats before the ship sank and they, too, sent out signals on their emergency sets. None of these messages reached Air H.Q. Aden by any channel. The crew set course for Karachi and, after being missed by the tanker Cornwallis, managed on the 5th, with the aid of fireworks, to attract the attention of Catalina J/No. 321 Squadron of Aden Command, patrolling in the area at about 1600 hours.

/The

(1) No reports confirming the attack can be found in B.d.U. war log or Western Fleet or Air H.Q. Aden records.

(2) Prisoner-of-war evidence quoted in ICGROPS Review Vol.1 No. 2 (A.H.B. II J.50/47/39A).

(3) 7,176 G.R.T.

(4) 15°10'N, 55°18'E.

(5) 7422 G.R.T. of Alfred Holt Ltd.

(6) 14°N, 60°E approximately.

SECRET

The crew had by now been adrift for 5 days on the open sea with only faint hopes of survival, but they were to be saved by the prompt, effective action of the aircrew. They dropped a flare, laid markers and signalled to the survivors that help would arrive within an hour. They reported to Aden that there were over five lifeboats tied together. Aden signalled to the carrier Force 66 then cruising in the vicinity and homed them to the position. The escorts picked up the 95 survivors.(1)

Air H.Q. East Africa

Area Control and Administrative Changes (March-August 1944)

Prior to 15 Aug. 44, the area of control of East Africa extended to 65°E, but with effect from that date, the eastern boundary was moved westward by 2°, to longitude 63° East. The whole area of control was sub-divided into four sub-areas known as KD1, KD2, KD3 and KD4, guides in the assessment of the U-boat threat.(2) The southern boundary of direct control now ran from the port of Beira in Mozambique down to a point 30°S, 40°E before branching S.E. to 45°E. E. Africa still exercised over-all control over units lent to the Union of South Africa. It will be noticed that large areas still lay outside the strategic boundaries of South-East Asia Command.

The East African military command itself had been reorganized as from 24 July. Prior to that date, the G.O.C.-in-C. had divided his Command into three areas, viz:-

- (a) Islands Area (Madagascar, Seychelles etc.)
- (b) Central Area (Kenya, Uganda, Tanganyika, Rhodesia)
- (c) Northern Sub-area.

There were now to be only two areas, viz. the Northern and Southern. The Northern area consisted of a sub-area called Kenanda, which included part of Kenya and the whole of Uganda, and what was previously Northern sub-area.(3)

During the six-months period ending 31 Aug. 44, no changes in the policy regarding permanent flying boat bases had been made. Mombasa (Kipevu), Dar-es-Salaam and Diego Suarez (Chameleon) had been fully developed as bases for one squadron. The advanced bases had remained unchanged, with the exception

/of

(1) Details from Aden O.R.B. Sept.44 Appendix E.100.
(2) Refer to Plate Two in Air H.Q. R.A.F. East Africa Six Monthly Review of Operations in East African Waters. (E. Africa O.R.B. Nov. 44 Appendix J/AIR/2).
(3) H.Q. B.F. Aden/5512/5/1/Org. 12 Aug. 44 in Aden O.R.B. Aug. 44 Appendix C.57.

of Pamanzi Island, where additional moorings had been laid to meet an increase from three to six aircraft on detachment. All advanced bases had served for operations and in view of the shortage of shipping, they had been increasingly stocked with essentials by air transport.(1)

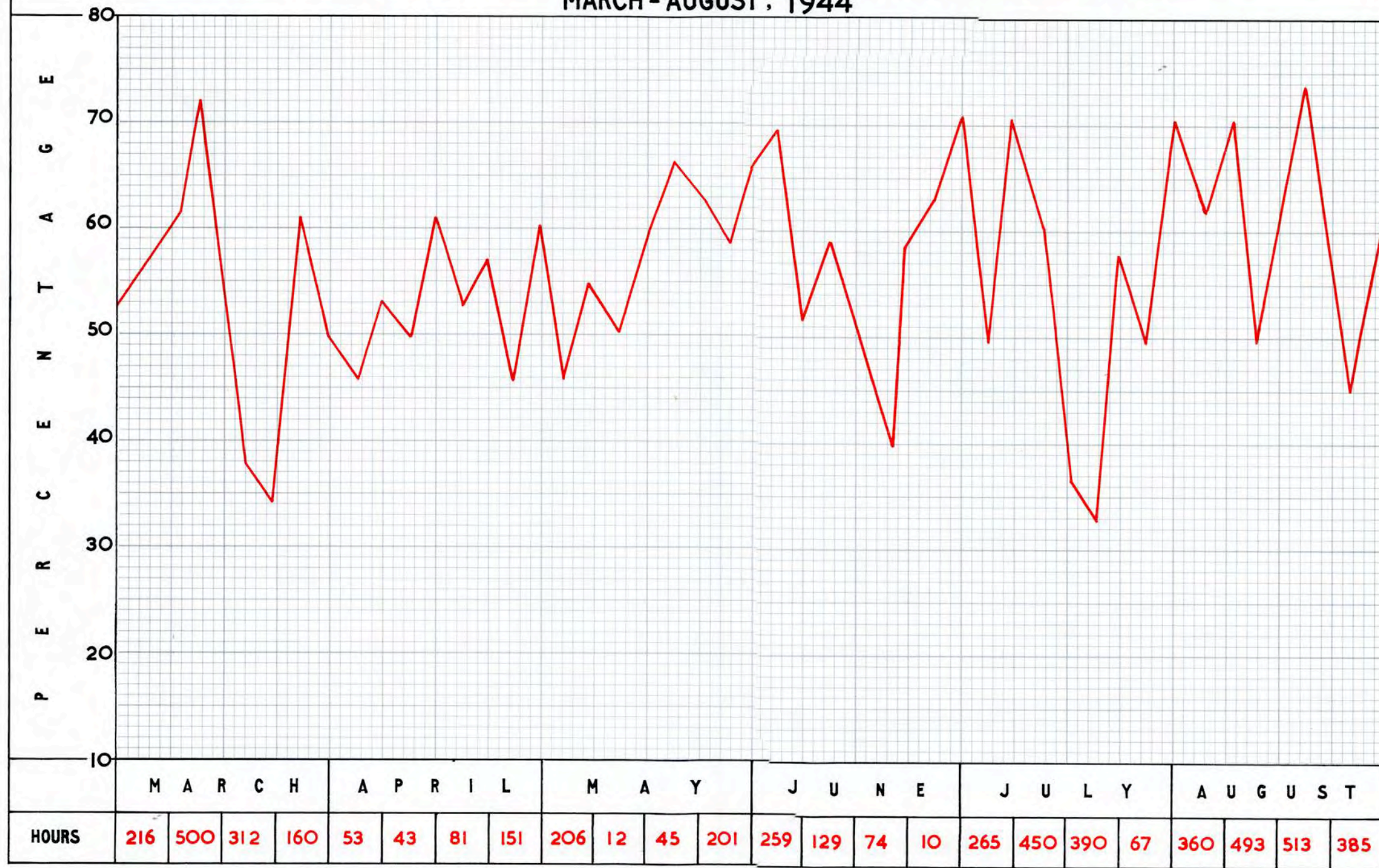
No. 246 Wing was now purely operational, with its H.Q. at Naval Base, Kilindini. Its administrative responsibilities for the Mombasa area and for R.A.F. Station Lindi, Mogadishu and Dar-es-Salaam were handed over to Air H.Q. East Africa.

In harmony with the reduction in both Naval and Army strength in Madagascar, it was later planned to reduce the strength of No. 258 Wing by the end of 1944: but there was little ground for talk of reduction in mid-August, when the highest shipping losses and some of the intensest U-boat hunts ever known in the theatre developed.

/ U-boat

(1) Refer to Appendix 14 for a full statement of the state of development of operational bases as it stood at the end of August 1944.

AIR H.Q. EAST AFRICA
DIAGRAM SHOWING PERCENTAGE OF SERVICEABILITY OF FLYING BOATS
MARCH - AUGUST, 1944



OPERATIONAL HOURS FLOWN PER WEEK

Source : Reproduction G.P. No. 2463 by 157 (E.A. & S.R.) Base Survey Coy. E.A.E. Sept. 1944 for A.H.Q. E.A.

U-Boat Offensive in the Approaches to the Mozambique Channel (1)

On 5 August at 2245Z hours, an SSS signal was received in the Air Operations Room at Mombasa from S.S. Empire City (2) indicating the presence of enemy units in the Mozambique Channel. She was torpedoed and sunk by U.198 in the northern approaches. (3) On 7 August at 1715Z hours, S.S. Empire Day (4) was torpedoed and sunk in a position higher up the northern approaches and N.W. of the ^{Comoro} Comoros Islands. (5) No SSS signals was received from the ship and news of the sinking did not reach Air Headquarters until 11 August. The Chief Officer was taken prisoner; the remainder of the crew landed at Zanzibar on 12 August. Both these vessels sailed from Lourenco Marques on 31 July and both were attacked while sailing independently.

On 8 August, U.198 sent her last report home. The Commander considered the traffic situation auspicious, (as well he might). E.d.U. thereupon ordered U.861 and U.862 the latest U-Kronzer reinforcements to be despatched, not to remain as planned in the South African area, but to proceed to the Gulf of Aden, leaving the African field open to U.198. (6)

Intelligence accumulates and Searches are instituted

Immediately the distress signal from S.S. Empire City was received, Pemba island base was reinforced with aircraft and a "stopper" patrol commenced between the Comoro Islands and the mainland. At 0410Z hours on the 7th, a D/F fix of a German U-boat was received within 150 miles of 8°S., 42°30'E. At 1409Z hours on 8 August, a second class bearing of 102° Mombasa on a German U-boat was received. At 1758Z on 8 August, two fixes, (one of them from Admiralty), were received, defining a little more closely the intruders' field of manoeuvre. At 1352 hours on the 9th, a 2nd class bearing of 985° Mombasa on a German U-boat was received. The stopper aircraft patrol instituted on the 6th was the commencement of a combined hunt unique in these waters. Aircraft of East Africa Command covered the track of U.198 for seven days, slowing up her speed so successfully that a Naval Carrier Force was enabled to arrive in the Seychelles area in time to participate in the hunt and kill the U-boat. It is now opportune to consider briefly the composition and policy of this carrier force in anti-submarine operations.

/Carrier Force 66

-
- (1) E. Africa O.R.B. Aug.44 appendix E/TWT/9.
 - (2) 7,295 G.R.T.
 - (3) In 11°35'S., 41°25'E.
 - (4) 7,242 G.R.T.
 - (5) 7°06'S. 42°E.
 - (6) E.d.U. war log entry 8 Aug.44 (A.H.B.6 copy).

Carrier Force 66

The Combined Chiefs of Staff had stated early in 1944 ⁽¹⁾ that carrier-borne raids with the object of maintaining pressure on the enemy, forcing dispersion of his forces and causing the maximum attrition were an important part of Allied strategy in the South-East Asia Command area. The operations carried out in pursuance of this policy have already been mentioned and will be fully related in a subsequent chapter. The British Admiralty had recommended the employment of escort carrier groups in mid-1944 as convoy escorts pending the reinforcement of the Eastern Fleet. But Admiral Somerville began employing an anti-submarine escort carrier force in the Maldives in June. The force had had no success whatever up to the date when the news of the sinking of S.S. Empire City arrived.

Force 66, composed of the escort carriers H.M.S. Begum and H.M.S. Shah and the four frigates H.M.S. Taff, Findhorn, Nadder and Parrot, was in the Chagos Archipelago area on the day S.S. Empire City was sunk, proceeding from Ceylon to Mombasa. Following the sighting of survivors on 6 August by Catalina U/No.209 Squadron from Penang, Force 66 was ordered to operate against the U-boat. It was not until early on the 10th, that aircraft of the Force made contact with U.198. In the interval of five days, aircraft of No. 246 Wing carried out a search to cover her possible advance northward, slow her down and destroy her.

Flying Boat Dispositions in August 1944

In order to visualise the role of the flying boats in the pursuit of U.198 and subsequent operations in August, the table of dispositions given in Footnote (2) should be looked at.

/It

(1) Admiralty 081848A/2/44 and 311944A/3/44 quoted in Admiralty C.B.3303(4) p.207.

(2) Dispositions of Flying Boats on 31 July and 15 and 31 Aug.44 in East Africa Command.

Base	31 July		15 August		31 August	
	On strength	Ready to fly	On strength	Ready to fly	On Strength	Ready to fly
Mombasa	4	2	6	5	9	5
Dar-es-Salaam	5	3	3	1	2	-
Seychelles	6	5	12	7	6	2
Famanzi	-	-	-	-	1	1
Diego Suarez	7	5	2	1	1	1
Mauritius	-	-	-	-	4	3
	22	15	23	14	23	12

It shows, without confusing the problem with every day-to-day detachment, the drift of aircraft from Diego Suarez (Madagascar) and Dar-es-Salaam north to Mombasa and East to the Seychelles in the first half of the month and, in the second half, the move to Mauritius and the further strengthening of Mombasa at the expense of other bases. (1) No. 246 Wing was the major formation directly concerned in the hunt for the U-boat.

No. 246 Wing in the Hunt for U.198

The hunt was initiated by No. 246 Wing Catalinas from Pamanzi when they commenced their search on 6 August between the Comores Islands and the mainland of Portuguese East Africa. It was continued by Catalinas from Mombasa and the Seychelles co-operating progressively with Force 66. The area of search gradually shifted northwards from the waters East of Comoro, until the hunt was concluded North-East of the Seychelles on 12 August. Force 66 first came into the operational pattern on 10 August, the date of their first sighting of U.198, and played a leading role thereafter. The part played by No. 246 Wing in the proceedings will first be reported.

One of the two Catalinas despatched from Pamanzi on the "stopper" patrol sighted lifeboats (2) and homed rescue craft. The other patrolled. The boat's course and speed were assessed and a parallel track search by four aircraft (3) was ordered for the 6th. It lasted from 1230Z hours on the 6th to 0230Z hours on the 7th but led to no visible results. Another sweep based on a fix was carried out in an extended area (4) and was twice shifted.

Another long patrol, (again by four aircraft) extended the sweep on the 8th and on receipt of a second class bearing at 1430Z hours, the aircraft were ordered to return on reciprocal tracks before the northern half of the area had been swept. (5)

It was on this day - the 8th - that U.198 sent its last message from the Mozambique Channel (6) and that U.861 and U.862 were ordered to the Gulf of Aden when they had rounded the Cape. northern approaches to the

Two aircraft from the Seychelles were ordered to Mombasa and on their course swept an area to the North of the last-named sweep: but no contacts were received

/or

- (1) Ibid.
- (2) In 11°33'S, 41°38'E.
- (3) Within the area bounded by 05°S, 10°S, 41°E, 45°E. visibility distance 10 miles.
- (4) In the area bounded by 03°38'S, 42°52'E, 04°20'S, 46°30'E., 09°30'S., 41°40'E., 10°10'S., 45°20'E.
- (5) An area bounded by 02°45'S., 46°05'E, 03°31'S, 47°22'E., 05°35'S., 44°25'E., 06°22'S, 45°50'E.
- (6) LT on the German Naval Grid.

✓ sightings made by anyone. On the 9th, the swept area was shifted (correctly) to the N.E. of that of the night 7/8 and again (following a new Naval fix) still further (1) North. They were joined by two aircraft from Pamanzi which covered the area further South for nine hours. On 10 August, four aircraft patrolled for over 9 hours in the area bounded by $04^{\circ}S$, $06^{\circ}20'S$, $43^{\circ}E$, $47^{\circ}10'E$.

Force 66 Aircraft Attack on U.198 (10 Aug. 44)

Information on the movements of U.198 had been scarce up to 10 August, but at 0955Z hours on that day, an aircraft from H.M.S. Shah sighted U.198 in a position about 600 miles East of Mombasa and 300 miles West of the Seychelles (2) and attacked her. Probably undamaged, U.198 dived and was lost. At the time, the ships of Force 66 were approximately 55 miles to the westward. The frigates made for the position at full speed, but could not obtain contact.

Search by Aircraft and Ships continued

While ships and carrier aircraft searched, land-based flying boats were marshalled. It was seldom that such occasions (so well known and so admirably exploited in the Mediterranean in the Spring of that year) arose in the Indian Ocean. Here, indeed was a case rare elsewhere of a three-pronged hunt, two of the prongs being those of the land and seaborne aircraft units.

Three aircraft were airborne from Mombasa at 3-hourly intervals: ^{try} searched the area of the Shah's attack and were waterborne at the Seychelles. While on patrol between 1950Z hours on the 10th to 1115Z hours on the 11th, one of them (3) obtained a contact (4) and carried out a "Cobra" search patrol round the point. When the contact was considered, it was found to be probably 25 miles too far to the North, so one of the three Catalinas patrolled a new, adjacent area (4) but without result. The search was closed to new areas which married the Catalina's and Shah aircraft, calculations on into the 12th. Four more aircraft from the Seychelles patrolled round datum points, first 20 miles to the East and then 80 miles to the N.E., where a Catalina of No. 259 Squadron made yet another contact.

/Destruction of

-
- (1) Areas bounded by $06^{\circ}S$, $08^{\circ}20'S$, $43^{\circ}E$, and, later, $04^{\circ}30'S$, $05^{\circ}30'S$, $43^{\circ}E$, $46^{\circ}E$.
 - (2) Catalina T/No. 209 Squadron.
 - (3) In $03^{\circ}36'S$, $49^{\circ}45'E$.
 - (4) $03^{\circ}20'S$ - $05^{\circ}S$ and $49^{\circ}E$, $50^{\circ}40'E$.

Destruction of U.198 by H.M.S. Ships (12 Aug.44)

On 11 August, Force 66 thought it possible that U.198 might be running short of fuel and proceeding towards Penang. The ships moved to the eastward, a correct decision. At 0302Z hours on the 12th, an aircraft from H.M. Escort Carrier Shah sighted U.198 on the surface in a position 80 miles N.W. of the Seychelles, (1) attacked and straddled her. Thereupon, U.198 dived, re-surfaced, fired on the aircraft and remained circling (her steering gear probably damaged) for 20 minutes before diving again. Touch with her was now lost for some 10 hours.

The carriers had been joined by other ships. H.M.I.S. Godavari was therefore released to proceed with the frigates to the last position. There they hunted from 0600Z hours until past 1300 hours. At 1323 hours, H.M.I.S. Godavari attained a contact, which she held for 53 minutes until H.M.S. Findhorn and Parrot (fitted with "hedgehog") arrived. The first "hedgehog" attack made at dusk by H.M.S. Findhorn evidently destroyed U.198, (2) ^{who} ~~which~~ was carrying a cargo for the Japanese Army and Navy (3) Underwater explosions were heard and the next morning large oil patches and wreckage were sighted. All attempts at dredging for positive evidence failed on account of the great depth of about 2,200 fathoms in which the U-boat sank.

U-Boat Command waited until 7 October before giving her up as lost. (4)

Force 66 omitted to advise East African Air Command of this highly significant incident, so that aircraft were despatched fruitlessly on the 13th and 14th sweeping the area N.W. of the Seychelles. At last, late on the 14th, a signal was received from Force 66, (whose whereabouts could only be guessed at) that an attack by H.M.S. Findhorn had probably been successful. To cover the remote probability of the U-boat's escape, the air sweep was allowed to continue and the four aircraft were on patrol from 1313Z hours on 14 to 1512Z hours on 15 August. The hunt from East Africa Command was then called off.

During the nine days of the hunt, Catalina aircraft carried out 58 sorties, totalling 872 flying hours. They maintained an average serviceability quotient of 65 per cent. Apart from the serious lapse on the part of Force 66 in failing to communicate after the attack, the whole affair may be considered a credit to all concerned.

/U-Boat Reinforcements

(1) In 4°10'S., 49°50'E.

(2) In 03°45'S., 52°58'E.

(3) (4) E.d.U. war log 7 Oct.44 (A.H.B.6 copy).

(4) (3) Consumable stores for U-boats and U-boat workshops, torpedoe apparatus and replacement parts, machine, electric and artillery parts, radio equipment, sea and grid charts, lubricating oil, search receiver apparatus, "Flieger" search receiver sets.

Boat Reinforcements sink Shipping unimpeded

While the centre of gravity lay North-East of the Seychelles, the field closer to the mainland of Africa lay wide open first to U.862 and then to U.861, who rounded the Cape. U.862, who had reached the southern end of the ^{Channel} Mozambique, by mid-month sank four ships in quick succession. U.861 who entered late, finished the highly successful U-boat record for August by sinking the fifth East of Durban on her way across to Penang. With this area largely denuded of aircraft, naval patrols and carrier force, there were unavoidable gaps in the Allied defences. It is significant that four of the five ships lost were sailing independently, as were the two lost in Aden's waters late in the month and the two Empire ships in East African waters in the first half of August.

On 13 August, U.862 torpedoed and sank S.S. Radbury (1) in the southern part of the Mozambique Channel. (2) There was no opportunity, according to survivors, of sending a SSS signal. She was reported overdue from the 20th, but her fate did not become known until over two months later. On 26 October, Catalina A/265 from Tular sighted the survivors on the lonely island of Europa, where they had lived out a strange experience under the courageous leadership of the Chinese Chief Engineer. (3)

On 16 August, U.862 torpedoed and sank S.S. Empire Lancer (4) some 230 miles East of Mozambique. (5) This loss, too, only became known later, when survivors were landed at Lumbo (6) on 26 August. On 18 August, U.862 sank S.S. Nairung (7) in the same locality (8) and, on the following day, 19 August, S.S. Wayfarer (9) not far distant. (10) Neither loss became known for several days.

/Air and Naval ...

-
- (1) 3,614 G.R.T., Lourenco Marques for Kilindini.
 - (2) In 24°20'S., 41°45'E.
 - (3) For a graphic account of this unusual and inspiring adventure, refer to East Africa Intelligence Summary No. 69 in E. Africa O.R.B. Nov.44 appendix E/INT/15.
 - (4) 7,037 G.R.T. Durban.
 - (5) In about 15°S., 45°E.
 - (6) Portuguese East Africa.
 - (7) 5,414 G.R.T. Durban for Dar-es-Salaam.
 - (8) About 15°42'E.
 - (9) 5,068 G.R.T. Beira for Dar-es-Salaam.
 - (10) Estimated 14°30'S., 42°20'E.

Air and Naval Hunt for U.862

Aircraft swept wide areas on the 16th and 17th without results. The first D/F fixes on U.862, pointing to her presence somewhere 15° and 10°S, were obtained late on the 19th by three aircraft recalled from a base in the South and four from Mombasa. The sweep by the first three transit Catalinas revealed nothing. A "stopper" patrol between ~~the~~ Comorop Island and the mainland was immediately commenced and three of H.M. Ships carried out a sweep.

Every day from the 20th to the 25th, Catalinas from Pamanzi, Diego Suarez, Tulcar, Dar-es-Salaam and Mombasa swept wide areas in or adjacent to the Northern Mozambique Channel, and Northern Madagascar waters to the mainland. The complete absence of contacts or sightings suggested that the U-boat proceeding on a north-easterly course, although in fact this was not so. The hunt was accordingly moved in this direction. From the 27th to the end of the month, Seychelles base took an active part in the hunt and aircraft based or detached there linked up with units from the mainland and Madagascar to comb the area within their radius of action. Mauritius was reinforced and aircraft from there swept. Even Addu Atoll aircraft joined the hunt, sweeping on the long flight to Seychelles. Some flights lasted as long as 18 hours. All was in vain.

Arduous and tenacious as this effort was and although every known pattern of patrol was exploited, the area of possibility was too vast and the density of air cover insufficient. Had there been many more aircraft and suitable surface craft available, success instead of failure might have resulted. During the period 16-31 August, over 750 operational hours were flown by Catalinas of East Africa Command and again, a high average of serviceability was maintained, viz:- 63 per cent. (1)

Catalina shot down by U.862

On 20 August at 1613 hours, an SSS was heard from Catalina H/No.265 Squadron patrolling in the Comores Archipelago area. (2) Aircraft and H.M. ships searched the locality for 4 days, but no trace was discovered.

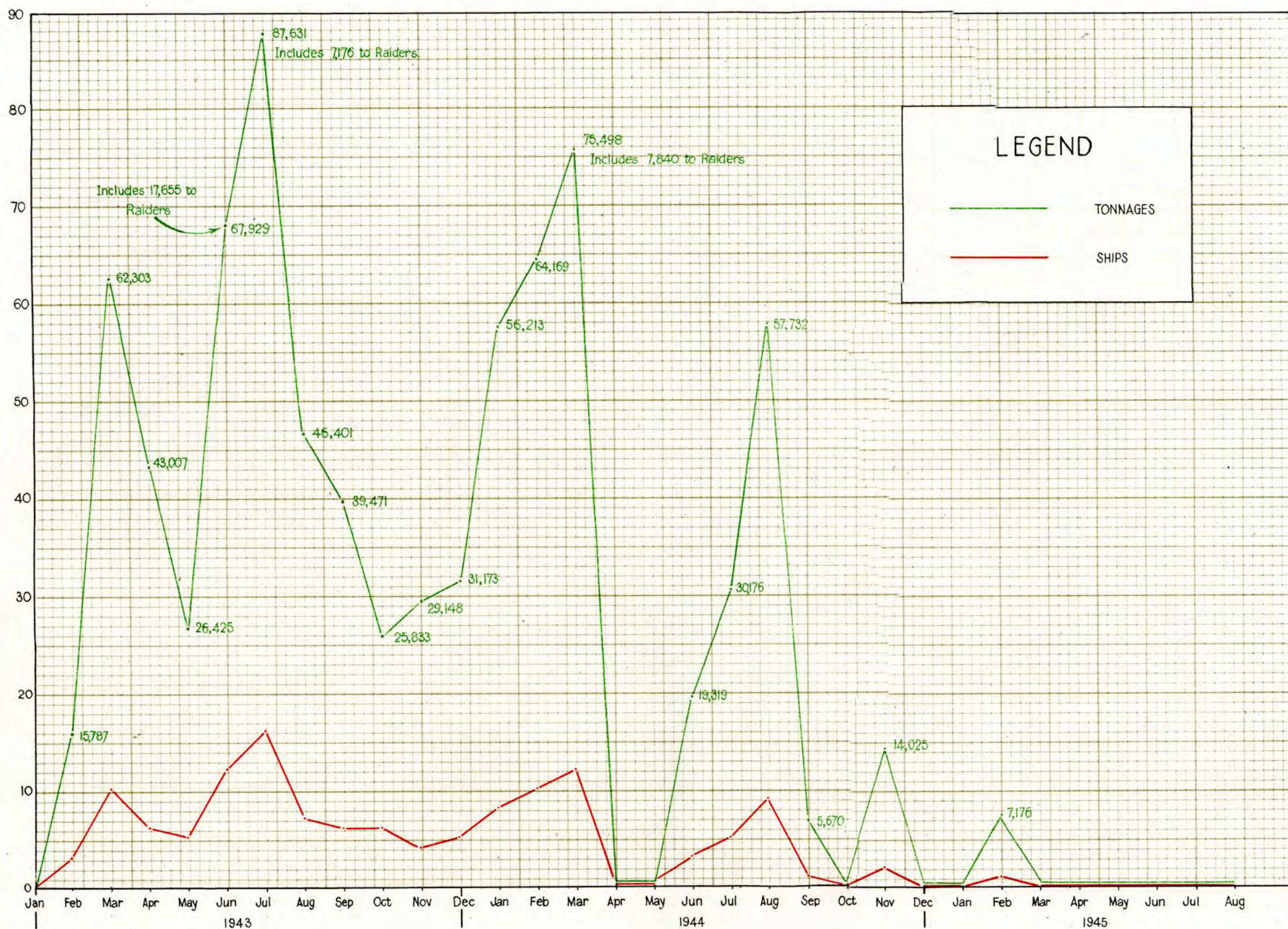
/What

(1) Details of air operations, as normally, from E. African C.R.B. appendices for August and November 1944.

(2) About 12°05'S., 42°40'E.

BRITISH & ALLIED MERCHANT SHIPPING LOSSES TO SUBMARINES & RAIDERS IN THE INDIAN OCEAN JANUARY 1943 - AUGUST 1945

000 Tons



What actually happened is revealed in the reports of U.862 after she returned to Penang on 9 September. The U-boat gunners had shot down the Catalina. A book captured from the pilot mentioned the air bases at Diego Suarez, Seychelles, Pamansi, Tulear and Mauritius: but this information must have already been known by inference. It was not stated whether the pilot was alive. (1)

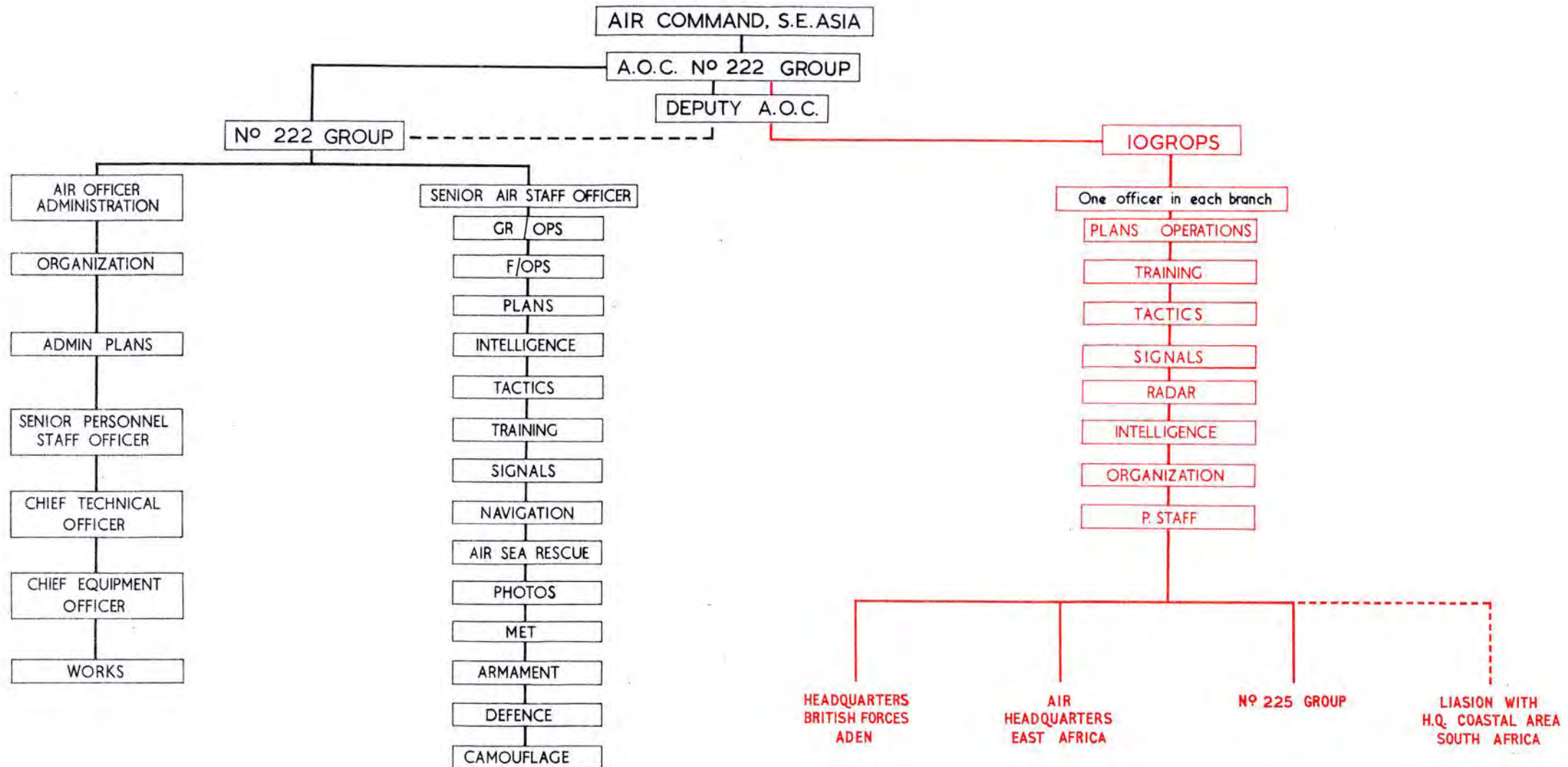
Two Ships in Convoy attacked - one sunk (20 Aug.44) (2)

The last blow of August against Allied shipping was a daring one. Convoy DN.68, seven ships escorted by three armed trawlers, was sailing from Durban northwards late on 20 August when she was attacked by U.861 (3) at 1900 hours. The tanker Darunia was hit by two torpedoes in a position 480 miles East of Durban, but was able to return to that port under her own power. At 2240 hours on the same night, U.861 struck again and torpedoed S.S. Berwickshire, (4) in the same convoy. She sank and her survivors were brought into Durban on the 23rd. Air records do not mention the event and there are no traces that ^{any} air formation of Air H.Q. East Africa were involved. Normally the area was left to the Union of South Africa, at whose bases there were at that time no flying boats.

/ CHAPTER 2

-
- (1) B.d.U. warlog 9 and 14 Sept.44 (A.H.B.6 copy).
 - (2) 1200 tons, left Kiel 20 April 44, and arrived Penang 22 Sept.44 carrying a cargo of lead, supplies, spare parts, instruments, guns and ammunition for the Japanese Navy. C.O. Oosten.
 - (3) 7,464 G.R.T.
 - (4) In 30°58'S, 38°50'E.

IOGROPS ORGANIZATIONAL DIAGRAM



CHAPTER 2. STRATEGICAL AERIAL MINELAYING (1943 - 1945)

Introduction

One of the most striking examples of long-sustained aero-naval co-operation in the Second World War was the strategical minelaying campaign of 1943 to 1945 against the Japanese Outer Zone. After modest beginnings in 1942 by American submarines, the brunt of it was borne all through 1943 by American air units operating from India, Ceylon and Australia. After the formation of South East Asia Command, the campaign was closely integrated within its field of responsibility. Operations increasingly resembled a relay race, with long range aircraft and submarines neutralising port after port, increasing the scope and weight of the effort, overtaking Japanese counter-measures and driving the enemy's seaborne supplies on to land routes, delimiting the types of ships employed and so slowing down the flow of vital military stores for Burma, food for the occupied territories and fuel for the hard-pressed Japanese Air Force, Fleet and homeland industries.

Minelaying had no place in early Allied strategic conceptions: but as the dividends it paid became apparent and more and better mines and aircraft, became available, the imagination of the local commanders was fired and they used the great mobility and range of their limited forces with notable effect, incorporating their jointly fashioned principles into the broad theatre strategy. They claimed later that the results of the two and a half years' campaign made a contribution to the successful outcome of the war out of all proportion to the effort.

The scope of the record of operations must of necessity be confined in the main to aircraft operating from bases in India and Ceylon, at first under command of Air H.Q. India and later of South East Asia Command: but brief outlines of operations by ^{R.A.A.F.} ~~S.E.A.C.~~ Command and Allied submarines will be included. The method will be to orientate the reader firstly on the vast geography of the target areas, then to outline the military situation, strategy, forces and weapons employed. Thereafter, the general record of operations will cover in succession the experimental year of 1943 and the early efforts of South-East Asia Command, proceeding by phases to the widening campaigns of 1944 and 1945. The effects on the Japanese system will be traced and occasional statistics provided.

/The

The Allied Situation in Early 1943

Back on the Defensive

With the forces of the first Arakan campaign pushed back to their starting point in India, the Eastern Fleet based at Kilindini several thousand miles away from the front, the Japanese in victorious mood holding Burma, the Andamans and the Nicobars and dominating the Bay of Bengal and the Andaman Sea, there was little cause in January 1943 for self-congratulation. At no point had any more than the merest dent been made in the vast perimeter of Japan's conquests from Burma through Malaya and the Dutch East Indies to New Guinea. The only relief to the sombre background lay in the recollection of the American naval victories at Midway and the Coral Sea, and the operations of their carrier-borne aircraft at Wake and other islands and the isolated air attack on Japan in the previous year: and all those happenings had occurred in a remote theatre.

1943 - the Year of Stalemate

All through 1943, inadequate air forces spent most of their effort in a ding-dong struggle with the enemy submarines, lines of communication and air forces, but had still not mastered these problems when the year closed. Sizeable fighter forces patrolled the main bases. Only in the Autumn did the Eastern Fleet move back to Ceylon. Under strength and not yet a balanced force, it was in no shape to support a major offensive. For this both the necessary forces of the three services and a centralised system of command were lacking.

The year closed with South-East Asia Command a reality, still to find its ultimate form, the promise of augmented forces still unfulfilled and the table covered with plans doomed never to blossom into action. It was against this cyclorama of frustration that the first halting minelaying operations began to point the way to a more hopeful future.

/The

The Tenth U.S. Army Air Force

For purposes of American strategy, China, Burma and India had been linked together since February 1942 to form one theatre - the C.B.I. When Lt.Gen. Joseph W. Stilwell came out in command, his only available military force was a handful of men and aircraft of the recently created Tenth Army Air Force, with its headquarters at New Delhi and the task of assisting the British in the defence of India. The U.S. India Air Task Force (IATF) was created on 3 Oct.42.⁽¹⁾ The commander of the Tenth Air Force in January 1943 was Brig.Gen.Howard Davidson. The 7th Bombardment Group of this air force began with a paper strength of four Liberator Squadrons. By January, 1943, when minelaying operations were about to be launched, these, although not yet at full strength, were ready for operations. They were the 436th, 492nd,⁽²⁾ 9th and 491st.⁽³⁾

The 7th Group of the Tenth U.S. Army Air Force carried out all the Liberator minelaying operations of 1943. The few operations carried out by Mitchells of the Tenth came from the 341st Group. Until the end of 1943, the Liberators flew unescorted, owing to the lack of long range fighter forces. Minelaying by Tenth U.S. Air Force aircraft began on 22/23 Feb.43 and ended on 17 Aug.44.⁽⁴⁾

The Fourteenth U.S. Army Air Force

Liberators of the Fourteenth Air Force, to assist the Tenth, carried out three mining missions in Burma in December of ¹⁹⁴³ ~~that year~~. The Fourteenth was created, on 10 Mar.43, with its forward echelon H.Q. at Chungking and a rear echelon at New Delhi. Its commander was the veteran Brig.Gen. Claire Chennault. The Fourteenth Air Force liberated him from his irksome allegiance to the Tenth Air Force and British command in India and its creation was part of the gradual separation of the China theatre from the control of South-East Asia Command. ~~The India-Burma theatre had not yet been separated from the China or "Asiatic" theatre.~~ On 20 Aug.43, a move was made to settle the conflicting views of the India-Burma and China strategists. This was the creation of H.Q. U.S.A.A.F., India-Burma Sector, China-Burma-India under command of Maj.Gen.George Stratemeyer. This officer's duties included direct control of _____

/the

- (1) H.Q. Barrackpore, near Calcutta.
- (2) Both at Gaya.
- (3) Both at Pandaveswar.
- (4) The Army Air Forces in World War II Vol.IV. U.S.A.F. Historical Division.

161

SECRET

the Tenth Air Force and the CBI Air Service Command. He was also responsible for the supply and maintenance of the Fourteenth Air Force in China, for protection of the Hump route and certain over-all planning and training. He joined up at New Delhi with Air H.Q. India Command, R.A.F., the British Army H.Q. and other authorities. (1)

Eastern Command (2)

Soon afterwards, South-East Asia Command was established and further sweeping organizational changes came into force. Air Chief Marshal Sir Richard Peirse (previously the A.O.C.-in-C. of India Command) was appointed Air Command S.E. Asia, with Maj.Gen. Stratemeier as his Deputy. By the end of 1943, there was general agreement in the theatre that all U.S. Army A.F. and R.A.F. units assigned to S.E.A.C. should be integrated. Upon his return from Cairo, Lord Louis Mountbatten, the Supreme Allied Commander, issued a directive integrating the Tenth Air Force and the R.A.F. Bengal Command under the ultimate unified control of A.C.M. Sir Richard Peirse. The purpose was to form within the administrative organization of Air Command S.E. Asia a well-integrated operational unit. The combined forces thus merged ~~were formed~~ into Eastern Air Command (E.A.C.), for command of which Stratemeier was appointed on 15 Dec. 43, with Air Vice Marshal T.M. Williams as ^{deputy} assistant commander. Eastern Command was divided into four components: a strategic air force (referred to in these records as S.A.F. or the Strategic Air Force), under command of Davidson (of the Tenth), composed of A.A.F. and R.A.F. heavy and medium bombers. Some of the U.S. air units of the Tenth moved progressively to China to stiffen the Fourteenth. The veteran 7th Bombardment Group of Liberators stayed with Eastern Command. Also involved in minelaying was the Photographic Reconnaissance Force. The other two components of Eastern Air Command were, firstly, the Tactical Air Force, composed of fighters and fighter bombers of the R.A.F. and U.S.A.A.F. under command of Air Marshal Sir John Baldwin; and secondly, Troop Carrier Command, comprised of R.A.F. and U.S.A.A.F. troop carrier units, under command of the American Brig. Gen. William D. Old. (3)

/R.A.F. units

- (1) The A.A.F. in World War II - Vol. IV. U.S. Air Historical Division.
- (2) A.H.B. narrative on South-East Asia.
- (3) For a completely documented record of U.S.A.A.F. policy, command and operations in the China-Burma-India theatre, refer to The Army Air Forces in World War II Vol. IV A.F. Historical Division. University of Chicago Press.

SECRET

R.A.F. units of Eastern Air Command began strategical minelaying on 10 Jan. 44. At first, Nos. 159 and 355 Squadrons of No. 184 Wing,⁽¹⁾ itself under No. 231 Group,⁽²⁾ carried out the lays, but No. 159 Squadron had assumed responsibility for all minelaying by the Strategic Air Force by August 1944.

No. 222 Group

When the enemy submarine threat was mastered at the end of 1944, No. 222 Group in Ceylon re-orientated its policy and employed its long range Liberators on anti-shipping strikes and minelaying. Their first mining operation was on 21/22 Jan. 45, when Liberators laid mines in the Penang area. The Group continued laying until May 1945; No. 160 was throughout the operating squadron. Their very long range Liberators were admirably placed for 1,400 mile flights as far as Singapore, until then only within range of Superfortresses.⁽⁴⁾ The joint efforts in January 1945 of No. 222 Group, Eastern Air Command and the Twentieth Air Force trebled the highest previous monthly effort and the first quarter saw the most powerful offensive mining effort yet launched in the campaign against Japanese seaborne military supplies.

~~The Twentieth U.S. Army Air Force~~

~~This air force was created in the Summer of 1944 with the primary task of bombing Japan from Chinese bases. The aircraft were Superfortresses (B-29s), the most powerful aircraft in the world at the time, and they were capable of very long flights. From time to time, their habitual bombing function was changed to minelaying, with success, for when in the first four months of 1945 they operated from bases in the Calcutta area, their great range and carrying capacity provided weight at vital points beyond the power of the other commands to cover adequately.~~

~~The first experimental lay by Superfortresses of XX Bomber Command on 10 Aug. 44, synchronised with a bombing attack, was in the approaches to Palembang, one of the principal enemy oil loading posts. The strategic value of~~
/this

- (1) H.Q. Salbani.
- (2) H.Q. Calcutta.
- (3) A table is provided at Appendix 22 giving the periods in which the various air commands laid mines in the Outer Zone from India and Ceylon.
- (4) At the stage when comparative statistics of the efforts by the various commands and air forces concerned are required, they will be found in relevant appendices to this volume.

The Twentieth U.S. Army Air Force

This force was created in the Summer of 1944 with the primary task of bombing Japan from Chinese bases. The aircraft were Superfortresses (B.29s), the most powerful aircraft in the world at the time, capable of very long flights. From time to time, their habitual bombing function was changed to minelaying, with success, for when in the first four months of 1945 they operated from bases in the Calcutta area, their great range and carrying capacity provided weight at vital points beyond the power of other commands to cover adequately.

The first experimental lay by Superfortresses of XX Bomber Command on 10 Aug. 44, synchronised with a bombing attack, was in the approaches to Palembang, one of the principal enemy oil loading ports. Its strategic value was apparent to the planners, who pointed out that the refinery there was the most important in the Far East, providing more than one-half of the aviation fuel used by the Japanese. They returned from a tour of duty in China on 21 Jan. 45, initiating a series of operations closing on 29 Mar. 45, all from bases in the Calcutta area.

Summary of Air Forces engaged

The foregoing survey has outlined the succession and co-operation of R.A.F. and U.S.A.A.F. air forces in the minelaying campaign from S.E. Asia from February 1943 to July 1945. Recapitulating, these forces were provided from the Tenth U.S. Air Force, the R.A.F. element of the Strategic Air Force of Eastern Air Command (S.E. Asia),⁽¹⁾ the Fourteenth and Twentieth U.S. Air Forces and No. 222 R.A.F. Group of Air Command S.E. Asia. Possessed of some familiarity with the units concerned as they entered and left the pattern of attack, and the elementary outline of theatre geography, it will be plain sailing with the aid of the map to follow the chronological course of operations. Before embarking on this record, it must be made clear that the credit for the results must be shared by the Air Forces with the Royal and U.S. Navies, whose submarines also mined, who applied and serviced the mines, passed on the rich tradition of their knowledge and co-operated at all levels. The weapons employed and various tactical aspects of operations must now be briefly described.

No. 231 Group.

/ Survey

164
A

~~this effort was apparent to the planners, who pointed out that the refinery there was the most important in the Far East, providing more than one-half of the aviation fuel used by the Japanese. They returned from a long tour of duty in China on 21 Jan. 45, initiating a series of striking operations closing on 29 Mar. 45, all from bases in the Calcutta area.~~

~~Summary of Air Forces engaged~~

~~The foregoing survey has outlined broadly the succession and co-operation of R.A.F. and U.S.A.A.F. air forces in the minelaying campaign from February 1943 to July 1945. Recapitulating, these forces were provided from the Tenth U.S. Air Force, the R.A.F. element of the Strategic Air Force of Eastern Air Command (S.E. Asia), the Fourteenth and Twentieth U.S. Air Forces and No. 222 R.A.F. Group of Air Command S.E. Asia. Possessed of some familiarity with the units concerned as they entered and left the pattern of attack, and the elementary outline of theatre geography, it will be plain sailing with the aid of the map to follow the course of operations. Before embarking on this record, it must be made clear that the credit for the results must be shared by the Air Forces with the Royal and U.S. Navies, who applied and serviced the mines, passed on the rich tradition of their knowledge and co-operated notably at all levels. The weapons employed and various tactical aspects of operations must now be briefly described.~~

Survey of Mines and Methods ⁽¹⁾

Minelaying from aircraft was a highly specialised expression of air power. Its successful performance depended on a just appreciation of many factors and was equally the concern of the naval and air commanders, who saw increasingly therein the furthering of their strategic purposes. Some acquaintance with the weapons, methods and organization must be ^{developed} ~~come by~~, although there is no need to elaborate on technical aspects of the actual mines. ^K (2)

Most of the mines laid in the target area were magnetic, but when the enemy was forced on to wooden ships, acoustic mines came into use, in January 1945. Up to the end of 1944, sterilisers (which rendered the mine useless after a fixed period) were only used in the Andaman Islands area. After then, on account of Allied plans to occupy some of the mined areas, sterilisers were universally used.

/When

- (1) See Minelaying History (draft) Section XV (Admlty Hist.Sec.).
(2) Refer to Appendix 18.

When the campaign opened in February 1943, only British A Mark V mines were available. The Tenth U.S. Army Air Force began to employ American Mark XIII mines from the night of 31 Aug. 43; and these mines were used by both R.A.F. and U.S.A.A.F. aircraft up to the night of 5 May 44. From 7/8 May 44, British A Mark V mines returned to circulation and were carried in mixed cargoes with American mines. On 10/11 Aug. 44, the U.S. Mark XXVI mine was introduced to the theatre in the isolated lay by Superfortresses at Palembang. The improved British A Mark VII was first used on 26 Feb. 45 in a lay off Chumphorn. The U.S. Mark XXXVI was first planted on 26 Mar. 45 at Singapore. There were varying assemblies for all these mines governing their functioning. Dummy mines were planted from 22 Feb. 45 onwards to confuse the sweeping craft.

Nature of mine and construction of aircraft were inter-related. Before the Superfortress was adapted for strategic minelaying, the only available aircraft in the India-Burma theatre were Liberators, which could not carry a heavier British mine than the A Mark V (1,000 lb.). The Liberator employed by the R.A.F. was not so suitable as the American Liberator. In any case, all through 1943, the only R.A.F. squadron was fully stretched on sea and photographic reconnaissance.

The operational range of the early Liberators Mark V may be put at 1,300 miles, that of the later Mark V Very Long Range Liberator at 1,400 miles and that of the Superfortresses at 1,600 miles. Occasionally these ranges were exceeded by employing various devices or refuelling on route.

In the relative absence of Japanese minesweeping resources during 1943, little else beyond simple magnetic mines were needed. Towards the end of 1944, the Japanese development of a magnetic sweep forced the Allies to modify the mines, (rendering them temporarily unsweepable) and to mix acoustic with magnetic mines. When there were indications that the enemy were sweeping the mines successfully, anti-sweeping measures such as delayed arming and ship count (period delay) mechanisms were introduced, mines being fitted with one or the other or both. The usual policy was to mine at frequent intervals, but when for various reasons this was found impossible, groups of mines were set to arm at various intervals between operations, thus giving the equivalent of several operations. (1)

/Mines

(1) C.B.3303(5) Admiralty.

sometimes
Mines were ~~usually~~ laid in shallow waters from considerable altitudes, but it was sometimes found opportune to mine deep rivers and coastal shipping routes or to lay at spectacularly low altitudes. During 1943, when no fighter escorts were available, and a large part of 1944 when air superiority had not yet been established, most aerial minelaying was carried out at night. In the Outer Zone, mines were for the most part laid visually, using visual methods of identification of the target⁽¹⁾ already established by aerial photographic reconnaissance.

Mining Organization

The Naval Services designed and supplied the mines. Usually, Naval personnel and units were attached to Air Force organizations. At first, the British Naval Services and Air H.Q. India stored, transported and serviced the mines for use by the U.S. air units. As supplies of American mines, (already used in the Pacific), flowed in, a corresponding American chain of administrative command developed. But the separation was never complete and mutual services ensured the loading of mines of mixed national sources in the same aircraft when required. The consolidation of this intricate inter-national, inter-service and inter-air force organization came about gradually through 1943 and 1944. In January 1945, when the effort was trebled and both the Twentieth Air Force and No. 222 Group entered the field, it was already geared for rapid expansion, in spite of the shortage of mines and technicians, which continued chronic until the end of the campaign.⁽²⁾

~~This is an operational, not an administrative history and there is no intention here of elaborating the organizational theme. As each phase of operations opens, the ground picture of the period will be lightly touched on, so that the development of the whole campaign can be seen in depth. It may not be out of place at this point to describe the broad situation when the campaign opened in February 1943.~~

/The

(1) Ibid.

(2) Admiralty C.B.3303(5) Chapter III and IV.

The Admiralty body responsible at the source was the Directorate of Under-water Weapons. At this time, Eastern Fleet maintained its own mining staff. There was a supply of British mines in Ceylon, from which consignments were furnished direct by sea to the bases of the Tenth Air Force. The system at the time was burdened with problems of long transport hauls and assembly, which effectively limited operations. (1) As the year ¹⁹⁴³ passed, the U.S. Navy set up a central mine depot at Ondal in the Calcutta area, where there was a medium bomber base. (2) A pool of Army and Navy technical personnel was created for despatch to any part of the theatre. This principle of the "circus", it is interesting to observe, had its counterpart in other theatres. Air "circuses" were formed in 1944 in the Mediterranean. Not until January 1944 did the Admiralty send out a special minelaying staff from the U.K. to assist the Eastern Fleet. Not until then could minelaying be considered as any more than an offensive gesture by forces very much on the defensive or be incorporated into the general strategic conduct of the war against Japan.

/The

(1) H.Q. S.A.C., S.E.A. Paper No. COS/22 14.9.46 in F.O. Malaya and Singapore File in M.6994/46 Admiralty Hist. Sec.

(2) 490th Medium Bombardment Squadron.

The Japanese military System in the Outer Zone

(1)

← The Strategy and Economy of the Outer and Inner Zones

The needs of Japanese war economy led to the development of an Inner Zone and an Outer Zone. The Inner Zone comprised the home islands, Manchuria, Korea, north China and Karafuto. It was the chief consuming and only manufacturing centre in the Empire. The Outer Zone comprised Indo-China, Malaya, Borneo, the Netherlands East Indies and the Japanese mandated islands. The sea routes within the Inner Zone were the shorter and more easily protected.

The strategic importance of the Outer Zone resided in the character of its perimeter as an outer defensive line. Economically, it was primarily a source of raw materials. The war had been launched to secure it. No industries were built up in it. The aim was to render Inner and Outer Zones both independent and self-sufficient, both because of the shipping shortage and the possibility of loss of, or severance from, the Outer Zone. —————

—, South-East Asia and the Netherlands East Indies provided Japan with great supplies of petroleum, rubber, tin, bauxite, sugar, rice and other produce, all needed in the home islands.

/The

The Need for an Understanding of Theatre Geography (1)

Up-to-date intelligence on the enemy's ports, and the movements and nature of his shipping lay at the root of all sound operational planning for strategic minelaying. Information depended largely on the range of aircraft, weather, local defences and sound exploitation of material acquired. Although several sources contributed to the corpus of intelligence, there is no doubt that the leading agents were aircrews and that the bases of most factual material were their visual reports, the interpretation of their photographs and the contemporary system of exploiting such material. The view, therefore, ~~advanced at this point~~ that a thorough acquaintance with the geography of the ~~relevant sector of the~~ Japanese Outer Zone is essential to an understanding of the history of operations will be seen as reasonable and in perfect accord with the approach of the local air and naval officers involved at the time. A brief general survey of the whole area which is covered in Figure 8, will precede a closer study of the Burmese ports mined in 1943. When the record passes to 1944 and 1945, parallel guidance will be given on Malaya, Siam, the Dutch East Indies and Indo-China. ~~These facts will become increasingly meaningful as the traffic in oil, minerals and rice is seen, vital to Japan's economy, the supply routes used and discarded are traced on the map and the distance of the various target areas related to the aircraft progressively employed, their bases, ranges and carrying capacities.~~

General Geography of the Target Areas

About two-thirds of the way eastward across the Bay of Bengal lay the Andaman Islands, a British group occupied by the Japanese in March 1942 and garrisoned by them to the end of the war. On South Andaman lay Port Blair the main port, with accommodation for submarines and aircraft. These islands were a thorn in our side until neutralized later.

The coastline of Burma is familiar to all who have studied the Burmese campaign. Passing note should be taken of Rangoon, (1,249 miles from Colombo) ^{and Sittang} the Irrawaddy Delta, the Chindwin Rivers ~~and Salween~~ and, on the other side of the Gulf of Martaban, the port of Moulmein, Burma tapers to its narrowest in the region of the Isthmus of Kra, (to enter the mining picture later when it became a transshipment route). The Malay peninsula runs roughly south-east as far as /Singapore Island,

(1) Refer to Figure 8.

SECRET

171

Singapore Island, then a Japanese naval base and leading port for Japan and Burma. ^{oil storage centre}
Penang Island was still the H.Q. of the German U-boats.

Separating Malaya from the large island of Sumatra stretches the Strait of Malacca. The main feature to note about Sumatra at this point is the vital oil port of Palembang (1600 miles from Ceylon) at the southern end of its east coast and the Bangka Strait in its vicinity separating Bangka Island from the mainland.

Sumatra is separated from Java by the Sunda Strait, then freely used by Japanese shipping. The whole of this area was under close enemy naval and air supervision. It was at Palembang that the north-western area of control of the Royal Australian Air Force ended, stretching roughly north-eastwards to Sarawak and then at 90° across ^{Borneo} Borneo. Their mining by Catalinas will be mentioned later.

Siam, with its ports of Bangkok and Koh-Sichang, Cambodia with the port of Saracen Bay and Indo-China with its ports of Saigon and Kam Ranh Bay are worthy of location in passing. All these regions came progressively within the range of Allied aircraft operating from India and Ceylon (and on a few occasions, from China. (1)

101

(1) Refer to Figure 8 for the target areas, the axes of aircraft range from Indian and Cingalese bases and Japanese supply routes.

SECRET

Oil Targets (1)

By the summer of 1942, the oil wells and installations damaged by the retreating Allies had been brought back into production. The first oil imports from the Outer Zone entered Japan in May 1942 and oil thereafter formed the bulk of the increasing traffic from Singapore through the China Sea to Japan. Sumatra and Borneo were the two chief oil producing areas. The latter was taken care of by the Royal Australian Air Force's minelaying Catalinas. It furnished one-half of Japan's oil needs. Sumatra, which came first within the range of India and Ceylon-based aircraft, produced both fuel oil and aviation spirit.

Owing to the shallowness of the Palembang River, the oil from that area was either exported in small tankers to Singapore, or large tankers were half filled up at Palembang and topped up at Singapore. There were minor oil loading ports at Pankalan, See See, Belawan Deli and Asahan. The Palembang refinery was the most important in the Far East, providing more than one-half of the aviation fuel used by the Japanese.

Neither in early 1943 nor a year later was the actual petroleum situation of the Japanese known. Owing to the lack of basic data on Japan's pre-war stockpile, consumption and technological progress, exact assessments and forecasts could not be made. A post-war investigation (2) reported that an intensive submarine and mining campaign against the Sumatran oil sources ~~could have been~~ undertaken in 1944, ~~which~~ would probably have hastened Japan's collapse. Whether more could have been done with the available resources is open to debate. Two things are certain. The Japanese oil targets were extremely worth while and the Allied air forces in India and Ceylon were, all though 1943, out of range of them and could do nothing about it.

The main Japanese Shipping Routes in 1943 (3)

During 1942 and 1943, the flow of ocean going and coastal shipping nourishing the forces on the Burma Front flowed massively and with no serious interruption. Sizeable cargo ships were still operating and north of Singapore many of them sailed unescorted. Early in the year 1943, the first regular long range convoys were instituted on the Singapore run. (4) A large number of small ports and small /craft

(1) Admiralty C.B.3305(5) Chap.I.

(2) U.S. Strategic Bombing Survey. The effects of strategic bombing on Japan's war economy (quoted in Admiralty C.B.3303(5)).

(3) Admiralty C.B.3303(5).

(4) After the formation of the Escort Command in November 1943, a general convoy system was gradually introduced and was fairly launched by January 1944.

craft were developed to supplement the main sea routes and the railway, road, elephant, mule and coolie resources.

The main shipping supply routes in S.E. Asia ran from Japan to Singapore and from Singapore direct to Rangoon. The main oil routes ran from Palembang and Surabaya to Singapore and from Singapore to Japan, or the fronts in Burma, China and in the Pacific. The main course of coastal services was from Singapore by stages up the west coast of the Malay Peninsula to Rangoon or Moulmein. The others ran by long hauls up the east coast of the Malay Peninsula, via Singora and Chumphorn to Bangkok and from Japan via Saigon up the Gulf of Siam to Bangkok.

From the airfields in India used by the Tenth Air Force and those in China used by the Fourteenth Air Force later, much of the southern half of the Japanese line of communication with Burma was within range. The line ran roughly through the China Sea to Bangkok (after completion of the Siam-Burma railway), and Singapore, and thence through the Malacca Strait and up the coast of the Malay Peninsula to the rail connected ports between *Y*₂ and Bassein. The line was in 1943 only vulnerable to attack by submarines and aircraft. At the beginning of 1943, the Allied offensive effort against this inland lake was insufficient to make much impression on it. It was considered in India that the only feasible and worthwhile strategic air target within our scope was Rangoon. Singapore, Saigon and the Sumatran oil ports were well out of range.

Something was done to harry shipping in the Gulf of Martaban and the Andaman Sea, ⁽¹⁾ but with limited forces complete coverage remained a mirage. Bomb shortages, a web of transport and distribution problems, long periods of fog and cloud cover during the monsoon all enabled the Japanese to take the sting out of the bombing offensive and in so doing provided good reasons for an intensification of the strategic minelaying offensive.

/Japanese

(1) The record of air anti-shipping operations will form the substance of a later chapter.

Japanese Minesweeping (1)

All reliable sources at the period affirmed the active sensitivity of the Japanese to minelaying. This found expression in a curious blend of frustrated technical research, apathy alternating with energetic counter-measures, inefficiency and extreme mobility. The full meaning and scope of Japanese reactions was not reliably assessed until after the war. As the Americans provided most of the investigating teams, it is to their records that recourse must be made. Epitomizing the findings of the U.S. Naval Technical Mission to Japan, the following facts were established.

All the Japanese questioned were satisfied with their moored and magnetic minesweeping gear. Not all of them realised the progressive modifications used against them or the reasons for them, but in their experiments ^{some} hit by chance on ~~some~~ successful counter-measures. Judged by U.S. standards, Japanese moored minesweeping was slow, ineffective and dangerous, although some of their equipment was very good.

~~Japanese magnetic minesweeping was slow, clumsy and dangerous.~~ Their methods suffered from a poverty of resources, copper for example. Their acoustic (2) minesweeping was quite ineffective when electro-mechanical acoustic gear was concerned: but their work on explosive acoustic sweeps was thought probably superior to any U.S. method. In some methods they showed ingenuity and imagination.

The Japanese tended to close their ports for unduly long periods even after only a few mines had been laid, so causing that inconvenience to themselves which was one of the Allied aims. They began the war with no specially designed minesweeping flotillas. Only at their naval bases was their equipment at all adequate. All minesweepers were converted auxiliary craft. The first year of minelaying

/at

(1) Admiralty Minelaying History Section XV: Summary of the findings of the U.S. Naval Technical Mission to Japan. Ship and Related Targets, Japanese Minesweeping Gear and equipment. Index No. S-25 (quoted in Admiralty C.B.3303(5) Appendices J and K).

(2) Some acoustic mines operated on propeller noise in the acoustic region; others on ship hull vibration in the sub-sonic region.

at Rangoon created a purely local problem, ~~which called for no extension within the India-Burma-China theatre.~~ They could bear the inconvenience and alleviate it by using other ports. When, during 1944, the campaign was extended to many other strategic zones, they were unprepared to cope with the problem and by 1945, when the mining campaign opened at full blast, the general situation was so desperate that there was no longer any hope or means of neutralising its effects, which, coupled with strategic air bombing of communications and submarine laying, immensely complicated their supply problem.

/194.3

1943 Operations

1942 Prelude

176

On the night of 2/3 Feb.42, Dutch Catalinas operating from Java just prior to its evacuation, sowed eight British AI-IV mines in the Palembang River and sixteen in the Banka Straits, south of the lighthouse in Stanton Passage. No records of this isolated lay are traceable. A Dutch squadron out of Java reformed later as No. 321 Squadron (1) and became a mainstay of No. 222 Group in Ceylon. Palembang was not mined again until 10/11 Aug.44, when it was visited by Super-fortresses, and the Banka Strait not until 13 Apl.45, when the Dutch submarine O.19 carried out a lay.

In May 1942, it was proposed that the fast minelayer H.M.S. Marxman should be camouflaged as an island and lay mines off the Andaman Islands and the coast of Malaya. The plan came to nothing. The C.-in-C. Eastern Fleet proposed to "seal" Rangoon by sinking a ship in the fairway. This idea was adjudged too difficult and dropped. The Admiralty's comment was that experience in general had shown that it was equally profitable to lay mines in the outer approaches to a harbour of the type of Rangoon, and subsequently to extend the sweeping resources of the enemy by laying mines in the coastal channels leading to the approaches. It was not until March 1944 that the Eastern Fleet had any submarines available for minelaying.

The earliest strategic mining was carried out in October 1942 by U.S. Submarine Command South-West Pacific during a torpedo shortage. Five fields were laid in October and November 1942, between Bangkok and Hainan Strait, by submarines operating from Perth (Australia). The two lays of 15 and 19 Oct.42 were in Bangkok approaches and the lay of 2 Nov.42 off Cape Padaran (Indo-China). (2)

/The

(1) No trace of the operation is to be found in the O.R.B. of No. 320/321 Squadron's O.R.B. for February 1942.

(2) Admiralty C.B.3303(5). A short account of submarine mining is given towards the end of this chapter.

The Royal Australian Air Force did not begin minelaying until April 1943 in the Pacific. (1)

~~No final judgement on air operations will survive unless it takes account of the whole context. Clarity is unattainable if one expects to seal off hermetically operations simply because they fall short of a certain parallel or meridian. This concept does not apply with so great a force to land operations, but in air operations, with their exceptional attributes of speed, range and mobility that are still making nonsense of so many older theories on the frontiers of time and space, it is mandatory.~~

The Strategic Significance of Rangoon (2)

In the winter of 1942-1943, although the strength of the Allied bomber force and the hope of any appreciable reinforcements before the monsoon were both low, it was decided to adopt an offensive policy. Enemy occupied airfields and their installations in Burma became first priority for R.A.F. light ~~bombers~~ and medium bombers and Rangoon for heavy bombers. Rangoon, the only large strategic objective in Burma, was regarded as a communication target. Practically all supplies for the Japanese land and air forces in Burma passed through it. Everything possible had to be done to interrupt the flow of these supplies: as the R.A.F. only possessed a handful of Liberators, the bombing offensive against Rangoon was mounted by the Tenth U.S. Army Air Force.

Although Rangoon had been occasionally bombed in 1942, little impression had been made on it. Only when the strength of the Tenth Air Force increased was it possible to embark on a regular campaign on the whole system of enemy road, rail and sea communications. Of all the ports of entry feeding the Japanese in Burma, only Rangoon was both sited within operational range and sufficiently closely linked with the land campaign to become a regular bombing objective. At the beginning of 1943,

/Tenth

(1) Ibid.
(2) A.H.B. narrative (first draft). The campaign in the Far East Vol.III India Command.

Tenth Air Force Intelligence estimated that 30,000 to 40,000 tons of shipping passed weekly along the Rangoon River. As the Japanese had not so far reconditioned the Burma oil fields, an important part of this tonnage consisted of petrol and heavy oil for the air units in Burma. Denial of Rangoon would curtail all forms of military operations, especially the air effort.

Preparations

In addition to the ^{leaven} working in the mind of the C.-in-C. Eastern Fleet since his exchange with the Admiralty, the U.S. Air Force now saw good reasons for supplementing the well-meant but inadequate bombing of docks and sea searches by mining the Rangoon River. By January 1943, mines and naval technical assistance were available. The R.A.F. supplied information as to moon phases, tides and the harbour channels. The plan was co-ordinated with the Royal Navy. Liberators were modified to carry the mines. An American naval officer specialising in minelaying had been transferred from the Middle East during the autumn of 1942 and he supervised arrangements at Tenth Air Force Headquarters. (1)

The date was one selected for the low tide and full moon. A diversionary mission was to be flown by bomber aircraft over Mingaladen airfield and Rangoon town. Air H.Q. Bengal Command instructed No. 221 Group to unload the mines at Alipore docks and transfer them to the airfield there, which they were to loan to the Americans for the task. They were to give all possible assistance and preserve the strictest secrecy. (2)

The first Mining of Rangoon (22/23 Feb. 43)

On the night of 22/23 Feb. 43, 10 Liberators of the 7th Bombardment Group, Tenth Air Force, dropped 40 British AI mark V 1000 pound mines in the Rangoon River. (3) They carried half the load which later became normal when British and American mines were mixed. Four was the maximum load of British mines and they could be loaded in the forward bays only. All the aircraft returned safely. To further the element of surprise, the diversionary mission bombed Mingaladen and Rangoon town. (4)

It was learned later that on the 25th, S.S. Takao Maru 4,821 G.R.T.) was sunk on one of the mines, (5) as well as one small vessel.

/There

-
- (1) The A.A.F. in World War II Vol. IV p.473.
 - (2) Signal Bengal Command to 221 Group 15.2.43 (A.H.B. II J.50/84/21 (A) Encl. 1A).
 - (3) Project "Low".
 - (4) Admiralty Minelaying History: A.A.F. in World War II. U.S.A.F.
 - (5) Admiralty C.B. 3303(5) Appendix G.

SECRET

179

There were no evident immediate results. On 9 March, there were no signs of a Japanese attempt to sweep the mines.⁽¹⁾ The effects of such operations was cumulative. But the fact that the mission had been carried out smoothly and without casualties encouraged continuance. The task was to prove beset with many handicaps and the whole of 1943 may be styled a year of experiment in strategic minelaying.

/ Dispersal

(1) Signal F.L.O. (India) to C.-in-C. Eastern Fleet 9 Mar. 43 (A.H.B.II J.51/40/6/222 Encl.2A).

SECRET

Dispersal Versus Concentration

Instead of immediately following up the Rangoon lay, the Tenth Air Force called for more mines for laying in small quantities and at irregular intervals at Bassain (on the Irrawaddy Delta), Moulmein (across the ferry from Rangoon) and possibly in Hongkong and other Chinese harbours used by the Japanese. The Flag Liaison Officer at Naval H.Q. New Delhi, the C.-in-C. Eastern Fleet and the Commanding General, U.S.A.A.F. in the CBI theatre conferred and the mining of the China coast was cancelled. Certain navigational difficulties in the Bassain and Moulmein projects led to postponement in favour of Rangoon.

The Naval F.L.O. (India) suggested it as the next target, with the following priority of the channels for mining:-

- (i) N.W. of Elephant Point
- (ii) W. of Middle Point
- (iii) W. of Palan Creek

It took a month before everything was set for the next operation. The course of events ran on the following lines.

(1) Correspondence in H.Q.A.F. India File (A.H.R.II J.51/40/6/222).

Dispersal Versus Concentration

~~Instead of immediately following up the Rangoon lay, the Tenth Air Force called for more mines for laying in small quantities and at irregular intervals at Bassein (on the Irrawaddy Delta), Moulmein (across the ferry from Rangoon) and possibly in Hong Kong and other Chinese harbours used by the Japanese. The Flag Liaison Officer at Naval H.Q. New Delhi, the C. in C. Eastern Fleet and the Commanding General, U.S.A.A.F. in the CBI theatre conferred and the mining of the China coast was deferred. There were certain navigational difficulties in the Bassein and Moulmein projects which decided them to postpone them in favour of Rangoon. The Naval F.L.O. (India) suggested it as the next target, with the priority of the channels for mining:~~

~~(i) N.W. of Elephant Point.~~

~~(ii) W. of Middle Point.~~

~~(iii) W. of Palan Creek.~~

~~It took a whole month before everything was set for the next operation. The course of events ran on the following lines.~~

Preparations for the second Rangoon Lay

Air H.Q. India began to standardize procedure and, on 14 March, gave Air HQ Bengal instructions on the role of the R.A.F. in the next operation. (2) The Tenth Air Force had asked for 50 Type A Mark V magnetic mines, all set with arming delays. (3) No.222 Group formed a servicing party in Ceylon from experienced Bengal Command personnel, with an armament officer from A.H.Q. Bengal, supervising. No.222 Group provided the tools and test gear and A.H.Q. Bengal the preparation, fusing, defusing and testing activities. They were shipped from Ceylon and arrived at Alipore (a voyage of over 1,200 miles) about 23 March, complete with components and parachute attachments. (4)

/Teething

(1) Correspondence in H.Q. A.F. India File (A.H.B.II J.51/40/6/222).

(2) H.Q. A.F. India File (A.H.B. II J.1/40/6/222 Encl.7A).

- (3) 10 with arming delays of 24 hours
 10 with arming delays of 72 hours
 5 with arming delays of 5 days (5 x 24 hours)
 10 with arming delays of 7 days (7 x 24 hours)
 5 with arming delays of 10 days (10 x 24 hours)
 5 with arming delays of 14 days (14 x 24 hours)
 5 with arming delays of 21 days (21 x 24 hours).

(4) The forces employed are given by Air H.Q. India as the 9th Bomb.Group, but this conflicts with American records who give the 7th Bomb.Group as the unit responsible for all Liberator mining in 1943.

Teething Troubles (1)

The second lay was timed for the night of 26/27 March. Fifty-six mines shipped from Ceylon to Alipore were ready for loading. Such short notice was given the air wing responsible that the necessary qualified personnel had not been assembled. In response to an urgent request, the Command Torpedo Officer (2) was flown to Alipore and supervised the testing and priming of ~~the~~ the mines. Four mines failed to pass the test. Many more were to be found unserviceable during the years that followed, as a result of the wear^{and tear} of the long journey. The remaining 52 mines were loaded into 13 Liberators. Six aircraft were airborne. The seventh crashed about one-half a mile from the end of the runway. Owing to the risk of explosion from it, the remaining aircraft were not airborne. The operation was postponed until the following night.

The second lay at Rangoon (27/28 Mar. 43) (3)

The operation on the next night went practically according to plan and without loss. Ten U.S. Liberators (B-24D) planted 40 British A Mark V mines in the Rangoon River. Another Liberator dropped 4 mines in error in Pan Nayeat, a neighbouring creek. This was the last lay of any volume off Rangoon for four months. Material difficulties and the monsoon brought the programme to a relative standstill.

The third lay at Rangoon (22/23 May 43) (4)

~~It was now the last week of May.~~ The monsoon had broken. This time, a specially trained party was assembled at Salbani airfield. (5) Twelve aircraft were loaded with 48 British A Mark V mines. Everything ^{began} ~~went~~ smoothly, except that more mines were found to be defective ~~up to departure~~. But the weather defeated the mission. Only two Liberators reached the Rangoon River and dropped their eight British mines. The rest of the mines were returned to Salbani and defused.

It was now near the end of May and only 92 mines had been laid in the spacious Rangoon River. Ample time had been given for clearance. The situation remained static for still another three months, except for experiments with Mitchell aircraft ^{/Mitchell}

(1) Report by No. 293 R.A.F. Wing to No. 221 Group A.H.Q. Bengal, 22.4.43. (A.H.B.II J.51/40/6/222).

(2) Assisted by a Sergeant torpedo specialist attached for instructional purposes the Wing Armament Officer and armourers and members of the U.S.A.A.F.

(3) Admiralty Minelaying History (draft).

(4) Report by A.H.Q. Bengal 27.5.43 (A.H.B.II J.51/40/6/22 Encl.16A)

(5) Under control of the Wing Armament Officer of No. 168 Wing.

Mitchell Lay in the Irrawaddy River (13/14 July 43)

Between 8 and 13 June 44, Salbani and Chakulia airfields were inspected by an R.A.F. Torpedo Officer and the Tenth Air Force Mining Officer. At Chakulia a leading trial of British A Mark V mines on Mitchell aircraft proved that, with minor alterations to the aircraft body, two mines could be carried and good clearance ensured. (1) Rangoon was well within the range of the Mitchells, with an operational range of over 1,000 miles.

The Mitchell squadrons of the 34st Group of the Tenth Air Force spent most of 1943 attacking rail and road communications in central Burma, but on this one occasion in 1943, they were diverted to minelaying owing to bad weather in that area, so preventing a serious break in the mining programme for Rangoon. On the night of 13/14 July, 43, a mission (2) laid 32 British A Mk. V Mines over a 50 mile stretch of the Irrawaddy River, with questionable results. It was another year before Mitchells returned to minelaying. (3) Only thereafter did the considerable value of sustained river mining become apparent. ~~Mitchells~~ River targets (usually the concern of the R.A.F.) were ~~usually~~ only attempted when the weather closed in on their normal targets.

/Lays

(1) H.Q. India File (A.H.B. II J.51/40/6/222 Encl.18A.)

(2) Probably of 16 aircraft. Confirmation of U.S. statistics cannot always be obtained. All the O.R.Bs are in the U.S. The U.S.A.F. official history The A.A.F. in World War II only refers briefly and in broad terms to most minelaying operations.

(3) From ⁷July to 13 Aug.44 they carried out a series of lays in the Chindwin River.

Lays at Rangoon (August - November 1943)

By the end of July 1943, the Tenth Air Force had built up stocks of U.S. Mark XIII mines. On the night 31 July/1 August, Liberators laid ^{of these} 36 mines in Rangoon River and on 7 September another 31. This was the beginning of a more economical procedure, for a Liberator could carry eight U.S. instead of only four British mines.

When South-East Asia Command was formed, the tempo of the attack against Rangoon heightened both by bombing and mining. There were four lays in November. On the night 6/7 November, 10 mines were laid: on the night 8/9 November, 30; on the night 12/13 November, 12; and on the night 13/14 November, 6. ⁽¹⁾

/ Mining

(1) Admiralty Minelaying History (first draft): A.C.S.E.A
Intelligence O.R.B. appendices.

Mining forces acceleration of Siam - Burma Railway construction

Although there were few signs in the Rangoon area that the aerial minelaying was straining Japanese resources, this was the case. The local minesweeping and repair resources were weak as a result of the sacrifice of the Outer Zone to the needs of the homeland islands and the military build-up for the great air and naval offensive in the Central Pacific planned for 1944. But further afield, the success of the desultory 1943 campaign was clearly manifest.

Indo-China was fed by the great railway from Nanning in China. At Saigon it ended, but opened again at Phnom Penh, ~~from~~ whence it ran northward to Bangkok. Work on the section from Bangkok to Moulmein, to join up with the Burma railway crossing the Siam-Burma frontier near Thanbyuzayat was proceeding. The fear that the Allies might extend their mining to other reaches of the Burma coast and so encroach to a mortal degree on the volume of their supplies for the front inspired a period of intensification. (1) The work was rushed through. Ships from the South and East were safe ^{as far} as Bangkok, except for occasional interference from submarines. From Bangkok the overland ^{route} journey into Burma was not yet ^a feasible bombing project for aircraft based in India or Ceylon. Bangkok itself had so far been left alone. The Siam-Burma railway was completed in October 1943 and Allied planners were soon devising means to circumvent the advantage so won by the Japanese. (2)

Air Plans to knock out Rangoon (December 1943)

During 1943, U.S.A.A.F. and R.A.F. bombers had devoted close attention to targets in the vicinity of Rangoon such as airfields, oil refineries, road and railway installations, wharves, port facilities and shipping. The latter three objectives moved steadily into prominence as the year drew to a close. The attacks were beset with difficulties. Day bombers flew unescorted and lost appreciably to the anti-aircraft defences of the area, now one of the most heavily fortified in the whole of South East Asia. The larger part of enemy fighter strength in Burma was based at Mingaladon and other nearby fields and they exacted an increasing toll of the Liberators.

In November 1943, General Stratemyer, an advocate of closer air force co-operation, suggested and received approval of, a joint effort by the R.A.F. and the Tenth and Fourteenth Air Forces to liquidate Rangoon once and for all. Night
/mission

(1) Admiralty Minelaying History: C.B.3303(5).

(2) Refer to Figure 8 for sea and rail supply routes to Burma.

missions were to be flown by R.A.F. Wellingtons and Liberators, day missions by U.S.A.A.F. Liberators and Mitchells escorted (for the first time) by Lightnings and Mustangs. D Day was to be 25 Nov. 43 and the series was to last six days and five nights. On approximately D plus 8 Day, the Tenth Air Force was to mine the shipping lanes at Rangoon and Moulmein, ~~These two ports~~ connected by ferry. ~~constituted a single complex as a target.~~ From Moulmein an endless stream of river craft plied up the Salween River ~~forwards~~ to the front. (1)

The Bombing of Rangoon (25 Nov. to 6 Dec. 43)

Bad weather foiled ~~the start of~~ bombing operations for the first two days - 25 and 26 November. The element of surprise gone, operations were bitterly contested by some 60 fighters. However, a balanced programme which took care of the enemy airfields as well as attacking most of the selected targets led to positive results, although these fell short of the high expectations.
 Botataung docks were bombed by U.S. Liberators on the 28th. The American phase of the bombing operations ended on 1 December. R.A.F. missions were flown on the night 30/31 November against Mingaladon and Zayatkwint airfields and the Rangoon dock area and again on 2, 5 and 6 December at night against Bassein, Heho airfield and Moulmein. Serious damage was done to the dock area, but not so extensive as to paralyze the waterfront. (2)

The Lays at Rangoon and Moulmein (4/5 and 5/6 Dec. 43)

While the bombing programme was drawing to its close, U.S. Liberators carried out two considerable lays. The first was on the night of 4/5 Dec. 43, when 25 mines were dropped in Rangoon River and 60 in the Salween River at Moulmein. On the following night, 56 mines were laid at Moulmein. These lays terminated the 1943 campaign of mining in the Rangoon area. Since February, a total of 396 mines had been laid by the Tenth Air Force; of these, 124 were British and 272 American.

Before recording the close of the Rangoon mining programme in January 1944, a glance will be taken at the photographic reconnaissance effort of 1943. This work was leading to a substantial corpus of intelligence both on results obtained and the shift of shipping to other ports, thus preparing the ground for those planning a wide extension of the minelaying effort which would stretch the enemy's sweeping resources to their limit and beyond. (3)

(1) The A.A.F. in World War II. Vol. IV: R.A.F. narrative on South-East Asia (A.H.B.)

(2) Ibid

(3) Ibid.

Photographic Intelligence

Photographic Reconnaissance (January - June 1943) (1)

From January to late May 1943, the aircraft available to No. 681 Squadron (known up to 24 January as No. 3 Photographic Reconnaissance Unit) were too limited in range and number to feed H.Q. India with adequate material on which to base their plans. Hurricanes and Spitfires concentrated on short-range battle-field targets. The handful of Mitchells covered places as far afield as Rangoon (21 times), Moulmein (17 times), Siam (5 sorties) and the Andaman Islands.

When in May 1943, photographs of the Andaman Islands were called for by the planners, the few Mitchells available could not be hazarded. At the end of the month, Liberators from No. 160 Squadron based in Ceylon came in to relieve the situation. From 24 May 43, when they photographed Sabang, they progressively widened the scope of air and naval intelligence. By the end of June, they had successfully photographed Northern Sumatra eight times.

More successful missions were flown from January to April than in May and June, the monsoon months when much cloud and rain were encountered.

Extension of Photographic Reconnaissance (July - December 1943) (2)

Photographic reconnaissance underwent a notable process of development in the latter half of 1943. The work was carried out by Spitfires, Mosquitoes and Mitchells of No. 681 Squadron from Calcutta (Dum Dum) and Liberators Mark III of No. 160 Squadron from Ratmalana (Ceylon):. On 1 Nov. 43, a second P.R. squadron, No. 684, was formed at Calcutta/Dum Dum (3) employing Mitchells, Mosquito II's and VI's. It was steadily equipped with the ^{new} ~~modern~~ Mosquito Mark IX; these were operating in 1944.

Most of the effort falls outside the scope of this record, but the long range work and its setbacks must be noted. Regular cover was obtained of objectives in Burma, China and the Andamans, including ports and rivers on the lines of supply. Towards the end of the year, Moulmein was covered and vital information on the Burma-Siam railway from Bangkok provided as its construction was completed.

(1) R.A.F. narrative The Campaigns in the Far East, Vol.III, India Command (A.H.B.) pp.122-123.

(2) Ibid.

(3) Aircraft were transferred to it by No. 681 Squadron, which thereafter became a single-engined P.R. squadron.

The main task remained unfulfilled. This was to provide intelligence cover of Sumatra, Malaya, the Andamans and Nicobars for future seaborne operations. Liberators were the only aircraft who had the range for this and they were too few and too slow. They lost three of their number to enemy defences in Northern Sumatra and the Andamans. ^{Their} ~~The Liberator~~ ^{and} ~~effort declined until the air situation improved.~~ They switched from day to night flights. Aircraft flew in formations of three, whose combined fire power reduced the risks of enemy interception. Such wastage of aircraft meant that precious leeway must be lost unless the new Mosquitoes were forthcoming.

(1)

The Value to the Air Command and Eastern Fleet of Air Photographs

Because the Liberator II aircraft operated at extreme range, the only modification possible was the camera installation. No increase of armament was possible. The crews responded well to the dual task of general sea and photographic reconnaissance. After a few months of operations, ^{owing to} the increased enemy anti-aircraft defences in the Port Blair - Car Nicobar - Sabang sector, day reconnaissance was temporarily abandoned, but flights to light or negligibly defended areas continued. Large areas were surveyed and the shipping position in key ports reported.

The especial value of the work to the strategic minelaying planners was soon realised. The most recent charts of enemy-controlled waters in the Eastern Bay of Bengal and Malacca Straits area available were at least three years old. The majority were more venerable and the areas close inshore inaccurate. The approaches to anchorages and harbours (which were often affected by silt, forming bars, through which deep water channels had to be dredged) were unknown until photographed. They provided up-to-date and, indeed, the only accurate information on shipping channels.

Study of photographs of ports enabled estimates of shipping to be made and, coupled with the results of seagoing convoy photographs, a fairly full picture of the enemy's sea supply system ^{emerged}. Pictures of airfields indicated the possible weight of land-based air opposition likely to be encountered. The various moves of the Japanese from port to port and the changes in the types of vessels used showed up clearly ~~and~~ when this information was most needed, laying open the way to strikes by surface ships or carrier-borne aircraft or a shift of emphasis in minelaying.

^{Quarterly}
(1) ICGROPS ^{Quarterly} Reviews Nos. 1-3, No. 222 Group (A.H.B. ILJ.50/47/39, 39A and 39B).

Maps were brought up to date and new ones were made of areas unmapped. A growing series of target maps, models of target areas, prints and mosaics were all presented to the Eastern Fleet for their 1944 carrier and cruiser operations.

(1)
Entry of the new Mosquito (August 1944)

Aerial photography remained throughout a basis of all minelaying. An important technical advance in the summer of 1944 was the introduction of a new, long range Mosquito. On 15 Aug. 44, Mosquitos of No. 684 Squadron based at China Bay (Ceylon) made their first operational flight of a series of long-range efforts to supplement effectively the work of the Liberators. The Mosquitos carried a 90-gallon fuselage jettison petrol tank on all sorties, the major of which were in excess of 2,000 air miles. Their longest flights up to the end of October 1944 were 8 hours 45 minutes, covering 2,283 miles and 8 hours 37 minutes, covering 2,289 miles, both involving two sea crossings of 1,000 miles each. But these efforts were later surpassed, the zenith being reached with a sortie of 2,620 miles. (2)

Photographic Reconnaissance Unit Operations (August - September 1944)

By 11 Sept. 44, the detachment had flown 11 sorties; it was joined by the P.R. Liberators of No. 160 Squadron to form a joint Photographic Reconnaissance Unit. (3)
From then until the end of October, 19 more sorties were flown. The Mosquitos were detailed to cover the Andamans and Nicobars and that part of Northern Sumatra within their range - roughly a line from Samalanga on the north coast to Meulaboh on the west coast. The Liberators covered that area of Northern Sumatra within their range - but outside the Mosquito range - where enemy air opposition was unlikely. The safety margin was out to a minimum: Mosquitos often landed at base with between 40 and 50 gallons of fuel. Accurate navigation over the open sea of the Bay of Bengal, devoid of landfalls, was called for and base at the first possible moment was the aim.

-
- (1) Article in IOGROPS quarterly review Vol. I No. 2 (A.H.B.IIj.50/47/39A).
 - (2) Refer to R. Bishop in his 'The Wooden Wonder', Max Parrish, London 1959. He quotes (p. 131) round flights of 2,341 miles to cover Moulmein and the Bangkok - Phnom Penh railway, 2,493 miles to cover the Bangkok - Singapore railway to a point south of the Malayan frontier and 2,620 miles from the Cocos Islands (9 hours) to Penang and Taiping.
 - (3) Under the operational control of No. 684 Squadron's detachment commander.

/ After

SECRET

190
192

After much of Northern Sumatra had been forcibly neglected by Liberators for a full year, Mosquitoes now revealed important evidence of two new airfields and changes and progress on other ground installations ~~previously unrecorded~~.

Having provided the background of what the photographic units were doing in 1943 and 1944 to further the purposes of the strategic planners towards hampering enemy supply, the last lay of the series against Rangoon and Moulmein will be recorded and the new organization of the campaign and re-orientation of the mining effort into wider fields recounted.

(end of page)

/Coordination

SECRET

Co-ordination of Minelaying operations in S.E. Asia Command (1944) (1)

Plans for Co-ordination

South East Asia Command was quick to realise the potentialities of aerial minelaying in the campaign against enemy lines of communication. From the first ideas and exchanges and the enthusiastic but rather diffuse air/naval machinery of co-operation emerged the decision to set up a firm central organization. On 6 Jan.44, Mountbatten approved the formation of a Minelaying Co-ordination Committee which was to submit quarterly a minelaying policy, indicating priorities and allocating objectives between the forces concerned.

On 17 Mar.44, a directive (2) on the co-ordination of minelaying was issued by Mountbatten to the C.-in-C.'s of the Eastern Fleet, the Army Group, the Air Command and the Commanding General of the U.S. Army Air Forces, China-Burma-India. The following procedures were laid down. Operations were to be based on general policies issued by, or general programmes approved by, S.A.C. Proposals for mining were to be submitted to the Supreme Commander (3) for co-ordination and approval, subject to the remarks and/or recommendations of the C.-in-C. Eastern Fleet. A committee was formed to assist in the task of co-ordination, to be known as the Minelaying Co-ordination Committee; it was formed of representatives of the S.A.C.'s war staff, Eastern Fleet, H.Q. Air Command and other interested bodies.

/The

-
- (1) S.A.C. papers 1944 (A.H.B.II J/50/109 (1944)): File ACSEA Air/6186 (A.H.B.II J 50/105/4/197).
 - (2) No. 9.
 - (3) With a copy to C.-in-C. Eastern Fleet (S.E. Asia).
 - (4) C.B.I. Rear Echelon, the D. of E. and S.W. Pacific Area.

The allocation of duties placed on the C.-in-C. Eastern Fleet the responsibility for maintaining records of Allied and enemy minefields, disseminating this information to other authorities in the interest of operational and shipping security and facilitating liaison with Commanders of contiguous areas in the general interest. The Air Command was to collate minelaying reports from all air forces in South East Asia Air Command and pass copies to the C.-in-C. Eastern Fleet and the Supreme Allied Commander. The Air Bombing Target Committee submitted draft proposals for minelaying priorities for aircraft quarterly, or as necessary, through C.-in-C. Eastern Fleet to Mountbatten for approval. Once the latter had approved the mining of a specific area, subsequent laying could be continued automatically in that area - in fact, it was stated, a steady although light effort was more effective than a single large scale operation. While the Air Bombing Target Committee was solely concerned with long term policy directives issued to lower formations, it was clearly realised that sufficient play must be given so as not to miss momentary targets and executive authority given to mine when the situation called for it. The second meeting of the Minelaying Co-ordination Committee was not called until 20 Sept. 44.

Problems

The Minelaying Co-ordination Committee was fortunate inasmuch^{as} that it inherited both the first hand experience of the Commanders, aircrews and technicians of the two services as well as some seasoned and ripening views on future problems. One good example of this was the growing problem of Japanese sea supply lines in the Gulf of Siam ports, ^{which} ~~The whole problem~~ overlapped with those of the S.W. Pacific Area Command. The U.S. element of the Strategic Air Force had begun bombing Bangkok as early as in November 1943 and on the night 10/11 January had laid 24 mines there. They had visited Koh Sichang on 6/7 Mar. 44, ~~the Songkhach River on 6 Apr. 44~~ and Bangkok again on 8/9 Apr. 44. Their plans for the area extended into June.

The Strategic Air Force had done well at Rangoon, but the worst was yet to come. Unable to overcome the Japanese either by land or at sea, ^{the Allies were to face} the best part of 1944 ~~was to hasten~~ a situation baffling in its growing complexity. It was to be found out that the enemy shipping target system extended to perimeters beyond the Liberators' range and that if the enemy lacked an adequate sweeping organization the Allies lacked the numbers of aircraft of the right calibre to turn the value of their efforts from a bearable nuisance to a dangerous menace.

Operations in the Gulf of Siam by the Strategic Air Force in 1944

Growing strategic Importance of the Gulf of Siam Ports

In 1943, the Japanese extended harbour facilities at Bangkok and began to link the port with the Ye-Moulmein (Tenasserim) railway, which connected, via the Moulmein - Martaban ferry, with the Burma system at Pegu on the Rangoon - Myitkina trunk line. Increasing bottlenecks in the Rangoon system arising from Allied mining added zest to their efforts in the construction of the line. Haste engendered engineering faults. The whole railway system was systematically attacked by aircraft. There were other weak points in the Singapore - Bangkok - Burma route, among them the focal point at the far end of it - Moulmein ferry, where sunken vessels blocked the fairway and delayed reshipment and ruined stores accumulated. The whole system was rightly seen at the time by the Allies as one big target objective.

Operations in the Gulf of Siam (10/11 Jan. - 29 Dec. 44)

The first lay by aircraft at Bangkok was made by the Tenth Air Force on the night 10/11 Jan. 44 in what was then considered a very long flight. This was followed by the lay of 6/7 March at Koh Sichang anchorage, and the small lay of 8/9 April at Bangkok. It was almost another month before the Tenth U.S. Air Force returned to Siam. Before they handed over the strategic commitment to the R.A.F. No. 231 Group, they visited Koh Sichang again once in May and Satahib Bay and the Minam River at Bangkok once conjointly in early June. This effort at Bangkok of 8/9 June 44 was their last Liberator lay in the theatre, as well as the first occasion when a mixed load of British and American mines was carried.

For three months, the Gulf of Siam was, unwisely perhaps, left alone. Then on the night of 4/5 Sept. 44, a mission of 14 Liberators of No. 159 R.A.F. Squadron stood by at Digri airfield. One crashed on take-off, but the remaining

-
- /13
- (1) 24 U.S. mines.
 - (2) 25 U.S. mines.
 - (3) 9 U.S. mines.
 - (4) S.A.F., Eastern Air Command, S.E.A.
 - (5) 7/8 May, 9 U.S. mines.
 - (6) 8/9 June, 6 U.S. Mk.XIII and 6 Brit. A Mk.V mines.
 - (7) 4 U.S. mines were laid by the X U.S.A.A.F. at Mergui the same night, 30 others being jettisoned in this latter mission.
 - (8) Chronological list at Appendix 2 for details. The U.S.A.F. records are not in this country and R.A.F. records give no precise details of XX Air Force operations. The missions were separately conducted and controlled.

Operations in the Gulf of Siam (10/11 Jan. - 29 Dec. 44)

The first lay at Bangkok was made by the Tenth Air Force on the night 10/11 Jan. 44 in what was then considered a very long flight. This was followed by the lay of 6/7 March at Koh Sichang anchorage, and the lay of 8/9 April at Bangkok. It was almost another month before the Tenth U.S. Air Force returned to Siam. Before they handed over the strategic commitment to the R.A.F. No. 234 Group, they visited Koh Sichang again once and Satahib Bay and the Minam River at Bangkok once conjointly. The effort at Bangkok of 8/9 June 44 was their last Liberator lay in the theatre, as well as the first occasion when a mixed load of British and American mines was carried.

For three months, the Gulf of Siam was, unwise perhaps, left alone. Then on the night of 4/5 Sept. 44, 14 Liberators of No. 159 R.A.F. Squadron stood by at Digri airfield. One crashed on take-off, but the remaining 13, in spite of the monsoon, were airborne. In bright moonlight, they could see several large cargo steamers off their targets. Five Liberators laid 19 mines in the Bangkok River and eight laid 32 in Koh Sichang harbour. Their presence was not lost on the defences, who fired unsuccessfully.

Another two months passed before the R.A.F. returned to Bangkok. This was on the night of 4/5 Nov. 44, when No. 159 Squadron despatched eight Liberator VI's, six of which laid in the Bangkok River a mixed load of 24 mines. This time, most of the anti-aircraft opposition came from ships: some of the Liberator gun crews engaged the ships with apparent success, but not without scars themselves.

-
- (1) 24 U.S. mines.
 - (2) 25 U.S. mines.
 - (3) 9 U.S. mines.
 - (4) S.A.F., Eastern Air Command, S.E.A.
 - (5) 7/8 May, 9 U.S. mines.
 - (6) 8/9 June, 6 U.S. Mk. XIII and 6 Brit. A Mk.V mines.
 - (7) 4 U.S. mines were laid by the X U.S.A.A.F. at Hergui the same night, 30 others being jettisoned in this latter mission.
 - (8) Chronological list at Appendix 21 for details. The U.S.A.F. records are not in this country and R.A.F. records give no precise details of XX Air Force operations. The missions were separately conducted and controlled.
 - (9) See Appendix 20 for tables of lays by No. 234 R.A.F. Group in 1944.

~~13, in spite of monsoonal weather conditions, were airborne. In bright moonlight, they could see several large cargo steamers off their targets. Five Liberators laid 19 mines in the Bangkok River and eight laid 32 in Koh Sichang harbour. Their presence was not lost on the defences, who fired unsuccessfully.~~

~~Yet another two months passed before the R.A.F. returned to Bangkok. This was on the night of 4/5 Nov. 44, when No. 159 Squadron despatched 8 Liberator VI's which laid in the Bangkok River a mixed load of 28 mines, jettisoning two. This time most of the anti-aircraft opposition came from numerous ships there, some of the Liberator gun crews engaged the ships with apparent success, but not without scars themselves.~~

No. 159 Squadron carried out two more lays in the Bangkok area in 1944. The first was on 23 November, when both Bangkok⁽¹⁾ and Koh Sichang⁽²⁾ were mined and the second on 29 December, when ^{both were again} ~~Bangkok was~~ mined.⁽³⁾

The ports at the head of the Gulf of Siam were mined periodically up to 20 July 45, when the very last mine lay of the war was made at Bangkok, still functioning. Before relating the 1945 operations, it is timely to examine what evidence is available as to the effects on the Japanese system of the mining operations of 1944 in the Bangkok zone.

The Difficulties of maintaining continuity in Gulf of Siam lays

Mining a great system with limited aircraft, contending priorities, the hostile vagaries of the monsoon, conflicting policies based on inadequate intelligence, major switches of heavy aircraft and the omnipresent war in Burma, was like trying to stop a huge, antiquated, leaky cistern. No sooner had one hole been stopped than the traffic gushed out of another. All during 1944, it was never possible to apply the ideal ratio of weight and tempo; but much important work was done with delay mechanisms. Strategic Air Force itself provided the foundation for the policy adopted in 1945 by the ^{Twentieth} 20th Air Force when they switched their Superfortresses for three months to intensive minelaying. By studious distribution of delayed timing apparatus, the enemy, largely ignorant of the functional principles of our devices, was kept indefinitely on the qui vive and waters were barred to shipping above certain draughts.⁽⁴⁾ Even then, the distribution of missions might well seem too wide and erratic to paralyse the supply system to Burma and the oil traffic in the whole region. But there were, in

(1) 20 mines.

(2) 20 mines.

(3) 35 mines.

(4) No. 231 Group, Nos. 159 and 355 Squadron O.R.B.s and appendices,

fact, as competent Japanese officers later testified, certain positive results by the end of 1944, which will be now reviewed.

Results of 1944 Mining of Gulf of Siam Ports⁽¹⁾

It was assumed by most captains of Japanese controlled ships that when their vessels suffered an explosion it was as a result of a torpedo hit from an Allied submarine. For a long time, the extent of aerial minelaying was not realised. Aircraft were seen and heard to drop objects assumed to be bombs. Derisive laughter was heard when they fell into the water - it was very poor markmanship, they thought. Even when mines were swept and examined, the shore units were never quite converted to the idea of a widely-flung strategic plan. The ships' captains held to their superstition, with the result that the causes shown in the lists of war casualties were usually wide of the mark and no 100 per cent reliable statistics of shipping casualties exist. This is by no means so important as may appear, although some circles hold that the sinking of shipping is the foremost aim of minelaying. What matters infinitely more is the over-all, long term effect, not only on the local conditions in specific ports, but along the whole line of communication of which the port is either a key junction or the base itself.

Bangkok had been the first port mined during the war. In October 1942, the U.S. submarine Thresher and Gar each laid 32 mines there. When S.S. Sydney Maru⁽²⁾ was damaged, mining was not suspected. Not until the campaign was expanded in 1944, did the Japanese go back on the incident and draw the right conclusions. Minesweeping was rapidly organised and the task shared with the Siamese Navy. The Japanese supplied the equipment and later and reluctantly, some staff. But for most of the time, the brunt of the hard-laying, dangerous task was borne by the Siamese, who put on board Siamese naval officers in charge of civilian crews, with naval ratings to handle the sweep gear. The sweepers were wooden trawlers. The Siamese worked hard in self-defence, with the bar magnets supplied by the Japanese and, (not surprisingly), developed methods and techniques with some success. They had 30 wooden fishing trawlers on the strength. Ten of them operated at a time and twenty were held in reserve. In the summer of 1944, a new sweep was devised

/which

-
- (1) The U.S.S.B.S. Report? the Japanese Report: Admiralty Hist. Sec. 831 - U.S.S. Naval Technical Mission: C.B.3303(5).
 - (2) 2,000 G.R.T.

which, in continuous use, gave appreciable results for five months before the Allies introduced the acoustic mine in January 1945. Up till then, the Japanese managed to maintain supplies.

That summer of 1944, no steel-hulled ships were allowed to enter the Bangkok area. Wooden barges and the railways kept up the flow, but did not meet requirements. Examination of the ship clearance lists, ~~one of the few document series that survived the war,~~ prove the drastic fall in the number of ships of large tonnage using the docks. As 1945 opened, the effects of mining at Bangkok showed up as far afield as Singapore and Saigon, both key points in the supply of material for the Burma front and the oil traffic.

/Operations

Operations off Burma (January - August 1944)⁽¹⁾Major Effort to close Rangoon (January 1944)

The heavy effort in early December 1943 was ~~effecting~~ ^{Rangoon effective} more ^A than realised; and it was fortunate that before the Strategic Air Force turned its attention fully to the Gulf of Siam, the fields laid in the Rangoon-Moulmein area were topped ^{up} ~~off~~. Informed Japanese opinion later emphasised that the most damage was effected by a really heavy initial lay followed by a series of small lays.

On the night of 7/8 Jan. 44, the first R.A.F. lay of the campaign was carried out: Liberators of No. 231 Group's⁽²⁾ Squadrons Nos. 159 and 355 laid 36 mines in the long reaches of the Rangoon River. On 10/11 January, U.S. Liberators laid a few more there. That night of 7/8 was a full one for the Strategic Air Force, whose main effort was directed against Moulmein ferry crossing. While bombers created diversions, R.A.F. Liberators laid 40 mines in the fairway, while higher up, at the Mokpalin ferry across the Sittang River, 18 mines were laid. No full loads were carried. There were a few mechanical failures, but on the whole the novices did quite well. No more mines were laid by aircraft anywhere from India or Ceylon bases for another two months.

Effects of Minelaying at Rangoon on the Japanese System⁽³⁾

The Allies did not realise the full effects of their minelaying in the Rangoon area up to early January 1944. It transpired later that these went ^{/deeper}

- (1) Details of individual mine lays at Appendix 21.
- (2) Strategic Air Force, Eastern Air Command.
- (3) The two best available basic sources on Japanese reactions are (a) The Offensive Minelaying Campaign against Japan, U.S.S.B.S., Naval Analysis Division, Nov. 46, N.I.D.02475/47, referred to henceforward in this volume as 'The U.S.S.B.S. Report'. This contains detailed interrogations of Japanese military staff as well as considered conclusions on minelaying.
(b) Index No. S.25 volume of the 'Ship and Related Target' series, U.S. Naval Technical Mission to Japan, entitled 'Evaluation of the Effectiveness of Allied Offensive Mining Operations against Japanese Shipping in Chinese and S.W. Pacific Waters'. Both have been drawn on by the Admiralty in their Staff History C.B.3303(5). The latter, (b) is in the more general terms.

The most reliable evidence (according to C.B.3303(5)) on Japanese shipping losses may be found in 'The Imperial Japanese Navy in World War II' - Japanese Monograph No. 116, prepared by the Military History Section Special Staff, G.H.Q. Far East Command (referred to as the 'Japanese Report'). Another useful, though less precise source on this subject is 'Japanese Naval and Merchant Losses during World War II', February 1947, prepared by the Joint Army-Navy Assessment Committee (referred to as the 'American Report').

Copies of all the above are held at the Admiralty.

A H B.
II F2/42/118/1

deeper than was suspected. When the war ended, the Americans set up various military survey units in Japan and, in addition to exploiting what documents remained after most had been destroyed in ports, interrogated a large number of senior officers and officials concerned in the Burma campaign ^{as well as} ~~or with~~ naval officers in the Outer Zone. From a study of the relevant reports it seems clear that the position at Rangoon from late 1943 onwards ran very much on the following lines.

(1) The general tenor of evidence from senior officers in the Burma Area Army and the Navy was ~~in general~~ that the sea mining was extremely effective and partially (though not absolutely) disorganized the supply position in Rangoon, so rendering it difficult to get adequate war materials to the Burma Army. As the river became known to be increasingly unsafe, the morale of shore and ship personnel deteriorated.

After each ^{lay} day, the river was closed for sweeping for 7-10 days. From the end of 1943, the river was closed to iron ships. Only wooden ships of less than 300 tons were now employed and these had to be requisitioned or constructed locally. There was a variety of types of these, which will be described later. The change over to quite small craft greatly reduced the total potential of shipping.

(2) Up to the end of 1943, four iron ships ⁽³⁾ had been sunk on mines in the river, and a number of wooden ships. After 1943, no more iron ships were sunk, but many wooden ships were. Full details are never likely to become available. No port records were extant at the end of the war ^{and} the Japanese claimed to have destroyed them here as in many other ports.

Two sweepers had been sunk off Rangoon. The local sweeping gear was very makeshift and never more than 50 per cent effective. They used to tow a magnetic bar horizontally on a tow about 75 metres long astern of two vessels, with an electric cable from the ships to the bar.

The Japanese began to bring into use a pattern of alternative ports. If Rangoon was closed, Moulmein was used. If both were closed, Merqui, Heanzay ⁽⁴⁾ and

-
- (1) Including the Supreme Commander.
 - (2) Including S.S. Takao Maru (4,821 G.R.T.) (which was a minesweeper), S.S. Glasgow Maru (5,881 G.R.T.) and S.S. Sankyo Maru (a minesweeper).
 - (3) The Survey Officer passed these 4 ships as the absolute maximum of wrecks found in the river which could be accounted for by mining. (U.S.S.B.S. Report).
 - (4) Or Heinzö.

/ Tavooy

Tavey were used and so on. This became slowly but increasingly apparent to the Allies: but February and March were months of heavy fogs in that area. It was not until the night of 8/9 April that the next "vegetables" were sown in ^{the} these "gardens."

/ Plans

Operations by Strategic Air Force in Burma Area (April - August 1944)

Plans for Lays off Burma Coast

Before the Liberators of the Tenth Air Force were switched to transport over the Hump to China, they carried out four lays; and before the last of the series, the R.A.F. No. 231 Group had already taken over the task of hindering the Japanese supply system up the Burma coast.

Now that Rangoon and Martaban were temporarily neutralised, indications were present that the enemy was increasingly using Mergui. The C.-in-C. Eastern Fleet reported that medium-sized cargo ships had been seen using the harbour and proposed that aircraft should mine the inner harbour East and close to South-East of the Pataw (or Petit) Islands (where ships had been seen) and, subsequently, the approach channels. He approved of the U.S. Mark XIII mine and suggested that, as there was no positive evidence that the enemy had effective sweeps, PDM (ship count), arming delays and sterilises should not be used. He thought a lay of 30 mines would be very worthwhile. The idea was sanctioned and Eastern Air Command ordered to take action. (1)

On 17 March, the C.-in-C. Eastern Fleet proved that the lines of reasonable deduction were being followed by making a request for a comparable lay in the Tavoy River, where the depth of water was ideal. There, ships anchored at the mouth of the river and discharged their cargo into shallow draughted launches for discharge in the port. A road ran from Tavoy to Ye, the railway terminus. Tavoy was an obvious alternative to Mergui if the latter were mined and blocked. The monsoon had not yet broken, the weather was good and little opposition should be encountered for as yet Tavoy was not busy. This operation, too, was arranged. A series of lays began on 6 April, covering the frequent Japanese interchanges in the use of the ports of Mergui, Tavoy, Rangoon and Moulmein, which was to continue into 1945. Consideration will be given at this juncture to the last Liberator lays by the Tenth U.S. Air Force and the first Liberator lays by the R.A.F. No. 231 Group of Eastern Air Command's Strategic Air Force.

(1) Letter Eastern Fleet H.Q., to S.A.C., S.E.A. 9 Mar. 44
(A.H.B. IJ.50/105/4/88(A) Encl. 12A and 14A).

Lays off Burma by the Tenth U.S. Air Force (April - June 1944)

Before their temporary transfer from Burma operations, the Liberator units of the Tenth Air Force began to fill the fairways off the alternative ports. They began with a lay at Mergui on 8/9 April, ⁽¹⁾ followed it on 10/11 April with a lay in the Tavoy River ⁽²⁾ and finished their pioneer effort in minelaying in South East Asia on the night 8/9 June with a small abortive effort against Mergui. ⁽³⁾

The first two missions were successful, as far as can be judged. The third, launched in the monsoon season, succeeded in laying four mines but had to jettison four. The greatest care was enjoined on aircrews in cases of emergency not to jettison live mines in lanes likely to be used by Allied shipping. As these four were jettisoned in the position 17° 18'N., 93° 58'E., the rules had been adhered to.

From 8/9 April to the last lay of 8/9 June, the Tenth U.S. Air Force had laid 53 American mines in Mergui and Tavoy.

Lays off Burma by No. 231 R.A.F. Group (May - August 1944)

There had been R.A.F. participation in the effort of January 1944 to ~~knockout~~ the Rangoon area by combined bombing and minelaying; but the R.A.F. strategical minelaying campaign proper must be dated from the operation on 7/8 May 44 by eight Liberators at Martaban - Moulmein, where 29 U.S. mines were laid. Two nights later, this was followed up by No. 231 Group with a lay of 16 mines in the approaches to Mergui.

A month passed. No. 231 Group was not happy about Rangoon and on the night 8/9 June, they laid 16 British mines (from their own stock) in Rangoon River. Two more months passed before the weather and bombing commitments permitted a renewal of minelaying. Such long delays seem to suggest that a scientific policy had not yet been universally adopted. This was not, in effect, entirely true. The local commanders were used to the monsoon, which for week after week grounded aircraft and put their bases out of commission. It is unwise to build a philosophy of air war

(1) 29 U.S. Mark XIII mines.

(2) 20 U.S. Mark XIII mines.

(3) The Admiralty Minelaying History records a lay of 15 U.S. mines by Liberators at Songibach. This may have been a lay complementary to the lay of 6/7 March at Koh Sichang anchorage, near Bangkok. But the sparse U.S. records in this country threw no light on the operation. Songi is Siamese for river and Songibach cannot be traced in any glossary held in A.H.B. There is a Sungai Baka north of Penang which might be the target, but so far neither the actual target nor the formation responsible can be traced. Curiously, the operation does not carry the usual target tracing number.

on a totally unjustifiable assumption of perfect weatherproof instruments. Even now, in 1959, there are frequent reminders that the elements have not yet been subordinated to modern instrument design. In 1944, there were even more technical difficulties to be overcome. The facts are that South East Asia Command was still feeling its way forward.

There were three lays in August, all by No. 231 Group Liberators. The first was at Martaban on the night 2/3rd, (1) the second at Mergui on the 13th, (2) and the third in Tavoy River on the 16th. (3)

Between 7/8 May and 16 August, therefore, No. 231 Group had laid 25 R.A.F. and 133 U.S. mines off Burma ports.

Changing Policy on Mines and Targets

On 19 May 44, H.Q. Air Command S.E. Asia instructed No. 231 Group that in future R.A.F. minelaying squadrons (which at the time meant Nos. 159 and 355) were to use British Type A Mark V mines and not, as they had done twice in May already, the U.S. 'two-look' mines. Clearly, General Stratemyer saw flaws in this decision, and in his capacity as the head of the U.S. Army Air Forces in the China - Burma - India theatre submitted the view to Air Command S.E. Asia that it was desirable that in future operations all bomber aircraft in the Strategic Air Force should lay either British or American types of mines. There was the maximum advantage in laying mixed assortments. This proved true in its essence, for such a technique did much to baffle the sweepers and, added to elaborate and continuously changing timing ratios, delayed clearance. On 1 June, the position was reversed and it was laid down that in future both mines were to be used. (4)

There were arguments as to whether or not to continue topping up the fields at Rangoon. On 27 May 44, the Targets Committee at A.C.S.E.A. put up the following priorities for the monsoon period, modifiable from time to time according to the fluctuations of enemy shipping traffic:-

-
- (1) 24 U.S. mines.
 - (2) 33 U.S. mines.
 - (3) 9 R.A.F. and 31 U.S. mines.
 - (4) Correspondence and signals in A.C.S.E.A. File Air/377 (A.H.B. ILJ.50/105/4/88(A)).

- 1st priority : Moulmein/Martaban (Burma)
Bangkok (Siam)
Koh Sichang (Siam)
- 2nd priority : Mergui (Burma)
- 3rd priority : Sattahib (Siam)
Rangoon (Burma) (1)

It has been seen that Rangoon, Martaban and Mergui were all mined, and with good reason, in May, June and August. But on 23 August, the Supreme Command stepped minelaying at Rangoon. If the Japanese reopened it, the case might be reconsidered. The need did not arise until late December.

Moulmein, Mergui and Tavoy figured as top priority targets as August ended. (2)

/Chindwin

(1) Correspondence in A.C.S.E.A. File Air/377. (A.H.B. IIJ.50/105/4/88(A)).
(2) Ibid.

Chindwin River Mining by Mitchells (Operation 'Channel', August 1944)

An isolated lay by Mitchells in the Irrawaddy River on the night 13/14 Jly. 43 had been the only example of minelaying on the fringe of the strategical-tactical separation line. In August 1944, a number of lays in the Chindwin River were carried out by Mitchells of the Third Tactical Air Force ⁽¹⁾ of Eastern Air Command. Bombing of the river traffic was impracticable and unprofitable.

The Chindwin River below Mawlaik was at first, in early August 1944, thought to be one of the enemy's main lines of communication. Almost all the traffic moved at night. It was planned to hinder this traffic by a series of lays employing both magnetic (Mark XXVI) and floating U.S. (Mark XIX) mines, carefully disposed to avoid mutual reactions. About 110 mines were to be spread over sections of the river on a series of evenings between 1500 and 1800 hours. The mines were sent from Onial ⁽²⁾ depot to Gomilla airfield. The operating squadron was the 434th Bomber Squadron.

A good deal of interest was aroused in the possible effect of the operations on shallow draft river craft, but evidence was slow in forthcoming. General Stratemeyer warned against too great optimism or embarkation on a sustained programme before there were enough accurate intelligence indications of heavy river traffic and particularly favourable river conditions. The dropping of Mark XIX floating mines against bridges was considered but ruled out.

A final review of the situation in September provided the conclusion that the Chindwin traffic was only of secondary importance. The three very small steamers in use had probably been damaged, but there remained some 80 - 100 small 'country craft' and powered sampans which made a relatively minor contribution to the main road and railway traffic system. On 2 October, ~~abandonment of~~ Chindwin River mining was officially abandoned. ⁽³⁾

/ Strategic

(1) H.Q. Gomilla.

(2) Of the 12th Bomber Group, Third Tactical Air Force.

(3) All details from R.A.F. Burma File BUR/S.10204/AIR Pt. I. (A.H.E. IJ.50/84/21(A)). ~~The U.S. records of operations are not in this country. Detailed statistics are therefore not available.~~

(1)

Strategic Significance of the Andaman Islands in late 1944

In August 1944, the Allies still had not reconsidered reviving Operation 'Buccaneer', the attack on the Andaman Islands, for ^{these} ~~the~~ no longer constituted a serious menace to their position. They had established air superiority over Burma and the Bay of Bengal. The Eastern Fleet had proved in June in Operation 'Pedal' that it could stage an attack right outside Port Blair and return to Ceylon with immunity. Its submarines blockaded supplies for the garrisons of the Andamans and the Nicobars. Photographic reconnaissance aircrews kept a watch on movements and airfield developments and bombers of the Strategic Air Force attacked the Andamans four times between December 1943 and May 1944, but not during the monsoon season.

The Andamans were of greater strategic value to the Japanese. They, ^{they} expecting an Allied assault on them as early as June 1944, with the object of securing a springboard for an assault on Singapore, extended the airfield runways and enlarged the dock installations at Port Blair. To them, the Andamans might serve as a link in a fortified defensive perimeter stretching to the Kotaraja - Sabang area of Sumatra. They had a seaplane base at Phoenix Bay, Port Blair. The whole area round Port Blair was tightly protected by heavy, medium and light anti-aircraft guns, as well as coastal defence and dual purpose sites.

(2)

Mine-laying at Port Blair (28/29 Aug. 44)

The plan to mine Port Blair was a reasonable one, although this isolated lay could hardly hope for spectacular results. In monsoon weather, mining was likely to hold a high element of surprise. Fifteen Liberator VI's were due to leave on the evening of 28 August, carrying a mixed cargo of U.S. Mark XXVI and British A Mark V. ⁽³⁾ A last minute change of wind forced the use of an alternative runway, and this in turn led to an excessive idling of engines. Some of them oiled up to such an extent that four aircraft failed to be airborne.

(4)

The remaining 11 aircraft reached Port Blair round about 2000 hours. It was a small landlocked harbour, a safe anchorage in all winds. The settlement

-
- (1) Admiralty C.B.3303(4): R.A.F. narrative on South East Asia (A.H.B.).
 - (2) No. 159 Squadron sortie report in O.R.B. Appendix 15.
 - (3) Each aircraft carried 4 mines.
 - (4) 11° 41'N., 92° 45'E.

/ consisted

SECRET

consisted of Ross, Chatham and Viper Island, Haddo and scattered villages. The total journey there and back averaged 11 hours flight. _____

— The mission was met by gunfire from what appeared to be the complete defence system. Only 10 aircraft are known to have laid their mines, complete with flame floats and sea markers. The eleventh aircraft never returned and from various aircrew reports the conclusion is that it was hit and crashed.

(end of page)

/First

First Operations at Penang (October-November 1944)

Strategic Significance of Penang Island

Penang Island lies in the position 5°3'N, 100°2'E. off the west coast of Malaya. The harbour facilities rendered it in 1944 one of the most valuable ports in the Japanese Outer Zone. It was a key point in the sea supply and fuel transport system radiating from Singapore and feeding the Burma front; and its great range from Allied air bases had afforded it privileged immunity from air attack. Only submarines had reached it. Georgetown, adjacent to it on the mainland, lay on the Singapore-Burma western railway and road route to the North. ————, ————, The Japanese had, so far, had things very much their own way at Penang. The Allies had been unable throughout the long monsoon period to exercise their growing air strength against it. It was, indeed, problematical whether aircraft from India could reach it with a pay load worth the risk and effort.

Since early 1941, with various breaks, British submarines had conducted patrols in the Malacca Strait, rendering those vital waters increasingly hazardous. In 1944, submarine minelaying began there. On two special occasions, they had sailed close in to Penang. The first was on 18 Apr. 44, when Taurus mined the Penang approaches. S.S. Kasumi Maru (1) sank on one of her mines on 12 May 44. The second was on 23 Sept. 44, when Trenchant sank U.859 at the end of a long voyage. U.859, who had ^{missed} ~~declined~~ a Japanese offer of escort, sank after one hit. Trenchant picked up 11 of the crew and returned safely to base. (2) This episode emphasised the last and perhaps the greatest point of value Penang held, namely that of the main base of the combined German and Japanese U-boat units.

Penang U-Boat Base. (3)

It was common knowledge that Penang was a hub of U-boat action. The Eastern Fleet was, therefore, after the alarming resurgence of the U-boats in August, very interested in the idea of its neutralisation, especially as Trenchant had found the surface defences weak. Although the enemy effort was now low, its unpredictability compelled the Allies to tie up considerable air, surface and submarine forces against a renewal of the threat. The British submarine Strongbow of the

/2nd

(1) 1400 G.R.T.

(2) Admiralty C.B.3303(5) and 3306(3).

(3) Admiralty C.B.3303(4) and (5) C.B.3306(3) and C.B.4523(3) (first translation).

2nd Flotilla had an exciting daylight encounter with two of them near Sabang during her October Malacca Strait patrol. She attacked them twice, but neither inflicted nor suffered damage. Up to late October 1944, the German U-boats seem to have used the Sabang channel for their outward and homeward passage to Penang and the Far East. Both this area and the whole Malacca Strait ^{were} ~~was~~ considered danger areas by U-Boat Command.

Information from captured documents (1) indicates that as early as January 1940, possible German U-boat bases in the area of Japan and the new Empire were under discussion. The ultimate choice of Penang was probably due to the presence there of the Japanese Commander of Submarines, Indian Ocean. Singapore was the base for major German repairs and docking.

On 24 August 1943, U.511, the Type IXC submarine presented by Hitler to the Mikado, arrived at Penang in charge of Captain Schneewind. The latter (2) took temporary charge of the base until the arrival of Captain Dommes (in August 1943 (3) in U.178), who remained the regular Base Commander until its evacuation.

The gross local material difficulties at Penang have already been explained. To add to them, the growing presence of Allied submarines and the lack of adequate anti-submarine forces and modern communications led the German Naval Attaché to write home to the Director of U-Boats, reporting the lack of any hope of aid by the Japanese, who were too heavily engaged in the Philippine battles to spare any forces. The Japanese responded to appeals with assurances of maximum protection which were never fulfilled. But the reasons for moving base were mounting and it only needed one shrewd, well-timed blow to tilt the balance. The British Fleet was concentrated at Trincomalee, aircraft carriers had attacked the Nicobars and the Allied effort in Burma was gaining force. The position was growing dangerous.

Up to October 1944, there had been no Allied air attacks on Penang, where there was accommodation for five German and two-three Japanese submarines. The Germans
/had

(1) Admiralty N.I.D. 24/T.51/45.

(2) Former Executive Officer of an armed merchant cruiser.

(3) Hessler in his "U-Boat War in the Atlantic" Vol. III prepared for the Admiralty and in course of translation by the F.D.S., says early 1944. Dommes had had to relinquish his operational command for reasons of ill-health.

had no qualms in allowing U-boats to lie in unprotected berths at Swettenham Pier. The position of the Japanese berths is not yet apparent. From the post-war records ^{mentioned above} ~~of the German Hassler (compiled in German for the British Admiralty)~~ it appears that Djakarta (formerly Batavia, in Java) was sometimes also used by the Germans, at any rate in 1944.

Major improvements extending and strengthening the ^{Penang} base were by now under way. The only material defence that satisfied the German base staff was represented by two Arado 34 aircraft. These, already made over to the Japanese, were manned by German crews and flew daily patrols on the look-out for Allied submarines in the Malacca Strait.

There was one important strategic factor the Allies knew very little about and that was the value of Penang as a point of transshipment of strategic materials carried both ways between Germany and Japan. It was true, (as a later review of this traffic will reveal), that the traffic was not decisive, but nevertheless the fact was that not only was the Base Commander supplied with fuel, torpedoes, instruments and food, but valuable cargoes of mercury, lead etc. passed through for the Japanese and such items as rubber, tin, wolfram and quinine for the Germans.

Plans to mine Penang (1)

It was reported by the C.-in-C. Eastern Fleet that as a result of the lay in April by a submarine, the South channel to Penang had been closed. The channels were restricted and a persistent programme of lays there made it, in the opinion of Air Command S.E. Asia, a worthwhile target. There was therefore no opposition to the request of the Strategic Air Force on 2 September to begin lays by Liberators, if these could be adapted to the very long range task.

At first, 7 November (or immediately afterwards) was suggested as the date, but when it was realised that part of the co-operating light surface forces would be engaged off the Arakan coast and that the Fleet and Fleet Air Arm would be passing through the area, the date was put forward to the night of 27/28 Oct.44, which offered the best moon conditions. Elaborate arrangements for communications

/links

(1) A.C.S.E.A. File AIR/377 Enclosures (A.H.B.II J.50/105/4/88(B): No. 231 Group O.R.B. Appendix H/AIR/II O.R.S. S.A.F. Memo N.R.I.

links with submarines, surface forces and the rest of the air/sea rescue organization were made .

There were two entrance channels to Penang harbour, North and South. The North Channel, about 11 miles wide in its entrance, was from $2\frac{3}{4}$ fathoms deep there. From thence to the harbour, the water deepened gradually to 14 fathoms. The Southern Channel, narrower and less negotiable, was little more than 6-8 fathoms deep. Other channels connected with the channel off the western coast or catered for small craft. The Japanese were reported as sweeping the Northern Channel ahead of shipping and there were other signs, too, that they were already mine-conscious. There was little recent information on submarine activity. It was uncertain whether these submarines used Swettenham Pier (as was, in fact, the case) or Gluger, 3 miles S.S.W. of Georgetown (which cannot be confirmed).

Although the south-west monsoon season with all its restrictions on air operations was ending, the weather prospects for a late October flight to Penang looked unfavourable. Because of the lack of data on Penang area conditions in this period of high thunderstorm frequency, no precise forecasting was, it was stated, possible, ~~although plenty of data was available~~. On the basis of known facts on the normal diurnal variation of weather on that coast, the time over target was planned as soon after dusk.

As the signs of tranquil weather improved, an aircraft of No. 159 Squadron Special Flight left at 1415 hours on 25 October on a weather reconnaissance, with the Met. Officer from the squadron's home base at Digri as observer. Experiencing favourable weather on the return, the crew signalled back a series of weather reports. The crew landed back at Kharagpur at about 0830 hours on the 26th.

Aircraft and Airfield Changes (1)

The transport of nearly 4,000 lbs. of mines (2) in each Liberator VI over such a great distance (2,920 track miles) was only made possible by extremely careful flying. The all-up weight was 66,500-67,500 lbs per aircraft. Only in the two newest aircraft was it over 67,000 lbs. The period of flight averaged $18\frac{1}{2}$ hours. Fuel tanks were filled to capacity .

→ Take-off with such a heavy all-up load called for a longer runway than Digri possessed. The mission operated from Kharagpur, a first class base built for, and used by, XX Bomber Command Superfortresses.

/The first

(1) Report in No. 231 Gp. O.R.B. Nov. 44 Appendix H/AIR/II.
 (2) 4 U.S. Mark XXVI-1 mines.

The first Mining of Penang (27/28 Oct.44) (1)

Fifteen Liberators of No.159 Squadron were airborne from Kharagpur around 1000 hours of 27 October, each laden with four mines from XX Bomber Command's stock. They flew the long journey, mostly over empty ocean, below 8,600 feet and, much of the time, below 3,000 feet. On approaching Penang, they dropped low to between 300 and 600 feet, the usual practice of the R.A.F. to avoid radar, or to elude fighter pilots, who did not enjoy combat so close to the water. Sixty mines were laid where intended.

← The only opposition (if it is worthy of the name) was from some distant batteries. One aircraft, (which did not interfere), was sighted, as well as 16 vessels, mostly small. The return journey was uneventful, except that two aircraft, in which a fuel shortage was suspected, landed at Chittagong.

General Satisfaction (2)

The Strategic Air Force considered the operation highly successful. The navigation was of a uniformly high standard. The petrol consumption was lower than expected, inasmuch that an average of 10.3% of the petrol load was brought back. Confidence in the Liberator VI was enhanced. The Fleet stated that from their point of view it was "a copy book operation". The laying was precise, both the North and South approaches being well covered. There was no doubt that the operations of U-boats and other shipping using the ports would be greatly disorganized. One handicap was that from thenceforward the channels would be dangerous to Allied as well as Axis submarines.

The Fight to retain Penang's Target Priority (3)

Meanwhile, the Minelaying Target Committee had been preparing its last mine-laying priorities for November, ^{and} with the best of intentions no doubt, but a little removed from realities, they wanted (on 4 November) Penang left out. Although adjudged a useful target, its extreme range rendered it an uneconomical target for aircraft, while submarines could carry out the task.

/The

(1) No. 231 Grp. O.R.B. and Appendix Nov.H/AIR/II.

(2) Ibid.

(3) A.C.S.E.A. File AIR/377 (A.H.B.II J.50/105/4/88(B)).

Penang

← The C.-in-C. Eastern Fleet at once advanced his view that ~~it~~ really was a first priority target for aerial minelaying. Although submarines would mine the general area, the approaches were now too unsafe for them to operate there. He wanted a repeat operation by aircraft of No. 231 Group. After the question had gone up to the Supreme Commander and back to Air Command, a repeat operation was approved on 7 November. This operation, which was carried out on 26 November, will now be related.

By early December, Penang had been promoted to first priority with Belawan Deli (Sumatra) and the Sittang River (Burma) and authority had been granted for No. 222 Group in Ceylon to mine at Penang as soon as the necessary organization was set up.

Storm wrecks second Mining of Penang (26 Nov. 44) (1)

Again, Liberators of No. 159 Squadron moved forward from Digri, their base, to an airfield with a runway built for the massive over-all weight of aircraft, each laden with four 1000 pound U.S. Mark XXVI mines: this time it was to Kalaikunda, the XX Bomber Command's transport base. Sixteen Liberator VI's were airborne at ¹⁰⁵⁶ ~~1056~~ hours on 26 November with orders to lay in the North and South approaches to Penang harbour. They flew by way of Narcondam Island (off North Andaman) and Brothers Island (just South of Puket off the western Siam coast).

The idea of mining Penang in November was highly coloured with optimism, born perhaps of the fact that the late October mission had been favoured with an ideal moonlight night. November was the month of highest occurrence of both severe and moderate storms in any part of the Bay, with October following closely: the South-west monsoon season, with its heavy rains, was over, but areas south of Madras in the area were subject to storms in the transitional month of November which ushered in the North-east monsoon. However, it was well understood that calculated risks had to be accepted if the war was to be won.

The mission was unlucky. Over Penang the 10/10ths cumulus cloud hung down to sea level. Violent electric storms were raging. The visibility was poor, the moon obscured. All sixteen aircraft made a thorough search of the target area for pinpoints such as Rat Island, ^{and} the N.E. tip of Pulo Rimau, ~~but only three~~ but only three found them through breaks in the cloud, laying 12 mines. Twelve aircraft

/jettisoned

(1) No. 231 Group and No. 159 Squadron O.R.B. appendices.

jettisoned ~~48~~ 48 mines beyond the specified safety limits. One aircraft brought back ^{about} its mines to base. Fourteen aircraft landed back at Digri at 0611 hours. There was, understandably, no comment on the operation and surmise as to its success could only deal with imponderables.

Results

The two operations, the mounting Allied submarine activity in the Malacca Strait, the spread of minefields in the remote areas revolving round Singapore did, nevertheless, have positive results. It must be said outright that no losses of shipping over 500 tons can be traced as attributable to any minelaying operations at Penang of the period; but from general information emerging from post-war investigations it is safe to assume a general slowing down in shipping traffic, which, added to the continuous bombing of the enemy system, added to Japanese discomfort.

The one major contemporary result overshadowing all others and bringing immediate relief to the Eastern Fleet and Allied shipping was the evacuation of the German U-boat base at Penang. The general difficulties bedevilling operations with a backward ally in that hot climate have already been portrayed. The loss of U.859 in Penang in September and the loss of U.168 on 5 October to H. Neth. M. Submarine Zwaardvisch ~~in the Java Sea~~ in the Java Sea were sorely felt. Now, both North and South Channels were mined. This was the final blow from which there could be no recovery within the foreseeable future. The Japanese with their awkward, ^{slow} ~~inefficient~~, poorly-staffed sweeping organization might never complete clearance. More minelaying must inevitably follow.

The evacuation of Penang, already in plan form, was ordered in late October. From 25 October, Batavia, or Djakarta (1) as the Germans chose to style it, was declared the main homing port, with Penang for use only in emergency. On 15 November, another security measure (resulting partly from the exposure of Singapore to surprise attacks by the bombers of the Fourteenth and Twentieth U.S. Army Air Forces from India or China), was the naming of Sourabaya (Java) as an additional major repair base. Even Sourabaya could not claim immunity, for the Royal Australian Air Force, had, since 26 Aug. 43, mined there intermittently and were to continue so doing until 18 June 45.

/On

(1) It was also known locally as Tanjong Priok.

On 1 Dec.44, the Germans finally evacuated Penang altogether, and the last U-boat - U.843 - sailed out of the port. Things were not much healthier at Djakarta, although at any rate the port was so far mine-free. The fuel crisis was hardening as a result of attacks by land and carrier-based aircraft on oil installations. In December, there was insufficient good oil available in Djakarta. Operations were postponed while the tanker Quito sailed to Balikpapan for fresh stocks. (1)

(end of page)

10 operations

(1) Admiralty C.B.3303(5) and 3306(3) and B.d.U. war log (A.H.B.6 copy).

Operations by No. 231 R.A.F. Group off Western Burma (September-December 1944)l.e. Recapitulation of Operations from January to August 1944

The R.A.F. had begun strategic minelaying in January 1944, when two small operations were carried out at Rangoon and Moulmein to supplement a low-scale effort by the Tenth U.S. Air Force. In February, no mines were laid by anybody. In March and April, the Tenth put out a small but useful effort, which declined through May until it ended finally on 8/9 June.

In May 1944, Nos. 159 and 355 Squadrons of Nos. 231 R.A.F. Group of the Strategic Air Force in Eastern Command, of Air Command South East Asia, began a series of lays which (with the blank exception of July 1944) was to continue unchecked until July 1945. During July 1944, No. 159 Squadron was allocated the task of minelaying as the sole squadron in the Strategic Air Force on night operations. This held until the end of the war, with the exception of light aid in June 1945 by another squadron of the same group. From January 1945, the effort was to be notably increased by the co-operation of No. 222 Group from Ceylon and XX U.S. Bomber Command from the Kharagpur area.

The intermittent effort by No. 231 Group up to the end of August 1944 has been narrated earlier. By that time, the Group had expended 40 British and 251 American magnetic mines, a total of 291. Of these, only 24 had been jettisoned. All the lays had been in Burma ports, with the exception of the August lay off Port Blair in the Andamans.

The over-all lifting capacity of the Liberators Mark III and VI then in use was fixed at about 66,000 pounds.

l.e. Recapitulation of Operations from September to December 1944⁽¹⁾

During the last four months of 1944, Burma ports were to receive the highest priority, with Siamese ports and Penang following in that order of weight received.

/The

(1) Refer to Appendix 21 for chronological list of operations in 1944.

The increase of reliable intelligence from photographic and other sources was making it increasingly easier to follow the broad pattern of enemy shipping movements, the switches of traffic from port to port, from ship to rail or road transport, the steady decline in the tonnage of enemy transports and the general tempo of enemy minesweeping. The Burma ports were nearer home and the study of their usage bore with the greatest immediacy on the Burma front, where air superiority was by then established and the signs were more hopeful.

Yet the question of deep penetration was of great importance and the Strategic Air Force had already proved its awareness of this fact by despatching its U.S. elements into the Gulf of Siam.

The Pattern of Mining in Burma Ports (September-December 1944)⁽¹⁾

The main tendency at the latter end of 1944 was to extend the area mined as far as possible down the Burma coast and to keep the whole series of ports topped up, so as, if possible, to keep pace with the frequent Japanese switches of shipping. Rangoon itself had been missing from the list for some time and received no attention until the last days of the year. Moulmein, Tavoy and Mergui and the Sittang River were mined. On 17 October, Ye River Anchorage (15°15'N, 97°51'E) was mined for the first time, and on 11 December No. 231 Group reached further South to Heanzay Basin⁽²⁾ (14°40'N, 97°53'E.) which was formed by three large creeks flowing into the sea through a funnel-shaped estuary between high hills. It was a thinly-inhabited country of primitive resources, but here the Japanese, as in many other places, hung on by the skin of their teeth, improvising in a barren land.

The volume of mines laid on this period in the Burma waters (apart from the Pakchan River) was greatest at Tavoy, which was followed by Ye, Moulmein, Mergui, Rangoon and Heanzay in that order.⁽³⁾ But the concentration on the Pakchan River was the feature of the period.

The port traffic nearest the Burma front was furtive, nocturnal and conducted by increasingly smaller craft of which, as will be demonstrated, there was a great variety. But the Pakchan River, thus far left undisturbed, served for various activities in broad daylight. It was still a thriving nodal point in the defence and supply system of the Outer Zone.

/The Kra

-
- (1) Admiralty Chronological List at Appendix 2/.
 - (2) Heinze Chaung. Vessels with a draught of 25 feet could enter at high water springs and with a draught of 18 feet at high water neaps. The basin was closed to shipping during the South-west monsoon.
 - (3) Tavoy 109, Ye 102, Moulmein 84, Mergui 68, Rangoon 40 and Heanzay 24.

The Kra Peninsula and the Pakchan River

Because of the mountainous conformation of much of the Malay Peninsula and the portion of Siam enclosed within its extent, the Singapore-Burma railway ran largely up its east side. The Japanese used the few ports, such as ~~Chumphorn~~ ^{Chumphorn}, to supplement the west coast facilities as the latter came increasingly under threat of attack. One of the strategic areas growing in importance was the Kra Peninsula, where the land mass was at its narrowest. From the ports of Chumphorn ~~Phorn~~ on the east coast or of the Pakchan River⁽¹⁾ on the west coast, it was only a reasonable lift on to the railway, or on to small coasters should the northerly ports be neutralised.

The Japanese, after the war, testified to the frequent use of a port they referred to as Kaofaji to relieve the closure of Tavoy, Mergui or Rangoon. Air Command South East Asia was aware of the Japanese use of this port and, very occasionally, referred to it as Khao Pha Chi or (to confuse the issue), Khao Huagang, a port closely adjacent. Neither of these ports are mentioned in the Admiralty Bay of Bengal Pilot and only a large scale map shows them. Usually, the air records refer merely to the Pakchan River.⁽²⁾

The first Lay in the Pakchan River (12 Sept.44)⁽³⁾

Fourteen Liberator VI's of No. 159 Squadron were airborne at 0556 hours on 12 Sept.44 with instructions to lay mines in daylight in the 15 mile stretch of the Pakchan River from East of Victoria Point to the approaches to Khao Pha Chi and Khao Huagang. Five minutes after take-off, one aircraft crashed and its crew were killed. After another hour's flight, another aircraft developed engine trouble and returned. The remaining twelve reached the general target area shortly after 1230 hours and all but one found their targets and laid in a cloudy sky but in good light and visibility. Forty-four mines were laid along the confined channels passing the islands of Pulo Nyor, Pulo Jitan, Koh Lek and Koh Kamut. They took a good look at the two ports and checked on the defences. →

-
- (1) In 10°00'N., 98°35'E.
 (2) A mine tracing for the lay on 12 Sept.44 appears at the end of A.C.S.E.A. File AIR/377 (sub-file) (A.H.B.II J.50/105/4/88(c)) and shows Victoria Point and the various pinpoints up the Pakchan River on the way to the two ports.
 (3) No.231 Group and No.159 Squadron O.R.B. appendices.
 (4) 10 Brit. A Mark V (4 Assembly B.200, 6 Assembly B.202) delay arming set to 24 hours, all PDM's on 1st ship, no sterilizers. 34 U.S. Mark XIII modified to 'TWO' look P.D.M.'s set as follows:- 22 mines 1st ship count. 4 mines 5th ship count. 7 mines 3rd ship count. 1 mine 7th ship count. All U.S. mines without arming or sterilizers.

✓ In all, 10 British and 24 American mines were laid. A few were fitted with arming delays and most with varying ship counts.

l.c. Ground and (Air) Defences and (Shipping) up the Pakchan River⁽¹⁾

Aircrews reports amply confirmed the timeliness of this operation. Some met fairly accurate anti-aircraft fire from the pier at Khao Huagang and accurate machine gun fire from some junks and ships. Air Intelligence was especially interested in the nine float planes, believed to be Rufes, sighted at anchor along the channel.⁽²⁾ They were identified as a detachment of a Float Plane Unit long established in the S.E. Asia theatre, employed mostly on convoy escort and anti-submarine patrol. One of the Liberators, turning for home, came down to 300-400 feet and shot up the three on Tonton Island, claiming hits on two.

Shipping was sighted in sufficient numbers to indicate that the Japanese were taking due advantage of their immunity in the zone. At and around the jetty at Khao Huagang, seven single funnel cargo vessels about 150 feet long were seen. In the river, a double-decked river steamer was seen under way towards the entrance to the Glohng Le-Un River. Two coastal vessels of some 200-300 feet in length and a single funnel astern (probably tankers) were seen making for Victoria Point.

From Japanese sources there is no evidence that any ships of over 500 tons were sunk in the Pakchan River, following either this or any succeeding lay. Khao Pha Chi, like Chumphorn, lay inside the command of the 18th Area Army. Both were important to the Japanese as relay points of supply to Burma. Although no Japanese evidence on the result of this particular lay is forthcoming, the evidence submitted by the commander of that Army was that the effects of the series of lays there and on the eastern coast of the Peninsula were to render it difficult for iron ships to approach the ports. They were thus obliged to go over to small wooden ships and junks, with a remarkable lowering of transport efficiency in consequence.

Apart from long term effects, the information gained was in itself sufficient reward for the effort. More was now known of the area's value to the enemy. Two more lays were carried out before the end of the year and in 1945 an average of just under two lays monthly.

/Second

-
- (1) No. 231 Group and No. 159 Squadron O.R.B. and appendices.
 (2) 3 in the bay S.E. of Pulo Besin Island, 3 in the southerly bay of Pulo Tonton Island and 3 at the jetty in the bay on the West coast of the latter Island.

Second Lay in the Pakchan River (20 Oct. 44)

The second lay ran into bad weather. Fifteen Liberators were detailed to mine the river, where they found, on arrival between 1300 and 1400 hours, 8 to 10/10ths cumulus with cloud base at 800/1,000 feet. Immediately to northwards there was cumulo-nimbus cloud to sea level with rain moving southerly. Each aircraft carried four U.S. Mark XIII mines with various delay and arming mechanisms for short periods. One aircraft had engine trouble and a second ran into a nil visibility: these two aircraft jettisoned their mine loads in safe areas. The remaining thirteen aircraft just managed to recognize their pinpoints and laid 52 mines in the channel.

The three floatplanes⁽¹⁾ at Pulo Tonton were seen again; but in the poor weather no clear picture of the shipping position could be assembled, beyond two small steamers and a tug towing a lighter. There was accurate fire from the Victoria Point area and one aircraft was hit, but not fatally.

Decision to introduce the Acoustic Mine (12 Nov. 44)⁽²⁾

Although the first acoustic mines were not sown until January 1945, the decision to use them was made in November 1944. Air Command South East Asia considered, they recorded on 12 Nov. 44, that in view of the current bombing policy of attacking and disrupting the enemy's communication in Lower Burma, the result would be a large increase of traffic by small coastal vessels in the Gulf of Martaban and Kra Isthmus ports. As the craft in use were mainly of the non-magnetic type, it was decided to introduce lays of U.S. Mark XIII mines with acoustic units and fitted with sterilisers set to the maximum period.

H.Q. Air Command South East Asia had moved from Delhi to Kandy in Ceylon, where they had functioned with effect from 1 Oct. 44.

Very little of the intelligence on this area had come from photographic reconnaissance. The few Mosquitoes were out of range. Only B-29s could cover those waters and they were fully occupied in China. The sighting reports of 12 September and 20 October had evidently been taken into account.

/Bombing

(1) Now identified as 'Jakes'.

(2) A.C.S.E.A. File AIR/377 (A.H.B.IIJ.50/105/4/88(B)).

Bombing Attack on Khao Huagang Port (22 Nov.44)⁽¹⁾

To preserve continuity in this study of minelaying operations, the minimum of digression into complementary fields of air operations has been indulged in. Yet as the minelaying, constructive as it was, formed only a part of the over-all offensive, occasional mention of the course of the general Allied offensive cannot be out of place and provides additional perspective.

← As a sample of how extended action was taken on ~~the~~ sighting reports returned by minelaying aircrews, mention may be made of an occasion when No. 231 Group improved on the effects of its own minelaying with a bombing attack on an active port.

Just over a month after the 20 October lay in the Pakchan River - i.e. on 22 Nov.44 - 10 Liberators of No. 356 Squadron were despatched to bomb the jetties and harbour at Khao Huagang (near Khao Pha Chi). The visit proved interesting and, from all accounts, quite profitable. There was plenty of shipping in evidence, none of it in the large class, but in some variety. Nine aircraft attacked in daylight between 1555 and 1708 hours, suffering only feeble battery opposition and dropping 121 high explosive bombs and 36 incendiaries, covering the target area and causing fires in the port and what appeared to be an explosion of ammunition. They believed they hit the west pier and destroyed the east pier. A small motor vessel was claimed sunk, a ship of some 1,200 tons left blazing, a concentration of six barges hit and five Jake aircraft machine-gunned. Twelve-fourteen ships (mainly standard coasters) were seen in the Chaung La-Un River. Another large vessel was sailing in the Pakchan River. On the road $\frac{1}{2}$ mile north of the port, eight motor vehicles were standing.

Combined Mining and Bombing of the Pakchan River Area (8 Dec.44)⁽²⁾

Eastern Air Command shared the month of December between bombing communications and training for the strenuous operations due to open in January 1945. Yet time and aircraft were wisely allocated for eight ^{mining} operations, all on a small scale, but designed to hinder Japanese sea supply.

/One

-
- (1) No. 231 Group O.R.B. appendices.
 (2) Ibid.

← One of these was the combined operation of 8 Dec. 44, when 6 Liberators mined the Pakohan River and 8 bombed the port of Khao Huagang in the hope of damaging the waterfront. Both efforts appear to have been successful. The 6 Liberators laid a mixed bag of 18 U.S. and 11 British mines in the early afternoon. The mission of 9 Liberators bombed the port jetties from 600-900 feet altitude, starting fires.

The three Jake aircraft on Pulo Tonton were again attacked and one set on fire. Small coasters and launches were sighted, one laden with metal drums (probably fuel).

Lays off other Burma Ports (September-December 1944)

While the full moonlight period was the most favourable generally for mining, the urgency of slowing down enemy communications in the last four months of 1944 was so great that marginal nights as well as days were sometimes chosen for laying. The intervals were employed in bombing attacks on the Burma ports. Photographs were taken in greater volume and frequency and the intelligence thus acquired gave additional insight into the enemy system and background for planning. Minelaying operations now began to fall into patterns and increasingly closer concentration on zonal target systems developed. The only zone which has not yet been covered in the study of 1944 operations is the series of ports along the western Burma coast. These operations may now be quickly reviewed, for although they were important, they ran to pattern.⁽¹⁾

Tavey was mined three times, viz. on 17 Sept. 44⁽²⁾ 21 November and 11 December. A total of 109 mines were laid there. Next in volume received came Ye River Anchorage, mined on 17 October and 5/6 December. A total of 102 mines were laid there. Then followed Moulmein, on 11/12 and 21 November with 84 mines, Mergui on 17 September, 23/24 October and 5/6 December, with 68 mines, Rangoon on 29 December, with 40 mines, Heanzay Basin on 11 December (for the first time) with 24 mines and, lastly, the Sittang River on 11/12 November, with 18 mines.⁽²⁾

Reviewing the receptions met by the air formations, it may be said that in general these ports closest to Rangoon and the Burma front put up the most intense and well-organized anti-aircraft resistance, while lower down (at Ye and Mergui, for example), it was noticeably thin. Yet in the last area lay of the year, the defences at Rangoon itself were reported as poor, which seems to

/indicate

- (1) Refer to Appendix 20 for full details in the chronological list of No. 231 Group mining operations for 1944 for this and all other operations mentioned in this sub-section.
- (2) No. 231 Group and No. 159 Squadron O.R.B's and appendices.

indicate that the neglect of this part by our aircraft had afforded the Japanese a chance to shift their mobile defences to more closely threatened areas. By so doing they provided evidence of a shortage of anti-aircraft weapons and staff to man them.

The increasing minelaying effort was closely tied in with bombing attacks on railway and road communications and little more can be added at this point about its results, ~~to previous conclusions~~. It has been seen how the enemy minesweeping task was being steadily extended, how the average tonnage of ships was declining in favour of still smaller craft and steel ships were being progressively replaced by wooden ones, how transshipment from remote ports on to road and railway was being forced on the enemy. All this formed a useful contribution in the larger target pattern of supply for Burma and the Japanese homeland.

Trends in 1944 Statistics⁽¹⁾

Before proceeding with 1945 operations, it is of advantage here to take stock of the cost of the 1944 effort, the weight of participation by the R.A.F. and U.S.A.A.F. and general trend of expenditure as the year progressed.

One thousand and ninety-nine U.S. mines were expended as against only three hundred and six British mines. Two of the main grounds for this difference were, it will be recalled, the loading limitations of the British version of the Liberator and the increasing availability and variety of U.S. mines in the theatre.

The Strategic Air Force of Eastern Air Command contained two main elements when 1944 opened. These were, firstly, the 7th Bombardment Group of the Tenth U.S. Army Air Force and No. 231 R.A.F. Group. The Tenth Air Force, who had carried the full weight of minelaying over almost the whole of 1943 operated from January to June, (with the exception of February) and were then transferred to other duties. During those months, they expended 169 U.S. and 6 British mines - a total of 175 mines.

No. 231 Group began laying tentatively in January 1944, but did not begin their authentic campaign until May 1944. Even then, it was not until August

/(partly

(1) Refer to Appendix 22.

(on account of the monsoon and of other commitments) that laying was embarked on in any serious volume; but their record from August to December was one of steadily increasing enterprise and expenditure. No. 355 Squadron operated on a low scale in January and again in May, but thereafter the whole commitment fell to No. 159 Squadron. The total of mines laid in 1944 by the R.A.F. No. 231 Group was 1,206, of which 300 were British and 906 American. The other formation operating in 1944 was the American XX Bomber Command of the Twentieth Air Force, who expended 24 U.S. mines in the isolated August lay. The year of 1944, therefore, witnessed a gradual take-over by the R.A.F. of the task of minelaying. By the end of the year, the R.A.F. had expended a total of 1,206 mines as against the U.S.A.A.F. expenditure of 199.

/ XX

XX Bomber Command Superfortress Operations from Ceylon and India (1944-1945)

The B-29 Superfortress (1)

The performance of the B-29 in the China-India-Burma theatre was opening up new possibilities in strategic bombing and minelaying. At this point however, the B-29, conceived and designed by Boeing in 1949, was envisaged ^{simply} as a war-winning bomber which was to play a leading part in the blockade of Japan and the destruction of the enemy system in the Pacific theatre.

→ The performance of the contemporary model of this aircraft in July 1944 was very impressive by accepted standards (2) and it was to be proved with experience that good aircrews could surpass these figures.

The great aircraft (3) had a wing span of 141'3", a length of 99 feet, a height of 27'9" and weighed (maximum) 120,000 pounds. It was armed with 10 x 0.50 calibre machine guns and 1 x 20 mm cannon in the first place and was powered by 4 Wright Cyclone 18 cylinder 2,200 h.p. engines. The wing, of completely new design, had the highest coefficient of lifting ability to speed of any wing known at the period. There was an auxiliary 12 h.p. gasoline engine to assist in landings and take-off. The crew of 11-12 worked in pressurised cabins, in which superchargers maintained air pressure at nearly normal level, and did not need to use oxygen masks.

/The

(1) U.S. Army Aircraft (Heavier-than-Air) 1908 - 1946. Fahey.
Ships and Aircraft. New York. 1946. (A .H.B.1 copy).

(2) Performance of the experimental B-29 first ordered in 1941-1943 and already realised in operations was based on:-

<u>Speed, ceiling and tactical radius</u>					
Bomb or Pay load (lbs)	Normal Fuel (Imperial Gallons)	Altitude Operational Service Ceiling	True Air Speed m.p.h	Theoretical Range and Endurance Statute miles	Practical Range Statute miles (20% safety margin)
20,000	3,174	O. 20,000 C. 30,000	Max. 330 Cru. 220	2,300 10.5 hours	1840
9,000	4,674	O. 20,000 C. 30,000	Max. 330 Cru. 220	3,400 15.5 hours	2,720

(3) In July, 1944, the B-29 was being built at the Boeing plants at Wichita, Atlanta and Renton, the Glenn Martin factory at Omaha and the Bell plant at Atlanta. Production was approaching 100 aircraft a month.

SECRET

225

The maximum mine load was 12 x 1000 pound mines. Targets of up to 1840 miles radius (1) were now brought within range. For very long range and hazardous operations, extra fuel tanks were fitted and the bomb or mine load drastically reduced.

/The

(1) Allowing for a 20% safety margin.

SECRET

The XX U.S. Bomber Command in India (1)

On 4 Apr. 44, the Twentieth U.S. Army Air Force, equipped initially with Superfortress B-29s, was constituted, with the Commanding General of the Army Air Forces (H.H. Arnold) in Washington in command, acting as the agent of the U.S. Joint Chiefs of Staff. Its striking force was named XX Bomber Command.

Operation "Matterhorn", the U.S. project for the early sustained bombing of Japan, had been approved four weeks after the Cairo "Sextant" conference of December 1943. Operation "Matterhorn" included interim strikes after 20 July 1944 from Ceylon at FOL (2) installations in the Netherlands East Indies.

The Twentieth Air Force was to station the 58th Bombardment Wing in India (H.Q. Calcutta, Advanced H.Q. Chengtu in China) and a second Wing - the 73rd - was to operate from Saipan in the Marianas, as soon as those islands were captured and an air base established there. (3) Permanent airfields developed in the Calcutta area were Kharagpur, Chakulia, Piardeba, Dudkundi and Kalaikunda - the last as a transport base. A similar epic effort was put forth in the Chengtu base area with the help of Chinese coolies. The third base area from which it was intended to operate Superfortresses was Ceylon, where XX Bomber Command had no permanent installations. The choice of an airfield finally settled on China Bay, and by mid-July 1944, a 7,200 feet runway, hardstands and final distribution system had been completed and many essential services provided by Air Command S.E. Asia. The R.A.F., it was later admitted, went far beyond the bare essentials, virtually handing over the base to the Americans, with housing, messes and transportation, and with available whisky rations and best wishes thrown in.

/The

-
- (1) The A.A.F. in World War II Vol.V. Signal J.S.M. 4 21 Apr. 44 in D. of Plans
 (2) Petrol, oil and lubricants. File 305/2 (A.H.B. II A/9/681 (B)) -
 (3) D Day on Saipan, the first of the Marianas to be occupied, was 15 June 44. The first B-29 training mission was flown on 28 Oct. 44 and the first operation on 24 Nov. 44.

The Charter of the Twentieth Air Force ⁽¹⁾

The U.S. Joint Chiefs of Staff accepted on 10 Apl. 44 certain recommendations on the baffling question of command of the new air force, which became in fact its charter and, with certain diplomatic concessions to South East Asia Command, the China-Burma-India Theatre Command and Generalissimo Chiang Kai-shek, remained valid throughout its existence as one independent force under American control. Its terms were broadly as follows:-

1. Establishment of a strategic Army air force - the Twentieth - , operating directly under the J.C.S., with the Commanding General, A.A.F. as executive agent to implement their directives for the employment of V.L.R. ⁽²⁾ bombers.
2. Major decisions concerning deployment, missions and target objectives to be made by the J.C.S. ⁽³⁾ and executed by the Commanding General Army Air Forces ⁽⁴⁾
3. Should a strategic or tactical emergency arise, theatre or area commanders might utilise V.L.R. bombers for purposes other than ⁽⁵⁾ the primary mission, immediately informing the J.C.S. ~~(5)~~
4. Responsibility for providing suitable bases and base defence was to rest with theatre or area commanders as directed by the J.C.S.
5. To obviate confusion in the field, the J.C.S. were to vest theatre or area commanders with logistical obligations for Twentieth Air Force units operating from their commands, with the responsibility of establishing equitable and uniform administrative policies, and with the duty of providing local coordination to avoid conflicts between theatre forces operating under the general directives of the J.C.S. and V.L.R. forces operating under their special directives.

(1) The A.A.F. in World War II, Vol.V, p.38
 (2) Very Long Range.
 (3) U.S. Joint Chiefs of Staff.
 (4) General of the Army H.H. Arnold.
 (5) A similar understanding existed in the Mediterranean theatre in 1943-1945.

6. J.C.S. directives were to be so framed as to minimize possible friction within theatres.
7. Arnold was to have direct communication with V.L.R. leaders in the field, advising appropriate theatre commanders of communications thus exchanged.

/South

South East Asia Command's Interest in XX Bomber Command⁽¹⁾

The careful wording of the J.C.S. charter of 10 Apr. 44 betrayed their knowledge of military and political contentions in the China-Burma-India theatre and their forebodings of trouble. All who are familiar with the rugged path of South East Asia Command towards unification will need no reminder of the sort of problems that lay ahead. It is not intended to repeat the record here, but to ^{present} record the outlines of the reactions of the Supreme Commander and the Air C.-in-C. to the Joint Chiefs of Staff's rather exuberant efforts to superimpose the Twentieth Air Force on a complicated theatre command structure as an all-American "show" while retaining control themselves.

Repeated efforts to allocate varying degrees of logistical and operational authority among the American theatre commanders led to one setback and revised directive after another, largely owing to the malleable policy of the J.C.S. themselves and ~~the heavy~~ contentions among the commanders, some of whom were saddled with conflicting loyalties. Chiang Kai-shek with his insistent demands for help and his unpredictable temperament, did nothing to ease the situation.

Some of the most important directives were sent to the theatre without consultation with either Mountbatten or the British Joint Staff Mission, (the advanced element of the British Chiefs of Staff with the Combined Chiefs of Staff Committee in Washington), Mountbatten only learned of developments through the courtesy of Sultan.⁽²⁾ Apart from his personal ^{resentment} ~~umbrage~~ at the show of discourtesy, he felt a natural concern regarding the employment of the Superfortresses while stationed in his theatre. It is only natural that with a legacy of defeat, frustration and loss of face by the British in Asia, he should turn with eagerness to any new means available which might turn defeat into victory and restore the prestige of his country. Chiang Kai-shek, too, was determined to remedy his people's loss of face and wanted to control the V.L.R. force in China. Chennault, /the

(1) File - D. of Plans, A.C.S.E.A. II 30372 (A.H.B. II A/9/681 (B)).

(2) Lt. Gen. Daniel I. Sultan, Gen. Stilwell's deputy.

the veteran Air Force Commander in China, had been there since he first established his 'Tigers' for the American Mission before the War during the Japanese occupation: he expressed his 'mystique' for China this time in bypassing authority and pressing for the use of the Superfortresses. General Stilwell,⁽¹⁾ a rugged old soldier, was very interested too, in having some hand in the control of the V.L.R. force, to further his support of the British in the Burma campaign, to speed the construction of the Ledo Road to China and supply the Chinese over the Hump. With all these strong-headed individuals exercising their exalted conceptions of their own peculiar mission in the over-all drive towards victory, it is not surprising that the long drawn out contentions were only solved on the highest level.

(2)

Settlement of Control of V.L.R. Air Operations

When considering the control of V.L.R. bomber (and mining) operations, there were three points at issue, namely their strategic direction and their operational and administrative support.

The point of view of Air Command S.E. Asia was expressed in signals to the Chief of Air Staff on 25 and 26 Feb. 44. There was no quarrel with the American source of supreme strategical command as such, only with its actual form.⁽³⁾ Stratemeyer was already Peirse's subordinate in an integrated Air Force. It would only lead to confusion if the former (who commanded practically all the R.A.F. and U.S.A.A.F. in N.E. India), were to conduct independent operations under orders from the J.C.S. with an independent air force. Peirse

-
- (1) Gen. Joseph W. Stilwell, known in the CBI theatre as 'Vinegar Joe'.
(2) File D. of Plans, A.C.S.E.A. II 305/2 (A.H.B. IIA/9/681(B)): Ehrman, Grand Strategy, Vol. V, Part II, p. 743.
(3) Ibid.

/ was

was responsible for the safety of V.L.R. aircraft whilst operating across the Burma theatre. Furthermore, for administrative reasons, the V.L.R.'s could only operate in close co-ordination with current air operations. They wanted a constitutional arrangement in their own command which would neither hamper local priorities in a changing situation nor hold up the ultimate aim of attack on the Japanese Inner Zone.

The British Chiefs of Staff took up the matter with the U.S. Joint Chiefs of Staff. The results of a series of exchanges may be summed up as follows. (1) The J.C.S. expressed their regrets for directives issued over Mountbatten's head and without consulting him and promised to keep him advised of all developments in future. The defence of bases in India was to be the responsibility in India of C.-in-C. India, in S.E.A.C. of the Supreme Commander S.E.A.C. and in China of the C.G., U.S. Army Forces. South East Asia Command accepted the situation and gave their ~~enthusiastic~~ assurances of every effort to make it work.

The British Chiefs of Staff, taking a long look at future prospects, saw the limits of the ability of India and South East Asia ^{to aid} ~~in supporting~~ the attack on distant Japan and saw the final effort as a joint R.A.F. - U.S.A.A.F. bomber campaign. They maintained, therefore, that strategic control of the Twentieth Air Force should be exercised by the Combined Chiefs of Staff. This proposal was unacceptable to the Americans. On 16 June 44, the C.C.S. called on Mountbatten to support, and provide and defend the bases of, the V.L.R. units in his command, consulting the C.C.S. should insoluble local conflicts arise.

Complications arising from the demand of Chiang Kai-shek for command of the V.L.R. project in China had led to the final move of President Roosevelt on 12 April when he declared that he, the President, would command the Twentieth Air Force from Washington: the Generalissimo would be responsible for coordinating V.L.R. missions with other operations in the China theatre and be informed of pertinent directives from Washington. Honour and face were thus saved by placing Chiang Kai-shek on the same level as Mountbatten. There the matter ended. (2)

(1) Enclosures 27-38 in A.H.B. IIA/9/681(B).

(2) The A.A.F. in World War II, Vol. V, p. 51: Eberman, Grand Strategy, Vol. V, Part II, p. 743.

Oil Ports and Refineries of Sumatra (1)

Palembang was one of the principal Japanese oil loading ports for the products of the oil wells and refineries of Sumatra, now in full production. Its Pladjoe refinery was the most important in the Far East and was reputed to provide 78% of the aviation fuel and 22% of the crude oil used by the Japanese. (2) The fuel was loaded into shallow draught tankers, who transported it, (as they did the fuel from ^{Surabaya} ~~Surabaya~~ in Java) to Singapore, where it was transhipped into large, deep draught tankers. Most of these vessels followed the shipping route to Japan via Formosa Strait, sailing close inshore between Cambodia Point and Cam Ranh Bay, while only a very little went direct to Japan via Luzon Strait.

The refinery was, prior to Japanese occupation, capable of producing nearly 1,000,000 tons of oil a year. After carrying out repairs necessitated by the Dutch denial schemes, it was estimated by ICGROPS (No. 222 Group) that the Japanese were capable of producing about three-quarters of this quantity. The refinery was considered by some, in mid-1944, as a very important strategic target.

Before the Japanese occupation, all oil shipments from North Sumatra were made through the port of Pangkalan See See, where the oil jetties could accommodate tankers up to 10,000 tons. The oil tank farm there was connected by pipeline to the Pangkalan Brandan refinery. There were also refinery jetties at this latter town, at which, if need arose, small shallow draught coasters could load fuel and proceed downstream to See See.

A few miles South of Pangkalan See See lay Belawan Deli, in pre-occupation days the most important port in Sumatra, serving Medan the capital town of

/Northern

(1) Article in ICGROPS quarterly review Vol.1 No.3 (AHB.11J5/47/39B): The A.A.F. in World War II Vol.V.

(2) The reputed total annual capacity was 20,460,000 barrels of crude oil.

(3) ~~Indian Ocean General Reconnaissance Operations.~~

Northern Sumatra. Vessels of up to 20,000 gross registered tons could berth alongside its quays, which were equipped with electric cranes and facilities for oil fuelling. Up to late January 1945, the evidence appeared to indicate that Belawan Deli had lost much of its former importance, but, as will be seen, it was forced into sudden prominence. _____

→ One other port, insignificant at the same period, was Asahan on the river of that name, negotiable to shallow draught vessels. It lay about 10 miles to the S.E. of Tanjong Tamboen Teelang. It had a long wharf with a least depth (in 1941) of $19\frac{1}{2}$ feet alongside and was connected to the railway on the east coast.

This outline of the Sumatran oil ports will serve as a basis of reference to the whole programme of minelaying directed against Japanese fuel through to the end of 1945 operations.

/Operation

Operation "Boomerang" - the Attack on Palembang - Plans

The fifth and sixth "Matterhorn" missions (1) were a "two-handed punch" against Palembang and Nagasaki. XX Bomber Command proceeded reluctantly with the former, which they felt was a plan for secondary objectives, but Washington insisted on its material and psychological advantages.

Because of the extreme range of the round flight (3,855 miles to Palembang and 4030 miles to the Moesi River nearby) heavy work was put in on preliminaries from as early as May. The Joint Chiefs of Staff stipulated a daylight precision attack at the Command's nominal strength - 112 Superfortresses. XX Bomber Command warned them of risks involved in take-off in waves from China Bay and the mission was eventually fixed as a night radar attack by at least 50 aircraft, of which about 25 per cent were to lay mines in the Moesi River, and the rest to bomb the Pladjoe refinery.

The Attack on Palembang (10/11 Aug. 44) (2)

At 1645 hours on 10 Aug. 44, the first Superfortress of the 462nd Group was airborne. Within 84 minutes, 53 aircraft were on their way to Sumatra. One other was en route two hours later. The B-29s, proceeding individually, flew a straight course to Siberet Island (3) off the Western coast of Sumatra, then bore eastward. Thirty-nine aircraft reached Pladjoe at Palembang and the Moesi River, two bombed Pangkalan Brandan, one an airfield at Djambi and twelve failed to find a target.

Palembang was blacked out and there was some undercast. The B-29 equipped with flares miscarried, but thirty-one aircraft bombed either by radar or visually through breaks in the cloud. Explosions and fires were reported without much precision and the strike photographs were too poor to be very useful.

/Eight

(1) The 1st was against Saipan on 15 June, the second against targets on Kyushu, on 7 July, the 3rd against the Anshan cokeplant and Chinwangtao and Taku harbours on 29 July and the 4th against Taku and Chenghsien, all points connected with the production of ~~cement~~ steel.

(2) The A.A.F. in World War II Vol. V. pp.109-110.

(3) Roughly 1° - 2°S.

Eight Superfortresses found clear flying over the Meesal River by dipping under a 1,000 foot ceiling and laid sixteen U.S. Mark XXVI mines (two each) in a good pattern "with excellent results" at what were, for those large aircraft, spectacularly low altitudes.

The B-29s met anti-aircraft fire in various places, ^{and,} for the first time, ground-to-air rockets. Crews reported seeing 37 enemy aircraft, some of which followed them back for 350 miles. None of the B-29s were damaged by the defences. This operation involved the longest flight of its kind carried out during the war without refuelling en route.

Results of the Bombing and Mining of Palembang

There was ^a wide difference between the strategic and operational results of the combined attack. ^{The} ~~This~~ first strategic dividend did not appear impressive when the photographs taken on 19 September were examined. By then, the immediate effect of the bombing had been blurred by repair. Only one small building could be definitely credited as destroyed to the strike. That and several probables were adjudged a poor return for such a major effort. Washington's insistence on an assignment, in those early days of adjustment of only partially blooded aircrews, which had little chance of decisive results, seemed to the U.S. Air Historical Division after the war to indicate a lack of flexibility in the choice of target priorities.

XX Bomber Command took this disparity between effort and results seriously to heart, so much so that long before damage assessment was complete, they recommended the abandonment of China Bay as a staging post. On 3 October, Washington agreed to the removal of all Command equipment except the fuel service system. No more Superfortress missions were staged through Ceylon.

Operationally, on the other hand, there were positive results ~~to point to.~~ Since the first, ^{hazardous} ~~suicidal~~ trial run on 5 June to Bangkok, the Command had proved that it was learning fast to handle the "hot" aircraft and to build up a logistical system worthy of its performance. Now it had been ^{proved} ~~put on record~~ that record flights to remote targets could be smoothly carried out with immunity, although hostile weather conditions, even when they were equipped with radar, might

/sabotage

^{sabotage} their best efforts. The useful load had been lightened to a single ton of bombs or mines and fuel tanks had been filled to capacity. Even so, the loss of several aircraft on the long return flight in monsoon weather had been anticipated and the R.A.F. had set up an elaborate air/sea rescue force comprising several types of aircraft, submarines, a cruiser, destroyers and light surface craft; fortunately so, because the one B-29 that came down in the sea got through an S.O.S. All the crew except one were picked up from a raft⁽¹⁾ after two days of wireless air and naval operations.

It was impossible at the time to appreciate the immediate or long term strategic effects of the gallant minelaying effort in the Moesi River. The Command would have been relieved to hear that on the day following the lay S.S. Ikuta Maru (1,018 G.R.T.) sank on a mine there.⁽²⁾ The channel was closed for a month and oil shipments held up. Oil meanwhile had to be loaded at Belawan Deli. This latter port had itself been mined by H.M. Submarine Porpoise during her sortie 6-8 July,⁽³⁾ a junk sunk and her crew taken prisoners. In addition, Submarine Chaser No. 8 sank on a mine^{there} on 9 September and S.S. Takakun Maru (3,029 G.R.T.) on 10 September.

The minelaying is thus seen to have been[^] genuine success, inflicting serious damage and delay, enhancing the period of Japanese apprehension inaugurated at Belawan Deli, and giving more point in fact to the lays by R.A.F. aircraft in the oil ports in 1945. In retrospect, it can^{only} be regretted that XX Bomber Command was forced by circumstance to turn its face eastward at this juncture to give what expression it could to the great American impulse to attack Japan at the closest possible quarters.

Eastern Fleet Submarine Operations in 1944 in the Malacca Straits ⁽⁴⁾

The Japanese sea supply lines off Sumatra were by no means ignored by South East Asia Command. Although aircraft were no longer available in 1944 for /minelaying.

-
- (1) The 2 days of operations by No. 222 R.A.F. Group and H.M.S. Redoubt have been related in Chapter 3 of this volume.
 (2) In 2°56'S, 104°56'E. It is stated in H.Q. S.A.C.S.E.A. report No. CQS/22 dated 14.9.46 (in M.6994/46 file at the Admiralty) that 3 ships were sunk and 4 damaged. Admiralty Staff History C.B.3303(5) quotes only the one named here. It is possible that the others were vessels of less than 500 tons.
 (3) 55 mines were laid off the Deli River.
 (4) Admiralty C.B.3306(3), Appendix II.

minelaying in the oil supply base ports, Eastern Fleet submarines kept a close watch in the Malacca Straits (a British sphere of submarine responsibility) and when 1944 closed, British and Netherland submarines had made 19 lays in the Malacca Strait alone,⁽¹⁾ as a result of which it appears that six important vessels (and perhaps seven) were sunk. The Malacca Strait was only visited once again by Eastern Fleet submarines, viz. on 9 Jan. 45 when H.M. Submarine Porpoise laid in the Penang approaches. The specific results of these cannot be identified beyond the sunken ships, but will be taken into account later ~~in an assessment of the over-all effects of operations by area and all area commands.~~

XX

(1) On 14 and 19 Mar., 18 Apl., 13, 14, 16 and 18 May, 2, 3, 4, 7, 14 and 24 June, 6-8 Jly, 19 Nov. and 9, 16 and 23 Dec. 44.

XX Bomber Command's Stay in China (September 1944 - January 1945)

From September to December 1944, XX Bomber Command turned to transport tasks over the Hump and made several long range bombing attacks on targets as far apart as Singapore and Japan from both Indian and Chinese bases. (1)

In November, 1944, the Japanese opened a drive from Liuchow towards Kweiyang and Kunming which eventually threatened operations from Chengtu. In this emergency, the XX Bomber Command units were moved quickly back to the Calcutta area. (2)

Planning for evacuation of the Chengtu bases ~~at group level~~ began in late November. On 15 Jan. 45, the J.C.S. ordered withdrawal. By 27 January, the forward detachments of the four groups had departed for India. Only a photographic reconnaissance team remained behind. (3) Nothing very substantial in the strategic field had been accomplished, except perhaps that the Japanese were now increasingly made aware of the Allied ability to hit their homeland with growing intensity. Minelaying on an unprecedented scale was about to increase their apprehensions.

/ B-29

-
- (1) Details in The A.A.F. in World War II, Vol.V.
 - (2) Ibid
 - (3) Ibid

/ B-29

B-29 Large Scale Mining in the first Quarter of 1945 from India⁽¹⁾

The start of 1945 found the Japanese shipping situation in a critical condition. Continued attrition of ships had weakened the transportation system, and air patrols from the reconquered Philippines were threatening to cut off the southern half of the Greater Asia Sphere. Realising the gravity of the situation, the Japanese were making desperate efforts to transport the most essential materials from the Outer Zone to the homeland, where they expected to make a last stand. To aid in thwarting this final exploitation of the Outer Zone and to directly aid the increased Allied drive in Burma, India-based Superfortresses of XX Bomber Command engaged in their first large scale mining effort on the night of 25/26 Jan. 45 in planting several hundred magnetic mines in the approaches to Singapore, Saigon and Cam Ranh Bay. This mission announced the fact that practically no mineable waters⁽²⁾ could be considered safe for Japanese shipping. At the period, mining operations were also in progress in China, South East Asia and the Central and South West Pacific.

The XX Bomber Command operations were supplemented in January, and in their February and March attacks, by R.A.F. units of the Strategic Air Force and No.222 Group. The results of the over-all effort from India and Ceylon will be assessed at the close of the record of R.A.F. mining operations.

The targets mined by XX Bomber Command were in three general areas, viz., the Singapore area, the Saigon-Cape St. Jacques-Cam Ranh Bay area and the Shanghai area. The ^{lays} ~~beys~~ in the first two areas will now be related and ~~statistics given for those in the third.~~

/ Strategic

(1) U.S.S.B. Survey (Naval Analysis Div.) 'The Offensive Mine Laying Campaign against Japan' 1946 (A.H.B.IIF.2/81/4); U.S. Navy report in A.C.S.E.A. file BUR/S.10204/1/AIR (A.H.B.IIJ.50/84/153).

(2) Except those in North China, Korea and the Empire proper.

Strategic Significance of Singapore and the Saigon Area (1)

For a long time, Singapore had been virtually blacked out to Allied Intelligence. The Japanese considered it inaccessible and had neglected its defences. Since they took it over from the British in February 1942, they had improved it until it was now their finest naval station outside the home islands. In early 1944, it has been already recounted, a large naval force put in for repairs, creating a state of alarm in the India-Burma theatre. In June 1944, this force had joined in the great battles of the Philippine Sea. On 27 October, General Arnold suggested that the extensive damage suffered by the Japanese Fleet in the battles for Leyte had enhanced Singapore's importance. Naval vessels were hurrying or limping back towards South-East Asia round Cape St. Jacques, for repairs, overhaul, fuel and stores. What could XX Bomber Command do about it?

VLR reconnaissance aircraft photographed Singapore on 30 October and again on 8 November.⁽²⁾ A bombing attack was organized for this very long range target without much enthusiasm by XX Bomber Command on the insistence of the J.C.S. in Washington. On 5 Nov. 44, it was carried out and the fine King George VI dry dock put out of action for three months. The local defences made a poor showing. Two aircraft were lost. A small force bombed the Pangkalan ^{Brandon} oil refinery in Sumatra the same night and reported direct hits on the cracking plant.

Singapore was bombed again early on 11 Jan. 45. It was still the haven for ships returning from the Philippine battles. A naval force was sighted at Cape St. Jacques (near Saigon) but escaped. Other warships were reported at Singapore. This time, the repair docks were the primary target, but they were not hit. ~~A smaller effort against Penang registered better bomb aiming.~~

The transfer of Maj.Gen. Le May on 18 Jan. 45 to the Marianas foreshadowed the Command's future role in the Pacific. His successor, Brig.Gen. Roger M. Ramey, took over a mixed force of trained and new crews with changing /techniques

(1) The A.A.F. in World War II Vol.V. Chap.5.

(2) The latter photograph was published in ICGROPS Quarterly Review Vol.I No. 2 as "the picture of the quarter" and (incorrectly) "the first by Allied Forces since the fall of Singapore in February 1942". ~~Because of its great interest and relevance it is reproduced here as Figure . The main features in the centre, reading from left to right, are Sungai Sembawang, King George VI dock, workshops area, with a large floating dock to the North; and Naval Stores Basin, with small floating dock in S.W. corner.~~

techniques to acquire and, sensibly, tried to orientate their training towards the type of operations expected in the Pacific, not in South-East Asia Command. Ramey saw that the mining operations by R.A.F. Liberators of Eastern Air Command had thrown more of a burden on Japanese ports farther to the East and South, but still within radius of his Superfortresses in the Kharagpur area. His choice therefore fell on some new targets, as well as old ones. Saigon, a convoy point for shipping between Japan and Singapore; ^{Cam} Kam Ranh Bay, a harbour used by merchant and naval vessels, ^{Penh} Phnom Penh, a river port up the Mekong River from Saigon, where goods brought up by water were transhipped by railway to Bangkok; Penang, Malaya's second most important harbour; and lesser places such as Koh Sichang (below Bangkok) and the Pakchan River. He inaugurated a limited mining campaign during the full moon phase of 23-30 Jan.45.

l.c. The B-29 Mission against Singapore and Indo-China Waters
(25/26 Jan.45). (1)

The first effort, on the night 25/26 Jan.45, was a double mission. Seventy-six aircraft⁽²⁾ left base; all but four laid their mines, 393 in all. The major effort was devoted to Singapore, where 41 aircraft laid six minefields among the several approaches to the harbours, i.e. off Johore,⁽³⁾ and in the Rhio,⁽⁴⁾ Hersburgh⁽⁵⁾ and Singapore Straits.⁽⁶⁾

As regards the other primary targets, 19 aircraft laid between them 104 mines off Cape St. Jacques,⁽⁷⁾ 40 off Song Soirap⁽⁸⁾ and 6 up the Mekong River⁽⁹⁾ at Phnom Penh, (all U.S. Mk.XXVI). Six more laid 34 mines in ^{Cam} Kam Ranh Bay, 2 at Koh Sichang, 4 in the Pakchan River and 9 at Penang (the base abandoned in late 1944 by the German U-boat Headquarters).

→ Drops were made, from skies clear of cloud and enemy fighters, at 2,000-6,000 feet altitudes. Crews and Naval observers noted with satisfaction the improved aiming. /Obscure

(1) The A.A.F. in World War II Vol.V. pp.158-159. Admiralty minelaying History (draft).

- (2) Drawn from the 444th, 462nd and 468th Groups of the 313th Wing.
- (3) 36 x U.S. Mk.XXVI.
- (4) 24 x U.S. Mk. XXV. (2,000 lb. magnetic).
- (5) 12 x U.S. Mk. XXV and 65 x U.S. Mk. XXVI.
- (6) 18 x U.S. Mk. XXV and 36 x U.S. Mk.XXVI
- (7) 10°20'N.
- (8) 10°08'N., 106°48'E.
- (9) 11°40'N, 104°40'E.

Obscure Results (1)

~~At the time,~~ ^{was} there ~~appeared~~ ^{of} no evidence ~~that the Japanese~~ shipping jams. ~~had materialized.~~ Therefore, the missions were despatched to bomb Saigon on 27 January and Singapore on February. The radar attack on Saigon inflicted no damage, but that on Singapore inflicted appreciable damage on docks and shipping. From 3 Feb. 45, it was directed by the Supreme Commander, S.E. Asia, that, as a long term policy, naval installations at Singapore (and Penang) were not to be attacked, as the Allies might need them later.

Singapore continued to function as a repair base and convey port for some time. Saigon, severely damaged in an air attack on 12 January, declined in importance. A Japanese officer reported, after the war, the loss of shipping resultant on that attack and stated that thereafter no large ships entered Saigon. After January, he continued, the port of Haïen in the south Indo-China coast was used to supply both Saigon and Bangkok. The Allies appear to have been unaware of these effects at the time. Intermittent laying at Bangkok by the R.A.F.'s No. 231 Group had closed the port to large transports and tankers by the end of January ^{and accordingly barges were towed from Singapore} to a river 60 Km. East of Bangkok twice. Slowly, Singapore was to feel the pinch. Civilian and Burma Army provisions were held up by sweeping operations and the rice distribution from that port badly hit. Small ships were to steadily replace large ones and themselves be replaced by junks. The full long-term effects on the whole system must be deferred to the close of this record of strategic minelaying. The above facts are only given to show the impact of the heavy mine lays on the zonal enemy shipping situation in the period.

(1) U.S.S.B.S. report on the Offensive Mine Laying Campaign. (A.H.B.II F2/81/4 p.62): Admiralty C.B.3303(5): The A.A.F. in World War II. Vol.V.

The B-29 Mission against Singapore (27/28 Feb.45)

After the lay at Singapore on 25/26 January, the Japanese swept the local waters with such industry that they were able to resume traffic in a fortnight. Mountbatten's reservations discouraged further attacks until the last, maximum strength bombing effort of 24 February, when 105 Superfortresses attacked the Empire Dock area at Singapore, which operational planners rather peevishly described as "the only suitable primary target free of stipulations left in this theatre". They burned out 39% of the warehouse area.

On 27/28 February, this attack was followed up by a mine lay. Twelve aircraft left base to re-seed the Johore Strait. Ten of them dropped fifty-five mines there and one dropped six at Penang. Again, there were no losses and the task appeared to be well executed. Twelve other aircraft were loaned to Chennault in China for a lay in sections of the Yangtze River.(1)

/B-29

(1) Refer to the footnote to the summary of B-29 minelaying operations from S.E. Asia bases and the chronological list of lays at Appendix 19 .

B-29 Missions to Singapore, Saigon and Cam Ranh Bay (1) (28/29 Mar.45)

A moon later, 10 Superfortresses, each fully laden with 12 x 1000 lb U.S. Mk.XXVI mines, went back to mine the South channel of the Yangtze at Shanghai and the mouth of the Hwangpoo River, ^{staging in China.} On the same night, two mining missions flew southeastward, 16 aircraft re-seeding fields in the Saigon sea areas and 32 returning to Singapore. These were the last minelaying missions by XX Bomber Command from the S.E. Asia Command area. A closer than customary look must be taken at the last effort, for it embodied the latest state of the Command's policy, tactics and accomplishment to that date and served as a basis for their much greater later effort in the Inland Sea of Japan. The lays in China can be studied in U.S. records. The other operations affect the Burma campaign and the shipping supply situation in the Outer Zone more closely.

The mission to Indo-China of 16 aircraft dropped 126 U.S. mines. The mission to Singapore dropped 128 U.S. mines. The heaviest lays were off Cape St. Jacques, Song Soirap, Mythe and Rhio and Johore Straits, but Cam Rhan Bay, Mekong River and the Singapore Inner Middle Channel were also mined. What was of greater interest ⁴ than the bare statistics was the design behind the mechanical preparation of the mines and the probable effects on the enemy system.

Delayed Arming and Ship Counters (2)

The judicious use of delayed arming mechanisms and ship counters had been found to present continuous difficulties to the enemy, even though he was able to sweep the particular type of mine being employed. Delayed arming mechanisms prevented the mine from coming alive until a specified time after dropping, so that any sweeping measures taken prior to the time of arming accomplished nothing. The ship counter mechanism prevented a mine from exploding until it had been actuated a pre-set number of times. This meant that a sweeper had to pass over the minefield at least the maximum number of times which could be set on the ship counter in order to make a 100% clearance. By combining this feature with the

/delayed

(1) Admiralty Minelaying History (draft): The A.A.F. in World War II Vol.V : Admlty C.B.3303(5).

(2) U.S.S.B.S. Naval Analysis Div. Report (A.H.B.B.II F.2/81/4).

SECRET

Delayed arming mechanism, the simplest magnetic or acoustic mines were used to harass the enemy seriously by forcing on him an excessive sweeping and watching effort.

XX Bomber Command, because of its other heavy commitments and the confinement of mining operations to the full moon period, could only lay at Singapore and in the Saigon area once a month. Therefore, groups of mines were set to arm at various periods between the monthly operations. As a result, after one group had been swept and the channel declared safe, a new group would come alive.

Sterilizers (1)

Sterilizing devices were used on some operations to limit the active life of the mine, thus providing for co-ordination with other offensive operations. For instance, in South-east Asia, the use of sterilizers ^{allowed} showed the laying of mines in areas such as the Andaman Islands and Singapore which would be effective until shortly before a planned offensive. The great mining offensive from India and Ceylon in the first quarter of 1945 coincided with a powerful land, sea and air thrust down Burma. This provided the background for the inclusion of sterilizers at this period.

Sterilizers would have been used earlier and in greater numbers had they been available with the long period settings now coming into use. Yet the majority of mines laid during the campaign were, in the event, sterilizer equipped, on account of the rapid crescendo of operations in the period of mobile warfare in 1945. No flooding devices were used in operations from S.E. Asia Command.

Devices employed in Singapore Fields Lays (28/29 Mar.45) (2)

While the lays in the Saigon area were carried out in the late afternoon of 28 March, the lays in the Inner Middle, Rhie Strait and Johore Channel fields at Singapore were all made within the hours 0524Z - 0724Z owing to the uncertainty of the scale of the defences.

All the mines laid at Singapore were sterilized for 82 days (nearly 12 weeks). The fields were fairly extensive, e.g. the co-ordinates outlining the Johore Strait were:-

(104°00½'N - 01°24'E.) (104°00'N - 01°23½'E.)
(104°05'N - 01°19'E.) (104°05½'N - 01°19½'E.)

The following analysis of the mechanisms employed in the Johore Channel lay by 19 aircraft is typical of the general pattern used on the mission:-

/15 - 8 second ...

- (1) U.S.S.B.S. Report.
(2) XX Bomber Command Operation and Sortie Report (A.H.B.II.J.50/105/4/205 Encl.12).

- 15 - 8 second interlock dead period, immediate arming and 1 ship count.
- 4 - Immediate arming, 5 ship count and 2 with 3 second and 2 with 5.5 second interlock dead period.
- 13 - 3 or 5.5. second interlock dead period, 20 day delay arming and 2 ship count.
- 44 - 3 or 5.5. second interlock dead period, 1 ship count and 15 with 10 day delay arming, 15 with 20 day delay arming and 14 with 30 day delay arming.

Summary of XX Bomber Command's Minelaying Effort from S.E.A.C. (1)

It will be of some interest to briefly summarise the Superfortress minelaying effort from South East Asia bases between 10/11 Aug. 44 and 28/29 Mar. 45.

The operation of 10/11 Aug. 44 against Palembang was staged through China Bay (Ceylon). The two lays in China on 4/5 and 28/29 Mar. 45 were staged through Luliang and Chengtu. All the rest were conducted direct from the Calcutta base area.

In all, 987 mines (all American) were laid in 162 successful sorties. About only 7.1% of the total of aircraft despatched failed to lay successfully; some of these jettisoned their mines, some returned with them to base. Considering the novelty, handicaps and hazards of the task, this figure may be accepted as very reasonable. From the footnote (1) and ~~Appendix~~ to this volume, it may be seen that the largest number of mines was sown at Singapore, ^{Saigon and} with the Yangtze ~~and Saigon~~ following in that order.

(1) B-29 mining effort from India and Ceylon bases

Target	Success ful Sorties	Laid	Mines Jettisoned etc.	Returned	Remarks
Gam Rhan Bay	10	54	0	0	
Koh Siohang	0	2	0	0	
Pakchan River	3	15	0	0	
Palembang	8	14	10	4	
Penang	2	12	0	0	
Phan Rang Bay	1	6	0	0	
Saigon	33	255	1	0	
Singapore	83	366	29	31	
Tai-Hsing Reach (China)	3	36	0	0	10 a/c laid 120 mines from India. 12 a/c staged forward and laid 143 from China.
Yangtze River (China)	18	216	0	0	
Tungting (China)	1	11	1	0	
<u>Totals</u>	162	987	41	35	

Refer to Appendix 19 for chronological table of operations. There are slight differences between the R.A.F. and Admiralty records on the one hand and U.S.A.F. records on the other, too slight to be of importance. The above list is taken from the U.S.S. Bombing Survey (Naval Analysis Div.) Report.

Almost all the mines laid were the U.S. magnetic Mk.XXVI or XXXVI 1000 pound type, but 54 of the U.S. Mk.2000 pound type were laid at Singapore and 1 at Pakchan River on the January 1945 mission.

l.e. A few General Conclusions on Superfortresses in the C.B.I. Theatre

Neither the early U.S. Strategic Bombing Survey record of air operations (1) nor the official U.S. Air Force History (2) (both published since the end of the war) have attempted to assess the full value of the role of the minelaying by the 52nd Wing of XX Bomber Command. For that, one must turn to the surveys by the U.S. services conducted in Japan. Nor is this the point at which to assess it. First, the parallel operations by the Liberators of No. 231 and 222 R.A.F. Groups and the Catalinas of the R.A.A.F. up to the end of the war with Japan must ~~be~~ be related. Then it will be possible, with the aid of the conclusions of the U.S. service investigation reports to trace the over-all effects on the Japanese military system. Even that will not provide the final answers, for mining from S.E. Asia was only a cog in the global blockade of Japan and the effort from India and Ceylon will have to be placed in the wider context of the whole mine-laying campaign by the combined air forces of the R.A.F., the R.A.A.F., the U.S.A.A.F., Allied submarine and carrier-borne and land-based naval aircraft. It will be possible in the course of this chapter to evolve sufficient proof of regional results to prove certain phases worth-while. The evidence already quoted proves that XX Bomber Command's minelaying effort paid useful dividends in August 1944 and in the first quarter of 1945.

As regards the wider strategic employment of the VLR aircraft, the supporters of strategic attack on the heart of the enemy's country on the one hand, and those supporting its use in the co-ordination with submarines for mining, search and low level attacks to accelerate the destruction of shipping on the enemy's lifelines on the other, agreed to disagree until the very end.

/The

-
- (1) Air Operations in China, Burma, India, World War II. Report No. B.I.O.S./J.A.P./P.R./1987. H.M.S.O. (A.H.B.II F.2/81/4).
 (2) The A.A.F. in World War II. Vol.V.

The U.S.A.F. historians feel that the bombing in Operation "Matterhorn" was expensive and not very fruitful on the whole. What mattered most, it is suggested, was the mining, the precious training afforded to aircrews for a greater effort in the Pacific and the tonic 'shot in the arm' their presence and activities afforded our barefooted Chinese Allies. (1) One feature the Americans have overlooked was the timeliness of the weight their economical (2) efforts added at a period when the theatre Allied air forces most needed to put forth their maximum efforts, integrated with that of the Army and Navy, to drive the Japanese South of Rangoon.

The bombing and transport operations of XX Bomber Command may be found in the records of A.C.S.E.A. and the A.H.B. narrative on South East Asia and in ample detail in the U.S.A.F. official history - The A.A.F. in World War II. It may be of some value here to quote some vital statistics.

In its operations from India bases from 5 June 44 to 30 Mar. 45, the Command attacked 28 primary targets in 1070 sorties over the target, dropped 4,604.50 tons of bombs and laid 987 mines. (3) They are believed to have destroyed 19 enemy aircraft. To support their operations from China bases, the Command operated Superfortresses and Commandoes (4) over the Hump, ferrying fuel and supplies, delivering a total of 14,517 tons of supplies to North China bases.

By May 1944, the photographic reconnaissance force had photographed all of the important enemy lines of communications and had mapped 57% of all Burma. This effort expanded, until in January 1945, 354,000 prints per month were being delivered to ground and air forces.

(end of page)

/Minelaying

-
- (1) A full and interesting record of all the operations of XX Bomber Command from India, China and the Marianas, with discussions on policy, training and tactics will be found in Vol.V of The A.A.F. in World War II Vol.V. U.S.A.F. Historical Division. University of Chicago Press 1953.
- (2) Economical in the sense that the Command suffered no losses of aircraft. It was, at the same time, very expensive in maintenance and airfield construction.
- (3) Including those from Chinese forward staging airfields.
- (4) C-46's.

(end of page)

Minelaying Policy Developments in 1945Command Changes (1)

In December 1944, H.Q., R.A.F. Bengal/Burma was formed and became the administrative control for No. 231 Group, ~~which had become~~ the official operational representative body of the Strategic Air Force. (2)

The Allied Air C.-in-C., A.C.M. Sir Richard E.C. Peirse (3) was succeeded by A.M. Sir Guy Garrod (4) who acted in that post until succeeded by A.M. Sir Keith Park in February 1945. Admiral Sir Bruce Fraser had relieved Admiral Somerville as C.-in-C. Eastern Fleet in August 1944. Fraser left S.E.A.C. on 22 Nov. 44 to command the newly-formed British Pacific Fleet. What remained of the Eastern Fleet was renamed the East Indies Fleet, under command of Vice Admiral Sir Arthur Power, also C.-in-C., East Indies Station.

H.Q. Air Command had been in Kandy (Ceylon) since October 1944; and at Delhi, a new H.Q. known as Base Air Forces, S.E. Asia had been formed. In October 1944, authority had been given for disbandment of the Third Tactical Air Force. These moves were part of a general reorganization of the air forces, as part of which all the groups in India underwent a rationalisation of their areas to coincide with those of the Army formations. (5)

On 16 Jan. 45, A.M. A. ("Dusty") Durston (6) was replaced as A.O.C. No. 222 Group by A.Cdre. J.M. Mason. No. 231 Group retained its A.O.C., A.Cdre. F.J.W. Mellersh (7) until 15 June 45, when he was repatriated to the U.K. and replaced by Maj. Gen. J.T. Durrant. A.V.M. Desoer remained the A.O.C. of No. 225 Group

-
- (1) No. 231 and 222 Gps. O.R.B's.
 - (2) Strategic Air Force O.R.B's appear under No. 231 Group.
 - (3) K.C.B., D.S.O., A.F.C.
 - (4) K.C.B., O.B.E., M.C., D.F.C.
 - (5) For a full record of the Anglo-American Command problem and air reorganization refer to the A.H.B. Narrative on S.E. Asia Chap. 14.
 - (6) C.B., A.F.C.
 - (7) C.B.E., A.F.C.

/The

The Role of Minelaying in Strategic Air Plans (1)

In January 1945, plans for the Strategic Air Force were for operations in the following order of priority:-

- (1) The creation of breaks by bombers in the Bangkok-Moulmein section of the Burma-Pegu supply line.
- (2) The maintenance of breaks between Martaban and Mokpalin.
- (3) Minelaying by Nos. 231 (Strategic Air Force) and 222 R.A.F. Groups.

The minelaying programme ordered by the Supreme Commander for January was the most ambitious ever conceived in the India-Burma theatre. (2) In general, with a few exceptions, No. 231 Group was to confine its mining to ports North of Penang and No. 222 Group in Ceylon to ports from Penang itself southward. (3)

The detailed priority lists ran as follows:-

Strategic Air Force (No. 231 Group)

1st. priority: Singapore, Palembang, Rangoon, Moulmein, Pakchan River, Bangkok, Mergui.

2nd priority: Tavoy, Heansay.

No. 222 Group

1st. priority: Besitang River (Pangkalan Seesee) and its approaches, the approaches to Belawan Deli, Penang.

2nd priority: Port Blair (Andamans), Nancowry (Nicobars).

The XX Bomber Command programme did not figure in the R.A.F. plan, for the Superfortress organization was very much a law unto itself operationally. While its broad intentions were known to A.C.S.E. Asia, at group level it was different. One group recorded that the first knowledge they had of a Superfortress ^{lay} was acquired from the local newspaper. Notwithstanding, as the record has already established in this chapter, their contribution to the attack on the extensive target system was heavy and valuable, even if the Twentieth Air Force saw its greater value as a field of training ^{for} ~~the~~ more massive attacks on the Japanese Inner Zone from the Marianas.

During the months that followed, modifications were made in the priority lists: these will be indicated as the narrative proceeds. At this point a review of the Japanese supply position at the end of two months' all-out mining programme will be of interest, in particular in demonstrating how minelaying had been integrated into theatre strategy.

-
- (1) Nos. 222 and 231 Gps. O.R.B's.
 (2) A.C.S.E.A. File AR/6234(A.H.B.IIJ.50/105/4/201.
 (3) The strong emphasis on targets with oil tanks and refineries is of particular significance.

The Supreme Commander's Conference on Japanese Supply (19 Mar. 45) (1)

By mid-March, the mining squadrons had enormously extended the scope and weight of their effort. Day to day intelligence on the results of these and bomber and submarine operations was often not obtainable, but evidence there certainly was that a situation favourable to an offensive was developing. Much of this intelligence formed the basis of a report dated 1 Mar. 45 which was considered and accepted at the Supreme Commander's 227th Meeting of 19 March and on which action was ordered. The report proved sound in practice and its review of the Japanese supply situation was an intelligent one. Summarising the more significant conclusions, it was stated that bomb damage had seriously impaired certain sections of the railway route from Siam to the Burma front and the general weight and tempo of air attack had forced on the enemy increasing recourse to the importation of supplies to Burma by sea. They had so developed these sea routes by routeing devices, the use of coasters, various small craft (increasingly of wooden construction) and military landing craft that they were still getting into Burma their full current requirements of supplies. They still held big reserves in the Arakan, South Burma and Tenasserim ^{coast,} ~~west~~ at the railheads on the Kra Isthmus and elsewhere, all ^{areas} ~~of which~~ susceptible already to delays occasioned by mining.

The Burma-Siam railway capacity had been forced to a low level. Shipping arriving in Singapore and Saigon had been reduced to a minimum as a result of operations in the Philippine Sea and arrivals of military supplies in the Outer from the Inner Zone much reduced from the former 40 - 45,000 tons a month. The movement of essential raw materials in the reverse direction for the Homeland appeared for the time completed. (2) It was thought (correctly) that the Japanese would go over increasingly from large ship convoys to smaller coast-crawling vessels along the South China coast, ^{and} ~~this~~ this would result in smaller cargo deliveries.

— The large fleet of small wooden vessels distributing supplies from Singapore by sea routes to other areas in S.E. Asia was growing.

(1) S.A.C. papers 1945 42/1 (A.H.B.II J.50/109/6).

(2) Although not mentioned, there were exceptions, notably oil fuel. The Surabaya-Singapore sea route, for example was kept open to a very late date. *The last convoy for Japan sailed in April 1945.*
March

l.c. Increase in Mining and Ship Strikes ordered for April

The first recommendation on which action was to be taken was that mining operations in the ports of Lower Burma, Malaya and Siam were to be increased. The second was that frequent attacks on coasters in South Burma waters were to be made, especially during the moon period, but also ^{while} ~~when~~ at anchor in daylight. Further measures were to include bombing attacks on bridges and dumps in and outside Burma. The contemporary daily photographic cover of shipping in Rangoon and the Tenasserian ports was to continue and extensive cover of roads, railways, dumps, ferries, rivers and canals was to be maintained.

l.c. Innovations and Developments (January to May 1945)

November and December 1944 had seen intensive training and development of aircraft. ⁽¹⁾ This led to a high level of achievement by the Liberators from January 1945, the first month for nearly a year in which the Strategic Air Force was wholly operational. Efforts to raise the weight of bombs or mines carried were continued with success and the maximum load (always one of the weaker features of the Liberator) ^{was} increased substantially to a maximum of 12,000 lbs.

There were two innovations. Mining was now concentrated in as many places as possible by single or ^{pairs} ~~pairs~~ of aircraft, so causing, it was believed, increased difficulties in sweeping continuously and more often in several places at the same time.

February 1945 saw a rather more limited effort. All mines were to be fitted with sterilisers and delay and arming settings complicated.

In March 1945, two new ports in the Gulf of Siam were opened up to mine-laying aircraft and the first dummy mines laid at Rangoon. In April 1945, Nos. 159 and 160 Squadrons continued to specialise in mining. Two new targets were opened on the West coast - the Fell and Domel Passages, ⁽²⁾ vital to coastal shipping. These efforts, like the dummy lays, appeared to have been encouraging. Intelligence reported a decrease of shipping in mined areas.

(1) O.R.S. Report No. S.24A 1.6.45 (ILJ.50/84/21(A) Encl.48A).

(2) This type of open water target presented special difficulties for attempts at sweeping.

Through May 1945, the policy was still to spread the effort. All the priority targets were visited, except Penang, closed by bad weather to relatively inexperienced crews. June was relatively uneventful. In July, the Supreme Allied Commander ordered suspension of all mining operations.

The last mine lay of the war in the theatre was carried out by No.231 Group on 10 July at Bangkok. (1)

l.e.

Acoustic Mine Supply Problem

The Japanese construction programme of small wooden vessels, ~~was~~ not susceptible ~~than iron ones~~ to magnetic mines, was reported in successive copies of Air Command S.E. Asia's Weekly Intelligence Summary (2) in 1944. By the end of the year, it was apparent that, in spite of setbacks, the Japanese had a considerable and increasing number of wooden craft of various rigs and tonnages in commission and construction was thriving. Rather late in the day, it was decided to introduce the laying of acoustic mines. For this situation, which grew more serious daily, the Allies were not prepared.

Stocks of acoustic mines were low to begin with and eventually ran out and could not be replaced. Efforts to trace this lack of essential materials to pre-war lack of vision, production bottlenecks or poor local planning will lead us nowhere. Set against the overall ultimate success of the campaign in the Outer Zone, this late handicap seems in retrospect a logical by-product of events and the unpreparedness part of the ill-fortune against which it is very difficult to insure.

Most official records studied suggest a smooth turnover to acoustic mines and give no indication of the lack of balance in the days of the last six months of the war. Cold statistics coupled with the laconic entries in the Operations Record Book of the Strategic Air Force (3) provide the true setting for operations.

In January 1945, 150 acoustics (4) were laid on three nights ^{in nine} ~~on nine~~ anchorages by small forces and at Penang by a large force. A few acoustics were laid in March. None, apparently, were laid in April. (5) In May

-
- (1) All details in this sub-section from Nos. 222 and 231 Groups O.R.Bs.
 - (2) A.C.S.E.A./Int. O.R.B. Appendices 1944 and 1945.
 - (3) To be found in the O.R.B's of No.231 Group.
 - (4) U.S. XIII-5 mines.
 - (5) It is worthy of note that the R.A.A.F. Catalinas were dropping acoustic mines as early as August 1944. (Air War Against Japan, Canberra, Australian Memorial 1957).

only a few acoustic assemblies were available and in June none.

How little the acoustic effort for the India-Burma theatre amounted to is plain from statistics provided by the Naval Analysis Division of the U.S. Strategic Bombing Survey⁽¹⁾ in the following percentage analysis of the types of mines expended:-

Magnetic	91.5
Acoustic	5.4
Contact (drifting)	0.8
Dummy	2.3
	<hr/>
	100.0

It should be said that wooden ships could (and according to Japanese admissions, did) sink on magnetic mines: but in their evidence after the war the Japanese, unaware of the small admixture of acoustic mines in the main magnetic lays, recorded no evidence suggesting any appreciable successes by this form of mine. *Losses of wooden ships on the acoustics were recorded, but many were disposed of by the dropping of small depth charges from aircraft.*

(end of page)

/ Japanese

(1) A.H.B. IIF.2/81/4

(end of page)

(1)

1.c. Japanese Oil Targets in the Outer ZoneIntroduction

The commanders of the Allied armies in Burma and China faced problems of limited geographical scope. The Air Command, South East Asia worked within much wider horizons. Complementary to their tactical support over the battlefield was the long range interdiction of enemy lines of communication. Submarines played throughout these last years of the war a notable part in interrupting the flow of men, arms, oil and equipment to the occupied territories; but submarines had their limits and could not venture into many of the shallow river estuaries and heavily defended localities where aircraft could lay mines or bomb.

The record is about to proceed to the greatly accelerated aerial mining campaign of the first half of 1945. No. 222 Group was allocated ports from Penang southwards. Later, it took over Singapore from No. 231 Group. Although their general task was the disruption and destruction of all kinds of shipping, the main point of their effort was, in point of fact, directed against the distribution of oil to the Armies in the field, the garrisons, the Homeland, the Navy and Air Forces.

Allied aircraft attacked all forms of shipping and as the nature and manoeuvres of that shipping changed, so were the air plans changed. Oil as such never figured as a top priority target as it did in the West to the general exclusion of other pressing bids. This was not because its importance was *not* realised by the Allied planners. They showed by the selection of targets in 1945 that they knew well that in destroying oil and by preventing its flow they could deny the enemy in some degree one of his basic means of waging war. But it is now admitted that ~~at any rate by the end of February~~, the actual facts of production and storage were not known to the Allied Command. No complete coverage of the volume of output, storage and distribution had become available: and the main targets were at extreme air range. The R.A.A.F. ~~had~~ laid mines in Japanese ports such as Surabaya and at Brunei and Tarakan in Borneo. Submarines patrolled the Malacca Straits and sank shipping (including tankers) in port and in the South China Sea.

- (1) The principal sources for this section are:- *four* ~~three~~ volumes of the U.S.S.B.S. Reports viz. (a) The Offensive Minelaying Campaign against Japan, (b) The War against Japanese Transportation 1941-1945, and (c) The Effect of Air Action on Japanese Ground Army Logistics (A.H.B. IIF2/81/2 Index); Nos. 222 and 231 Group and Nos. 159 and 160 Squadrons O.R.B.'s and appendices: A.C.S.E.A./Intelligence O.R.B. appendices.

It is important to note that in the last sortie of the war made by the Japanese Grand Fleet the ships had insufficient fuel for the return to base. Many aircraft were grounded for lack of petrol. The Armies, too, felt the pinch. Yet the Japanese still held in the Outer Zone very large stocks of several kinds of fuel. They were unable to transport it^{to} where they most needed it and burned much of it. In March 1945, the last tankers from the south reached Japan. By 1 April 1945 all traffic with the South had ceased. Here was a great achievement. In the following pages the impact of air mining operations on the enemy oil situation will be related, ~~and the results measured as far as is possible.~~ It is first essential to consider briefly the enemy oil organization, and storage and sea distribution systems on the basis of evidence provided after the end of the war.

(1)

l.c. Japanese Oil Organization

The Fuel Bureau of the Mobilization Bureau (itself in the Munitions Industry) functioned in Tokio, controlling in theory Army, Navy and civilian allocations. Because of the vast potential of the Southern Area (or Zone) ~~(now an unexplored area)~~, a high degree of autonomy was accorded to its controlling body - the Singapore Committee or Bureau; the Tokio Committee of the Fuel Bureau issued directives to it and looked after production and distribution in the Northern Area, which included the Home Islands, Manchuria, Korea, Karafuto and Formosa.

The Army and Navy retained full control of their oil supplies and sources. They had divided the South Sea areas between them on the basis of landing strength. Being the stronger, the Army (and its Air Force) received the civilized and well-cultivated areas west of the central mountain range in Borneo, while the Navy was relegated to the East. The Army acquired three major refineries in Sumatra, one in Borneo and two in Java, in addition to the principal producing fields; the Navy gained control of one refinery at Balikpapan and oil fields at Sanga Sanga and Tarakan, all three in Borneo. A problem arose because the Army had control of about 85% of the southern resources, although the Navy was the larger consumer.

(1) Oil in Japan's War, the report of Oil and Chemical Div. U.S.S.B.S. A.E.B.IIF.2/84/4 Nos. 51 and 52).

On the other hand the Navy controlled the tankers and patrolled the sea routes by which the oil reached Japan. Hence evolved the Army-Navy Oil Committee referred to above as the Tokio Committee. In the South, Army and Navy operated as separate units and balanced their claims to oil at the monthly meetings of the Singapore Committee. There, the Tokio directives were studied, decisions made and the movement of oil effected through a joint pool of Army and Navy tankers.

The main fields, refineries and tank farms in the Southern Area affecting this narrative are presented for reference at Figure 8. With this information, the point of many minelaying operations will be apparent.

/ Production

Production in the Netherlands East Indies

No time need be spent in consideration of the Burma oilfields and refineries. The Japanese Army consumed the entire output; none was left over for shipment to Japan and mining had no impact on it.

Sumatra is a different matter. The 1943 and 1944 output were of the utmost importance. (1) Allied ignorance of the true state of affairs here was well as

elsewhere in the Southern Zone was lamented after the war, when the statistics became available. The case of the Seengei Gerong refinery at Palembang is conspicuous. In a key to oil targets published in November 1944 by Air Command S.E. Asia it is recorded that the refinery was destroyed by the Allies when they retreated in 1942. The demolitions were certainly extensive, but limited

production was begun in January 1943 and forced up to one-half of the pre-war monthly average. (2)

By the beginning of 1943, production at Pladjee refinery nearly equalled the pre-war average. Production at Pangkalanbrandan, though lower, was still impressive.

Production in Java, (shipped mainly from Surabaya to Palembang for refinery) and in the fields in the Brunei area (in western Borneo) and Tarakan and the Balikpapan area (in eastern Borneo) may be appreciated from reference to the table (3) in the footnote.

(1) Refer to Appendix 31 for typical production in Sumatra.

(2) December 1944 output in barrels was:- from 1,202,000 barrels of crude oil throughput, 251,000 of aviation fuel, 133,000 of motor fuel, 24,000 of kerosene, 19,000 of Diesel oil, 681,000 of fuel oil and 5,760 of lubricating oil were produced.

(3) Production of crude oil in the N.E.I. (in thousands of barrels).

Fiscal Year (end. 31 Mar)	Sumatra	Borneo	Java	Total
1940	40,000	19,000	6,100	65,100
1942	15,697	9,600	630	25,927
1943	32,079	13,885	3,680	49,644
1944	22,321	11,765	2,830	36,916
1945 (Apr-Aug)	5,020	1,210	315	6,545

/ After

After a rapid increase in production and refining during 1942 and 1943, a drop in 1944 will be discerned. This was due to Allied interference, which created progressive difficulties in transporting oil from the Southern Zone to the Home Islands. As an increasing amount of ship tonnage was sunk and delays inflicted by mining, Japan found itself less and less able to ship the full Southern Zone production and it became necessary to reduce operations in both oilfields and refineries. Oil was even burned or pumped back into the ground. Only a meagre proportion of the vast potential reached Japan. Study of the tanker situation will reveal why this was so.

Singapore

Singapore was a mainspring of all military activity in South East Asia. It was a huge stores and petrol dump, major naval repair base and distribution centre for the whole of that sector of the Outer Zone of supplies for military and civilian needs in Burma and elsewhere.

The peacetime oil storage capacity of Singapore and neighbouring islands was about 12,530,000 barrels. ⁽¹⁾ The holdings on 1 Jan. 45 are not verifiable. The full report by the U.S. Strategic Bombing Survey on 'Oil in Japan's War', although illuminating the whole subject, gives no statistics for Singapore. A piece of secondary evidence is, however, available on the storage capacity on 31 Aug. 45 at the end of the campaign of attrition in Burma, by bombing and mining. It was furnished by a Japanese officer, ⁽²⁾ a prisoner-of-war, while under the supervision of British forces in Singapore. The total he gave for the whole Singapore and island areas capacity was 845,413 kilolitres. ⁽³⁾ This represented capacity, not actual stocks.

(1) Naval base - 3,230,000: city area 6,400,000: Samboe Island - 1,700,000: Tandjoen Goeban (Bintan Island) - 1,200,000.

(2) Col. Aikawa (Refer to A.H.B.IIF.2/81/4 U.S.S.B.S. report on The Effect of Air Action on Japanese Ground Army Logistics p. 106).

(3)

Location	Product	Capacity in kilolitres
Singapore Isl., Tanjong Paga and Mt. Feber	Unknown	26,620
	Black	206,513
Bukon Isl.	White	87,780
	Black	98,540
Samboe Isl.	White	103,520
	Black	103,220
Bintan Isl.	White	50,520
	Black	14,200
Pasir Panjang	?	4,500
Seletar	?	150,000
Total		845,413

represented capacity, not actual stocks.

It is an interesting indication of the enormous reserves at Singapore that although that area received the greatest damage of any to its fuel stocks ^{about} ~~(area)~~ 500,000 kilolitres of tankage capacity destroyed in the year ending August 1945), at the end of the war the stocks of petroleum ^{still} totalled 300,000 kilolitres. The shipping blockade had caused this accumulation.

Some saw the paramount importance of Singapore not in its fuel reserves, but in its position as an assembly point for ocean-going vessels on the main route to and from Japan for both military and commercial convoys, and in its unequalled ship repair facilities. Superfortresses first bombed Singapore from India in the autumn of 1944, calling attention to it as a target of high strategic priority: but the effort was not maintained, although it was bombed again in February 1945. This neglect of a major target is typical of the Allied failure to appreciate in time the vital significance of the whole Japanese oil complex in the Southern ^(r) Zone. The operations of No. 222 Group against Singapore may therefore be seen as of the utmost relevance. It is to be regretted that more could not be done. This was not the fault of South East Asia Command. Other commands in the Pacific were involved, in fact it was a matter for grand strategy at the highest level.

/ Developments

(1) One outstanding exception was A.V.M. Beestock, commanding R.A.A.F. Command.

l.c. Developments in the Japanese Tanker Situation (1944-1945)

When 1944 opened, accelerated tanker construction had boosted the total tanker fleet to an all-time maximum of 837,000 tons. Three-quarters of the tanker fleet was engaged in hauling oil home to Japan. The U.S. fast carrier raid on Truk in February caused a decrease in tanker strength of 13%. On 1 Mar. 44, 80% of the total serviceable tonnage was carrying oil home. But the full flow of oil fell far short of expectations and as Allied pressure increased, home production of synthetic fuels was expanded. Many more tankers were constructed through 1944 and 1945 and convoys multiplied, but by August 1944, tanker sinkings again exceeded construction. The submarine offensive drove convoys into hugging the China coastline and traffic continued to slow down. By July, it took a one-way convoy three weeks from Japan to Singapore. Imports into Japan sank to a record low of 360,000 barrels. August to October showed a rally in tonnage and imports. Thereafter the climax came on rapidly.

In the tremendous confusion of Autumn 1944, when carriers and submarines sank some 350,000 tons of tankers in four months, and when in the attempt to reinforce the Philippines the Singapore convoy system was thrown into disarray, oil imports into Japan were pushed aside: but construction and conversion proceeded and at the end of the December the tanker position was still strong at 800,000 tons. From January 1945, the emphasis shifted from tanker to dry cargo bottoms and deliveries began to taper off. (1)

The report of the Mobilization Bureau to the Cabinet at the end of 1944 stated:

'The preservation of liaison between the southern occupied territories and Japan is an absolute necessity for the fastening and maintenance of national material strength. It is recognized that if the resources of the South, especially petroleum, are abandoned, with the passage of time we will gradually lose our ability to resist attack.'

A determined attempt was then made to bring in oil to implement a last-ditch defence of the homeland. American carrier raids in February 1945 into the South China Sea inflicted terrible losses, destroying whole convoys. Even ^{with only} half the tanker tonnage remaining afloat, convoy after convoy was pressed through. In 1944, about three convoys a month sailed for Singapore; in early 1945, the number was eight. Many heroic and disastrous journeys were attempted. In January 900,000 barrels of oil were sailed through to Japan.

(1) Refer to Appendix for tanker statistics.

This was virtually the end of the enterprise. In February only 156,000 barrels reached Japan. Preparations now afoot to resist the expected invasion of Okinawa or Formosa tied up the tankers. The serviceable tanker tonnage was now only 520,000 tons and of this only 30% allocated for oil imports. On 19 March 1945, the last tanker left Singapore for Japan. By 1 Apr. 45, all traffic with the South had ceased. Japan abandoned the South China Sea.

The mining of ports had caused serious delays and jammed loading areas until sweeping operations were completed, so squeezing ships into profitable targets for bombing by aircraft or torpedoing by submarines. Balikpapan, one of the Navy's most important fuelling depots during the Pacific battles, was practically abandoned in December 1944 as the losses of tankers had assumed such grave proportions. Tankers had to be loaded below the safety line. Oil drums were piled on the deck of all cargo vessels. The lack of fuel restricted the operations of the Japanese Fleet and aircrews could not be properly trained or put out a maximum effort. After the loss of the Philippines and Okinawa, Allied forces sat ~~strategically and tactically~~ astride the vital oil life line and strategically the war was won.

(end of page)

/Lay

Lays at Singapore by No. 222 Group (March-May 1945)January and February Operations at Singapore by XX Bomber Command

After the first aerial mining of Singapore on the night of 25/36 Jan.45 by Superfortresses, the Japanese set up observation stations in Singapore Straits to spot minefields, but those stations were not effective and the first discovery of a minefield was generally made when a ship struck a mine. Convoys from Singapore to Japan still sailed, however. The second mining of Singapore was on 27/28 Feb.45, again by Superfortresses. It had been ^{preceded} ~~preceded~~ by a bombing attack on 24 February by 105 Superfortresses, in which it was believed that 39% of the warehouse area had been burned out. (1)

The first Singapore Lay (26/27 Mar.45) (2)

The first mining operation by No. 222 Group was carried out on 21/22 Jan. 45, at Penang. It was not until late March that the Group was ready for its most ambitious effort. Aircrews and engineers had worked on the idea of a maximum endurance task; and with an aircrew of eight, an effective load of two mines could be carried if extra fuel tanks were fitted.

Between 1340 and 1355 hours on 26 Mar.45, eight aircraft of No. 160 Squadron were airborne from Minneriya. The operation was 75% successful. The weather was bad all the way out, but cleared over the target, which was brightly lit up with many ships in the harbour. Unexpectedly, no opposition was encountered at Singapore. Five aircraft laid in the target, one dropped its mines safe and another, losing fuel, turned back to mine a secondary target (at Klang). Sixteen Mark XIII and XXXVI mines were expended. Very bad weather was encountered on the return journey, but all returned to base. Flight times ranged up to 22 hours 5 minutes for a round flight of 3460 miles. ————
— The lay was followed up on 28 March by 32 Superfortresses who laid a total of 128 mines in the Inner Middle Channel and Rhio and Johore Straits.

In late March, the Japanese, beset by Allied attack all along the line and foxed by the number and complexity of the ^{mines} ~~mines~~ laid in Singapore, Bangkok and the Saigon area, abandoned the oil convoy route to Japan. In one sense this made the lays in April and May redundant. In another, they served their

//purpose

-
- (1) Related in a previous section. See also Admiralty C.B.3303(5).
(2) No. 160 Sqn. O.R.B.

purpose in hindering the gigantic task of distributing oil, men and equipment to the Burma front and outlying garrisons.

The second Singapore Lay (24/25 Apl. 45)

Seven Liberators of No. 160 Squadron took part in the second lay by the R.A.F. at Singapore, intended like its predecessors to close the sea lanes. The lay was 80% successful, six of them laying a total of 18 U.S. mines. This lay continued the tendency of laying in the Singapore Strait S.W. of the island and in the path of ships entering the Malacca Straits northward bound with supplies for the Burma front. There was plenty of shipping visible. Sporadic, light fire was encountered by one or two aircraft. The main defences remained silent. The operation, carried out in appalling weather, including the worst lightning its leader had ever seen, was a triumph of navigation.

Tragedy on the third Lay at Singapore (30 Apl/1 May 45)

Six nights later, four Liberators, each carrying three U.S. Mark XXXVI mines, flew to Singapore and three of these laid mines. The whole area seemed subdued and the only lights in the Strait area were the navigation lights of vessels. Tragedy visited the expedition when on the return journey, in the position 07° 10'N, 83° 05'E (near the east coast of Ceylon) all engines in aircraft X failed. The captain, Sqn. Ldr. D.S.M. Joy, glided the aircraft to sea level, levelled out and made a not entirely successful ditching. Joy and two other members of the crew were lost, although the fore part of the aircraft remained afloat for 20 minutes. The dinghies failed to release from the aircraft, ⁽¹⁾ and could not be released manually. The remaining five members of the crew, supporting the dying captain in the water, hung on to one of the dinghies. The blood in the water soon attracted sharks, who harried the survivors. The Captain died of head wounds and his body had to be abandoned. For six hours they

(1) Presumably through buckling of the metal surface.

/ kept

rept off the sharks by beating the water. They were located by a Catalina of No. 321 Squadron, whose captain directed to the scene the naval corvette that picked them up, four in very poor shape,

The last ~~lay~~ ^{lay} at Singapore (23/24 May 45)

During May, the Allied offensive in Burma came to a victorious conclusion with the capture of Rangoon on the 2nd. On the 7th, Germany surrendered. On the 11th, American forces launched their second attack on Okinawa. On the 12th Australian forces captured Wewak in New Guinea. The Japanese in Burma withdrew, heavily defeated but still a coherent force in parts. With all traffic to or from Japan severed and the Armies in retreat, Singapore's importance began to decline. There were no ships of large tonnage visible when a small force of Liberators made ^{their} the last lay of the war on the night of 23/24 May, 45. The ground lighting was subdued. One buoy light had a cowl over it. All the indications were of small craft proceeding with caution. The life had gone out of Singapore.

The lay of nine mines was slight enough, but may be assumed to have hindered still further the distribution of supplies in small craft and coasters.

Shipping Losses to Allied Mines at Singapore

Actual losses inflicted by mines at Singapore were not considerable in the class of 500 tons and over. In arriving at exact figures, great difficulties were encountered, after the war, on account of loss ^{of} records, lack of evidence and so forth and most of the statements are more estimate than fact. But a broad idea of the situation will be of some use here.

Three serious versions have been issued, viz. the American Report, the Japanese Report and the U.S.S.B.S. Report, all already quoted above. Of these the Admiralty Historical Section has selected the Japanese Report as the most accurate of the three; but there will remain differences of opinion on the cases in dispute. For example, the U.S.S.B.S. Report gives the following statistics for Singapore:-

// Sunk

Sunk		Damaged	
No. of Ships	Tonnage	No. of Ships	Tonnage
7	12,011	17	124,620
		(3)	est. 9,000
Total 7	12,011	20	circa 133,620

The Admiralty historian will go no further than recording three merchant vessels of an aggregate tonnage of 8,827 sunk (1) and ten vessels (including two warships) damaged; but he, basing his conclusion on the U.S.S.B.S. interrogations and findings, states that the indirect effect of the minelaying (the stoppage of all shipping) appears to have been considerably greater than the sinking of ships, for apart from the importance of Singapore as a convoy assembly and oil transshipment port, it was the only place in the South-West Pacific where large repairs to ships could be carried out. (2)

/ Lays

	Date	Name	G.R.T.	Position	By
(1)	6. 2.45	Oei Maru	2,858 G.R.T.	1°N, 103°36'E	XX B.C.
	19. 3.45	Sarawak Maru	5,135 G.R.T.	1°20'N, 104°34'E	XX B.C.
	4. 5.45	Yaei Maru No.2	834 G.R.T.	2°N, 105°E.	RAF or XX B.C.

(2) Admiralty C.B.3303(5) p.56.

Lays by No. 222 Group off the Sumatra Ports (January - May 1945)1.c. General Survey of Operations

Out of 62 lays in 1945, No. 222 R.A.F. Group carried out no less than 29 off Sumatra. Of these, 28 lays were in the ports on the east coast involved in the shipment of oil and 1 was off Padang, on the west coast, which itself held sizeable storage facilities. Twelve of the lays were at the oil port of Pangkalan Soesoe, two in the approaches to the adjacent refinery town of Pangkalan Brandan; twelve lays were made off Belawan Deli, which in addition to functioning as alternative port when Pangkalan Soesoe was out of action, had a large storage capacity: two lays were made off Tandjoeng Balai at the mouth of the Asahan River, (some miles south of Belawan Deli) which was an alternative port. ⁽¹⁾ Hopes of attaining Palembang, a top priority target, were never realised by Air Command, as it was out of practicable range.

With the exception of Padang, the ports were all features of note along the Malacca Strait, which must be regarded in its entirety as a military feature increasingly vital to the enemy. In the quarter January to March 1945, tankers still ran from Sumatra through Singapore to Japan or up to the coasts of Malaya and Siam to the Armies and the Fleet. This traffic was subject to frequent interference in the Malacca Strait by British and Dutch submarines, who laid mines and sank shipping.

Pangkalan Brandan Oil Output

The total volume of crude oil processed, and refined oils produced, at Pangkalan Brandan refinery was, until the end of the fiscal year in March 1945, maintained at a very high figure, not critically less than in the previous fiscal year. ⁽²⁾ Although owned by the Japanese Army, some of its output went to the Fleet

(1) No. 222 Group and 160 Squadron O.R.B's.

(2) Throughput and production in barrels for fiscal years 1943 (ending 31 Mar. 44) and 1944 (ending 31 Mar. 45).

	<u>1943</u>	<u>1944</u>
Crude oil (throughput)	1,818,000	1,540,000
Aviation gasoline	832,000	573,000
Motor gasoline	171,000	186,000
Kerosene	58,000	58,000
Diesel Fuel	36,230	33,000
Fuel Oil	639,000	617,000
Lubricating Oil	2,420	7,620

Source: U.S.S.B.S. Oil in Japan's War - Appendix p. 85
(A.H.B. IIF/81/2)

/ and

and some to the Tokio Committee for homeland usage. The figures given in the footnote leave no doubt as to the importance of the target.

The Strategy of repeated small lays

The time was January 1945. Only one squadron - No. 160 - could be spared for the highly specialised task of mining in the full moon period every month. The effort had to be spread over Sumatra, Singapore and Malay ports from Penang southwards. The formations were small ones and the mines carried by each aircraft were never more than six, often only two or three. If one calculates the total effort on Sumatra oil ports from January to May 1945, the sum arrived at is only 57 successful aircraft sorties for a total drop of 302 mines. Set against the 12,135 mines dropped by Superfortresses from Tinian between 27 Mar. and 14 Aug. 45 in the Shimonoseki Straits area, the effort seems insignificant. Yet nothing would be more rash than to allow statistics to take charge of one's judgement in these matters, for the whole setting was different, the task, the tactics and the tools employed were different.

Experience had convinced the theatre commanders that the correct approach for a successful minelaying operation in the Outer Zone was a low level and silent one by a force small enough not to attract attention and large enough to restrict the channels in use. The captain's aim was to lay precisely and unobserved and to get safely away to mine another day. The operation had to be the very reverse of sensational. Most of the big ships in the area had been sunk in the southern waters by the end of 1944 or withdrawn to the South China Sea and Japan. The aircrews' aim was delay in the distribution of oil, men, arms and supplies. If ships were sunk, so much the better. To these ends, all possible ingenuity was devoted to finding a nice balance of mine types and the most misleading possible admixture of delaying devices. Visits were calculated so as to impose the utmost embarrassment on the minesweeping units and prevent them ever completely clearing the fairways by keeping each field topped up.

Tankers, tank barges and transports filled with fuel drums and fibre containers still ran singly or in small groups (some escorted). The blockade was breaking up the Japanese convoy system. Most of the fuel, now largely aviation fuel, was shipped by coastwise routes to Singapore for distribution. Stocks of some fuel previously held of the utmost importance were accumulating and production

/ was

270
71

was being slowed down. Yet as long as the distribution could be effected by large numbers of inconspicuous craft, the war in the zone might continue for some time.
(1)

H.M. ships from Ceylon had already carried out two carrier attacks in December 1944 on Belawan Deli, reporting excellent results: and on 24 Jan. 45, the newly-formed British Pacific Fleet was to attack Palembang on its way East. Submarines continued their Malacca Strait patrols. R.A.F. aircraft were now to add their contribution to the blockade and tie up at the source oil supplies so vital to the Japanese forces.

January 1945 Sumatra Lays (2)

On the night 22/23 Jan. 45, 24 hours after their first lay at Penang, No. 160 Squadron sent three Liberators to open up the offensive against the oil ports. One crew failed to reach the target Pangkalan Soesoe - the second and third laid four mines each. One of these ran into searchlights and high and heavy anti-aircraft fire. On the night 24/25 January, three aircraft laid 12 mines in Belawan Deli's waters without interference, noting a number of ships in harbour, and traffic lights ashore.

Time and the climate were having their effect on the instruments and on the night 26/27 January, two of the three aircraft despatched to Pangkalan Soesoe failed to lay, as both automatic pilots went unserviceable. However, the third aircraft laid without awakening any opposition. On 28/29 January, both ports were mined, Belawan Deli by two aircraft carrying four mines each (mixed U.S. XXVI and the old British A.5) and Soesoe by a single aircraft. No opposition was encountered and it might be presumed the aircraft were unobserved, except for the fact that frequent radio jamming was reported by the Soesoe aircraft. A possible piece of evidence pointing to the turnover to small craft was reported by the Belawan mission, viz. what appeared to be 15 rafts or barges in line astern in the position 3°40'N., 99°02'E.

February 1945 Sumatra Lays (3)

In February, Soesoe was topped up twice and the effort extended to the approaches to Pangkalan Brandan, a few miles to northward, so hindering both alternative exit channels. Belawan Deli was visited three times.

-
- (1) 'Oil in Japan's War'. U.S.S.B.S. Report (A.H.B. IIF/84/2).
 - (2) No. 160 Sqn. O.R.B. and appendices.
 - (3) No. 160 Sqn. O.R.B. and appendices.

In the two visits to Soesoe on the nights 18/19 February and 28 February/ 1 March, four aircraft in all laid 24 mines. Both there and at Belawan Deli, searchlights came to brief life. On the first visit to Belawan Deli (by two aircraft) on the night 18/19th, two 1,000 ton ships were seen at anchor. The next night, a mission of four aircraft laid off Brandan, two of them in Aru Bay, all in long lines. The defences were silent. Nothing of interest was reported, but at night, much activity might have been proceeding unobserved. On the night 21/22 February, another aircraft returned to Brandan to lay another six mines. A freighter was seen in the Babalan River mouth.

On the same night, Belawan was topped up by aircraft and again late on the 24th, when three aircraft dropped 18 mines in the shipping channel off Gading estuary and Perling Head. All these tours were uneventful, but a clearer picture of local traffic was slowly emerging. At Belawan, a tanker was seen with her stern out of the water and her bows out of line, having perhaps hit a mine.

March 1945 Sumatra Lays ⁽¹⁾

In the third week of March, No. 222 Group returned to Sumatra for two lays at Soesoe and three at Belawan Deli; all were small-scale efforts timed to increase local tension. In all, 18 mines were dropped at Soesoe and 24 at Belawan. The first lay on 19/20 March was at Belawan. Two crews sent to Soesoe failed to find it. An aircraft mining at Belawan on the night of 22/23 March saw two ships and many lights in the harbour. Its partner laying at Soesoe sighted a fully-surfaced submarine. Neither on any of these sorties nor on the last effort of two aircraft over Soesoe and two over Deli was any opposition met.

l.c. March a successful Month for No. 160 Squadron

Like every other unit in Air Command S.E. Asia, No. 160 Squadron lived a very crowded life in early 1945, while preparations for the big May offensive were being carried out by every available aircraft. As will be seen shortly in this narrative, the mining programme included important lays at Penang, Klang Strait and Chumphorn, as well as at Singapore.

March was considered a successful month by every standard. For the first time, over 1,000 operational hours had been flown ⁽²⁾ and a record for long distance mining established. Ninety-five tons (211 mines) of mines were expended. March

(1) No. 160 Sqn. O.R.B. and appendices.

(2) 1,044.10 hours.

was also a record for photographic reconnaissance operations, a larger area than ever before having been covered. What this meant in terms of primary intelligence for the three fighting Services will be fully appreciated if previous mention of this valuable source is recalled.

In the meantime, No. 231 Group had been laying extensively in ports both sides of the peninsula between the fifth and sixteenth parallels.

April and May 1945 Sumatra Lays ⁽¹⁾

The effort against Pangkalan Soesoe in April was the largest ^{so far} ~~heretofore~~, viz. 42 mines, laid by 7 aircraft in all in 3 missions. Belawan Deli received two toppings-up and Tandjoeng Balai at the mouth of the Asahan River received its first visit. In May, Tandjoeng Balai was visited for the second time, Soesoe and Belawan Deli twice each. The lay at Soesoe on the night of 19/20 May 45 was the last lay by the Group. The Outer Zone was now cut off from Japan. The enemy was crumbling in Burma. The oil was dammed up and whatever got through now could make little difference. The campaign of mining at Penang and southward was called off. Before turning to the operations at Penang a glance should be cast on the situation in Sumatra confronting the minelaying aircrews in April and May and their last efforts at blocking fuel supplies at the source.

In April, the squadron, still operating from Minneriya in Ceylon, despatched to Pangkalan Soesoe two aircraft on the night 2/3rd to lay twelve mines, three on the night 6/7th to lay eighteen mines and two on the night 18/19th to lay twelve mines. These three visits were successful, but uneventful, the only sighting being a submarine off northern Sumatra. Sea transport was slowing down.

Belawan Deli was topped up with 12 mines on the night of 6/7th and 6 more on the night of 18/19th. A large number of lights were seen on the Belawan River bank, but beyond a contact on a ship 1 mile north of Diamond Point and a few sampans in Belawan, the signs of enemy activity were slight.

Tandjoeng Balai at the mouth of the Asahan River seems to have crept unobtrusively into use, although it could actually boast of no oil tank farm. Therefore, on the night 19/20 Apl. 45, a four-aircraft mission left Minneriya, made for the datum points at Timbun Tubang, Jumpul Point and Slanhan River and laid their 16 mines with almost 75% precision. That traffic still flowed northward was clear from the steady white light one-half a mile South of Diamond Point, the large

(1) No. 160 Sqn. O.R.B.

number of small craft at sea off the port and tied up in pairs, the 5,000 ton merchant vessel and the minesweeper on its course in 2° 08'n., 89° 53'E. This was probably a truer picture of local activities than any previous mission had revealed. But its significance was fading daily. The Outer Zone was cut off from the homeland and the Army in Burma was on its last legs, short of all essentials, disease-ridden and isolated.

The single ⁽¹⁾ lay at Padang (26/27 Apl. 45)

Padang was, in early 1945, the most important town on the West coast of Sumatra, ⁽²⁾ a coaling centre and, according to a Japanese officer interrogated ⁽³⁾ after the war, its oil storage capacity on 31 Aug. 45 was 2,500 kilolitres of Diesel oil and 1,000 kilolitres of motor petrol. The decision to attack it seems a rapid growth, sandwiched in between broad priorities that came down from the Minelaying Committee and agreements made in the field by air groups and the Eastern Fleet.

The mining operation of 26/27 Apl. 45 was the only lay there. It was a very small one - and impeded by bad weather. One lost his way, the other found the datum point and dropped four mines where instructed. There seemed to be no local activity and no port lights. Nothing was proved or gained, as far as can be seen, by this late effort, unless the movement of coal was impeded, which cannot be confirmed.

⁽⁴⁾
Abortive Attempts to mine Nancowry in the Nicobar Islands

No. 222 Group's second priority targets were Port Blair (Andaman Islands) and Nancowry (Nicobar Islands), where Japanese garrisons were spinning out an anxious existence, unable to take the offensive and only waiting to be mopped up. It would have helped to neutralise the islands if entry to the harbours could be made too dangerous. But it was never practicable to mine Port Blair with so many other commitments on hand.

It was, however, planned to mine Nancowry, but luck went against the mission - the only attempt, on 22 Jan. 45, to reach it was cancelled after three hours' flying ⁽⁵⁾ out, owing to certain intelligence from the Navy. Aircraft mining Penang occasionally returned with data on the position at Nancowry and it was not lost sight of, but no further operations against it or Port Blair were mounted.

-
- (1) No. 160 Sqn. O.R.B. and appendices.
 - (2) Position 1° S., 100° 21'E.
 - (3) Refer to U.S.S.B.S. Report - 'The Effect of Air Action on Japanese Ground Army Logistics' p. 107 (A.H.B.IIF.2/81/4). evidence of Col. Aikawa.
 - (4) No. 160 Sqn. O.R.B. and appendice.
 - (5) Details not stated.

(1)

The last Mining in Sumatra (May 1945)

As the Allied offensive in Burma gathered impetus, so did the vast perimeter of war in the whole of South East Asia contract. Operations South of Penang were rapidly becoming redundant. What happened in the Dutch East Indies henceforward would matter very little. The whole area was isolated. The decisions would be made elsewhere, in Burma and the Central Pacific.

On 4/5 May, a heavier than usual mission of five aircraft paid the second and last visit to Tandjoeng Belai, dropping sixteen mines. Numerous ships were seen at the mouth of the Asahan River, heading for the sea. The aircraft were probably observed, as the flashing light at Diamond Point was switched off as they drew near to it. The mission of 6/7 May by two aircraft to Pangkalan Soesoe dropped most of its 11 mines in the correct position, but an identification lamp in one of them short-circuited and started a fire in the bomb bay. With the prospect decidedly unhealthy, the captain ordered the first stick to be dropped prematurely. Sixteen ships were seen on a southerly course. The aircraft dropping at Belawan Deli the same night also reported shipping. So, also did the two aircraft laying on the night of 18/19 May at Belawan - some of them small, some of medium tonnage.

The last lay in Sumatran waters by No. 222 Group was on the night 19/20 May, when a single aircraft of No. 160 Squadron dropped five mines at Soesoe.

The programme was due to extend until about 6 June, but only lasted until the night of 23/24 May 45.

(2)

l.e. Mine Sterilisation grows urgent

From time to time, sterilization of mines laid in certain areas had been fixed in accordance with directives from Air Command S.E. Asia, so as to conform with theatre plans for an offensive. At the end of January 1945, the Supreme Allied Commander began to tighten up the arrangements. On 30 January, it was directed that all minelaying within S.E. Asia Command was in future only to be carried out with mines fitted with sterilizers and certain dates were fixed for areas nearest to the Burma front: e.g. the date for Penang was 1 July, 1945, that for the Nicobar Islands and all areas North of 9° 00'N in the Bay of Bengal was 1 March. From time to time, dates for sterilization were extended and as May 1945 approached it became increasingly important that no errors should be made. Air Command went

(1) No. 160 Sqn. O.R.B.

(2) Correspondence in A.C.S.E.A. File AIR/6234 (A.H.B.II J.50/105/4/201).

thoroughly into the machinery for sea mining and on 4 Apl. 45 shifted the responsibility for ensuring the correct assemblies, arming details and sterilizer settings squarely on the group, instead of on the Station Armament Officers, who had been shouldering an undue weight. A specialist in mines was sent to No. 222 Group to assist.

Lays at Penang, Malacca, Klang, Singora and Chumphorn (January - May 1945)

Standing Importance of Penang and Klang Strait Areas

Much of the strategic importance of Penang Island and the adjacent mainland area has been already made clear. It was a target with a strong oil interest, because of the storage tanks at Butterworth on the mainland and the facilities at places such as Georgetown. About half-way down the Malacca Strait lay Klang, with oil tanks at Port Swettenham and, a little further south, lay Port Dickson. Klang Strait itself afforded a certain immunity for coast-crawling shipping, unless it was mined. (1)

Ports feeding the Kra Isthmus

In late February, No. 222 Group turned its attention to Chumphorn and between then and early April carried out five lays there. In late April, the first lay of a series of three was carried out at Singora. Both ports lay on the South China Sea. Their interest began when, because of the blockade, delays were multiplying and new ports mined and bombed. It had been observed that shipping using Chumphorn was increasing at the turn of the year and, to save the risk of loss at sea or on mines in ports further North, supplies for the Burma Army were being either transhipped across the Kra Isthmus for onward dispatch by coastal craft or put on the railway.

Singora (or Songkla) on the South China Sea shore, just above the seventh parallel, had a railhead linking with the main line and could function if Chumphorn were out of action.

(1)

/ January

January to March 1945 Lays at Penang and Klang (1)

In January 1945, Penang was mined three times, (2) in February once, (3) and in March three times; (4) Klang Strait was first mined in March.

Penang was reconnoitred by a photographic Liberator of No. 160 Squadron on the 8/9 Jan. 45. (5) The first lay of the year by No. 222 Group was on 21 January. The intention was for two aircraft to lay at Penang in the North Channel and one off the N.W. corner of Penang Island. One laid true, one a little off the mark; the third, with unserviceable compass and automatic pilot, failed to reach Penang North Channel. The second lay on 23/24 January was more successful, the three aircraft despatched dropping a full load of twelve mines on the target. There was no opposition. The last lay in January at Penang on 27/28th met no opposition and reported only some sampans. In the single February lay, 24 mines were laid with no losses or opposition. There was shipping about but its volume was uncertain; (6) the only definite ship seen was a freighter.

In the afternoon of 1 Mar. 45, No. 222 Group launched a maximum effort mission against Penang North and South Channels, eleven aircraft participating. The operation was almost 90% successful. Not only were 42 U.S. and 23 British mines laid, but a detailed picture of local shipping was obtained. Sightings in the vicinity included 30 - 40 barges, some small ships, small civilian and naval craft and one possible submarine off the coast. Large concentrations of anti-aircraft defences were observed, but only one aircraft ran anywhere near the poorly-ranged light fire.

The next lay at Penang - on 20/21 March - was a four aircraft mission. Three laid successfully off Pulo Kendi, but as they were flying by night they returned with only slender evidence of activity in the port and channels. The fourth aircraft, consuming fuel at an excessive rate, was forced to ditch about 50 miles from Trincomalee. Two men entangled in the wiring were only rescued by their mates' persistent efforts. The point was fortunately near a merchant vessel whose captain had them picked up from their dinghies. Early on 31 March, the

-
- (1) No. 160 Squadron O.R.B. and appendices.
 - (2) On 21/22nd, 23/24th, and 27/28th.
 - (3) On 20/21st.
 - (4) On 1/2nd, 20/21st and 31 Mar./1 Apl.
 - (5) Refer to Appendix 21 for all minelaying operational details.
 - (6) No. 160 Sqn. O.R.B. and appendices.

/ last

last mission of March was airborne from Minneriya. Three Liberators laid 18 mines. Many barges and two convoys were sighted off the North coast of the island and plenty of small shipping in the southern approaches. (1) Whatever was happening in the South-west Pacific and the South China sea to the tankers for Japan, the Malay Peninsula West coast lanes were busy, and it was small craft and small ships who were doing the work.

Klang was mined twice in March. The first occasion was on the night 21/22nd when the mission of six aircraft was only 66% successful. (2) The failure by two aircraft was typical of the type that kept recurring in the ageing aircraft. In one, the bombing gear failed to function correctly and all mines were dropped together: the other developed fuel trouble and returned early. There was a great deal of shipping in the harbour, which proved the operation justified. Ashore, somewhere near Ketak village, many lights were seen. The second March lay in Klang Strait was not planned. One aircraft crew in the big mission to Singapore were forced to turn back early as their fuel consumption was too high: they dropped, on this night of 26/27th March, two U.S. mines in Klang Strait (an alternative target). A contact was obtained on a large merchant vessel thought to be about 15,000 - 20,000 G.R.T. some 20 - 25 miles West of Telok Belanga (3) in the Strait on a northerly course. It is not clear what so large a vessel could have been doing at sea in this period.

Missing off Chumphorn (26/27 Feb. 45) (4)

By the end of January 1945, it had become plain to Air Command that the Kra Isthmus was a point of increasing transshipment of supplies for the Burma front. These were unloaded at the Siamese port of Chumphorn, (5) carried by rail across the Isthmus to Khao Huagang (already under mining attack in 1944) and loaded into coastal craft for northward despatch.

The first attacks on Chumphorn were staged by No. 231 Group (6) and the 7th U.S. Bombardment Group who now formed the expended Strategic Air Force. On

-
- (1) No. 160 Sqn. O.R.B. and appendices.
 - (2) 6 British A.5 and 4 British A.7 mines laid by 5 aircraft.
 - (3) Or Great Dinding Island.
 - (4) Nos. 222 and 231 Group O.R.Bs and appendices: A.C.S.E.A. Intelligence Summaries February 1945.
 - (5) At 10° 30'N., 99° 12'E.
 - (6) No. 231 Group's mining operations are covered in the next section of this history.

3 Feb. 45, 72 Liberators bombed the Chumphorn area. The interest at this point of the operation is that one 120' vessel was heavily attacked and hit and that 4 coasters, 7 schooners, 15 barges or lighters, 40 - 60 sampans and numerous other small vessels were seen there as justifying evidence. On 6 February, 9 aircraft bombed Chumphorn railway bridge and 6 aircraft dropped 30 mines in the anchorage. On 9 February, 16 Liberators ⁽¹⁾ bombed the sidings and wharves at Khuo Huagang up the Pakchan River on the West coast. One camouflaged coaster was seen. On 11 February, Chumphorn bridge was bombed and on 22 February the Pakchan River was mined.

Between 5 and 13 Feb. 45, No. 160 Squadron was moving from Kankesanturai to Minneriya. After a few meteorological flights in the interest of South-east Asia Command as a whole, the monthly mining programme was initiated on the 18th. On 26 February, a maximum effort was put forth to completely seal off the Chumphorn area, already softened up. The operation was almost completely successful. Five or six mines apiece were carried by the eleven aircraft and sixty mines in all laid, including, for the first time in the theatre, five British A.7 mines. The mines, widely dispersed to cover all approaches, were laid in the vicinity of the Goh Samet, Matra, Lak and Kulak Islands and in Chumphorn Bay itself. A large freighter was seen in the bay and a convoy of five ships, each of approximately 1,000 tons, ^{was} ~~were~~ sighted.

March Lays at Chumphorn

During the March full moon period No. 160 Squadron carried out three lays at Chumphorn, namely on the nights 20/21st, 24/25th and 29/30th: all three were on a small scale, four, one and three aircraft respectively being involved. This was in accordance with a now established practice, ~~which was~~ later accepted as sound doctrine, of following a dense, well-assorted lay by small periodic toppings-up. Plenty of shipping was observed by the first mission up the coast to northwards of Chumphorn.

(1) Of No. 159 Squadron.

(2) Mine overlay in No. 160 Sqn. O.R.B. appendix 12/45 February 1945.

SECRETRésumé of April and May 1945 Lays in the Malacca Strait (1)

In April, the Penang area was mined four times (2) and Klang five times. (3) Both of these targets involved a very long journey and imposed a serious strain on the crews. In North-west Europe, this type of operation might well have made front-page news: in South-East Asia, it was becoming more and more of a "milk run". In May, the programme slowed down. Penang was mined once (4) and Klang twice, (5) the second visit being the final lay by No. 222 Group.

In the Penang area, two new fields further to southwards, known as Malacca One and Two, were opened up: they must have been particularly hard to sweep. Malacca One was sown three times, viz. on 20/21 and 28/29 April and on 20/21 May. Malacca Two was sown once only - on 22/23 April. The datum points indicate the areas mined; those for Malacca One were the South tip of Pulo Kendi and the South bank of the Kurau River ^{estuary} ~~estuary~~; those for Malacca Two were the North-west point of Pulo Tengah and the North bank of the Lukot Besar River. The considerable volume of shipping reported by aircrews in the strait prove the timeliness of the operations and nullify any suggestion that the Japanese sea supply system had already run to a standstill.

l.c. April Lays in Malacca Strait uncover Shipping Activity (6)

Plenty of interesting evidence was brought back by aircrews laying in the Malacca Strait in April, 1945. Nothing much was picked up off Penang Island itself, but observation on the new Malacca lays to the Southward was rewarding. On both the lays at Malacca One, plenty of shipping was in evidence. Kurau (7) harbour was busy loading by night. The generous flood-lighting noticed on the

/visit

(1) No. 160 Sqn. O.R.B. and appendices.

(2) On 5/6 April by 4 aircraft, 16 mines: on 20/21 April by 3 aircraft, 14 Mines: on 28/29 April by 3 aircraft, 18 Mines and see (3).

(3) On 1/2 April by 3 aircraft, 10 mines: on 2/3 April by 1 aircraft, 2 mines: on 3/4 April by 1 aircraft, 2 mines: on 22/23 April by 7 aircraft, who shared 28 mines between Klang and the field in the approaches to Penang referred to as Malacca 2: and on 24/25 April by 2 aircraft, 8 mines.

(4) On 20/21 May by 2 aircraft, 12 mines.

(5) On 21/22 May by 2 aircraft, 8 mines: and on 23/24 May by 1 aircraft, 1 mine.

(6) No. 160 Squadron O.R.B. and appendices.

(7) At 5°N. 100°26'E. near the border between Province Wellesley and Perak State, (Malaya).

SECRET

visit of 20/21 April, with the movement ashore, showed how the Japanese had developed this obscure settlement on a shallow rivermouth into a key supply point in comparative immunity. A single enemy aircraft passed close to the mission, whose presence was probably observed. On the second visit on 28/29 April, there were few lights to be seen, but the shipping was there; two large ships and numerous small illuminated ships were reported. Mines were laid between the points 05°02'N. 100°20'E. and 05°02'N. 100°19'E. from an altitude of 350 feet, with a spacing of 200 feet.

The mission to Malacca Two on 22/23 April laid successfully between 02°47'N., 101°19'E. and 02°47'N. 101°18'E. and round 03°00'N. 101°07'E. They reported contacts on two ships (one of them large), a small ship at Si Sepang Besar, lights from small shipping East of ^{Katam} ~~Katam~~ Island, two military camps, lights ashore and a vacant fighter strip.

The picture of Japanese maritime activity lower down the Malacca Strait built up by the crews on the five mining missions to Klang Strait was comparable. Buoys were lighted: three submarines lay between a double row of buoys. (1) Even late in the month, there was plenty of small shipping in the Strait, at a wharf on the East side of Pulo Katam, off the mouth of Kuala Salat Lumut and off the Dinding Islands: there were plenty of lights and beacons ashore to indicate moving traffic and a warning system. On the night 2/3 April, a new airfield by the Klang River, a few miles N.W. of Port Swettenham, was reported: and on the next night, there were three contacts on what were probably enemy aircraft. All this evidence proves the area of the Malacca Strait to have been very busy throughout April 1945.

May Lays in Malacca Straits (2)

May ^{saw} ~~was~~ the ^{end} ~~month~~ of the great Allied offensive in Burma. The confusion resulting from the Japanese defeat must have seeped very far back along the lines of communication. It will be of interest to note what the airorews

/mining

(1) Admiralty C.B.3303(5) affirms that the Japanese 8th Submarine Flotilla used Penang until March 1945. The above information carries the record a step further.

(2) No. 160 Sqn. O.R.B's and appendices.

SECRET

mining in the Malacca Strait at the end of May reported. In worsening weather, the general mining policy for the best part of the month was still to spread the effort. Further north, No. 231 Group reinforced all its current areas three times.

On 21/21 May, 45, two aircraft flew to Pulo Talang and the bank of Sungai Kuran respectively to lay near Penang in the Malacca ^{One} field again. There was shipping in the vicinity and the coast was well lighted, the Japanese profiting by the fact that Allied bombers and warships were fully occupied elsewhere. The two aircraft sent to mine at Klang on the night 21/22nd reported no sightings or lights. The last Liberator to mine Klang on the night of 23/24 May, saw numerous catamaran type craft. The position at Klang remained vague.

Last Lay at Chumphorn and Lays at Singora (April-May 1945) (1)

The ^{fifth} ~~first~~ and last visit to Chumphorn (now a popular target), was paid on 5/6 Apl. 45 by four aircraft of No. 160 Squadron. Chumphorn was reported quiet, but the ^{usual} ~~usual~~ lights were seen in the Pakoham River area on the West coast. The only ship of over 500 tons confirmed as sunk on mines at Chumphorn was S.S. Etsunan Maru (2,165 G.R.T.). (2)

Singora on the East coast of Southern Siam (3) was first mined on the night 28/29 Apl. 45 by three of four aircraft despatched. The route was constructed on the basis of an Admiralty chart of the area, as was that for Chumphorn operations. These Admiralty charts were not available for every target and even when they were, the squadron often found them unreliable and recorded this. The Chumphorn chart, for example, was based on a Siamese map of 1935. The shortage of good reliable maps was, throughout the air operations in the Indian Ocean, a veritable bugbear and, in spite of all efforts to remedy it, persisted until the end, according to Air records. (4)

/The

(1) No. 160 Squadron O.R.B. and appendix.

(2) Whether she sank on a mine sown by No. 222 Group or by No. 231 Group cannot be confirmed. The Japanese give the date as 29 May 45. (Admly. C.B. 3303(5) Appendix G.).

(3) In 07°15'N. 100°33'E.

(4) A.C.S.E.A. File AIR/6234 (A.H.B. II J.50/105/4/201): No. 160 Sqn. O.R.B. appendices.

SECRET

The approaches to Singora were filled in rapidly on three out of six nights, viz. 28/29 April, 30 April/1 May and 2/3 May, 45. A total of 32 U.S. and 14 British mines, (46 in all), was laid, thus fulfilling the golden rule of a heavy initial lay in a short period. All three missions reported Singora town as unlit, but there was plenty of evidence that ~~the~~ anchorages in the shelter of adjacent islands were in use; the Japanese had learnt the wisdom of dispersing shipping. Shipping was seen on each occasion, twice in some volume. On the night 28/29 April, 18-19 ships were noted at anchor off the S.W. coast of Koh Gnu and on the 30 April/1 May several near the N.E. point of ^{Koh} Kott Mu. On the night 2/3 May, there were numerous ships in port and a boom defence round it. The evidence listed above proves that in the Singora area there was considerable shipping activity as late as early May. There is no confirmation that any ships over 500 tons^g were sunk on mines laid at Singora and it is not known how many smaller craft were sunk. The delays imposed by the mining must, however, have been serious. (1)

An unpleasant experience befell two of the Liberator crews returning from the first mission. Roughly half-way back from the Nicobars to Ceylon, (2) they reported some tracer and heavy anti-aircraft fire. According to the squadron records, this came from a force of H.M. ships, whose presence in the area had not been notified.

(1) An over-all assessment of the effects of the mining in 1945 based on Japanese evidence will be attempted at the end of this chapter.

(2) In 7°47'N., 87°55'E.

(end of page)

SECRET

← } Lays by No. 231 Group (Strategic Air Force) off Burma, and in the
Malacca Strait and Gulf of Siam (January - July 1945)

Trends in Mining operational Policy (January - March 1945) (1)

In the first quarter of 1945, No. 231 Group exceeded all its previous records. It maintained a sizeable, though lower effort, in the second quarter. As ~~its~~ its bombing commitments grew in anticipation of the ground and air offensive in Burma, improvements of various kinds were introduced and policy widened to meet the changing maritime situation and ensure economic employment of the small force available for mining. Sometimes both bombers and minelayers worked over the same ports: their aims were closely integrated. Both Groups (Nos. 222 and 231) were suffering difficulties as time-expired crews were replaced by new and sometimes inexperienced ones. January saw a group record in all-type missions flown. Mining came third in the list of target priorities. The January 1945 expenditure of 427 mines was followed by 126 in February and 210 in March. There were two innovations in January. The first was the laying of 150 acoustics on three nights in nine anchorages by small forces and, off Penang, by a large force.⁽³⁾ Thereafter, supply failed to keep up with the rapidly increasing need for acoustics. The only other methods of destroying wooden ships were by bomb or depth charges dropped from aircraft. It was decided in January to change the general tactics by concentration on mining as many places as possible with single or pairs of aircraft, thereby increasing the difficulty of sweeping continuously in several places over longer periods.

February saw an all-out bombing effort, which included a heavy attack on Chumphorn in the longest daylight mission in formation by the whole of No. 231

/Group

-
- (1) No. 231 Sqn. O.R.Bs.
 - (2) See Appendix 22 for monthly expenditures by command/group.
 - (3) 16 Liberators on the night 24/25 Jan.45.

Group, and Operation "Scorch" in collaboration with XX Bomber Command against Rangoon. Mining operations were accordingly limited in scope, only eight missions. Rangoon, which had already had over 400 mines planted in its waters, experienced new complications in the form of dummy mines, of which 16 were laid on the 23rd. As the Japanese had no idea that nothing but dummies were ~~laid~~ to be laid there right through to April, their sweepers were to toil in vain. All mines were now fitted with sterilisers and some with small percentages of P.D.M's (ship count devices) to complicate sweeping.

In March, the mining of ports serving the Kra Isthmus was supplemented by bombing. Among the ten targets mined appeared two new harbours - Prachuab - Girikan and the Meklong River mouth. Dummy laying off Rangoon appeared to produce good results and was continued. Some U.S. Mark XXVI-1 mines were set with mechanisms giving an interlock dead period of 5.5. seconds to increase the difficulties of sweeping.

→ The supply of acoustics was running low. The general pattern of mining remained as diffuse as in February, so as to fit in with the general air offensive policy against lines of communications, stores and vital areas.

Grouping

Grouping of Target Areas for Recognition

l.c. Mining by aircraft in 1945 extended over an area far beyond the theoretical limits of the Supreme Commander's control. To simplify the study of operations, it is expedient to sub-divide this vast area. This has been done in Appendix 24 to this volume, which tabulates the 1945 effort against specific targets by the two R.A.F. Groups Nos. 222 and 231. In examining their operations the following order of treatment has been pursued. Firstly, Western Burma and Western Siam coasts covers all fields from Rangoon southwards to Phuket Island: secondly, Malacca Strait covers Penang and Klang: thirdly, the Gulf of Siam includes ports from Bangkok southwards to Bandon, extending even beyond the limits of the Gulf of Siam to Singora on the shores of the South China Sea; Singapore and Sumatra (both in No. 222 Group's sector), have been treated under separate headings. Minelaying exemplifies the special role of air forces in long range interdiction of enemy lines of communication, a role which neither of the other services were able to sustain in such weight and intensity for so long. ~~There is a case for presentation in the~~ ^{exist} Ideas that strategic aerial mine-laying was merely an expression of sea power, but such ideas ignore the historical rise of air power in its own right and its ability to interfere effectively with the enemy's means of waging war and, in addition, to support the advance of the ground forces and provide the relative immunity of naval forces.

l.c. Changes in Emphasis on Target Areas (January - July 1945)

In facilitating a survey of the Group's seven months' of mining in 1945, the following brief study of trends should assist. Two major areas received almost unbroken attention. The first was the string of ports feeding the Japanese Army in Burma - Rangoon, Moulmein, Ye, Yeanzay, Amherst, Tavoy and Mergui; it was the old familiar coast, where the enemy had been harried for two years, but now operations were carried out on an intensified scale as the day of reckoning approached. The second area was Bangkok and the complex of anchorages around it, such as the Meklong estuary, Tachin and Satahib Bay. After the big January lay at Penang, this port was wisely left to No. 222 Group. But the fields in the Pakchan River were topped up every month up to early June, to neutralise the Kra Isthmus activities. Although photographic reconnaissance was always, in the opinion of the Group, inadequate, evidence emerged from photographs and reports from bombing and mining missions concerning the advantage being taken by the enemy of the forest of islands along the Tenasserim coast.

/Lays

S E C R E T

Lays off Western Burma and Siam (January - March 1945) (1)

In the first quarter of 1945, eight ports along the Burma coast from Rangoon to Mergui were sown with a total of some 492 mines in a total of 32 missions. The twin cities of Moulmein - Martaban, Rangoon and Mergui received the largest mine deposits in that order. (2) Penang was mined once, heavily, in January. The Pakchan River was sown with 87 mines in 5 missions.

In the Bangkok area, ten missions laid a total of 154 mines. (3) The Meklong River received a solitary visit in which 14 mines were laid. Bangkok absorbed, as it did until the end of the campaign, by far the greatest attention, 102 mines being laid there by the Group.

Early interest in Chumphorn, sown in February with 30 mines, was not renewed: and a start in March on a new target was made in a single visit to Prachuab Girikan. Although lays had been frequent, they were still largely confined to two main areas - Burma - Tenasserim and the Gulf of Siam, nodal points in the enemy distribution system. But the tendency to disperse the effort still more widely becomes perceptible towards the end of the quarter.

Conditions of navigation, weather variations, changing staff and monotony resembled most of those that governed in 1943 and 1944 and it is not proposed to encumber the text with ground already fully covered. After a summary of conditions observed in the enemy areas mined, the record of No. 231 Group's effort from April to July 1945 will be completed and a few comparative statistics given.

(1)	No. 231 O.R.B's and appendices.		
(2)	Moulmein - Martaban	6 lays	- 138 mines.
	Mergui	6 lays	- 104 mines.
	Heanzay	5 lays	- 39 mines.
	Tavoy	5 lays	- 55 mines
	Rangoon	5 lays	- 116 mines (incl. 70 dummies)
	Ye	1 lay	- 8 mines
	Amherst	3 lays	- 32 mines
	Totals:-	32 lays	492 mines
(3)	Bangkok	7 lays	- 102 mines
	Koh Sichang	2 lays	- 38 mines
	Meklong River	1 lay	14 mines
		10 lays	154 mines

Shipping

Shipping and Defences in mined Ports (January - March 1945)

By consolidating aircrews' reports over an extended period, a rough general idea of enemy traffic and defences could usually be deduced. Down the Burma coast, what little shipping was observed was of low tonnage, mostly craft under 100 feet in length. Visibility was often poor or very poor, no true picture of sea traffic emerged. Searchlights pointed sometimes to activity, but the general absence of sensation over the quarter suggests a *ralentando* in coastwise movements as far South as the Pakchan River. The combination of mining and bombing was beginning to handicap distribution.

Up in the Gulf of Siam, there was more activity by larger and more varied shipping. In late January, four naval vessels of 150 - 200 feet, nine small coasters or lighters of about 75 - 100 feet, and three naval type escort vessels were reported. Nothing more of note was reported until March, when crews reported considerable numbers of small vessels and some wooden coasters. Here again, sightings and photographs were often either mediocre or impossible and in late March in particular violent storms were met over the hills West of the target. So that, in all, only an incomplete picture emerged of what was probably large scale activity by small craft. Fortunately, other sources of Intelligence were accumulating more encouraging evidence.

Almost everywhere along the Burma and Tenasserim coast, anti-aircraft defences were either silent or meagre. Japanese air defence was very thin almost everywhere apart from great centres like Singapore. Much credit is due to the planners for the choice of approach routes and to aircrews for their inconspicuous tactics. Even at Bangkok, the local fire responses were either absent or feeble until late March. On the night of 22/23 March, a Liberator was hit over Bangkok and the navigator killed. Reports omit comment on the defences at Chumphorn; at Prachuab Girikan there was no opposition. (1)

Effort

(1) No. 231 Group and 159 Squadron O.R.B's.

l.c. Effort and Target Changes (April - July 1945) (1)

During the ~~five~~^{four} months from April to the end of the mining campaign in July 45, fourteen targets were mined by No. 231 Group, exactly the same number as in the first quarter. Within this parallel figure, notable extensions were made in the geographical pattern of the lays, while some ports on the Burma coast were omitted on the basis of favourable reports on the enemy shipping traffic decrease and the capture of Rangoon in May. Moulmein, Martaban, Ye and Amherst pass out of the picture altogether. The attack on Mergui is stepped up to top priority, with more dummies at Rangoon and a few magnetics at Tavoy and Heanzay. Pakchan River is a steady call, while the Liberators tighten the noose round the coastal traffic by making thirteen calls in all on the Fell Passage (2) and the Domel Passage (Kisseraing) (3) and one call at Phuket Island. (4)

In the Gulf of Siam, the effort against the Bangkok area is maintained at a comparable weight until the last day of the campaign, for this remained a priority strategic target. A very noticeable intensification of effort may be noted against the Malay Peninsula ports on the Gulf of Siam, viz., Prachuab Girikan and Chumphorn, and a late lay at Bandon in Eastern Siam, where in the same month No. 231 Group sunk the big tanker Toho Maru off Ko Samui Island nearby with bombs. (5)

The Acoustic Problem

By the end of May, the problem of acoustic mine shortage was acute. It was improbable that many, if any, of the very numerous wooden enemy ships had sunk on magnetic mines, and it is precisely here that the explanation of low enemy shipping losses to mining must be sought. The Allies had simply not been prepared for the enemy's ponderous turnover to small wooden craft. But the low count of shipping over 500 tons destroyed was certainly offset by the mounting delays, bottlenecks and confusion in the distribution of fuel supplies and strategic

-
- (1) No. 231 Group and 159 Sqn. O.R.B.'s.
 (2) 12° 30'N., 98° 29'E.
 (3) 11° 40'N., 98° 20'E.
 (4) 7° 50'N., 98° 22'E.
 (5) At Appendix 24 to this volume the totals of successful aircraft sorties and mines laid by Nos. 231 and 222 Groups at each target from January to July 1945 will be found. If these are added to the rigures for XX Bomber Command given at Appendix 19 a total for all commands operating from S.E. Asia may be computed.

/ materials

materials caused by mining frequently over the widest possible area. It is important, too, to take account of the fact that the enemy ^{seldom} ~~never~~ knew which mines or how many of them carried acoustic mechanisms, nor indeed, when any of them would explode, if they exploded at all. Furthermore there is ample evidence for the conclusion that, with a few local exceptions, the enemy sweeping organization was slow, clumsy, dangerous and largely ineffective. ⁽¹⁾ Certainly, technical research on these problems continued unceasingly. The U.S. Strategic Bombing Survey reported that by the end of the war in August 1945, the Japanese had developed fairly effective sweeps for all U.S. mines except one acoustic mine and the pressure mine. ⁽²⁾ The Yokosuka Naval Air Group had, by mid-1944, worked out the principles of employment of a magnetic airborne mine detector. ⁽³⁾ But few of the blue prints were ever translated into effective work in the field. There were not enough Japanese to go round the conquered territories. Therefore many vital seaways and anchorages were progressively denied the Japanese, who relied of necessity on command of the sea to maintain their position. That command had already passed to the Allies.

Operational Developments ^{April} ~~(January - July 1945)~~ ⁽⁴⁾

The operational pattern of the Strategic Air Force continued in April as in March, with increased weight against dock installations and inland waterways at Bangkok. All mines were sterilised and were to remain so. Intelligence reports confirmed a definite decrease of shipping movements in mined areas. No. 159 Squadron remained the mining specialists, except for a short period in June, when Nos. 355 and 356 Squadrons assisted. ⁽⁵⁾

On 13 April, No. 231 Group began using the British A.7 mine which had been laid by No. 222 Group since 26/27 Feb. 45. It could only be carried in the forward bomb bays of Liberators, as the length of the mine body forward of the suspension lug exceeded the available space in the rear bays by about 5 inches. ⁽⁶⁾ It was now found possible to obtain the necessary clearance.

-
- (1) Admiralty C.B.3303(5) p.40.
 - (2) U.S.S.B.S. Report 'The Offensive Mine Laying Campaign against Japan' p.28 (A.H.B.IIF. 2/81/4).
 - (3) Admiralty C.B.3303(5) Appendix J.
 - (4) No. 231 Group O.R.B.'s.
 - (5) They laid 18 British and 22 U.S. mines.
 - (6) By attachment of two metal bands fitted with lugs for use with the B.7 shackle, so bringing the suspension point forward. Extra lugs had to be manufactured.

In May, during Operation "Dracula", the policy was still to spread the effort. Of eight targets on the priority list, only Penang was not visited, owing to bad weather and the proportion of relatively inexperienced crews. Other areas were reinforced three times.

On 1 June, the Strategic Air Force was disbanded and No. 231 Wing began the first of a series of moves forward. Air Commodore F.J.W. Mellersh was repatriated to the U.K. and Maj. Gen. J.T. Durrant replaced him as A.O.C.

Monsoon weather continued ^{to} hamper ~~most~~ most operations. In thirty mining sorties about a hundred mines were laid against the familiar priority targets. Anti-shipping bombing operations increased notably as the desperate Japanese situation led to panic movements.

Now that the war was almost over, long-needed modern aircraft began arriving in the theatre. In June, seven Liberators VIII with H2S equipment arrived for No. 159 Squadron. By the end of July, they were fully equipped and No. 355 Squadron had three Liberators Mark VIII and thirteen Mark VI.

In July, there were lulls on only two days. After the last - on 10 July at Bangkok - the Supreme Allied Commander ordered the suspension of all mining from S.E. Asia Command bases.

Favourable

l.c
Favourable Report on Minelaying by C.-in-C. East Indies Station (21 May 45)

On 21 May, the C.-in-C. East Indies Station submitted the second annual report to the Admiralty on minelaying by aircraft of S.E. Asia Command, covering operations from 1 Mar. 44^{to} and 1 May 45.⁽¹⁾ After outlining the phases of the campaign and the relays of air forces maintaining it, the following favourable remarks on effects, casualties and conclusions were recorded.

Where regular reconnaissance was possible, a sharp and continued decline in shipping was observed after commencement of laying. The enemy seldom brought ships of appreciable tonnage into his available (but mined) harbours. Minelaying was considered to be a contributory cause. There was evidence indicating diversion of shipping on several occasions, particularly from Bangkok. Harbours affected were closed for worthwhile periods. A considerable number of enemy vessels and some aircraft were employed minesweeping.

Detailed and verified intelligence over ship sinkings was admittedly difficult to obtain, but it was believed that the following partial evidence on sinkings was indicative of the effectiveness of minelaying:

- (a) 10 small vessels at Moulmein-Martaban ferry crossing
- (b) 4 ships at Bangkok
- (c) many small ships at Mergui
- (d) 1 ship of about 2,000 tons at Belawan Deli
- (e) 1 100 foot vessel in Pakchan River
- (f) 2 vessels at Rangoon

Observing that minelaying had appreciably interfered with enemy shipping, caused definite losses and contributed to the shortage of supplies suffered by the Japanese in Burma, it was concluded that this type of offensive, which had cost only five aircraft, was well worth while.

Lays off Western Burma (April - June 1945)

Having outlined the broad trend of developments in 1945, this record of minelaying operations from India and Ceylon will now be closed with a brief recapitulation of the lays in the two main areas from ^{April} ~~January~~ until July, to aid closer study if this is desired. The full details of each operation may be checked at Appendix 21.

(1) A.C.S.E.A. File AIR/377 (sub-file) encl. 18 (A.H.B. IIJ.50/105/4/88(0)).

Rangoon was mined only twice (and with dummies again), Mergui seven times, Heanzay and Tavoy each twice. The Pakoham River was topped up three times in April, three times in May and, for the last time, once in June.

In April, lays were begun in the Fell Passage and the Domel Kisseraing Passages down the Malay coast. Both targets were still (and remained) officially second priority targets: ⁽¹⁾ necessity forced a jump ahead of red tape. To meet the new situation revealed by Intelligence reports, they replaced targets hitherto considered mandatory. Between 13 April and 4/5 June, seven missions laid 47 mines in Fell Passage and six missions laid 61 mines in Domel Passage. Like all the other missions in this period, they were, in conformity with the latest policy, small ones, by from one to three aircraft.

h.c. Mine and Bomb Attacks on Satahib Bay and Destruction of Submarine Depot Ship Angthong (30 May - 1 June 45) (2)

A photograph of Satahib Bay (Siam) taken by a reconnaissance aircraft at the end of May was interpreted by No. 347 Wing Photographic Interpretation Section Detachment at Strategic Air Force. It revealed the presence of a very interesting collection of vessels - five destroyers, two merchant vessels and three small craft. No. 231 Group despatched a force of 27 Liberators on a strike. ⁽³⁾ Owing to bad weather conditions not all of them reached Satahib Bay. Results were disappointing. One stick straddled what proved later to be the submarine depot ship Angthong ⁽⁴⁾ and a direct hit was claimed. Another stick fell alongside another vessel and it appeared to be sinking when the mission left.

As the prize was too valuable to ignore, No. 231 Group, through No. 185 Wing (in which No. 159 Squadron figured) decided to follow up with another bombing attack. To ensure that the shipping should be bottled up, it was decided to lay an 'opportunity' minefield. Sterilisers were set to the period up to 25 August, within the period laid down for the area. Impressed with the urgency of the matter, No. 231 Group omitted the usual formality of applying through R.A.F. Main Burma to Air Command for approval.

-
- (1) Progressive lists of priorities for the period may be found in A.C.S.E.A. File AIR/6320 (A.H.B. ILJ50/105/4/206).
 - (2) No. 231 Group O.R.B. May and O.R.B. appendix OPS/189 June 1945: Air Command S.E. Asia Weekly Intelligence Summary No. 82 (A.C.S.E.A. O.R.B. appendix INT/Wis/37/45).
 - (3) 12° 39'N., 100° 53'E.
 - (4) 2,700 tons approximately.

On 1 June, two aircraft laid ten mines in Satahib Bay. Thirteen Liberators carrying 1,000 pound bombs then swept across the Bay and hit the Angthong, who caught fire and sank. They scored a direct hit on a 250 foot merchant vessel lying off Goh Chuang Island in the Bay, so that she heeled over and sank. Photographs confirmed the destruction of the two ships. Two other vessels, possibly sloops, were reported as seriously damaged.

Lays in the Gulf of Siam (April - July 1945) (1)

Between 27 April and 10 June, Bangkok was topped up seven times. (2) The Meklong River in the same area was topped up in April, in June and early July. (3) Bandon was visited once - on 21 June, a few days after a tanker convoy was attacked by the Group's Liberators and the Toho Maru sunk.

Chumphorn, under attack by bomber formations was ~~continuously~~ invested by minelaying aircraft six times between 27 April and 4 July. (4) Prachuab Girikan, at very long range from the Calcutta base area, was mined on five occasions between 7 May and 4 July. (5) In May and June especially, long range laying was intensified.

For purposes of comparison, it is of importance to note that the journey from Calcutta to Chumphorn and back was the parallel to a journey from London to Leningrad and back.

l.c. Shipping and Defences in mined Ports (April - July 1945)

Both along the Burma coast and in the Bangkok area and the Peninsula ports, anti-aircraft defences continued to put up nil or token opposition to the very small formations mining. The reasons for this are already known and to them may be added the fact that often the poor visibility in the target area hindered what defences there were, as well as observation from aircraft. It must be noted

/however

-
- (1) No. 231 O.R.B.: Appendix 21 to this volume.
 - (2) 15 aircraft, 82 mines, including a few acoustics.
 - (3) Total of 3 aircraft, 12 mines including a few acoustics.
 - (4) 11 aircraft, 46 mines.
 - (5) 6 aircraft, 25 mines, including a few acoustics.
 - (6) No. 231 Group O.R.B. appendices.

however that bomber formations, whose presence was simple to discern, often met with appreciable concentrations of fire from the larger ports in the Gulf of Siam.

The evidence provided by aircrews returning from minelaying missions on the shipping situation was, though partial, of some interest. An analysis of the reports of days along the Burma coast reveals only small visible movement by small vessels. Not much showed up in May after the capture of Rangoon until the 11th, when many small wooden vessels of about 50 feet length were reported a few miles South of Heanzay. (1) This seems to imply two things: firstly, that the Japanese now found the ports themselves too dangerous and, secondly, that the flow of shipping was frozen, though perhaps only temporarily. Mining off Burma died off at this point.

Reports on the situation at Bangkok began to become interesting from the second week in May. Here there was no lack of shipping, both naval and mercantile, although the volume fluctuated, perhaps with the frequent bombing attacks. On 11 May, a few days after the fall of Rangoon, there were eight smallish coasters and about thirty small wooden ships to be seen. Nine days later, one probable destroyer was seen at Bangkok and another probable large destroyer at Paknam (near Bangkok) with many small river craft round her. There were also three merchant vessel/coasters between 100 and 150 feet in length. Chumphorn, too, was busy on 20 May 45. About a dozen sailing coasters heavily laden with cargo were there. Three small craft making for the shore were fired on and hit. The Bangkok area was still busy in June. On the night 4/5th, the reports mentioned three merchant vessels off Paknam, three small naval vessels off Bangkok river mouth and twenty-five small two-masted vessels in Meklong River. On 21 June, there was less shipping. On the last lay at Bangkok on 10 July, the aircraft mining returned with no local report: but a bombing mission the same day reported a destroyer and a submarine at Bangkok.

(1) In 14° 40'N., 97° 55'S.

Summary of No. 231 Group's Mining Effort in 1945

Before leaving the record of operations from India, reference may be made to the summary of lays by No. 231 Group from January to July 1945 in the footnote. (1) From a comparison between these figures and those previously given for preceding periods, shifts of emphasis may be detected. The drop on all Tenasserim ports except Mergui is an index of the general fall in coastal traffic in that area and the shift to the railways. The new heavy effort in Fell Passage, Domel-Kisseraing Passage, Pakohan River and Phuket Island show the design to hasten the end of Japanese resistance by ^{reaching} ~~reaching~~ out further towards the perimeter of his wide-flung supply organization.

The Bangkok ^{area} is seen to provide a worthwhile strategic target until the end and the increase on the Gulf ports coupled with the bombing offensive imply a correct application of air power at extreme range.

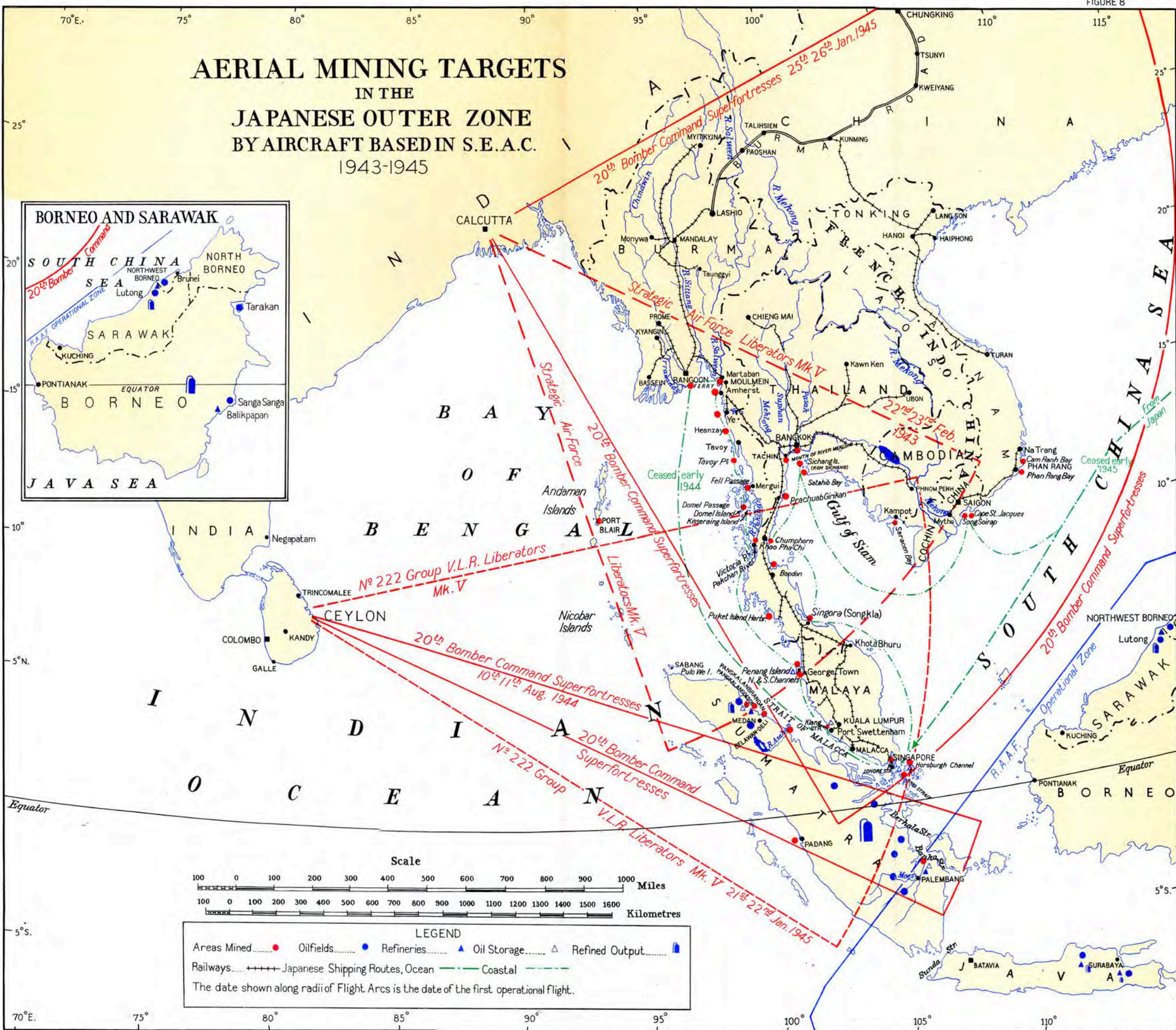
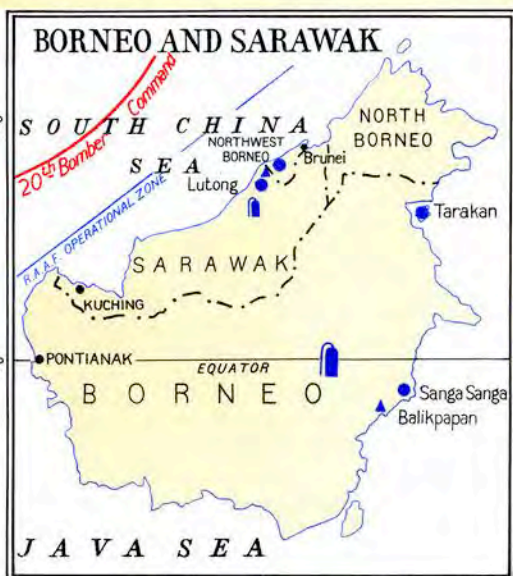
(1) Lays off Burma and Siam 1945

<u>Burma</u>	<u>Lays</u>	<u>Mines</u>
Moulmein - Martaban	-	-
Ye	-	-
Amherst	-	-
Mergui	7	69
Heanzay	2	12
Tavey	2	12
Rangoon	2	24 (D)
Fell Passage (12°16'N-12°32'N & 98°30'5"E-98°20'E.)	7	47
Domel Passage (11°32'N-11°56'N & 98°30'E-98°17'E.)	6	61
Phuket Island	1	12 (D)
Pakohan River	6	52
<u>Total for Burma:</u>	<u>33</u>	<u>289</u>
<u>Siam</u>		
Bangkok & Tachin	7	82
Meklong River	3	12
Satahib Bay	1	10
Prachuab Girikan	5	25
Ghumphern	6	46
Bandon	1	12
<u>Total for Siam:</u>	<u>23</u>	<u>187</u>

(D) = Dummy mines.

Note: The above figures (like all others provided) are the closest possible approximation to the actual effort. There are slight discrepancies in the returns recorded within the Group and between R.A.F. records and the U.S.S.B.S. tables of effort, themselves no doubt based on statistics furnished by A.C.S.E.A. Usually the differences appear to centre round borderline expenditure such as mines dropped a little off target or mines foul and mines jettisoned. No major issue is involved in such differences and the historian would do well to ignore them.

AERIAL MINING TARGETS IN THE JAPANESE OUTER ZONE BY AIRCRAFT BASED IN S.E.A.C. 1943-1945



General Stratemeier's Report to General Arnold (10 May 45) (1)

On 10 May 45, General Stratemeier, the Deputy Commanding General of Air Command S.E. Asia⁽²⁾, reported to General Arnold in Washington on the intensified mining campaign of the first quarter of 1945. Prior to January 1945, the sole mining agent, he stated, had been the Strategic Air Force⁽³⁾ which ~~had~~ had placed 1,697 mines in enemy waters. An expanded effort by the organisation, coupled with mining by No. 222 Group from Ceylon and a heavy effort by XX Bomber Command, resulted in the expenditure of 2,128 mines during the first quarter of 1945. In carrying out this programme, 410 sorties had been flown with the loss of only one aircraft (not due to enemy action) and the death of only one crew member. XX Bomber Command had accounted for 45% of the mines planted. He felt that mining in the targets then under attack (on 14 May 45) had reached a point of diminishing returns.

His estimate of the effects of mining so far ^{was} ~~were~~ based on a general consolidation of information from all sources and although specific details are not to be sought in a general report of this nature, this estimate, like all other Allied surveys of the effects of mining, proves the partial and unsatisfactory pattern of our Intelligence in that area. It has been generally admitted that this was the case; no personal blame is imputed here. The standard ^{were} ~~were~~ sources developed, such as continuous dropping off agents by Special Duties aircraft, photographic and visual reconnaissance, ~~deciphering of intercepted messages~~, reports from friendly observers and escapees, the patient classification of reports on the shipping and supply situation and prisoners-of-war evidence. There were two important factors in this theatre militating against a 100% Intelligence organization, viz. vast distances between the Allied and enemy systems, which left to the latter a high degree of immunity only partially eroded by air and submarine operations and the Japanese language, for which there were few translators. Nevertheless, General Stratemeier was ^{fairly} ~~fairly~~ near the mark in his generalisation⁵.

/Sweeping

- (1) Report of aerial mine warfare in the S.E. Asia area during the first quarter of 1945 in A.C.S.E.A. File AIR/377 sub-file encl.10 (A.H.B.II.J50/105/4/38(0)).
- (2) Also the C.G. U.S.A.A.F. India Burma Theatre.
- (3) 7th US. Bombardment Group and No. 231 R.A.F. Group.

Sweeping had been made as complicated and difficult as human ingenuity could conceive. The short supply of acoustic mines had been confined to waters nearest to Burma, where wooden vessels were most in use. Every useable port in the theatre had been mined, ^WWith two exceptions, all the targets as far south as Penang were ^{seldom} used by anything larger than a 100 - 125 foot coaster and those were usually present only in small numbers.

The assumption of mining by No. 222 Group in distant ports had undoubtedly had far reaching adverse effects on the Japanese 'propagation' of the war. It had extended the mineable areas considerably and included several harbours and anchorages very important to the enemy supply lines. The few and heavy lays by the XX Bomber Command were records for distance and were considered successful from every point of view. Their delaying mechanisms had been so devised as to make the missions a reliable substitute for a far larger number of small scale missions for longer periods and ~~on much~~ more frequent occasions. The enemy supply lines were being disrupted. Ships were being sunk or damaged and harbours closed. Our crews had shown determination and efficiency.

/ Skip

SECRETl.c. Ship Sinkings on Mines laid by S.E. Asia-based Aircraft
(1942 - 1945)

In view of the uncertainty as to the cause of sinkings of, and damage to, ^{enemy} their shipping in certain periods when masters erroneously reported torpedoes as the cause instead of mines, any final irrefutable statistics as to losses due to mining by any source are unobtainable. The best obtainable results are accepted by the Admiralty Historical Section as those based on the Japanese Report. It will be of value for reference if the sinkings traceable to mines laid by aircraft based in S.E. Asia are recorded at this point. The details of sinkings in the entire Far East (except during Operation 'Starvation' carried out by XXI Bomber Command in the last months of the war in Japanese waters) are given at Appendix 26 to this present volume. Sinkings and damage due to mines laid by Allied submarines may also be found at Appendix 25. Sinkings due to mines laid by the Royal Australian Air Force are included in Appendix 26. ~~Comparative tables may be drawn up with from these figures.~~

All that is intended here is to give the enemy losses of merchant vessels and warships of over 500 tons traceable to mines laid by R.A.F. and U.S.A.A.F. aircraft based in India and Ceylon. Up to the end of August 1944, five ships of an aggregate tonnage of 18,518 were sunk. From September 1944 to May 1945, seven ships of an aggregate tonnage of 23,194 were sunk. The grand total of sinkings in the over 500 ton category from ^{February 1943} ~~September 1942~~ (the first) to May 1945 (the last) was, therefore, 12 ships of an aggregate tonnage of 41,712. It would be immature to draw far reaching conclusions from these figures alone on account of the fact often revived in this narrative, that in 1944 in S. Asia, the war was fast becoming progressively a war of small ships. Losses in vessels under 500 tons ^{the latter} were certainly heavy. In the absence of anything resembling accurate details ^{of} a final, and mathematical measure of the results of aerial mining must remain unattainable.

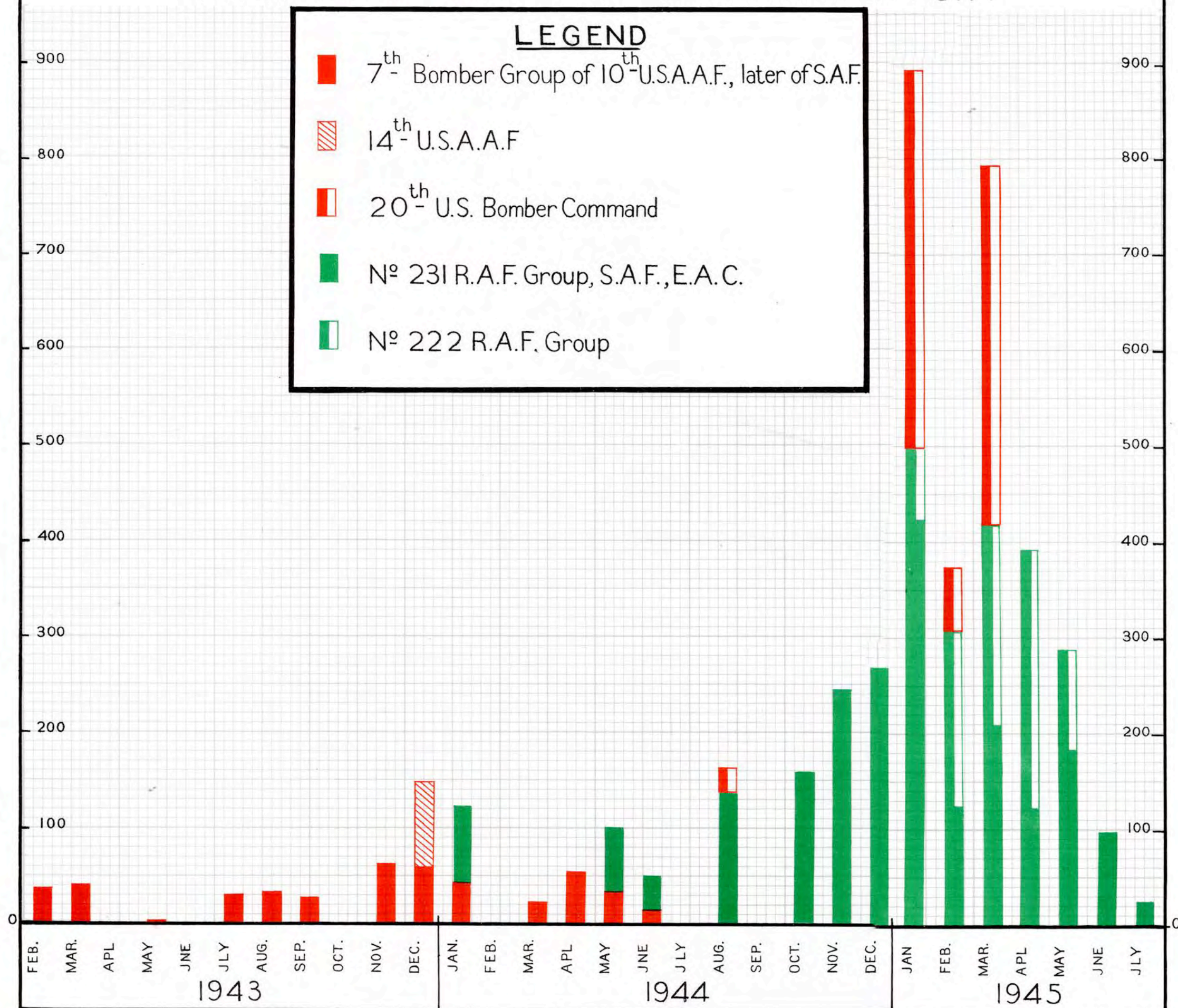
(end of page)

SECRET

/ Mining

LIVE MINE EXPENDITURE 1943-1945

DIAGRAM OF MONTHLY COMMAND EFFORT



l.c. Mining by Allied Submarines (1942-1945) ⁽¹⁾

l.c. Interplay of Mining Agencies

Round the perimeter of the vast area mined by aircraft of South East Asia Command, Allied submarines carried out phases of minelaying between 1942 and 1945. These operations have been covered in various Admiralty Staff Histories and reports, by the United States Naval Institute and Admiral Morison in his histories and no space is intended in this narrative for any detailed descriptions. Yet as many of them played on the same enemy target system as those by aircraft from India, Ceylon and Australia, no final assessment of the effect of over-all mining in that part of the Outer Zone under review in this volume can be arrived at without an acquaintance with an outline of their effort. This outline, brief of necessity, includes two appendices for reference. ⁽²⁾ Mining by aircraft and submarines sometimes overlapped and often worked reciprocally, maintaining pressure on enemy supply lines, producing one area crisis after another, closing convoy routes and building up a part of the situation in which the final collapse became inevitable.

United States submarines began a series of four phases of minelaying on 15 Oct. 42 and ended it on 9 May 45. British submarines began laying on 14 Mar. 44, (i.e. at the end of the third U.S. phase) and they ended on 10 May 45. They were assisted in early 1945 by a Dutch submarine.

The following outline is selective, confining its emphasis to those areas such as the Netherlands East Indies and the Gulf of Siam falling within what may fairly be called the orbit of S.E. Asia.

Command

U.S. submarine operations were carried out by two agencies, viz., the Seventh Fleet (based at Perth, Australia) or by the C.-in-C., Pacific (based at Pearl Harbour). Operations by submarines based at Perth fell within the Central Pacific area; those by the Seventh Fleet fell within the South West Pacific area.

R.N. submarine operations from the East Indies Station were carried out up to late 1944 from Trincomalee. The first flotilla had by then become three. In September 1944, one of them was transferred to Fremantle in Western Australia. In April 1945, a second was transferred to the Pacific. The Dutch unit operated at that period with the Fremantle Flotilla.

-
- (1) Sources of reference for this section are Admiralty C.B.3303(5) and 3306(3): U.S.S.B.S. Report on Minelaying (A.H.B. IIF.2/81/4).
 (2) Nos. 25 and 26.

l.c. British Submarine Organisation in Far East (1 Sept. 44)

The following order of battle will serve for reference in study of the mining record of British and Dutch submarines in the last nine months of the war:-

4th Submarine Flotilla (based on Trincomalee)

Depot ship Adamant
Accommodation ships Wuchang, City of London
Operational submarines 6 'T', 2 'S', 1 River class

2nd Submarine Flotilla (based on Trincomalee)

Depot ship Wolfe
Operational submarines 4 (in addition 2 on passage out)

8th Submarine Flotilla (based on Fremantle)

Depot ship Maidstone
Operational submarines 6 'S', 4 'T', 1 River, 1 Dutch

The 4th Flotilla proceeded to the Pacific in April 1945.

U.S. Submarine Operations

First Phase - S.W. and Central Pacific (15 Oct. to 20 Dec. 42)

In this period, submarines of the Seventh Fleet operating from Fremantle laid two fields in Bangkok approaches, one off Cape Padaran (Indo-China) and one each off Haiphong and in Hainan Strait. As a result of the lays at Bangkok on 15 and 19 Oct. 42, it was claimed that a vessel of 5,425 G.R.T. was damaged. These minefields were in the normal route of ship traffic through Hainan Strait to Haiphong from the north, or rounding the Indo-China peninsula to Bangkok. It was believed that two ships were sunk and one damaged off Cape Padaran, but no final confirmation of this has yet been established. Submarines in the Central Pacific laid five fields in Japanese home waters.

Second Phase - S.W. and Central Pacific (16 Mar. to 4 June 43)

In this period, submarines of the Seventh Fleet laid two fields in Borneo waters and one in Steffen Strait off Kavieng (which could not be mined with aircraft-laid ground mines). The enemy shipping routes in the area of the Borneo fields were changed shortly after the minelaying. Submarines in the Central Pacific planted minefields in five locations. The operation of 31 May 43 off Yertimo Saki marked the completion of minelaying by submarines out of Pearl Harbour. The results in terms of ship casualties and the forcing of shipping out of shallow coastal waters gave satisfaction at the time.

/ Third

Third Phase - S.W. Pacific (2 Oct.43 to 21 Feb.44)

Submarines also used their torpedoes: ~~after~~ after a period in which very good results were obtained, plans to increase the mine load began to show results. Minelaying was now resumed on 2 Oct.43, to continue until near the end of the war. In this third phase, Seventh Fleet submarines laid eight fields in all, viz. at Cape Pepe, (a shoal area on the Celebes side of Makassar Strait), Pulo Condore (off the southern extremity of Indo-China), Saracen Bay (along the route to Bangkok), Pulo Tenggol (on the E. coast of the Malay Peninsula between Singapore and Bangkok), Kega Point (on the E. coast of Indo-China not far from Cape Padaran), and at Sebuke Island (near the Tanjong Ara field laid on 6 Mar.43). Heavy damage to shipping was reported by the U.S.S.B.S. after the war, but no confirmation of ships sunk over 500 tons appears in the Japanese report. No evidence on the direct effect on sailings came to hand.

Fourth Phase - S.W. Pacific (19 Aug.44 to 9 May 45)

Eight fields were again laid in this phase, three of them replenishments for the ^{Api} ~~API~~ Passage field (off the west coast of Borneo). Three more were planted at Pulo Obi (the southernmost point on the Indo-China peninsula). Of the others, one was on the coast of French Indo-China north of Cape Padaran, and the last was on the north coast of Sumatra, opposite Singapore, in Berhala Strait. As in previous phases, all mines were ground magnetics.

Again, very incomplete intelligence on results has been obtainable; it is affirmed, however, that heavy Japanese traffic was recorded in the mined areas before planting and practically none after.

Accomplishments of U.S. Submarines mining in the S.W. Pacific

Between 15 Oct. 42 and 9 May 45, U.S. submarines of the 7th Fleet carried out 24 lays in the S.W. Pacific area, planting 455 mines in 18 targets. Neither on these operations, nor on those from Pearl Harbour in the Central Pacific was a submarine lost while carrying mines. These lays, some of them bordering on the tactical, were carried out economically, mines usually functioning as weapons secondary to the torpedo and the gun, to whom very heavy destruction of enemy shipping was attributable.

Most of the lays supplemented the work of aircraft from India, Ceylon and Australia and neutralized movements, sunk ships or drove them into open water, all so much attrition on the maritime system feeding the Burma and Netherlands

East Indies armies and slowing down the movement of oil and other strategic materials. Delayed mechanisms provided a running threat after the lays. Although it was accepted that total sinkings and damage caused by submarine-laid mines in most areas were but an insignificant portion of the total casualties obtained by submarines, mines established themselves as an important adjunct to the torpedo as an underseas weapon. The lays in the S.W. Pacific at points within the S.E. Asia interdiction orbit were definitely, if not measureably, extensive in their effects on the pattern of enemy sea supply.

British and Netherlands Submarine Operations⁽¹⁾

l.c. Summary of Effort

Between 14 Mar. 44 and 10 May 45, British and Netherlands submarines carried out 26 lays in the S.E. Asia theatre and 4 in the S.W. Pacific theatre, i.e. 30 lays in all. In the course of these operations, 638 mines were laid. The majority of these were laid in the Malacca Strait, a few in the Andaman Islands, the Mergui Archipelago, the west coast of Siam and, in the last phase, off eastern Sumatra and the approaches to Batavia (Java). The first phase may be said to have ended on 8 July 44, after which there was an interval until 16 Sept. 44. Up to July 44, lays had been carried out every month.

The second phase, which began on 16 Sept. 44, was, like the first, carried out by H.M. submarines of the Eastern Fleet flotillas from Trincomalee.

The third and last phase was carried out by one British and one Netherlands submarine based at Fremantle and operating from a forward base at Exmouth Gulf. It consisted of 4 lays in the S.W. Pacific theatre.

The lays by British and Dutch submarines from March 1944 to May 1945 bore on the development of the Burma campaign much more intimately than did the lays by U.S. submarines in the S.W. Pacific theatre. If Plans 5 and 6 of the Admiralty Naval Staff History on Submarines Vol. III are kept available for reference, it can be clearly recognized how they fitted in with the pattern of aerial minelaying from S.E. Asia.

One of the main reasons for the decision to launch the British submarine minelaying campaign in March 1944 was the dearth of shipping targets in the Malacca Strait area; this was due to the very serious losses sustained by

/Japanese

(1) Admiralty C.B.3306(3) Chaps. 1, 2, & 3. Plans 5 and 6 and Appendices I and II: Admiralty C.B.3303 (3) (Chapts. II, III and IV and Plan 12).

Japanese shipping of appreciable tonnage in all areas by the end of 1943, and of the failure to replace the tonnage lost by new construction. It was hoped, among other things, that mining would drive the coasting traffic out into deeper water, where it could be more readily attacked. Furthermore, there was implicit in the campaign the question of attrition into the enemy's oil supply line and the list of operations shows that this was taken into account. Mines were laid at points used by tankers such as Penang, Klang Strait, Aru Bay and Deli River.

The only two British submarines in the theatre actually designed for minelaying were H.M.S. Porpoise and Rergual, who could carry upward of 50 mines apiece, as against the normal maximum of 12.

First Phase - Malacca Strait (March-July 1944)

From January to September 1944, the 4th and 8th Flotillas operated from Trincomalee.

The first lay was made by H.M.S. Trespasser, when she planted 12 mines by the Outer Mati Bank, which was, (like all the other targets in this phase) in the Malacca Strait and was ^{on} the Palembang-Belawan ^{- Singapore} Deli route. This was followed by a fairly rapid succession of lays on both sides of the Strait. In all, in 14 lays, 196 mines were planted.

As a result of the lay by H.M.S. Taurus in Penang approaches, S.S. Kasumu Maru (1,400 G.R.T.) was sunk on 12 May 44: and as a result of the heavy lay by H.M.S. Porpoise off the Deli River (Sumatra) between 6 - 8 July 44, the following shipping was sunk:- one submarine chaser, one medium merchant vessel and one auxiliary mine sweeper. (1) No other sinkings of ships over 500 tons have been confirmed as sunk by mine, but it is to be noted that during these forays, our submarines met enemy shipping and sank ^{it} by gun or torpedo. (2) These operations lie beyond the scope of this history. Their occurrence must, however, be taken account of. The correct approach to them is to view the entire pattern of patrol with both minelaying and open action as one whole contributory factor which, added to aerial minelaying, progressively forced shipping into the open, slowed it down or completely stopped it, incidentally hastening the turnover to small wooden craft.

/Second Phases - ..

-
- (1) Refer to Appendix 25 for lays and 26 for details of ships sunk.
 (2) Details of these attacks and sinkings may be found in Chap. 3 of Admiralty C.B. 3306(3).

Andaman
Second Phase - Malacca Strait and Andam Islands (16 Sept. 44 - 23 Jan. 45)

The next phase consisted of 12 lays, of which 6 were in the Malacca Strait, 3 off the western coast of Siam, 1 in the Mergui Archipelago and 2 in Andaman Island waters. In all these lays a total of 306 mines were laid. The heaviest lays were in Penang approaches. In January 1945, H.M.S. Rorqual (who had joined H.M.S. Porpoise), laid 50 mines in Nancowry Strait and 12 South of Neill Island, both in the Andaman Group. In September, the 8th Flotilla was transferred to W. Australia.

It came to light later that as a result of the lay of 16 Sept. 44 by H.M.S. Trenchant in Aru Bay, (Sumatra) two merchant ships of an aggregate tonnage of 2,814 were sunk. ⁽¹⁾ ~~(2)~~

It was, it will be recalled, in the month of January 1945 that the combined air forces of XX Bomber Command and No. 222 and 231 Groups took over mining on a grand scale. It is not, therefore, surprising that the contribution by our submarines draws towards its close in this month.

S.S. Porpoise was lost (cause unknown) after her lay at Penang on 9 Jan. 45.

Third Phase - Sumatra and Java (3 Jan. - 10 May 45)

The third and last phase was a short one, closing as our submarine forces turned towards the Pacific. The four lays, two by H.M.S. Rorqual and two by H.M. Neth.S. D.S.O.19, were all in the western perimeter of the S.W. Pacific theatre and were threats to the long range convoys running to the end between Java and Singapore.

In January, O.19 laid 40 mines in the approaches to Batavia (Djakarta) the submarine base, and 40 in the North Banka Strait, near Palembang. H.M.S. Rorqual laid 12 mines in the Sumatra Channel and 44 in the approaches to Batavia, both in the West Java Sea.

On 30 April, S.S. Yuno Maru (2,345 G.R.T.) sank on a mine near Berhala. One record suggests it sank on one of O.19's mines. It was more probably on one of U.S.S. Guitarro's. She laid there, it will be recalled, on 20 Apl. 45.

These and later patrols were very eventful. If confirmation of considerable enemy maritime activity in the Java Sea and Gulf of Siam in the Spring of 1945 is required, study of the patrol reports of R.N. and R.Neth.N. submarines is

/strongly

(1) S.S. Hozan Maru (868 G.R.T.) and Nikkaku Maru (1,946 G.R.T.)

strongly recommended. Added to the evidence from air sources adduced in previous sections, they refute absolutely any suggestion that in ^{early} 1945 the Japanese had been driven from the high seas.

(end of page)

/ Minelaying

Minelaying by the Royal Australian Air Force
(April 1943 - July 1945)

Introduction

The record of operations by the Royal Australian Air Force in the war against Japan is a long and distinguished one and must ^{not} ~~never~~ be allowed to go by default. Most of the salient facts relating thereto may be found in the official Australian ⁽¹⁾ and American ⁽²⁾ ~~air~~ air histories of the Second World War. Among the developments within the major theme, the achievement of the Catalina minelaying squadron from April 1943 to July 1945 ranks high, exemplifying as it does the triumph of long, patient adaptation of the most suitable aircraft and weapons to a series of strategic problems over wide areas of the South-west and Central Pacific theatres: notable among its features were the flexibility of the base pattern, and the close co-operation afforded by the Allied Navies and the silent tactics of the Catalina crews.

As the interest of this present narrative centres in the south-east Asia orbit, only such operations as fall within its perimeter can be enlarged on here. East of Borneo the treatment will, perforce, be perfunctory, but operations bearing on such targets as the Java-Singapore convoy route and the oil traffic from Borneo must receive closer attention; as will be apparent, they proceeded concurrently with, and both supplemented and justified the efforts of aircraft and submarines, based in India and Ceylon, to neutralise the pattern of enemy supply in the area of the Outer Zone.

l.c. Air Organisation, Policy and Forces engaged

During 1943 and the best part of 1944, the R.A.A.F. Command formed a part of Allied Air Forces South West Pacific Area of which General George C. Kenney U.S.A.A.F., was Commanding General. The Air Officer Commanding R.A.A.F. Command was Air Vice Marshal W.D. Bostock. In this account, the interest centres round the squadrons engaged in mine laying. The operations of all other R.A.A.F. units assigned to A.C.S.E.A., the Fifth Air Force and so forth may be found in the Australian Official Air History.

/When

(1) Odger. Air War against Japan 1943 - 1945. Canberra - Australian War Memorial.

(2) U.S.A.F. Hist. Div. The A.A.F. in World War II. Vol.5. University of Chicago Press. 1953.

When minelaying began in April 1943, it was carried out as a part time role by two squadrons - Nos. 11 and 20 - based in Cairns (Queensland) at the eastern base of Cape York peninsula. In April 1944, the two squadrons were reinforced by a third - No. 43. Two areas of responsibility were assigned, namely No. 43 Squadron West of 130° East and Nos. 11 and 20 East of 130° East. This meridian runs South about 5° East of the Philippines, through the island of Ceram in the Netherlands East Indies, reaching Australia a few miles to westward of Darwin. Darwin was eventually to become a fully operative base, about halfway along the northern coastline. It is therefore largely with the activities of No. 43 Squadron that the record will concern itself after April 1944.

By September, 1944, the importance of mining was apparent enough for its embodiment in tangible form in the theatre strategy of the South-west and the Central Pacific areas. No. 76 Wing moved its headquarters from Cairns to ~~Darwin~~ ^{Darwin} (now free from the threat of enemy air attack) and was placed in control of three squadrons assigned to total full-time mining. These were Nos. 20, 42 and 43. No. 11 Squadron was transferred to other duties. In 1945, several moves were made which emphasised the high degree of mobility attained. One of several typical of the period of giant amphibious operations was the transfer of eight aircraft (drawn from Nos. 20 and 43 Squadron) to Jinemoo in the Philippines. By mid-May, 1945, the impetus of the American northward movements towards Japan called for a re-allocation of areas and the R.A.A.F. was assigned to operate below 18° North, which ran just South of Hainan Island, but left them still mining in the Netherlands East Indies.

The following list of bases used at different or parallel periods demonstrates how the R.A.A.F. ^{took advantage of} ~~used~~ the opportunities thrown up by the successes of the three services to extend their range into all mineable ports and waterways.

Cairns (Aust.)	Morotai Island.
Darwin (Aust.)	Milne (New Guinea)
Yampi Sound (Aust.)	Lombrun (Kai Island)
West Bay (Aust.)	Port Moresby (New Guinea)
Jinamoo (Philippines)	Melville Bay (Aust.)
Hollandia (New Guinea)	Brunei Bay (Borneo)
Woendi (Biak)	Lingayen Gulf (Philippines)
(Wandi)	

/Assignment of

-
- (1) ^{decision} ~~A discussion~~ made at the Manila Conference.

Assignment of R.A.A.F. Aircraft to Minelaying (April 1943)

After submarines had been minelaying about five months, American marine and naval aircraft had been pressed into service. In March 1943, Avengers (1) laid mines in the Buin-Tonolei area in southern Bougainville. General MacArthur was unable to spare bombers for minelaying, therefore, to meet naval requirements, Australian Catalinas were offered for this work. The R.A.A.F. was to receive its general directives for minelaying from the Allied Naval Commander, through the C.G., A.A.F.S.W.P.A. (2) Selection of targets and scale of operations were left to the discretion of R.A.A.F. Command, who, naturally, collaborated intimately with their Naval opposite numbers.

The Catalina Flying Boat

The history of the minelaying Catalina is of great interest. Although possessing several innate virtues, such as a wide radius of action, its full claim to recognition was only apparent later. Catalinas were used for all mining operations by R.A.A.F. and were the only flying boats used for mining in any theatre of war. These consisted at first of the PBY-5, followed later (as they became available) by the PB-2B1 and PB-2B2. Although the 2B series were fitted with the latest radar and radio equipment, in range and load they had no advantage over the PBY-5. The original choice of the PBY-5 was based on the fact that, although slow, its performance (3) in terms of range and load made it very suitable in the Pacific theatres and climates. Throughout the campaign, Catalina

/performance

(1) Of Air Command Solomons (COM-AIR), who directed occasional mining up to May 1944 from Guadalcanal and Munda.

(2) Allied Air Forces South West Pacific Area.

(3) Catalina performance figures:

- (a) Over a radius of action of 1,000 miles with a fuel load of 1,460 Imperial gallons, a mine load of 2,000 pounds was carried.
- (b) Over a radius of 850 miles, with a fuel load of 1,330 Imperial gallons, a mine load of 3,000 pounds was carried.
- (c) Over a radius of 750 miles, with a fuel load of 1,200 Imperial gallons, the maximum mine load of 4,000 pounds was carried.

In exceptional cases, greater loads than these were carried and on several occasions a full fuel load of 1,460 Imperial gallons, together with a mine load of 4,240 pounds was carried for a distance of 950 miles. This involved being airborne with an all-up weight of 36,500 pounds.

performance was outstanding. No major maintenance difficulties were experienced and the flying boats proved capable of sustained operations.

Flights to the target were invariably carried out at an altitude of below 1,000 feet at an air speed of 95 knots. On the return journey, the altitude flown varied up to 10,000 feet (depending on weather conditions), at an air speed of about 105 knots. Discussion of the tactics employed is deferred to an Appendix to this narrative (No. 29) which presents a comparative record of tactics employed by the aircraft of the various commands engaged in mining from India, Ceylon and Australia. There was no formula of universal application. Much depended on aircraft approach, target, weather conditions and depth of lay setting and water.

The Catalina proved very manoeuvrable and silent in its approach, so lending itself to the philosophy of precision in laying professed in the R.A.A.F. In addition, it was fitted with torpedo racks, and was thus the only long range aircraft available throughout the Pacific campaigns which was capable of carrying U.S. Mark XIII-I and British A Mark IV mines. An additional advantage in the use of flying boats rather than land-based aircraft was that Catalinas proved to be able to operate from forward areas shortly after initial landings and before suitable air strips had been prepared. On several occasions, they operated from bases without any facilities and at these bases no moorings were used: the Catalinas were refuelled and rearmed with the aid of amphibious landing craft. (1)

l.c. Personnel and Planning

There were in the R.A.A.F. a number of officers who had served in Coastal Command in Britain and had been impressed by the results of mining campaigns against shipping off the coasts of France and Norway. ~~Minelaying had proved a most profitable and economic form of attack against sea communications. It had already been realised that the sinking and damaging of ships was only part of the strain imposed, which included closure of harbours, dislocation of sea communications and diversion of enemy forces to mine sweeping and other counter measures.~~

- (1) All details of such topics as performance, forces, target selection, losses, tactics etc. are drawn from a report dated 1 Sept. 45 by H.Q. R.A.A.F. Command, A.A.F.S.W.P.A. reproduced in the U.S.S.B.S. Naval Analysis Div. report 'The Offensive Mine Laying Campaign against Japan' (A.H.B. II F.2/81/4), amplified by information given in the official Australian history 'Air War against Japan'.

/ In

Mine laying had proved a profitable and economic form of attack against sea communications. It had already been realised that the sinking and damaging of ships was only part of the strain imposed, which included closure of harbours, dislocation of sea communications and diversion of enemy forces to counter-measures. In the islands North of Australia, there were a number of enemy-held harbours well worth blockading by mine with the object of reducing enemy tonnage.

The planning of minefields was carried out at R.A.A.F. Command Headquarters by two Mine Warfare Officers, one a specialist observer of the Royal Australian Navy and the other a specialist in mines maintenance of the U.S. Navy. Within broad directives, the A.O.C. of R.A.A.F. Command was invested with almost complete and rarely overruled autonomy. He determined monthly targets and the weight of forces available. The Mine Warfare Officers charted minefields and fixed datum points, moved to the squadron bases, briefed and interrogated aircrews and steered by.

Mines

During the campaign, six marks of U.S. and three marks of British mines were used, all susceptible to mechanical assembly. At the commencement, the only mines available were American, (2) but in September 1943 the first British mines (3) became available. In January 1944, a later British model (4) was first used and in April 1944 the first U.S. acoustic mines (5) were laid. In June 1944, new U.S. mines (6) and in August 1944 the first British combination magnetic acoustic (7) assembly mines (8) were laid. In October 1944, another new U.S. mine arrived which considerably extended the scope of operations, capable as it was of operating in depths of up to 30 fathoms. Finally, in May 1945, the stock of mines was improved by the latest U.S. (9) and British models. (10)

-
- (1) See Appendix for mine statistical analyses.
 - (2) Mark XII-I and XIII-O.
 - (3) A Marks I - IV.
 - (4) A Mark V.
 - (5) Mark XIII-5.
 - (6) Mark XXVI-5.
 - (7) Mark A I-IV of 'G' Group.
 - (8) Mark XXV-O.
 - (9) Mark XXXVI-I and A Mark VII.
 - (10) Refer to Appendix 23.

/ The

~~In the islands North of Australia, there were a number of enemy-held harbours well worth blockading by mine with the object of reducing the overall enemy tonnage available.~~

~~The planning of minefields was carried out at R.A.A.F. Command Headquarters by two Mine Warfare Officers, one a specialist observer of the Royal Australian Navy and the other a specialist in mines maintenance of the U.S. Navy. Within the broad directives, the A.O.C. of R.A.A.F. Command was invested with almost complete and rarely overruled autonomy. He determined the monthly targets and the weight of forces available. The Mine Warfare Officers charted the minefields and fixed datum point from consolidated intelligence reports. They moved to the squadron bases, briefed and interrogated aircrews and stood by.~~

Mines

~~During the campaign, six marks of U.S. and three marks of British mines were used, all susceptible to mechanical assembly to increase effectiveness. At the commencement, the only mines available were American, (2) but in September 1943 the first British mines (3) became available. In January 1944, a later British model (4) was first used and in April 1944 the first U.S. acoustic mines (5) were laid. In June 1944, new U.S. mines (6) and in August 1944 the first British combination magnetic acoustic assembly mines (7) were laid. In October 1944, another new U.S. mine (8) arrived which considerably extended the scope of operations, capable as it was of operating in depths of up to 30 fathoms. Finally, in May 1945, the stock of mines was improved by the latest U.S. (9) and British models. (10)~~

~~The policy was always to lay approximately equal quantities of British and U.S. mines in every field, so as to complicate sweeping. In practice, transport difficulties led to a chronic shortage of British mines. Hence lies the reason for the predominance of U.S. mines laid over British - 1,868 as against 654. Of these, 71.4% were the standard 1,000 pound size, 9% the 1,500 pound size and 19.6% the 2,000 pound size. (1) (11)~~

- (1) See Appendix for mine statistical analyses.
- (2) Mark XII-I and XIII-O.
- (3) A Marks I - IV.
- (4) A Mark V.
- (5) Mark XIII-5.
- (6) Mark XXVI-5.
- (7) Mark A - 1 - IV of 'G' Group.
- (8) Mark XXV-0.
- (9) Mark XXXVI-I and A Mark VII.
- (10) Reference to Appendix 23.
- (11) (1) 1st phase: 1943.
2nd phase: January-August 1944.
3rd phase: September-December 1944.
4th Phase: January-July 1945.

3/5
16

l.c

(1)

The four Phases of Operations

Operations fall into four natural phases. The first phase covers the experimental year of 1943. Most of those operations fell in the eastern sector, but a tentative start was made in July on targets in the Dutch East Indies. The second phase cover the period January - August 1944, in which latter month part-time mining ended. Here the trend westwards of the target system with concentration on Balikpapan in Borneo and the use of mining as a strategic diversion for remote amphibious landings are seen as special features. The third phase carries the record from September to the end of 1944. It is a period of full employment by No. 76 Wing of its three squadrons and one of great mobility. A new base is set up at Morotai soon after its capture and mining is carried out in aid of the Mindoro (Philippine landings). Java enters firmly into the picture as the Japanese speed up their efforts to get back everything possible from the Outer Zone before their life lines are cut. The first seven months of 1945 form the fourth and last phase. While mining extends to the sea of Japan and the China coast, in the West the great port of Surabaya and the routes through the ^{Banka} ~~Banda~~ Strait of Sumatra to Singapore, which are held on to by the Japanese with great determination, become the sole targets.

PHASE I OPERATIONS
1943

Decision to mine Kavieng

On 9 Apl. 43 General MacArthur's headquarters approved A.V.M. Bostock's plan (2) for planting mines in the vicinity of Kavieng in New Ireland. It was believed that the Japanese were bent on developing the anchorage there and the intention was to mine it before the defence construction gained momentum. Kavieng was of great importance to the enemy as a major supply base from which supplies were carried down to Rabaul and as a haven for damaged naval vessels while undergoing temporary repairs.

Although this operation fell outside the orbit of S.E. Asia, it is necessary to consider it in the light of subsequent mining. As the first effort by Catalinas, the results bore of necessity on all future aerial mining in the Eastern

(1)

(2) 02° 40'S., 150° 41'E.

/ Hemisphere

Hemisphere and policy would take shape on the findings. The plan was to plant 18 mines in Silver Sound on the night of 22/23 Apl. 43 and 16 mines in the Ysabel Passage on the night of 24/25 April. R.A.A.F. Command ordered N.E. Area to carry out the operation, with the objects, first, of inflicting casualties on ships entering Silver Sound; secondly, of denying the enemy the use of the Sound as a fleet anchorage or base, thus forcing him to use unprotected anchorages exposed to submarine attack or, alternatively, to hinder his effort by the enforced diversion of men, equipment and ships to minesweeping. The journey from the air base at Cairns to the refuelling base at Milne Bay and thence to Silver Sound meant about 10 hours flying, much of it at night over enemy territory. They were to refuel at Port Moresby on the return journey. (1)

First three Lays at Kavieng (22/23 and 24/25 Apl. and 3 May 43)

Loading and briefing at Cairns (Queensland), the base of Nos. 11 and 20 Squadrons was supervised by a team of four mine warfare specialists. The operation was carried out in full moonlight and all precautions taken to avoid collision. On the way to Silver Sound, the eight aircraft, carrying two mines each had to fly through the dense rain clouds of two storms and at the target were silhouetted in the moonlight.

The first aircraft, unobserved, touched water on the run-in without harm. The second was followed closely by gunfire. The third was fired on by a ship flashing signals and damaged. By the time the last Catalina crew was ready to lay, the local defences were very accurate for range and height and the mines were dropped a little off position, but in good water.

The second lay was made two nights later. The weather was better, only one front was traversed. There would have been no local opposition if one of the eight aircraft gunners had not himself fired on a light anti-aircraft position on Enang Island. The 16 mines were well planted in an approach to Silver Sound, through Byron Strait and Ysabel Passage.

(1) All operational details throughout are taken from the Australian official war history. The command documents are not in the U.K. and there are no copies available.

On 27 April, an attempt to reinforce the Silver Sound proved abortive in the face of very bad weather. On 3 May 43, a moonless night presented no difficulties to the captains of three Catalinas, who found their datum points and laid off Kavieng as planned. From their reports, the decision was arrived at that it would be better henceforth to drop mines without the aid of the moon, because fighter interception would be less likely and it was difficult in the absence of moonlight to see the Catalina below 500 feet.

The Kavieng minefields were reinforced in November. 22 Nov. 43 was the date of the last lay there by the R.A.A.F. Between 22 Apl. and 22 Nov. 43, 104 mines were successfully laid, although the R.A.A.F. history does not give details of all operations. 47 of the 50 sorties were successful.

(1)

Japanese Evidence on Results of Kavieng Lays

Japanese naval officers testified later that these mines interfered with their military plans. They differed on the dates mining was first observed. One said July, another August 1943. There were no sweepers present in July; they had to be transferred from the Shortland Islands. Ships were forced to anchor outside of the regular harbour, so hindering logistical support. Sinkings occurred from September 1943 until January 1944, when the harbour was no longer in regular use. After mine lays, ships had to be run direct from Truk to Rabaul, where they then came under air attack. One witness said that one survey ship and five large cargo vessels were sunk and several ships damaged.

(2)

The following losses at Kavieng have been confirmed.

16. 9.43	<u>Seikai Maru</u>	2,663 tons
4.11.43	<u>Tsukushi</u>	2,000 tons (survey ship)
4.11.43	<u>Ryuisan Maru</u>	2,455 tons

1943 Lays in the Celebes eastward

If Rabaul (New Guinea) and Silver Sound at Kavieng could be neutralised by bombing and mining, the Admiralty Islands would provide, it was argued, the only suitable deep water anchorage for the Japanese Fleet south of Truk. An operation over five nights was therefore carried at the end of May in Seeadler Harbour and the adjacent Lorengau anchorage.

-
- (1) Interrogation Reports quoted in the U.S.S.N.S. report on minelaying (A.H.B. IIF2/84/4). ^B
 (2) Refer to Appenxix 26. ^A

/ From

From June to August, activities were extended to such targets as Babo, Sorong, Sekar Bay and Manokwari in New Guinea, Geser and Boela on Ceram Island and a variety of ports and fairways in the Celebes.

The landing in the Solomons in June, at Vella Lavella in August, in the Huon Gulf ports in New Guinea in September, in Bougainville in November and in New Britain in December 1943 affected operations, called for changes in target pattern and offered new anchorages providing longer range. The squadrons were bombing for lengthy periods.

In the last quarter of 1943, the weather depreciated. The only lays thought worthy of mention by the R.A.A.F. official historians were the reinforcement of the fields at Kavieng, Ceram, Kendari (Celebes) and Waingapu Roads (Sumbo). It must be borne in mind in considering the patchy pattern of 1943 operations that minelaying was only one of the squadrons' varied activities. In December, for example, Catalinas bound with mines for Kau Bay (Halmahera Island) were ordered back for a 10 day bombing strike on Kavieng.

From the Celebes eastward, therefore, the minelaying record is one of opportunities snatched between bombing for intermittent, well-intended and sometimes telling operations over an area much too vast to throw up any special conclusions. Nevertheless, experience and confidence were acquired and the enemy kept guessing and no doubt greatly inconvenienced. The line must be drawn at this point and attention directed towards the area which is the main theme of this record.

(1)

Surabaya

The harbour of Surabaya, at the eastern end of the northern coast of Java, is covered by the island of Madura like a long protective wall. Its defences against attack by sea are seen to be sound. Likewise, few Allied aircraft had ventured anywhere near it, for it was out of range to the best aircraft in S.E. Asia and Darwin was not yet considered safe enough for a permanent air base. The Japanese held Surabaya as a vital strategic base all through their early occupation of it until the end of the war. There are few parallels to the tenacity with which they fought to keep it in action and the sea route leading from it open.

(1) 07° 20'S. 113° 00'E.

There were good reasons for the enemy's high regard for Surabaya. It had large naval dockyards: it was^a highly developed commercial port and the main supply and convoy assembly point for troopships moving to military garrisons in islands closer to Australia. It had a vital role in the distribution of fuel, one of Java's natural riches. The Branch Fuel Depot there, like its opposite numbers at Batavia and Palembang, was answerable direct to the 20th Field Air Supply Depot at Singapore, a unit of the Southern Military Fuel Board. It had a heavy concentration of anti-aircraft artillery. Mining the entrance roads might close the harbour and bottle up shipping. Surabaya was nearly 1,300 miles from Darwin. Since the campaign against the Dutch East Indies had begun in July, the Celebes and Ceram had been the best the Catalinas could do. New means were to be found of reaching out to Surabaya, of whose defences little was yet known.

Lays at Surabaya (August 1943)

On 25 Aug. 43, four Catalinas drawn from Nos. 11 and 20 Squadrons left Cairns. They mined Surabaya on the night of 26/27 August. No anti-aircraft fire was experienced. It was the first visit by minelaying aircraft. The four Catalinas then returned to the U.S.S. Preston (of the Seventh Fleet) at Heron Haven, refuelled, continued to Darwin, reloaded mines and proceeded again to lay at Surabaya. Again there was no opposition fire at Surabaya itself: they were picked up and fired on by a camp on Madura Island, but not with any fatal results.

Japanese evidence after the war referred only to the results of 1944 and 1945 mining. With our knowledge of the continuous pattern of replenishment needed for success, it is hardly to be expected that these solitary, small lays could in any sense achieve lasting results. They were not followed up for another eight months in the following May, owing to the pressure of bombing, mining and reconnaissance commitments elsewhere.

/ PHASE 2

PHASE 2 OPERATIONS

321

JANUARY - AUGUST 1944

The Oil Port of Balikpapan

The Japanese Navy ran its fields at Tarakan and Sanga Sanga in Eastern Borneo and its refinery at Balikpapan as an entirely independent project. This source, although productive, was inadequate and consequently the Navy was placed in the undignified position of supplicant before the Army for the bulk of its oil supplies. The movement of oil was effected through a joint pool of Army, Navy and civilian tankers. Army control of the bulk of the oil and the Navy control of transport formed a bargaining bases between the two services which enabled them to co-operate to mutual advantage. "But for this fortunate state of affairs", Rear Admiral Asukara, Chief of Staff of the Third Southern Expeditionary Fleet, observed to a U.S. Oil and Chemical Division interrogator, "the Army would have undoubtedly left the Navy without oil".

Special features of Balikpapan were the Pandansari refinery (for the distillation of aviation gasoline), the cracking units (2) and the Edeleanu plants.(3) 1943 figures put the crude oil production of Sanga Sanga at 5,065,000 barrels, of Tarakan at 3,150,000 barrels and of the refinery at Balikpapan at 7,128,000 barrels. General Kenney adjudged the Netherlands East Indies oil installations to be the finest and most decisive set of targets for bombing anywhere in the world; and he proceeded to affirm that mining could create a situation of which bombers could take advantage when suitable bases and aircraft became available. Up to now, apart from a few 380th Bombardment Group strikes on Balikpapan and Surabaya during the late summer of 1943, the Japanese had enjoyed uninterrupted use of the refineries. Even after those few 1943 ^{attacks} ~~days~~, Kenney noted that within two weeks the Japanese were short of aviation fuel at all of their fields from Ambon to Wewak (New Guinea) and even at Palau and Truk. It will be appreciated that in the Air Forces South West Pacific Area there was an unusually high degree of military sensibility reigning and an imaginative use of intelligence.(4)

/First Mining ...

-
- (1) Borneo, position 01°20'S. 116°50'E.
 - (2) A central plant for the area upon which all the refineries depended for petrol refining.
 - (3) For the production of sulphuric acid for the solvent treatment of aviation petrol.
 - (4) Official Australian Air History. Vol.II: The A.A.F. in World War II. Vol.V. p.36

l.c. First Mining Raids on Balikpapan (February 1944) (1)

Balikpapan was at extreme range and an advanced staging base had to be set up at Cygnet Bay, near Derby in Western Australia, by mine warfare staff of R.A.A.F. Command and the Seventh U.S. Fleet. Cygnet Bay was ^{chosen} ~~chosen~~ because it was protected from surprise air attack by the R.A.A.F. radar station at Cape Leveque, and because fighter cover could be provided from the airstrip at Derby some 60 miles away.

On 14 Feb. 44, a detachment of Boomerangs (2) arrived at Derby and began patrols over Cygnet Bay on the 19th, on which day U.S.S. Preston arrived and set up moorings for the Catalinas. On 22 Feb. 44, six Catalinas laid mines in Balikpapan harbour and the channel approach. Some 18 searchlights were operating at the port, but none gave any trouble, presumably because all aircraft flew at between 200 and 300 feet. On the return flight, interception by two Rufes developed, but they were novices and the Catalinas returned safely, escorted in daylight by Beaufighters from Darwin. (3)

On 25 Feb. 44, five Catalinas laid mines outside the harbour at Balikpapan, and, after refuelling at Cygnet Bay, returned to Darwin. The total sorties against the oil port were 11, each with a 2000 pound mineload over 94.5 ^{sea} ~~area~~ miles to the target. On the second mission, head winds were encountered and all aircraft returned with less than 100 gallons of fuel left. It was not thought, however, that this narrow margin of fuel amounted to an undue hazard. The noteworthy accomplishment demonstrated the reliable performance of the Catalina when handled by experienced crews.

l.c. Results of one Year's Mining (April 1944)

Looking back in April 1944 on the year since minelaying operations began, there were signs that the campaign was having an appreciable effect on the Japanese war economy. This belief was confirmed after the war by the evidence of the Chief of Staff of the Second Expeditionary Force, (4) which was responsible

/for

-
- (1) Official Australian Air History Vol. II.
 - (2) No. 85 Squadron.
 - (3) No. 31 Squadron.
 - (4) Rear-Adml. Matsuzaki, at Surabaya.

for mine countermeasures in the Borneo, Celebes and Java area. He stated that by the end of 1943 mines had become a matter for serious concern. A radar warning net and a system of watchers were established. Night fighters were used, but proved ineffective.

From the beginning of 1944, mining, he continued, had a considerable effect on the exploitation of the resources of the Netherlands East Indies. Not only did the mines destroy ships and cargoes, but convoys were delayed and unloading areas were jammed at Balikpapan and Surabaya pending sweeping operations. The destruction of tankers and the delay in oil shipments were particularly serious.

Not only were they affected by shipping losses and dislocation of communications, but forced to waste manpower. In the Netherlands East Indies, in spite of countermeasures involving the use of 1,500 men and 30 ships, losses were heavy. Matsuzaki estimated that about 40% of all vessels over 1,000 tons which sailed into the Balikpapan-Surabaya area were sunk or damaged by mines. In many cases, ships were salvaged only to be sunk again. In addition, he said, to Kavieng, Catalina-laid mines forced closing (for various periods) of Surabaya, Kaw Bay, ^{Balikpapan} ~~Balikpapan~~, Kaimana, Babo, Kendari, Pomelaa and Makassar. (1)

Minelaying effort by the three part-time squadrons only equalled the full-time employment of about one-half of a squadron. The R.A.A.F. historian affirms that to achieve the same results by bombardment on land would have required the effort of several squadrons of bombers. Although it would be difficult to check this claim, it is probably true in the main.

l.c. Lays in Support of Hollandia and Aitape Landings (April 1944)

After lays in New Guinea in March, the minelaying forces were strengthened by the arrival in Darwin of No. 43 Squadron, assigned exclusively to mining. No. 43 becomes from that point the unit to watch for lays in ^{the S.E.} ~~our old~~ Asia orbit, as it

/was

(1) A report by the Operational Research Section at R.A.A.F. Command claimed that to 5 May 44 a total of 8 ships had been sunk and 12 damaged by the mines. The report's assumption of a total shipping loss for the first year of mining of at least 20,000 tons was not borne out by the U.S. Joint Army-Navy Assessment Committee, which credited the R.A.A.F. with about 10,000 tons: the U.S. Committee's figures, however, excluded vessels of less than 500 tons. A discrepancy between the two set of figures came up again at the end of the war in the final balance sheet and will be referred to. It must be recalled that owing to the usage of war and the Japanese destruction of many port records, any exact statement is unlikely ever to be arrived at. The figures to work on are the best available figures, all things considered.

was allocated mining West of the 130th meridian, leaving all areas East of it to Nos. 11 and 20 when they could spare the aircraft.

The Allied landings at Hollandia in New Guinea was of great importance in MacArthur's strategy and many diversions were planned in aid of them. The carrier attack from Trincomalee on Sabang (Operation "Cookpit") was one of these diversions (1) designed to hold down enemy air and surface forces in the Singapore area.

Another interesting supporting diversion was a series of lays by R.A.A.F. Catalinas before and during the Hollandia - Aitape operations. While bombers prepared the ground, Catalinas of the three squadrons laid mines at Woleai Atoll (Carolines), Balikpapan, and at Manokwari, Kaimana Bay and Sorong (all three in New Guinea) in efforts to close enemy harbours to shipping at the critical juncture. To No. 43 was assigned, as its first difficult task, the mining of Balikpapan harbour. It was to reinforce the fields laid in February on 20 April, that is to say D-2^{Day}, Hollandia.

Complex arrangements were made. The crews were inexperienced in mining and the task was dangerous. The American seaplane tender Childs laid temporary moorings in ^{Yampi} ~~Yampi~~ Sound in Western Australia, the advanced Catalina base. Boomerang fighters from Western Area gave protection and Beaufighters covered them during the daylight part of the homeward flight.

Six Catalinas were airborne from Yampi on the afternoon of 21 Apr. 44. Over Balikpapan they ran into unexpectedly heavy fire from vessels in the harbour. One aircraft crashed in flames, another was holed in the cockpit. This reception spoiled the operation and it was thought a failure; numbers of mines were laid in the wrong places and the damaged aircraft had to be beached at Yampi to save it from sinkings.

When the flying boats returned to Balikpapan on 24 and 27 April, they laid correctly. There was, strangely enough, only slight fire from the harbour. In spite of the bad luck on the first mission, the total results were satisfactory. Shipping was disrupted, the harbour closed from 20-29 April (just the period hoped for) and a delayed action mine sank the destroyer Amagiri, (2) on 23 April.

(1) Details will be given in the next chapter.
 (2) 1,950 tons.

Attack on Surabaya renewed (May 1944)

On 17 May 44, the day before the amphibious landing on Wakde Island, units of the British Eastern Fleet, supported by U.S. Seventh Fleet units, made a concerted carrier attack on Surabaya⁽¹⁾ still a very important strategic target. The R.A.A.F. and a U.S. bomber group also took part. The situation and preparations, followed by an account of the Catalinas' return to Surabaya, will now be recorded.

There had been no aerial reconnaissance from Australia of this long range target and nothing was known of the anti-aircraft and searchlight defences. The carrier-borne aircraft attack took place early on 17 May. Liberators arrived the same night and added to the fires and destruction. The Catalinas could, therefore, expect the air defences to be on the alert when their turn came on 20/21 May to lay mines there. The R.A.A.F. must have realised that No. 43 Squadron could not reopen the laying unaided. Nos. 11 and 20 were detailed to top up an area sown on one of their missions in August 1943. The decision was ^{unfortunate} ~~important~~, as it turned out.

On the night 20/21 May, six Catalinas from Yampi Sound arrived over Surabaya and were met by a heavy barrage of fire ^{of} ~~from~~ all calibres. Two aircraft withdrew and laid their mines successfully from a safer datum point, although one of them had both petrol tanks holed. When 150 miles back from the target, it signalled that it was losing petrol fast and would make a forced landing on the north coast of Lombok. No further word was heard from it.

The Hazards of Catalina Minelaying

On the night of 24/25 May, six more Catalinas were sent to reinforce the fields in Surabaya Channel. The record suggests that their presence was unobserved: but one had a near-disastrous accident. According to a Seventh Fleet report of the operation:-

"The port engine of one aircraft stopped during the 25 second run from datum at 200 feet. The starboard engine faltered under the increased load and the stalling aircraft dropped to 72 feet altitude with the port /wing

(1) The account of the combined attack (apart from the mining) will be found in the next chapter.

wing down. The starboard engine packed up a split second before the expected crash and altitude was gained with the port engine firing about a quarter of the time. The port mine was dropped during the crisis. The captain circled overland, drove his crippled craft out on a second run and laid his starboard mine near the planned position. The port engine lost oil at a rate which rendered it useless in about two hours. Guns, ammunition, bunks, the radar and most of the radio equipment, the auxiliary power unit and everything else that was movable, except the rubber boats, were jettisoned. The ensuing eight hours homeward flight was made with one engine."

Many Catalinas assigned to minelaying became unserviceable at Yampi due to the lack of facilities there, and also to the fact that No. 43 Squadron had not yet moved its full equipment from Karumba to Darwin. Between 16 and 27 May 44, six of the sixteen aircraft assigned to missions were operationally unserviceable.

l.c. Renewal ^{of} and Attack on Surabaya (July 1944)

A lull in mining ensued in the western area, although visits to Balikpapan and others to Kau Bay, ^{Palau} ~~Palau~~ and Pomelaa were found expedient. It was not until 17 July that the Catalinas returned to Surabaya to mine the East and West channels. Operations were again conducted from Yampi Sound, now ^{strengthened} ~~strengthened~~ with a light-weight air warning set mounted under canvas at the summit of the highest point on Cockatoo Island. A Beaufighter covered Yampi base from dawn to dusk. The normal air/sea rescue services operated and in an emergency that arose an American submarine, Beaufighters and a Catalina co-operated.

The fields at Surabaya were replenished on 17 and 21 July by small formations. There was no opposition. The fields might now be left to mature as the mines became ripe and perhaps the gap of two months before the next lay there may not be thought excessive.

Another forward anchorage was set up on Wundi Island (off Biak Island) for operations in the eastern sector. There, No. 20 Squadron ^{was} based on the seaplane tender U.S.S. Wright. The aircraft staged to ^{Wundi} ~~Surabaya~~ through Milne Bay and Port Moresby.

/Minelaying

l.c. Minelaying at the Tin Port of Pomelaa (1) (August 1944)

An excellent example of the use of aircraft mining with the object of denying basic strategic material to the enemy was the series of lays at Kolaka - Pomelaa in the Celebes. (2) It had been first mined on 26 Sept. 43. It was always an important strategic target for both long range bombers and minelayers, ^{and} ~~It was~~ the main Japanese source of nickel.

← This nickel source was first worked in 1937. Until the outbreak of the war, the entire out put of the treatment plant had been shipped to Krupps in Germany. Later, the Japanese became the sole customers of the concessionaires. It was estimated that in 1944 the enemy could produce ^{300,000} ~~300,000~~ tons of nickel ore, which would yield 4,000 tons of nickel yearly, representing 67% of his total needs.

The August lays, although small and only partially successful owing to bad weather and local opposition, were at any rate realistic. The choice of magnetic acoustic assemblies for the mine proved that the R.A.A.F. and Seventh Fleet were conscious of the gradual transfer to wooden vessels enforced on the Japanese by over-all minelaying.

l.c. Aircraft Losses (2)

Against the unsubstantiated claim of 25 ships sunk or damaged in 1944 in the Netherlands East Indies must be set the loss of six Catalinas and four crews:

(1) 04° 10' S, 121° 35' E.

~~(2) R.A.A.F. Catalina Losses on Minelaying Operations (1943-1945)~~ /the

Date	Location	Remarks
2. 9.43	Sorong	Missing. Believed crashed into mountain.
20. 4.44	Balikpapan	Shot down by enemy A/A. Seen to crash.
28. 4.44	Manokwari	Missing. Believed shot down by enemy A/A.
20. 5.44	Surabaya	Holes in both petrol tanks by A/A fire. Remained airborne for about 2 hours. Believed lost in attempting to ditch.
14.10.44	Makassar	Shot down by A/A. Seen to crash in flames.
23.10.44	Makassar	Severely damaged by A/A fire. Airborne for about 1 hour and then ditched. Crew rescued.
14.12.44	Manila	Missing. Believed crashed into mountain.
27. 1.45	Laut Strait	Missing. Believed due to bad weather.
7. 3.45	Mako	Missing. Believed due to bad weather

In addition to the 9 aircraft listed above, 2 were forced to ditch en route to their target due to engine failure. The crews of both were rescued.

Source: R.A.A.F. Command Report in U.S.S.B.S. Report on Minelaying (A.H.B. II F.2/81/4 p.116).

the grand total for the war was only eleven aircraft.

Before proceeding to the intensified operations of the third phase, it will be opportune to consider briefly the cost of the mining operations. In a total of 1,130 successful mining sorties from April 1943 to July 1944⁵, the loss of nine Catalinas actually operating in the target area must be considered very satisfactory. It represents one aircraft lost in every 126 sorties; amounting to a percentage loss of only 0.8. Of these losses, as reference to the footnote will confirm, only four are known to be as a result of direct enemy opposition and the remaining five were missing through causes unknown. In one of the nine cases the complete aircrew was rescued and returned to squadron.

PHASE 3

PHASE 3 OPERATIONS

SEPTEMBER-DECEMBER 1944

Reorganisation for Expansion (September 1944)

Since 1944 opened, the Allies had landed in the Marshall Islands, Eniwetok Atoll (Admiralty Islands) and at Hollandia and other key points in New Guinea, and were about to launch an attack on Morotai Island and, later, ^{on} Mindoro in the Philippines. Coupled with the havoc caused to enemy shipping since the early year by Fast Carrier Force, and its neutralisation of such key naval bases as ^{Truk} ~~Truk~~ and naval victories in the Philippine Sea, the forward Allied movement rendered the Japanese lines of communication increasingly attenuated: ~~and~~ the whole strategic pattern was rapidly changing and the Inner and Outer Zones in danger of being separated.

It was considered essential that the minelaying air forces should now be in a position to make a much larger contribution to operations, ^{so} that full advantage might be taken of the enemy's weakening position. Results had justified an augmentation of their forces and efforts. This was brought about by the assignment in September of Nos. 20, 42 and 43 Squadrons solely to minelaying. No. 76 Wing, then at Cairns, moved to Darwin in September and by October was fully established at Doctor's Gully. (1) The Wing took over control of the three squadrons. Each of them was capable of 830 hours operational flying a month, and as each mine-laying sortie (2) involved an average of less than 24 hours flying, the three squadrons would be capable of carrying out 100 sorties a month, compared with 20 a month in the first six months of operations.

No. 42 Squadron assembled at Darwin and was at a new Catalina base on Melville Bay in September, where it was joined later that month by No. 20 Squadron, who had to effect a very makeshift start. No. 11 Squadron was transferred from minelaying to anti-submarine work. It also acted as a reservoir for trained Catalina crews.

(1) C.O. W.C. Burrage, D.F.C.

(2) Including operational travel time.

l.c. Rise and Fall of Japanese Convey in 1944 (1)

One of the factors most clearly reflecting the increasing effectiveness of Allied air and naval maritime operations in the orbit of the South East Asia and South West Pacific Area Commands was the course of the belated Japanese convey system. Against the curve of its rise and fall, these Allied operations may be set with advantage, even if a precise measure of their effect on it may not be attainable. In considering the brilliant development of American naval strategy from mid-1944 onwards, it is possible to overlook the insidious impact of mining, at scores of points where enemy shipping passed, on the whole Japanese sea communications between Inner and Outer Zones and between sources of primary materials and the armies, fleets and industries dependent on them.

The first regular long range convey was instituted on the Singapore run early in 1943. From November 1943 on, a general convey system was gradually introduced and was fairly launched by January 1944. At first, there were insufficient escort vessels. The position was eased as routes were constricted by Allied advances. Nevertheless, losses continued to rise. In January 1944, they totalled over 350,000 tons and rose to over 500,000 tons in February. When Allied submarines were switched to the Central Pacific in the next two months, losses dropped. The situation remained fairly stable until September 1944, when U.S. carriers changed from naval support to freelance raiding. Construction was inadequate to cover the total losses of more than 3,750,000 tons in 1944.

Difficulties in protecting convoys in the open sea drove them to coast crawling. The convey system reached its peak in mid-August 1944 (the end of the second phase of R.A.A.F. mining). In May 1944, the Surabaya-Ambon (Ceram Island) route was abandoned owing to the threat of land-based air attack from Biak. In June 1944, the Balikpapan - Manila route was abandoned owing to the submarine threat in the Sulu and Celebes seas. In August 1944, the Balikpapan - Palau ^{long} route was abandoned owing to expectation of an attack on Palau.

In October 1944, the Singapore - Belawan Deli route was abandoned owing largely to the activities of submarines in the Malacca Strait and the shortage of tankers. In November 1944, the routes from Singapore to Surabaya and Balikpapan were abandoned owing largely to air attack from Merotai ^{base}, which had been established on 25 October: but the minelaying aircraft could claim a share in both these changes:

/The

(1) The geographical plan of the Japanese convey route system may be studied on a chart (Plan 13) in the Admiralty Staff History C.B.3303(5). This gives the order in which the routes were abandoned, (as most of them were). Appendix 26 to this present volume gives a list of these routes abandoned, with date of, and reason for, abandonment, as well as a list of routes in the areas reviewed in this narrative which never were abandoned. The Admiralty Staff History C.B.3303(5) gives a good record of the Japanese Escort Command's development.

The routes from Surabaya to Kendari (Celebes), Singapore - Surabaya and Singapore - Saigon were never abandoned; and on the route Palembang - Singapore, sailings were only occasionally interrupted. The above evidence is based on both Japanese and Allied evidence. In the light of present knowledge, the cumulative delays imposed by mining should be included as an underlying factor.

Need for Care in making Generalisations

Care must be taken in generalising on these premisses. They only apply to conveyed shipping. A great deal of shipping sailed unescorted. Furthermore, (and this is of importance in our considerations), there was a highly organized system of sea and inland waterway transport by wooden craft and specially constructed small naval transport craft which first supplemented, and then largely replaced, the conventional transport of medium and high tonnage and steel construction. Exact information on the organization of this light supply traffic is hard to come by. In a subsequent chapter, an attempt will be made to clarify the system.

When the third phase of mining by the R.A.A.F. began in September 1944, therefore, the main sea routes from Balikpapan and Miri ⁽¹⁾ in Borneo and from Surabaya in Java to Singapore were still open.

Renewed Attacks on Surabaya and Approaches (September-November 1944)

In spite of frequent mining at Surabaya, the port was still active. The attack on it was renewed in September 1944. Now the Java Roads which formed its approaches were included in the target area in the hope of wearing down the mine clearance teams and sinking ships. On 14 Sept. 44, mines were laid in the Pasaruan ⁽²⁾ Prebolinggo ⁽³⁾ and Panarukan ⁽⁴⁾ Roads and on the nights of 11/12 and 15/16 October, ⁱⁿ the east and west channels at Surabaya.

Surabaya was swept each time the port reopened and considerable numbers of merchant ships continued to use it. A Japanese officer captured after the sinking of the destroyer Michishio on 25 Oct. 44 ⁽⁵⁾ said that in that month a signal was received advising that the harbours of Surabaya and Balikpapan were sewn with /Allied

-
- (1) Miri was the port for oil shipment from Brunei.
 - (2) 07° 35' S. 112° 55' E.
 - (3) 07° 42' S. 113° 13' E.
 - (4) 67° 40' S. 113° 56' E.
 - (5) Cause not given - it does not figure on the claims of minelayers.
Cause

Allied magnetic mines. He heard of successful sweeping in both ports and the resulting decision not to re-equip vessels with degaussing equipment. He went on to say that although some ships were lost to magnetic mines, the results of sweeping were usually very good ⁽¹⁾ and losses not severe. It was now seen to be necessary to continue replenishing Surabaya on each moonless period for as long as shipping continued to use the port. The Australian official history does not record any actual lays there for the rest of 1944, but implies that there were monthly lays in November and December. By the end of the year, work seems to have been advanced on a new buoyed channel along the western part of the northern entrance. The port continued to function actively. To this point, therefore, mining had been only partially successful, not decisive, but in November the convey route from Singapore to ^{Balikpapan} ~~Surabaya~~ was discontinued. It would be going too far to give the mining units all the credit for this development.

Renewal of Campaign against Borneo Oil Ports (September-November 1944)

Borneo was not re-entered until well on into the Spring of 1945. ⁽²⁾ In late 1944, it was firmly held, although under frequent bombing, occasional mine attack and submarine blockade. No mining seems to have been carried out there since May 1944. September saw the beginning of an intensified softening-up of the enemy's system there, in which bombers were to join. The timing of this 'two-handed punch' is interesting.

Morotai Island, seized by the Allies on 15 Sept. 44, provided a new forward base for air minelaying operations against the Netherlands East Indies and the Philippines. In October, the seaplane tender U.S.S. Tangier arrived off Morotai and provided facilities for the R.A.A.F. Catalinas. The Air H.Q. at the new base was established on 25 Oct. 44. When the Catalinas turned to Borneo again that month, they flew from Darwin with their mine loads and refuelled from U.S.S. Tangier.

The attack on Balikpapan was opened by the Thirteenth Air Force from Kornasoren, a new advanced base on Neemfoor Island ⁽³⁾ at a time when it was still impossible to efficiently blockade the Netherlands East Indies. The effort was heavy, concentrated and only partially successful in slowing down oil production. ⁽⁴⁾

/In

(1) Sweeping, states this prisoner, was done by small wooden minesweepers towing sweeping equipment astern.

(2) Landings were made at Tarakan on 1 May, at Brunei on 10 June and at Balikpapan on 1 July 45.

(3) At the entrance to Geelvink Bay (N.W. New Guinea).

(4) The A.A.F. in World War II Vol. V. Chap. 10 for all bomber operations by XIII and V Air Forces.

SECRET

In five attacks on Balikpapan between 30 September and 10 October, the Fifth and Thirteenth Air Forces put 321 Liberators over the town, dropped 433.3 tons of bombs, and in the process provided 66 Lightnings and 30 Thunderbolts on long range cover. The cost of 22 Liberators, 3 Lightnings and 6 Thunderbolts in the first hotly-contested attacks was thought heavy at the time. The Japanese sensitivity to encroachment on their aviation fuel sources was very acute. Intelligence recognized that the bombing had only scratched the oil targets. The Japanese could get the refineries working again in a short time and without too large a reduction in their annual output.

Liberator formations reported five barrage balloons at the target and savage fighter interception. When R.A.A.F. Catalinas visited Balikpapan soon after, they were very fortunate in that their course carried them clear of the balloons and they were not intercepted by fighters. Furthermore, tangible evidence of their work was forthcoming when two enemy ships were sunk on their mines. One of them - S.S. Kokko Maru ⁽¹⁾ was sunk in Balikpapan ⁽²⁾ and the other S.S. Seito Maru ⁽³⁾ in Laot Strait, ⁽⁴⁾ one of the areas most frequently mined by the R.A.A.F. ⁽⁵⁾ in its endeavour to stem the flow of shipping from Java and Sumatra through the Makassar Strait area eastward to the Fleets.

The selection of mines used in October 1944 is of interest, as it included the first supplies of the U.S.XIII-5 acoustic mines, as well as British A.IV magnetic-acoustic mines, to deal with the increasing numbers of wooden vessels.

h.c. Mining Interdiction in support of Mindoro Landings (November-December 1944)

Striking evidence of the high opinion held in Pacific military circles of aerial minelaying both as diversionary and interdictory manoeuvres was provided by the plans for support of the landing on Mindoro on 15 Dec.44. MacArthur's forces had already seized Leyte (Lingayen Gulf) and now needed a base for aircraft close enough to cover a landing on Luzon and later a drive to Manila, the capital.

/With

-
- (1) 2,863 G.R.T.
 - (2) In 01°17'S, 116°48'E.
 - (3) 2,219 G.R.T.
 - (4) In 03°14'S, 116°13'E.
 - (5) Between 14 Sept.44 and 23 May 45, 65 successful sorties were flown and 129 mines successfully laid in the waters of Laot Strait.

SECRET

With the Philippines in Allied hands, the Netherlands East Indies might be blockaded and the flow of oil stopped.

While the 20 sorties flown on mining the Balabac Strait (1) made their contribution to the freezing of enemy shipping at the critical juncture, the lays in Manila Bay itself with its highly concentrated defences were more striking. In view of the great subsequent value of Mindero as an Allied air base, the operations deserve mention.

Manila Bay, already heavily hit by Halsey's carrier-borne aircraft, was strongly defended and a difficult target for slow-flying Catalinas. It was flanked by the defences of Corregidor and Cavite. It was imperative that, if possible, 60 mines should be laid on the same night, eventually fixed as 14/15 Dec.44. Airfield construction at Leyte had been a partial failure and there was only accommodation for 12 Catalinas. Night-landings were prohibited. The air force landed on Leyte in two relays, one of them airborne from Wundi Island. The U.S. naval tender thereon refuelled and serviced the aircraft. _____

_____, Apart from the close co-operation and timing, the plan itself was neat and imaginative. In order to protect the Catalinas from night fighters over Manila, U.S. Liberators were to carry out diversionary attacks and one U.S. Catalina was to drop 'window' to blanket enemy radar defences.

The operation was a 'must', therefore no alternative target was given. Twenty of the twenty-three aircraft airborne on the afternoon of 14 Dec.44 on receipt of a signal from the radar-jamming aircraft, laid successfully, dropping 50 mines in all. The Japanese evidently had little warning of their approach : so successful was the jamming that all 17 stations encountered along the route ~~ceased~~ ^{ceased} transmitting as they drew up to Manila. There was little opposition. One aircraft failed to return and two others almost flew into mountains on the way down into the ^bowl-shaped bay. Back at Leyte, they had to fly around until dawn or their fuel ran out. Some landed on the sea.

There were important lays in this phase at Makassar and other important targets in the Celebes area eastward, but space must be reserved for the areas on the fringe of S.E. Asia Command.

/ PHASE 4

(1) 28, 29 and 30 Nov.44: 60 mines laid.

SECRET

PHASE 4 OPERATIONSJANUARY - JULY 1945Lays in the Java - Celebes Zone (January-February 1945)

In January 1945, as well as mining ⁱⁿ Surabaya, the three Catalina squadrons mined Laut Strait and Makassar. They operated from Darwin, refueled at West Bay and laid mines in 18 sorties in the northern and southern entrances to Laut Strait. Between 5 and 28 Feb. 45, Catalinas flew 67 successful sorties against targets at Surabaya, Pasaruan Road, Laut Strait, Cape Selatan (Borneo) and Malasero Bay (Celebes). Two encouraging events followed. On 8 April, a submarine sank one coastal vessel and its escort 40 miles off Cape Selatan and on 29 April, a large loaded German tanker 6 miles south of Laut Strait. It may well be that the adjacent minefields forced these vessels into deep water, where they fell to the submarine.

l.s. Diversion of Effort to South China (February-May 1945)

The Allied blockade of the Outer Zone was gradually shifting the emphasis of importation of Japanese essentials from the Outer to the Inner Zone. The convey routes through the South China Sea were being steadily constricted. Fast carriers occasionally struck heavily on the routes to Japan from Siam and Singapore. Apart from tankers and other ships running from Singapore to Surabaya and Palembang and along a narrow strip of the South China Sea coast and Indo-China waters, the major part of Japanese shipping was confined increasingly to the Yellow Sea and the Sea of Japan. The fronts were fed with the essential basic rations by small craft, but even these supplies were sometimes inadequate to build up reserves. The Americans, early in 1945, were firmly established in the Philippines and from air bases there now indirectly threatened all the garrisons from Borneo to Burma.

In early March, Catalinas were called in to tighten the noose round the enemy's supply lines by reinforcing the minefields in Formosa waters, the Pescadores, Hainan Strait, Amoy and other ports in South China, from a new forward base at Jinemac in the Philippines. Again a seaplane tender served as refuelling station, this time at Lingayen Gulf, Luzon. Operations began on 3 Mar. 45. By the end of March, 169 mines had been dropped and in April another 193 were dropped. The range was extended to take in Macao and Swatow.

/In

In mid-March 1945, the Japanese, aware of an imminent invasion in the Formosa - Okinawa zone, discontinued convoys from Japan through the South China Sea to Singapore. Mining on the China Coast ran on until 3 May, on which date an air conference held at Manila fixed new operational areas. R.A.A.F. mining activities were henceforward to be confined to areas below 18° North latitude.

l.c.
Last Campaign to close the Java - Singapore Route (January-July 1945)

To the very end of the war, the Japanese strove, with remarkable success, to keep open the oil, ore and rice route from Java and Sumatra to Singapore. The Japanese General Escort Command still had 55 long range escort vessels in January 1945 and it is probable that some of these were used to get the oil and rice and other vital commodities up to Singapore for distribution - oil to the fighting services and food to the suffering populations of the subject states.

The whole Singapore sea area was to be, as has already been recorded, thoroughly mined by aircraft from India and Ceylon. The R.A.A.F. effort in 1945 to stem this traffic must now be taken into account. In that quarter, the whole Netherlands East Indies oil complex remained to the end a high priority strategical target.

In January 1945, the Darwin air base area was enduring the wet monsoon season. As conditions worsened, successful sorties fell and jettisoning of mines rose. Weather-bound Catalinas lay moored in West Bay, Truscott, for days, waiting for the weather to clear. Against this background, plans for the neutralisation of Surabaya port continued, including one to block the reported new channel. Laying began on 9 January, when 10 Catalinas laid 20 mines, meeting light opposition from fire-arms. Bad weather hampered several follow-up operations and drove aircrews to the end of their fuel. There were mechanical difficulties, too, and one aircraft had to be destroyed to prevent its capture.

February aircrew reports showed the determination of the Japanese to keep Surabaya open, providing evidence of more vigorous countermeasures, keener probing by searchlights and dense anti-aircraft fire along the lines of the mining runs. In the channels, small boats, sent out to mark the mine landing points, opened

/up

up on the low-flying aircraft with light calibre machine gun fire. Other reports suggested radar interference and night fighters. Pasaruan Road, Laut Strait and Makassar were topped up in January. The total successful sorties flown by Catalinas between 5 and 28 Feb.45 was 67 against all targets in the East Indies. Thereafter followed the switch to China targets. This phase ended in early June when the R.A.A.F. was allocated the areas below 18° North.

June saw the attack switched to the Banka Strait, Sumatra. Many enemy ships continued to sail between Singapore and Batavia. The plan was to force this shipping into open water. On 20 June, the first field was sown in Banka Strait by five crews, who dropped eleven mines. Their reports of many small craft in the Strait are additional evidence of enemy maritime traffic at this late date. Further lays were carried out on 23, 25, 26 and 29 June.

On 1 May, the Allies had landed at Tarakan. On 10 June, they landed at Brunei and on 1 July at Balikpapan, thus sealing off the oil in Borneo. Catalinas could now be waterborne in Brunei Bay and carry full loads. Although the Commander, Allied Air Forces and the Supreme Allied Commander had ordered the suspension of all mining from 10 July, an exception was made in favour of lays in Banka Strait.

The mining of Banka Strait was continued until 29 July 45, which was the date of the last lay by Catalinas of the R.A.A.F. Command. Between 20 June and 29 July, a total of 41 successful sorties were flown on this task and 117 mines successfully laid there. There were no abortive missions and no mines jettisoned or returned. For purposes of comparative study, it is of interest to note the composition of the total mine load. Of the 117 mines laid, 18 were U.S. acoustics, 4 U.S. Mark XXV,⁽²⁾ 56 U.S. Mark XXVI/XXXVI magnetics and 39 British A.A. Mark VII magnetics.⁽³⁾

Partial and controversial Results

In attempting a close estimate of the losses inflicted on the Japanese by aerial mining, the author of the official R.A.A.F. history came up against all the familiar obstacles - conflicting assessments, absence of port records and no statistics relating to vessels of under 500 tons. There were discrepancies between the assessments made by the Joint Army-Navy Assessment Committee and the R.A.A.F.

/The

-
- (1) 02°45'S. 106°E.
 - (2) 2,000 pound magnetics for lays in deep water.
 - (3) Statistics for the whole four phases in block totals for each target are given at Appendix 23.

The Committee wisely made no attempt at assessing damage: they came to the conclusion that mines laid by the R.A.A.F. Catalinas sank nine vessels totalling 21,033 tons, all of 500 tons and over. R.A.A.F. claims at the end of the war were 23 ships sunk on their mines. The main discrepancy was traced to the fact that 10 ships claimed as sunk by the R.A.A.F. at Surabaya were not allowed by the Joint Assessment Committee.

The R.A.A.F. believes it possible that their figure is nearer the truth, but concedes that the total, whatever it was, was relatively small. Set against such major campaigns as Operation 'Starvation' their effort was small, but it was true to say that minelaying had often been an important factor in delaying local operations and that the effort was worthwhile.

/Results

Results

Problem of Assessment of Results

The results of aerial mining on such a mobile target system as enemy sea communications will always be very difficult, if not impossible, to assess precisely. When the mining campaign by aircraft and submarines against the Japanese in South East Asia and the Netherlands East Indies is in question, this applies with special force. The reasons for this, such as the great range of the target system from air bases, inadequate intelligence material and the absence of many vital enemy records, have already been considered. Post-war interrogations of prisoners-of-war or ex-enemy collaborators have to be treated with reserve. Statements made are often vague, distorted by the normal processes of forgetting, unverifiable in the absence of documents or coloured by vanity or a deliberate intention to deceive.

In spite of these difficulties, if a bold approach to the problem is made, all the evidence is carefully sifted and the conclusions arrived at by various Allied agencies are studied, it will be found possible to make a number of positive statements about the main results, while leaving more conjectural themes unsolved. (1) For the sake of simplicity, results may be listed in two groups, namely short-term and long-term.

Short Term Results

Strategical aerial minelaying in the Outer Zone produced at different times all the following short-term results in one or more targets.

-
- (1) All the sources drawn on for an assessment of results have already been quoted. They are summarised below for reference.
- (a) U.S.S.B.S. Report on Minelaying, including interrogations.
 - (b) U.S. Naval Technical Mission Report 'Evaluation of the Effectiveness of Allied Offensive Mining Operations(Index S-98(N)).
 - (c) Admiralty Staff History C.B.3303(5).
 - (d) Admiralty Minelaying History (early draft in form of an expanded war diary).
 - (e) A.C.S.E.A. Report COS/22 14 Sept.46 (quoted in (d) but not traceable in A.H.B. Archives.
 - (f) U.S.S.B.S. Report on 'Oil in Japan's War'.
 - (g) U.S.S.B.S. Report on 'The War against Japanese Transportation'.
 - (h) The Army Forces in World War II Vol.V.
 - (i) Air War against Japan. Odgers.Canberra.1957.
 - (j) Various periodical reports by air and naval commands.

1. Casualties to shipping and personnel
2. Supply bottlenecks and delays.
3. Diversion of shipping.
4. Local manpower crises among expert personnel.
5. Strain on sweeping and equipment resources.
6. Shortage of essential military stores, such as oil, on local fronts and in distant air and naval combat areas.

l.c.
Long-Term Results

Among the long-term effects of mining again in that part of the Outer Zone which concerns this narrative, the following have been established.

1. Effective disruption of supply of Japanese Burma Area Army.
2. Material interference with Singapore's convoy assembly, oil transshipment and repair functions.
3. Increasing closure^{and} cessation of the use of Bangkok by steel-hulled ships after the summer of 1944.
5. Serious hindrance at the oil loading ports of Java, Borneo and Sumatra, with resultant over-piling and distribution slow-down.
6. Steady enforcement of replacement of steel-hulled ships by wooden ships and small craft, with consequent lowering of deliveries.
7. By intensive planned mining over the widest possible area with the most complex mine selection and mechanical delay mechanisms attainable, exertion of constant pressure and increasing attrition on the whole Japanese sea supply system.
8. As a consequence of 7, overburdening of railways and roads, thereby increasingly susceptible to bombing attacks by aircraft.
9. Manpower shortages.
10. Interference with convoy and supply lanes, with resultant abandonment of many of them.

l.c.
Results in the Context of the over-all Mining Campaign against Japan

Acceptance of the claims just set out, when set against the low casualties among the R.A.F., U.S.A.A.F. and R.A.A.F. units participating, lead to the conclusion that the effort was well worthwhile, economical and productive. It must, however, be borne in mind that a defined and limited area of the Far Eastern Outer Zone has been selected for consideration; therefore, while weighing the contribution made, some reference must be made to other and (in one case) heavier mining operations in that part of the world; otherwise a sense of perspective will not be present.

/This

This is not the place to enlarge on those other mining operations or the series of naval, air and land battles that led in such striking fashion to the defeat of Japan: but it is as well to recall those other agencies and the scope of their effort. Apart from operations covered in this chapter over the South East Asia orbit, the following separate efforts were made:-

14th U.S.A.A.F. in China	1,090 mines in target
Com Air Solomons	251 mines in target

In the Central Pacific

7th U.S.A.A.F.	226 mines in target
Fleet Air Wing One	358 mines in target
21st Bomber Command	12,135 mines in target ⁽¹⁾
Carrier Task Force 58	78 mines in target.

In various areas, therefore, the pressure was sustained by mining all round the sea perimeter, with comparable, but not always identical, local results. The only way to arrive at a balanced conclusion is to modestly set our claims against the whole context of mining, and of amphibious operations proceeding through the years from 1943 to 1945.

(1) Of this number 1,500 were tactical lays in co-ordination with the amphibious move against Okinawa.

CHAPTER 3.AIRCRAFT CARRIER OPERATIONS
1944 - 1945Introduction

During 1944 and 1945, the experience gained by British aircraft carriers in the West was applied to the situation in South East Asia. While certain conditions such as local air superiority, which the British held to be pre-requisites, existed in the Indian Ocean, the whole scope of carrier operations was notably widened, battle training provided, valuable experience gained and certain local damage to the enemy system inflicted. One of the most important outcomes of operations by the Eastern and the British Pacific Fleets in the South East Asia sphere was that when the latter proceeded in early 1945 to the Far East it was in a stronger position vis-a-vis its American colleagues and was able to operate in its restricted sphere with distinction in the final battles against Japan.

The intention here is, firstly, to trace briefly the growth of the carrier forces, the ships and aircraft employed. The variety of tasks it was found possible to carry out with carrier-borne aircraft will be noted. The record will then proceed to the long series of operations from April 1944 to July 1945. Progress and faults will be weighed and an attempt made to summarise the conclusions to be drawn and the results achieved. The intention is to present the facts and disclose whether the operations of carrier aircraft are to be regarded as an expression of sea power alone, and these aircraft treated merely as flying artillery, or whether, on another hand, there is a case for treating the carriers as mobile bases and the operations of the aircraft as expressions of air power in general, conforming to its special strategic and tactical laws; or whether the truth lies somewhere between these concepts.

/ The

The Evolution of Carrier Forces within the Indian OceanGrowth and Change in the Eastern Fleet

It was decided at the Cairo conference in November 1943 that the main effort against Japan was to be made in the Pacific; with regard to maritime operations in S.E. Asia, the view was held that should the means be available, additional ground, sea and air offensive operations, including carrier-borne raids were contemplated, with the object of maintaining pressure on the enemy, forcing dispersal of his forces, and attaining the maximum practicable attrition on his air and naval forces and shipping. The ultimate aim of forming a British Pacific Fleet doomed any hopes of a large-scale combined offensive in the Indian Ocean. With a secondary role allotted to it, the Eastern Fleet welcomed its promised and belated reinforcements from the time of the Italian surrender on through 1944 and formulated plans for the employment of Fleet and escort carriers as these became available. The alacrity with which they swung into action with the first strictly limited forces ^{was} were typical of the old fighting service at last equipped with the new weapons it needed to take the offensive.

This narrative cannot enter into discussion of the numerous shifts of strategy that kept the theatre on edge for the best part of 1944. That subject has been thoroughly covered elsewhere. (1) We shall pick up the threads at the end of January 1944, when the first fleet carrier - H.M.S. Illustrious - arrived in Ceylon. (2) Even after cruisers, destroyers, escort vessels and submarines had joined the Eastern Fleet, Admiral Somerville realised he was still not strong enough to meet a naval offensive by the Japanese Fleet units refitting in Singapore. Various precautionary movements of aircraft took place. The crisis passed. Trincomalee remained the naval base. The U.S. Navy agreed to send the carrier Saratoga (3) from the Pacific to augment Somerville's carrier strength. He thereupon went ahead with plans for carrier air strikes on Sumatra. (4)

/By

(1) Ehrman, Grand Strategy, Vols. V and VI.

(2) With H.M.S. Renown, flying the flag of Vice-Admiral Sir Arthur J. Power, the second-in-command designate of the Eastern Fleet and H.M.S. Queen Elizabeth and Valiant.

(3) With 3 destroyers.

(4) Details on the development of the Eastern Fleets throughout this chapter from C.B.3303(5) and (6) and Roskill, The War at Sea Vol.III Part I and II. (draft).

By the time the first carrier strike was launched in mid-April against Sabang, ⁽¹⁾ the forces mustered comprised an Allied Fleet of two fleet carriers, three battleships, one battle cruiser, six cruisers and fifteen destroyers. We will not trace the eventual growth of the main Fleet itself, but follow the changes in the composition of the Carrier Force within it, which for some time acted as its sole striking arm.

U.S.S. Saratoga was required to leave the Eastern Fleet not later than 19 May 44 to refit and the opportunity was taken to employ her a second time before she left. This was on 17 May, when she and H.M.S. Illustrious launched an air strike on Surabaya. There were two carrier operations in June. One was a diversion, experimental in the sense that one fleet carrier and one escort carrier operated together with a submarine. The other was the work of H.M.S. Illustrious alone. On 5 July, the fleet carriers Victorious and Indomitable arrived at Colombo from the United Kingdom. The crew of the former was fully trained. The latter had been newly commissioned and needed time to work up.

The Eastern Fleet never used more than two fleet carriers on any one operation. The British Pacific Fleet did. Up to the attack of 21 June 44 on the Andamans, nothing but aircraft had been attacked and these with insignificant reactions. Somerville now planned a surface bombardment by the Fleet, on Sabang, with aircraft spotting artillery falls and neutralizing local airfields. The airreaction was sharper, but still unimpressive.

Between that period and late December, the fleet carriers carried out a variety of operations under difficult conditions. Many technical difficulties arose and faults in planning and tactics marred some of the performances, but these were largely the outcome of inexperience and inadequate equipment. The aircrews were forced to learn the hard way (although the whole of the R.A.F.'s experience to that date was available) and could be grateful for what sparse land-based air opposition came their way as the choice fell upon one target after another. ^{A few} ~~Two~~ escort carriers were formed into ¹ submarine hunting groups. /The

(1) As a diversion for the Allied landings at Hollandia.

345

SECRET

The formation and departure of the British Pacific Fleet with the four fleet carriers H.M.S. Indomitable, Indefatigable, Victorious and Illustrious, after three hard lunges at the oil installations of Sumatra in January 1945, left the Eastern Fleet with only six escort carriers, half of whom had come from the Aegean. A variety of tasks was found for them up to July 1945 and they proved most adaptable. There was, of course, no longer any question of staging a major operation such as the attacks of late January by strong forces on the oil centre of Palembang. Therein had lain perhaps one of the main justifications for the strategic employment of carriers in the theatre - namely the oil targets for which Japan had gone to war. It is to be profoundly regretted that these targets were not attacked much earlier.

/ Ships

SECRET

Ships and Aircraft (1)

Fleet Carriers

Four fleet carriers of the Royal Navy were employed on offensive operations in South East Asia. These were H.M.S. Illustrious, Victorious, Indomitable and Indefatigable. (2)

All four were transferred in late 1944 to the British Pacific Fleet. After they left the theatre in January 1945 for the Pacific they were joined by H.M.S. Implacable. (3)

The first two offensive operations by the Eastern Fleet in April and May 1944 were accompanied by an American unit led by the fleet carrier U.S.S. Saratoga, an aging ship manned by a very experienced crew and some four knots faster than H.M.S. Illustrious.

Escort Carriers - Types and Tasks

These headings comprised several types, of which the principal were assault, general purposes, replenishment, trials, repair, aircraft maintenance and ferry carriers. (4) Apart from the tasks openly indicated by these types, it is of interest and importance at this point to tabulate briefly the variety of tasks carried out in the waters of South East Asia Command and the South West Pacific Area during 1944 and 1945 by escort carriers. These tasks included strikes, fighter sweeps, photographic reconnaissance, spotting for artillery, diversion, support for amphibious landings, decoy, interception of enemy naval units, oiling other surface craft, cover for minesweeping forces, trade protection and anti-submarine sweeps; naturally all these were not accomplished simultaneously, but the list increased as time proceeded and the carrier therein showed itself one of the most versatile of craft and the employment of its aircraft increased the diversity of air tactics and widened the field of air strategy.

The escort carriers engaged in assault, anti-submarine, trade protection and other operations classed as offensive were H.M.S. Battler, Atheling, Emperor, Empress, Ameer, Hunter, Stalker, Khedive, Begum and Shah. (5)

/ H.M.S.

- (1) Information supplied by Capt. R.S.D. Armour of the Admiralty Historical Section.
- (2) All four with a standard displacement of 23,000 tons.
- (3) For a full nominal list of carrier-aircraft operations refer to Appendix
- (4) A, GP, R, T, M.2, M.1 and F respectively.
- (5) Standard displacements with full load were:- Battler 14,170, Atheling 15,390, Emperor 15,390, Empress 15,390, Ameer 15,390, Hunter 14,170, Stalker 14,170, Khedive 15,390, Begum and Shah 15,390 tons.

H.M.S. Battler was the first in the field and in 1943 was engaged on the protection of shipping: she took part in no assaults. These assaults were usually carried out by the other carriers, except Atheling, who only joined in one diversionary sweep. (1)

Aircraft Strength (1944-1945) (2)

The establishment of aircraft on British carriers changed as time proceeded, so reflecting the way in which new conditions of warfare extended the needs for improved types with greater strength, range, armour and fire power. The general situation in 1944 and 1945 may be speedily realised by referring to the footnote. It is at once clear that ^{in 1944} even the largest carrier of the Royal Navy could not carry as many aircraft as U.S.S. Saratoga. The British carriers gradually went over to a large degree to American fighter and bomber aircraft, which were usually stronger and of greater endurance and superior performance. The Seafire, in spite of its short range, was retained, but fresh and improved types were, perhaps unwisely, being supplied. The assault carriers housed bombers, fighters, and, in one case, a few rocket projectile aircraft. The torpedo was reserved for a few Swordfish operating on anti-submarine sweeps. Two ex-Mediterranean ships brought out their air sea rescue Walruses with them; but usually it was found more practicable to

/organize

- (1) For a full nominal list of carrier aircraft operations refer to Appendix
(2)

<u>Carrier</u>	<u>Average Aircraft Strength</u>	<u>Total</u>
<u>Fleet</u>	<u>Details</u>	
Illustrious	21 Barracudas or Avengers, 36-42 Corsairs.	say 60
Victorious	37 Corsairs, 14 Avengers, 2 Walrus	53
Indomitable	36 Corsairs or Hellcats, 21-24 Barracudas or Avengers.	say 58
Indefatigable	9 Fireflies, 40 Seafires, 21 Avengers	70
Saratoga	17 Avengers, 50 Hellcats, 4 Corsairs	
Escort	20 Dauntless (19.4.44)	say 90.
Ameer	24 Hellcats	24
Atheling	10 Wildcats	10
Battler	(Feb. 44) 12 Swordfish, 6 Seafires (June 44) 12 Swordfish, 6 Wildcats.)	18
Begum	15 Avengers, 4 Wildcats	19
Emperor	24 Hellcats	24
Empress	24 Hellcats	24
Hunter	24 Seafires, 3 Walrus or Sea Otters	27
Khedive	24 Hellcats	24
Shah	12 Avengers, 6 Wildcats	18
Stalker	24 Seafires, 3 Walruses or Sea Otters.	27

organize a complex pattern of protection for crashed crews, using land-based aircraft, submarines, launches and light surface craft.

Elements of eleven Fleet Air Arm Squadrons operated from escort carriers. Those who are interested in following squadron movements through the war will find them in the footnote.⁽¹⁾

/ Aircraft

(1) Squadrons operating from escort carriers:-
No. 800 - Emperor. No. 812 - Beaum.
No. 804 - Ameer. No. 834 - Battler.
No. 807 - Hunter No. 845 - Shah
No. 808 - Khedive No. 851 - Empress and Shah.
No. 809 - Stalker No. 890 - Atheling
No. 895 - Ameer

l.c. Aircraft Performances (1)

Before proceeding to the record of carrier-borne aircraft operations, it only remains to recapitulate the types of aircraft employed and their theoretical average performance. It can then be deduced in a final assessment, if the problem is set in its geographical context and the due weight of strategy, distance, weather, target and opposition is taken, whether these were ^{or were not} the aircraft ideally suited for the tasks they were expected to perform, whether ~~the reverse~~ ^{was sometimes the case} and events revealed faulty Allied planning for the construction of aircraft for maritime operations, or whether early misfortune had prevented modernisation in time to be effective.

/Outline

(1)

Type	Theoretical range in nautical miles without L.R. fuel tanks.	Endurance in hours at c.c.s.	Maximum bomb load
<u>Fighters</u>			
Corsair (U.S.)	960 at 1,500 ft.	6.4	-
Hellcat (U.S.)	950 at 1,500 ft.	6.8	-
Seafire III (Br.)	440 at 5,000 ft.	3.0	-
Wildcat (U.S.)	780 at 1,500 ft.	5.5	-
<u>Bombers</u>			
Barracuda (Br.T.B.)	610 at 5,000 ft.	4.2	4 x 500 lb. or 1 terp.
Avenger (U.S.T.B.)	956 at 5,000 ft.	7.2	1 terp. or 1 x 1,600 or 4 x 500 lb.
Dauntless (U.S.D.B.)	1,130 at 1,500 ft.	9.1	1 x 1,600 lb.
Firefly (Br.)	670 at 1,500 ft.	3.6	rocket projec- tiles.

Under the stress of operations, these figures were not always attainable.

Outline of the Eastern Fleet Effort (1944-1945) (1)

Before proceeding to an analysis of individual operations, it will be of assistance in the study of the evolution of carrier strategy if a short chronological list of events is presented and used for quick reference when required.

Between 19 Apl. and 18/19 Oct.44, various Eastern Fleet carrier forces carried out eight major operations:-

- | | | | |
|----|-------------|------------------------|---|
| 1. | 19.4.44 | Operation 'Cockpit' | - an air strike on Sabang. |
| 2. | 17.5.44 | Operation 'Transom' | - an air strike on Surabaya. |
| 3. | 10/13.6.44 | Operation 'Councillor' | - a diversion W. of Sabang. |
| 4. | 21.6.44 | Operation 'Pedal' | - an air strike on the Andamans. |
| 5. | 25.7.44 | Operation 'Crimson' | - air strike and bombardment at Sabang. |
| 6. | 24.8.44 | Operation 'Banquet' | - air strike and photographic reconnaissance on Padang and Emschaven. |
| 7. | 18.9.44 | Operation 'Light B' | - air strike on Sigli. |
| 8. | 17/19.10.44 | Operation 'Millet' | - air strike and bombardment of Nicobars. |

Apart from these, Forces 65 and 66, including one or more escort carriers, carried out several submarine hunts, the first of which led to a kill. (2)

When the four fleet carriers were taken over by the British Pacific Fleet, the Eastern Fleet proved in 1945 that it could still perform a variety of tasks.

The most important of these were:-

- | | | | |
|-----|-------------|---------------------|--|
| 1. | 21.1.45 | Operation 'Makarov' | - cover for Ramree Isl. landing. |
| 2. | 26.1.45 | Operation 'Sankey' | - cover for Cheduba Isl. landings. |
| 3. | 22/2-7/3 45 | Operation 'Stacey' | - photo. reconnaissance in enemy waters. |
| 4. | 11/20.4.45 | Operation 'Sunfish' | - strike and photo. reco. at Padang. |
| 5. | 2.5.45 | Operation 'Dracula' | - support for Rangoon landings. |
| 6. | 26/4.2.5.45 | Operation 'Bishop' | - support for landings, strike and bombardments of Andamans and Nicobars. |
| 7. | 10/16.5.45 | Operation 'Dukedom' | - interception of Japanese fleet units. |
| 8. | 18/20.6.45 | Operation 'Balsam' | - strike and photo. reco. Sumatra - S. Malaya. |
| 9. | 5/11.7.45 | Operation 'Collie' | - minesweeping, strikes, bombardment in Nicobars, photo. reco. of Andamans and strike on N.W. Sumatra airfields. |
| 10. | 24/25.7.45 | Operation 'Livery' | - minesweeping, bombardment and strike on Phuket Isl. and strikes on Kra Isthmus. |

/Outline

30

(1) Refer to Appendix (for a detailed chronological list of operations: see also Roskill, The War at Sea Vol. III Parts I and II; C.B. 3303(4) and (6); Kirby, The War against Japan Vol. III Part II (draft); Admiralty Cases 9268 and 9269; Admiralty C.B. 3053(9), (10) and (11), for detailed summaries.

(2) U.198.

l.c. Outline of the British Pacific Fleet Effort (December 1944-January 1945)

The record so far has endeavoured to underline the late and gradual, but ultimately firm establishment in S.E. Asia Command's strategy of the existence of the excellent targets presented by the oil installations of the Dutch East Indies. The campaign in Burma and the air supply of the Chinese had drawn off so much of the limited resources available to the theatre that plans for the seizure of at any rate a part of the oil country had to be scrapped. Four of the carrier-borne air strikes of 1944 had been on important oil installations, but it was not until the British Pacific Fleet was on its way to Australia in January 1945 that the first major blow, and the only one of its weight, was directed against the heart of the oil-producing system.

The first warming-up effort by the British Pacific Fleet was Operation 'Robson'. This was carried out on 20 Dec.44 and comprised air strikes against the refineries at Pangkalan Brandan and airfields in Northern Sumatra. The second operation was Operation 'Lentil', a second strike on Pangkalan Brandan and local airfields on 4 Jan.45. The final effort, named Operation 'Meridian', consisted of two separate attacks, (on 24 and 29 Jan.45) on refineries and airfields in the heavily defended Palembang area: the second was an outstanding success. The tragedy is that it came too late and could not be repeated.

l.c. British Pacific Fleet Effort in the Pacific in 1945 (1)

The ultimate operations by the British Pacific Fleet in the final phases of the war against the last enemy are of the greatest interest. It is hoped to find space in this volume for a brief record of them. For the time being, it must be considered sufficient to record a few statistics. Between 26 March and 25 May 45, 5,335 aircraft sorties from carriers were flown: of these, 2,073 were offensive sorties. The tonnage of bombs dropped was 958 tons; and hundreds of rocket projectiles were fired. Ships with the carrier force fired some 200 tons of shells. Closer to the heart of the Japanese defensive system the air defences were much tougher than any hitherto encountered. One hundred and sixty F.A.A. aircraft were lost, many due to accidents. Two-thirds of their crews were saved by the Air Sea Rescue organisation. It was estimated that 96

/enemy

(1) Roskill The War at Sea Vol.III Pt.II (draft): Report of experience of the British Pacific Fleet, January-August 1945 (A.H.S. Adm. 115.75/4).

enemy aircraft were destroyed and some 200 small vessels sunk or damaged.

Study of these operations is mandatory if any last words on British carrier-borne aircraft are to be written.

new page Air Strikes by the Eastern Fleet - April-October 1944

Plans for the Air Strike on Sabang (1)

Early in April 1944, the American Chief of Naval Operations, Admiralty King, asked the Admiralty that the Eastern Fleet should stage a diversion in the Sumatra-Andamans-Nicobars area on about 15 April, with the object of holding Japanese air and surface forces in the Singapore area, while the American attack on Hollandia (Dutch New Guinea) was developing towards its D-day - 22 April. With Mountbatten's concurrence, Somerville selected the Japanese naval base on Sabang Island, off the northern tip of Sumatra, as the most profitable immediate target. Sabang, believed to be strongly defended, commanded the entrance to the Strait of Malacca and offered among other targets an airfield at Lho Nga, a radar station, oil storage tanks, dockyards and harbour installations. A combined ship and air bombardment was considered, but dropped in favour of a carrier air strike only, supported by the rest of the Fleet.

Forces in Operation "Cockpit"

The composition of the two forces engaged is, especially as this was the Fleet's first major operation, of real interest. Although the intention is not, in future accounts of operations, to elaborate on the question of force composition, Operation 'Cockpit' and its successor, Operation 'Transom' are notable in that R.N. and U.S.N. fleet carriers operated in company, so affording cases for fruitful comparison in the field of equipment, training and execution.

Force 70, the carrier force, consisted of the battle cruiser Renown, the fleet carrier Illustrious (2) the veteran American carrier Saratoga, three cruisers, (3) two of H.M. destroyers, (4) and three U.S.N. destroyers. (5)

/Force 69

(1) O.B.3303(4): Roskill The War at Sea Vol.III: Kery, The War against Japan Vol.III.

(2) Flagship of the Rear-Admiral (Air) Eastern Fleet.

(3) H.M.S. London, Ceylon, Gambia.

(4) H.M.S. Queenborough, Quadrant.

(5) U.S.S. Dunlap, Cummings, Fanning.

Force 69, the covering force, consisted of the battleships Queen Elizabeth,⁽¹⁾ Valiant and French Richelieu, two British⁽²⁾ and one Dutch cruiser⁽³⁾ and nine destroyers, of whom three were Australian,⁽⁴⁾ five of the Royal Navy⁽⁵⁾ and one Dutch.⁽⁶⁾ Submarines, including the Tactician, were disposed to co-operate. The mean speed of H.M.S. Illustrious was 27 knots, that of U.S.S. Saratoga, old as she was, was 31 knots.

The difference in the aircraft strength and types is noteworthy. H.M.S. Illustrious carried 21 obsolescent Barracuda bombers and 28 Corsair fighters, a total of 49 aircraft. Only 23 of her pilots had been fully trained in deck landings. U.S.S. Saratoga carried 17 Avenger torpedo bombers, 20 dive bombers and 42 Hellcat fighters. Of the latter, 8 Hellcats with 4 Corsairs of H.M.S. Illustrious were detailed as fighter cover. Little was known of what opposition might be expected. Intelligence was scanty and the element of surprise was considered so important that no air photographic reconnaissance was flown on the eve of the strike. Earlier photographs had failed to provide detailed information. In several senses, the close-up operations would be blind ones. In the recent attack on Palau by aircraft of the U.S. Fifth Fleet on 30 and 31 March, night reconnaissance 48 hours beforehand had given the Japanese Second Fleet time to sail clear before the attack. It was hoped to give the enemy no warning on this occasion.⁽⁷⁾

Preparations⁽⁸⁾

Although the sortie of two capital Japanese ships (who sank the S.S. Behar) had not been repeated, the C.-in-C. Eastern Fleet seized the first opportunity for an operation which might protect Allied shipping and exercise his ships in oiling at sea, a manoeuvre in which the Americans excelled. He planned to meet the Saratoga on her way to Trincomalee and carry out a joint practice. This was done, beginning on 21 March. Three oilers despatched in advance

/were

-
- (1) Flagships of the C.-in-C.
 - (2) H.M.S. Newcastle, Nigeria
 - (3) H. Neth.M.S. Tromp.
 - (4) Napier, Hizam, Nepal.
 - (5) H.M.S. Guiboron, Rotherham, Racehorse, Petard, Penn.
 - (6) H. Neth.M.S. Van Galen.

(7) C. B. 3303(4) pp. 209-211 and Appendix S (A.H.S./Adm'ty.)

(8) Ibid.

were met on 24 March in the position $7^{\circ}57'S$ $82^{\circ}14'E$ and activities in the more southerly latitudes restricted in view of possible enemy air or surface action. This pointed to one of the serious limiting factors working against British carriers operating at extreme range, namely patrol consumption and the lack of the necessary organization for remaining at sea for long periods, as did the U.S. carrier forces. Cruisers were employed as a radar screen when aircraft searches did not provide sufficient security against a surprise encounter.

Task Group 58.5 (U.S.S. Saratoga and three destroyers) were met at 11.30 hours on 27 Mar.44 and course was ~~soon~~ shaped for Trincomalee in two groups, the first composed of the battleships, (well screened) and the second of the carriers, not quite so well protected by surface craft, but with their own umbrella. Practices and exercises were carried out on the way home, but no searches.

Operation 'Cockpit' the strike on Sabang (19 Apl.44)

The Fleet sailed from Trincomalee on 16 April. Sabang was roughly 1,000 miles from Ceylon. The Carrier Force (Force 70) had reached the flying off position 180 miles south-west of Sabang ⁰⁵³⁰ ~~at~~ by 05.30 on the 19th and flying off of the following strikes began at ⁰⁶¹³ ~~06.13~~ hours:-

For the attack on Sabang:-

<u>Illustrious</u>	17 Barracudas (carrying 2 x 500 lb and 2 x 250 lb bombs each).
	13 Corsairs.
<u>Saratoga</u>	11 Avengers (4 x one 2000 lb and 7 x four 500 lb bombs)
	18 Dauntless (18 x 1,000 lb Bombs)
	16 Hellcats.

For the attack on Lho Nga airfields:-

<u>Saratoga</u>	8 Hellcats.
-----------------	-------------

Four Corsairs and eight Hellcats provided fighter cover for the ships.

⁰⁷⁰⁰ At 07.00 hours, they were over Sabang and, from different directions, made low level attacks on their targets. The eight fighters attacked the Lho Nga airfield on the mainland and it was probably due to the surprise nature of the attack that no enemy fighters intervened. The main force attacked Sabang harbour, dockyard, oil tanks and airfield.

Survey of results and lessons

The degree of surprise effected was so high that there was no time to marshal any local air opposition. Claims by aircrews were of 21 aircraft destroyed by bombs on Sabang airfield and 3 on Iho Nga. Three Japanese bombers which later approached the Fleet were all shot down by fighters. If the element of surprise had been eliminated by prior air reconnaissance, different target priorities and bomb loadings might have been ordered: pilots would have been able more easily to define assigned targets: these advantages might have led to superior results. As it was, one small merchant ship (1) was sunk, another ran aground and three out of four oil tanks were set on fire and destroyed. Fires were still burning at 1239 Z hours. (2)

As so often in these remote waters, weather closely affected operations. With two-tenths cloud at 3,000 feet, a light but fitful wind and the disturbing possibility of rain squalls, only the faster, heavier fleet carriers could function. A 19 knots escort carrier could never have operated here aircraft. (3)

Although we cannot enlarge on problems of manoeuvres, it is perhaps worthy of note that the disparity between the speed of H.M.S. Renown and that used by the two big and faster carriers in conditions of fitful wind forced a redistribution of the covering ships.

Timing by the two air groups was well synchronised. Once the first bombs had fallen, anti-aircraft fire opened up. The strike aircraft rejoined their carriers without loss, except one Hellcat, whose pilot was rescued unhurt. ~~the~~ The submarine Tactician, which had been stationed nearby, and closed the crashed aircraft under fire from shore batteries. Eleven aircraft were damaged by anti-aircraft fire. (4)

Strategically the raid did not achieve its object. The Japanese were not deflected from their build-up in the Pacific or their concentrations in New Guinea. (5)

Tactically, it was reasonably successful, although the opposition was

/too

-
- (1) S.S. Harumo Maru (778 G.R.T.)
 - (2) Reported by H.M. submarine Tactician.
 - (3) C.-in-C's report.
 - (4) All but one were repairable on board.
 - (5) Nor did any of the other diversions staged.

too slight for any lasting lessons to be drawn. It was fortunate that beyond the complete unserviceability, at a late stage, of intercommunication equipment on the two carriers, no serious technical faults developed. These were to show up later ^{under} ~~under~~ heavier strains. As his aircraft did not return, the enemy probably remained unaware of the composition of the Fleet, although the presence of the Saratoga could hardly have been unobserved. The Fleet returned to Trincomalee on 21 April.

The plan for the Strike on Surabaya (17 May 44) (1)

Both Admirals King and Somerville wished to use U.S.S. Saratoga again in an attack on Japanese objectives in the Malay Barrier before she left the Eastern Fleet for Australia. The former proposed Surabaya in Java as the target and it was accepted for the following four reasons. Firstly, there was in the area the important oil refinery at Wonokromo ⁽²⁾ (one of two in Java); secondly, there should be more shipping in the harbour than at Batavia; thirdly, it was an important naval base for anti-submarine forces operating against U.S. submarines in the Java Sea; and, fourthly, the overland flight for the strike was shorter and across lightly populated countryside and it was thought the chances of early detection were low. All the same, some reaction could be expected, as Surabaya had been attacked in late 1943 by U.S. Liberators from Corunna Downs in N.W. Australia on several occasions.

Operation 'Transom' marked another signpost along the road of inter-theatre co-operation. It was to harmonise with MacArthur's assaults on Wakde and Biak. On the evening of D-Day, a small force of Liberators from the U.S. 380th Group were to bomb Surabaya to deter any air forces assembling to attack the Fleet and on the nights of 20/21 and 24/25 May, ^{R.A.A.F.} ~~R.A.F.~~ Catalinas were to mine the harbour.

The forces of the Eastern Fleet and U.S. Seventh Fleet (^{i.e.} ~~I.E.~~ the Saratoga ^{et cetera}) were to refuel at Exmouth Gulf in Western Australia on 15 May and then sortied into the Indian Ocean south of Java. While they lay refuelling in

/Exmouth

-
- (1) Operation 'Transom'. See Appendix.
 (2) See Figure 8 for oil targets.

Exmouth Gulf, a force of Beauforts (1) and American Catalinas flown up from Cawley Bay patrolled out to sea to give warning of the approach of hostile naval forces. By 14 May, 30 Spitfires (2) from N.W. Area provided fighter cover against any interference with the refuelling units by enemy bombers. The whole enterprise was a major undertaking and its outcome was awaited with apprehension. ~~The diagram at Figure conveys an idea of its scope.~~

/ Forces

-
- (1) Of No. 14 R.A.A.F. Squadron.
(2) Of Nos. 457 and 54 R.A.A.F. Squadron.

SECRETForces in Operation 'Transom' (1)

The three forces for Operation 'Transom' were the Main Force (Force 65), the Carrier Force (Force 66) and the Tanker Force (Force 67), with submarine patrols in area of the Malacca, Sunda, Lombok and Bali Straits and three other submarines as an Air Sea Rescue unit.

The air striking force was divided into two bi-national components - Force A and Force B. From Force A, aircraft from H.M.S. Illustrious (2) were to attack the Braat engineering works area and aircraft from U.S.S. Saratoga (3) the Wonokromo oil refinery area. Eight Corsairs (4) and twelve Dauntless_{es} (5) were detailed as fighter cover. From Force B, aircraft from H.M.S. Illustrious (6) were to attack the naval base workshop and floating dock, with British Corsair cover, and from U.S.S. Saratoga aircraft (7) were to attack a cruiser, floating docks and the commercial harbour; and others (8) were to attack merchant shipping floating docks and installations in the commercial harbour and submarine dry dock. Hellcats and Corsairs were to cover the bombers.

Operation 'Transom' the strike on Surabaya (17 May 44)

Forces 66 and 67 were marshalled about 100 miles south-west of Cocos Island. Destroyers were refuelled from battleships and carriers. Exmouth Gulf was reached on 15 May and ^{the main} refuelling began. The same evening, the Fleet sailed (9) and arrived at first light on 17 May at the flying-off position, about 90 miles off the south coast of Java.

One Avenger from U.S.S. Saratoga had to return with engine trouble and two Avengers from H.M.S. Illustrious crashed after take-off. (10) This reduced the
/strike

(1) C.B.3303(4): Report by A.C.S.E.A. (A.H.B.IIJ.50/165/2/37). There are slight differences in the numbers of operational aircraft given in these two accounts.

(2) 9 British Avengers of No. 845 Squadron each carrying 4 x 500 lb G.P. bombs, chosen because their range exceeded the Barracudas.

(3) 12 U.S. Dauntlesses of V.B.12 Squadron, each carrying 1 x 1000 lb bomb.

(4) Of Nos. 1830 and 1833 (F.A.A. Squadrons).

(5) Of V.B.12 U.S. Squadron.

(6) 9 Avengers of No. 832 Squadron.

(7) 6 Dauntless, each with a 1,000 lb bomb.

(8) 12 Avengers, each with a 2,000 lb bomb.

(9) Its formation was truly an Allied one. Ships from the Royal, U.S., Australian, New Zealand, French and Dutch Navies participated in the operation.

(10) Their crews were rescued.

strike forces to 27 Avengers, 18 Dauntlesses, 34 Hellcats and 16 Corsairs, a total of 85 aircraft (45 bombers, 40 fighters). It was about 180 miles to the target. An Intelligence Officer of No. 222 Group ⁽¹⁾ was on board H.M.S.

Illustrious during the whole proceedings and his report provides a description of the raid in greater detail than is usually available to R.A.F. ^{sources} services.

The Air Group departed at ⁰⁷¹⁵ 07.15 hours on 17 May and commenced climbing to 14,000 feet. There was no straggling. Weather conditions were so good ⁽²⁾ that Mount Mahameru could be seen shortly after departure. The coast was crossed at 14,000 feet at 0806 hours and, cloud having dispersed, the Strait of Madura could be seen ahead: and, when the Strait was reached, Surabaya lay in slight haze on the port bow. When about 10 miles south-east of the target, at 0825 hours, the two forces split ~~according to plan~~, V.E.12 and No. 845 Squadron altering course 090° to port to enable them to attack their respective targets from south to north, breaking away to the east. V.T.12 and No.832 Squadron flew on to sweep round north-east of the harbour area to attack from north to south, breaking away to the east so that the whole group should form up as speedily as possible in one body.

Attacks were carried out at about 0830 hours: fighter escort was excellent throughout. By 0840 hours, the whole group had reformed 25 miles south-east of Surabaya. One U.S. Avenger was the only casualty. The group ~~set course~~, climbed to 6,000 feet and proceeded towards Malang airfield, sighted at about 0858 hours. Two flights went down to escort a Dauntless and an Avenger ordered to rake the field with fire, and they - the Hellcats - shot up the field. Some aircraft about to be airborne were bombed, while many others were fired on and some buildings set on fire. In addition to this sweep, British fighters fired on a small ship south-east of Surabaya, gave a small burst of shot at a Nell aircraft seen over the town, saw its starboard engine on fire and attacked a small factory 10 miles south-east of Malang with no observed results. At about 0906 hours, the whole group crossed the coast. At 0940 hours the carriers were sighted. The first aircraft was landed on at 0958 hours and the last at 1045 hours.

/One

(1) F/L H.G. Newton.

(2) 7/10 cumulous at 2,000 feet, wind 135/12, visibility good.

One or two tactical details are worthy of mention. The U.S. Avengers made ^{their} ~~there~~ attack on shipping at masthead altitude. The Fleet Air Arm aircrews saw nothing at masthead, but when they climbed and dived, their new advantage in height revealed the floating docks and what appeared to be a submarine tender. They could detect no open wreckage, but new roofs suggested that damage caused by earlier air attacks had been repaired. The F.A.A.'s altitude of attack on the port ranged between 1,000 and 2,500 feet. The general height of the covering Fighter Wing was 8,000 feet. A successful series of photographs of the whole area of the naval base was taken after the attack by the American Group Commander ⁽¹⁾ and amply compensates for the paucity of detailed evidence from crew reports.

/ Survey

(1) Some of these photographs may be studied in the report by the officer from No. 222 R.A.F. Group (A.H.B.II.J.50/105/2/37).

1.c. Survey of Results

Complete surprise was achieved. What little anti-aircraft fire was experienced was light and ineffectual except for the case of the Avenger brought down, which crashed into very shallow water about 6 miles from land and whose crew were seen paddling their dinghy S.E. towards the submarine rescue ship 40 miles away. Curiously, there was no anti-aircraft fire from the airfield at Malang.

British forces of ~~the~~ No. 845 Squadron claimed to have completely destroyed the Braat Engineering Works with 29 bombs. Thirty bombs fell in the naval base target area from 100-200 feet: four fell outside the area, and one was brought back on account of release gear failure and eight were lost in the ditched aircraft. Estimates of damages were high and photographs confirmed them.

The American forces did well. In a very short time, they saw big fires burning at Wonokromo, with smoke thousands of feet high. It was claimed that the oil refinery was completely destroyed; a direct hit demolished the power house and storage tanks. Seven ^{Dauntless} ~~Dauntless~~ aircraft attacked Tanjong Perak airfield, setting fire to two twin-engined medium bombers and one Zeke. In the harbour area, they damaged a 14,000 tons floating dock (which contained the supposed seaplane tender already mentioned), a smaller dock and other installations. It was estimated that the masthead sweep obtained hits on some 35,000 tons of shipping, including a small tanker. One ship was seen on fire and one exploded and broke up. The total American claims for the journey over Malang airfield totalled to five twin-engined and three single-engined aircraft damaged: hangars and buildings were set on fire.

In retrospect, Operation 'Transom' passed off better than might have been expected. Surprise, the brevity of the period over target and good timing on the part of naval and air planners ensured maximum local results at slight cost. The enemy maintained a poor look-out. No attempt appears to have been made to locate or shadow the Fleet after the attack, although weather was clear and sighting was possible outside radar range, in all a very favourable set of circumstances.

The performance of American bombers and fighters was appreciably superior to that of their British counterparts. There were comparisons of flight deck design, speed and adequate fleet war training favourable to the Americans, who used their carrier forces with determination and imagination to achieve objects of real strategic magnitude. When British carrier-borne aircraft were replaced by superior American aircraft strategic objectives of greater importance became attainable. Range and manœuvre improved. So that it was the aircraft themselves and their employment and not the carriers that at that point enhanced the chances of Allied strategic purposes.

(1)

Operation 'Councillor', the diversion off Sabang (10-13 June 44)

For her next operation, H.M.S. Illustrious dispensed with her Avengers and re-embarked 24 Barracuda bombers with up to 40 Corsairs. In Operation 'Councillor', the unusual course was taken of linking with her an escort carrier - H.M.S. Atheling. The object was to give the enemy the impression that a British carrier force was about to attack Sabang early on the 12th, but that at dusk on the 11th the operation was cancelled by the Senior Officer in charge of the force which thereupon reversed course and withdrew at speed towards Ceylon. Force 68, including the carriers with a cruiser and destroyer screen, carried out a manœuvre based on the submarine Surf, positioned about 300 miles west of Sabang. The force withdrew as planned on the 12th with air searches and fighter patrols in course of execution and high frequency wireless telephony aircraft operating signals in the hope of attracting enemy air units towards the force, units who might transmit signals leading to a major enemy sortie. However, no enemy aircraft were sighted and no enemy reactions detected. Force 68 returned to Trincomalee on 13 June having lost two Barracudas from H.M.S. Illustrious during flying practices on 11 June. Sabang, like the rest of the outer Japanese barrier, lay so securely in the enemy's hold that he could afford to ignore the best the Eastern Fleet could do.

/ Port

(1) Admlty. C.B.3303(4) p.213.

/ The

Port Blair and the Andaman Islands

The Andamans, a group of over 200 islands, were situated in the Bay of Bengal roughly between 10° and 14° North and 92° 30' and 93° 30' East. They extended for a distance of 219 miles. To the north, it was 120 miles to the nearest point - Cape Negrais in Burma; to the south, it was 340 miles to Sumatra. The chief islands were North Andaman, Middle Andaman, Baratang, South Andaman and Rutland, known collectively as Great Andaman. Almost the entire land area consisted of hills clad in forest. There was a mixed population of about 19,000. Apart from Port Blair, in the South Andaman, there were no centres of population of any size anywhere, except a number of small timber camps.

(1)
Port Blair was an excellent, small, landlocked harbour, affording safe anchorage in all winds in its inner section. The entrance to Port Blair was divided into two by Ross Island. Although lacking a developed port area, it had deep water berths at Chatham Island and Hope Town Coal Depot. Port Blair was the settlement round the harbour, consisting of Ross, Chatham and Viper Islands, and the villages of Aberdeen, Haddo and seventy-four smaller villages.

Before the Japanese occupation, Port Blair was the headquarters of the Administration of the Andaman and Nicobar Islands, under the Chief Commissioner, who resided on Ross Island, with a summer resort on Mount Harriet. Timber was the chief export of the islands. Since the Japanese landed on 23 Mar. 42, they had developed Port Blair as a fortress in their perimeter defences covering the Kra Peninsula, Malaya and Sumatra. They converted the old air strip into an up-to-date field with two metalled runways and a drainage scheme. Later, work began on a new site at Elephant Point ^{but} seems to have been abandoned by the Spring of 1944. Other Japanese military works established by the enemy included radar stations on Mount Harriet and Mount Augusta. The whole area was protected by a very close pattern of heavy, medium and light anti-aircraft guns, as well as coastal defence and dual purpose sites. A seaplane anchorage had been developed on the beach at Phoenix Bay.

/ Operation

(1) 11° 41'N., 92° 45'E.

Operation 'Pedal', the (1)
~~The Plan For a Strike on Port Blair~~

Force 60 was formed on 19 June and sailed from Trincomalee as did all other Fleet forces with carriers, to carry out an air strike on Port Blair in the Andaman Islands. As hinted in a previous chapter, Port Blair, although a wasting asset to the Japanese, was a tantalising target for South East Asia Command, who would have given a great deal to secure the elaborate, well-sited complex of harbours, quays, barracks, radar stations and seaplane anchorages ~~in the Andamans known~~^{as} ~~under the composite name of~~ Port Blair. It is an indication of the deep frustration indigenous for so long in the Allied command that in June 1944, the best they could attempt was a strike by a single Fleet carrier on Port Blair with the obsolescent Barracuda aircraft, now proved unable to operate beyond a 200 mile radius.

~~Operation 'Pedal' (continued)~~

For the strike by aircraft of H.M.S. Illustrious on the Port Blair area, 15 Barracuda bombers with 16 Corsairs as escort and 8 others as fighter umbrella over the Fleet were flown off at 0530 hours on 21 June. The weather was poor, with a lot of cloud. The strike force soon covered the 95 miles, except two Barracudas forced to return prematurely with engine trouble. It was raining in the target area. Forty-two bombs were dropped on the harbour, Ross Island (site of the Japanese Naval Headquarters) the seaplane base and airfield at Phoenix Bay and military installations at Chatham Island, Aberdeen harbour and in the vicinity.

Complete surprise was achieved, with no air opposition but plenty of heavy and of intense light anti-aircraft fire. Reports claimed the Mount Augusta radar station destroyed and the radar station and tower at Mount Harriet damaged, hits on barracks and a power house on Ross Island, on barracks and vehicles at Aberdeen Harbour and fires started at Phoenix Bay seaplane base. It did not add up to a good dividend for all the effort put into the expedition, which included such major units as H.M.S. Renown (flagship) the Richelieu, three cruisers and eight destroyers. It was unrewarding and wastage was high. Four aircraft hit over the target returned safely to the carrier force, but one Barracuda was lost over the target and one Corsair on returning to the force crashed in the sea.

(1) A general list of sources consulted on carrier operations is given at Appendix 30, p.1.

Force 60, with all its aircraft landed on, withdrew to westward during 21 June, for the Fleet's inability to operate night fighters in a fading light was a serious handicap.

l.c.

Operation 'Pedal' in Retrospect

Admiralty historians wrote without enthusiasm on the operation. It was too risky, they commented, to venture a single carrier in the face of unweighed hazards. At one period, 50 aircraft were airborne simultaneously. With no spare landing decks, the losses resulting from any misadventure to H.M.S.

Illustrious might have been very serious.

Strategically the operation was fruitless. The Japanese reported that little damage had been caused: rightly viewing it as a snatch diversion, they paid no heed to it. A total of two aircraft lost, four damaged and two unable to participate because of engine trouble was perhaps to be expected in the wear and tear of combat. There were no crashes, a result pointing to due care on the part of the squadrons engaged. Other squadrons, as will be seen later, were less careful and less experienced. No loss was inflicted on the enemy air force, except that two single-engined aircraft on Port Blair airfield were set on fire.

/ Plans

Plans for Bombardment of Sabang (July 1944)

On 5 July, the fleet carriers H.M.S. Victorious and Indomitable arrived at Colombo. The former, a veteran of the Pacific and Norway, with a fully trained crew, went into action, while the latter began 'working up'. The C.-in-C. Eastern Fleet, disappointed with the Japanese contempt for his air attacks, secured authority for a surface bombardment of Sabang, using fighters to spot the fall of shells, cover the Fleet and neutralise radar and local airfields. This was to be the first time the guns of the Fleet had played on Japanese shore defences. Photographic Intelligence on the target area was in arrears and the maps to hand lacked detail.

It is not intended in this chapter to enlarge on naval bombardments or manoeuvres, but to throw light on the development of air operations. Noting the strength of the Fleet en passant, with four capital ships and Admiral Somerville in person on board H.M.S. Queen Elizabeth, it should be noted that only Corsair fighters were engaged, 18 from H.M.S. Illustrious and 16 from H.M.S. Victorious. Maps of the period reveal the following Japanese airfields:- Pulo We Island, Lho Nga and Kotaraja. The Corsairs were to sweep in low and finish off any aircraft in sight so as to enable the main force to operate close in to Sabang. Force 62 was to sail on 22 July, approach Sabang during the night 24/25 July, detaching the carriers and their escort to proceed to the carrier operating area centred W.N.W. 35 miles from Sabang. The initial fly-off was fixed for 35 minutes before sunrise. After a fighter sweep, direct shoots were to be carried out by the main forces. No bombing strike by aircraft after the bombardment was planned, a serious omission in the light of experience in European waters.

Fighter Operations at Sabang in Operation 'Crimson' (25 July 44)

While sixteen Corsairs remained as a Fleet umbrella and to spot for the ships' guns, a strike force flew off at first light in unusual darkness and, after clumsily forming-up, made for Sabang, where they attacked the airfield on Pulo We Island on which Sabang is situated, and the fields at Lho Nga and Kotaraja. It was much too early. The weather was rainy and the enemy on the

(1) Attacked in April 1944 in Operation 'Cockpit'.

alert. Most of the enemy's aircraft were invisible, dispersed in the surrounding jungle. Flak was fierce and accurate, but the Corsairs swept across low several times, probably too low to see aircraft visible from greater height. Only a total of four aircraft was claimed as destroyed on the three fields. One Corsair came down in the sea and five others were damaged. There were no air combats.

The Fleet then carried out a short, very heavy bombardment of harbour, coastal batteries, barracks and signal stations with results adjudged excellent, retiring after spectacular action by destroyers. Heavy shore firing followed and the carrier force rejoined at 0930 hours. At 0937 hours, a Japanese reconnaissance aircraft was intercepted and shot down by fighters; and, at 1130 hours, another was shot down after a prolonged game of hide and seek in the clouds. Some reports must have reached Japanese headquarters. So far there had been no offensive air reaction to this display of strength inside the lion's den.

At 1740 hours, while one carrier was turning into wind to land on fighters in the heavy rain squalls, a group of enemy aircraft was detected approaching about 50 miles away. These aircraft (nine or ten Mitsubishi Zero-3 Navy single-seater fighters) were engaged by thirteen Corsairs, who shot down two and damaged two more of them, reporting a visible decline in Japanese pilot performance since 1942.

Operation 'Crimson' in Retrospect

Materially, it was later claimed ~~that~~ proved, ~~that~~ the damage inflicted on all targets, especially the oil installations, was considerable. Morally Operation 'Crimson' was a fillip to the frustrated Command as a message by the Supreme Allied Commander emphasised. From an air point of view it was hardly a triumph. Poor prior intelligence, lack of guidance, faulty direction in starting too early, failure to destroy the enemy air units on the ground or to stir them to action seem disappointing results for so much trouble. Compensation might be sought, however, in the good showing in the evening of the 25th by the Corsair crews in what was their first engagement with enemy aircraft while operating from a British carrier. Strategically the whole operation achieved literally nothing.

The Range of strategic Air Targets

Even if the plans for amphibious landings outside the Burma land theatre were to fall to the ground one after another, aircraft, at any rate, could occasionally reach out to points on the Japanese perimeter. There could never be any hope of compassing any more than a fraction of the task of nibbling at the almost uncountable wealth of oil and other strategic materials and the facilities for conveying it that nourished the Japanese war effort almost half-way across the world.

The Strategic Air Force of Eastern Air Command was doing its best in the monsoon weather with inadequate forces to carry the war to long range unloading ports and railway centres along the devious and extended enemy lines of communication. No. 231 R.A.F. Group was mining key ports and channels. Superfortresses from Ceylon had mined Palembang waters in Sumatra in mid-August. Submarines were mining the Malacca Strait. Australian aircraft mined and bombed in the adjacent waters and territories of the South West Pacific.

Now that the Eastern Fleet's carrier force was beginning to feel its way into the enemy system, it was only natural that it should spread its effort and do whatever was possible at as many points as possible. Since mid-April, Sabang had been attacked twice, Surabaya and Port Blair once each. For the next few months, Sumatra was to become a priority target area. The next target chosen was Padang (on the west coast of that island), a port which had not figured in the news, largely because it was inaccessible. Now the Command checked on its status. Padang possessed an airfield and oil storage plant. The adjacent port of Emmshaven had been a naval base, but in April 1944 the Netherlands submarine K.14 had reported no activity. This report seems too good to be true, for close to Emmshaven lay the Indarong cement works, the only plant of its kind in the Dutch East Indies and practically the only source available to the Japanese for the construction of airfields and defence works in South East Asia.

(1) According to the Admiralty Staff History C.B.3303(4) p. 216 the object of the attack was to pin down Japanese air and naval forces while General MacArthur was developing his operations against Hollandia in New Guinea. This is certainly an error. The same reason was advanced in the same volume for Operation 'Cockpit' in April 1944. By August, Allied operations against New Guinea had ended and Allied aircraft were operating from Hollandia. The official history The War at Sea, Vol. III, Part 2 does not suggest that Operation 'Banquet' was a diversion for MacArthur's impending attack on Morotai.

l.c. The Plan for the Strike on Padang

In Operation 'Banquet', two carriers were to be engaged, viz., H.M.S. Victorious with 13 Barracudas and, as escort for the combined strike, of 31 Corsairs, and H.M.S. Indomitable, with 19 Barracudas, and 2 photographic reconnaissance Hellcats. The first strike force of Barracudas⁽¹⁾ with Corsairs⁽²⁾ escorting was to attack Padang and the airfield; the second strike force of Barracudas⁽³⁾ escorted by Corsairs was to attack Emmshaven. Two Hellcats from the first reconnaissance unit trained and equipped on board a carrier were to photograph the Padang area. It was hoped to provide battle practice for the younger, more inexperienced pilots.

Admiral Semerville would no longer proceed to sea in command of the Eastern Fleet, since on 23 August he was succeeded by Admiral Sir Bruce Fraser. Operation 'Banquet', the strike on Padang, was under the command of the Rear Admiral (Air), Eastern Fleet.⁽⁴⁾

l.c. Operation 'Banquet', the Air Strike on Padang (24 Aug. 44)⁽⁵⁾

Force 64⁽⁶⁾ sailed from Trincomalee on 19 August. Some ships fuelled at sea on the 22nd. At 0550 hours on 24 August, the carriers began flying off the first strike and the first protective fighter patrols in the position 2° 10'S 98° 40'E (i.e. about 125 miles west of Padang) in perfect conditions. This strike consisted of 10 Barracudas from each of the two carriers, each carrying three 500 pound bombs. Nineteen Corsairs from H.M.S. Victorious escorted them as they flew between Siberut and Sipura Islands. They claimed to have hit the target well and truly, setting buildings on fire and machine-gunning the railway. The fighter aircraft scored hits on Padang airfield. Complete surprise was achieved. There was no fighter opposition either to this strike or the second. The cement works was hit: clouds of smoke and flame rose to nearly 1,000 feet preventing complete observation of results.

-
- (1) 10 of No. 12 T.B.R. Wing (Indomitable) and 10 of No. 52 T.B.R. Wing (Victorious).
 - (2) Of No. 47 Fighter Wing.
 - (3) 9 Indomitable and 3 Victorious.
 - (4) Rear-Admiral Clement Moody.
 - (5) Refer to Admiralty G.B.3303(4) Plan 12.
 - (6) From Force 67 with R.F.A. Esdaile.

/ At

At 0710 hours, the second strike was flown off. Nine Barracudas, similarly armed to the first strike bombers and escorted by twelve Corsairs, proceeded to Emmshaven. They met no air opposition but there was some anti-aircraft fire. (1) Again the Barracudas bombed accurately, obtaining hits on wharves, go-downs (2) and railway tracks, two motor vessels. Other bombs straddled a reported enemy warship. (3) Japanese sources confirm one merchant vessel damaged by aircraft. (4) Two Corsairs and one Barracuda failed to return.

Operation 'Banquet' in Retrospect

The training value of the strike on Sabang was appreciable. Tactically there proved little gain in attacking an undefended port which had by then become a backwater. Some delay in cement production may possibly have occurred, but if so, there is no trace of it. Execution seems to have been good and bombing accurate. Photography produced excellent results, a welcome addition to the notoriously poor intelligence pattern of the period. Most of the pilots were young and inexperienced and the hope that they might have enjoyed combat conditions was frustrated by the complete absence of enemy fighters. Strategically the mission was fruitless. The Japanese proceeded unperturbed with the campaigns in the Pacific and in Burma.

/ The

-
- (1) An Anglo-Indian word for warehouses.
 - (2) Of 400 and 200 feet respectively.
 - (3) Destroyer or minelayer.
 - (4) S.S. Shiretoke Maru (1,799 G.R.T.): extent of damage unknown.

The Air Strike on Sigli, Operation 'Light B' (18 Sept. 44)

The next operation by the carriers H.M.S. Victorious and Indomitable may be quickly related. It was obviously a good thing for the inexperienced crews of the latter to operate in company with the seasoned crews of the former. But this small team could hardly carry out a major effort at that stage.

On 14 Sept. 44, escorted as usual by units of the Eastern Fleet, the two carriers sailed from Trincomalee. The target was Sigli, ⁽¹⁾ the railway repair and maintenance centre on the eastern coast of the northern tip of Sumatra. ⁽²⁾ The precautionary fighter sweep timed for 17 September to neutralise the nearby airfields in the Medan and Belawan Deli areas had had to be cancelled owing to bad weather. The best that could be done to give early warning of anything at all was the stationing of submarines off Medan and Sigli (primarily for air sea rescue duties) and the normal air umbrella over the main naval units of Force 63. Each carrier furnished 10 Barracudas. Eight Hellcats from H.M.S. Indomitable and thirteen Corsairs from H.M.S. Victorious were airborne as escort. These Corsairs were not fitted with long range tanks.

After the fly-off at 0600 hours on the 18th, one Barracuda landed in the sea. The weather had been bad for two days and had done no good to the aircraft. With a wind speed on deck of 40 knots, H.M.S. Indomitable decided she could not fly off in one range. It is not, therefore, surprising that some of her aircraft went unserviceable at the last minute. After 40 minutes delay of this kind, the mission departed in very good sea, cloud and light conditions and a wind speed of about 10 knots over the sea.

Over Sigli, they ran into heavy rain, shifting winds and poor visibility. Although there was no air opposition and negligible flak, the Barracuda crews decided to release their bombs from as high as 2,000 - 3,000 feet altitude, with three seconds between aircraft. The 18 Barracudas finished dropping in 60 seconds and although they hit the main targets missed some smaller ones. These Barracudas covered the return journey of some 130 miles with little fuel to spare. Admiral Moody now declared their maximum practicable range in the Eastern theatre did not exceed 150 miles.

(1) 5° 24'N., 95° 57'E.

(2) See Admiralty C.B.3303(4) for a clear account of this operation taken, as usual, from the report of proceedings. The Admiralty C.B.3053(9) adds nothing to that record.

Aircraft from H.M.S. Indomitable photographed country and pinpoints in Northern Sumatra and the Nicobars on 18 September.

Light 'B' an inconclusive Operation

The attack on Sigli was in some respects a lapse in the gradual improvement in planning and execution. Among omissions in the planning were the absence of long range tanks on the fighters. This meant that when at 1531 hours on the strike day, H.M.S. Hove reported an enemy aircraft, the Corsair Combat Air Patrol sent to intercept it had to be recalled prematurely.

Transmitters were left on, which resulted in communications being blocked. Owing to faulty station keeping by the two carriers, the land-on of the strike began with their landing circles overlapping. The top air cover of H.M.S. Victorious were wrong in leaving their positions to machine gun the ground targets. A certain degree of bad luck played its part. The rough weather in the area of Sigli did nothing to aid precision, although whether that justified two of H.M.S. Indomitable's aircraft firing on the Royal Navy's submarine Spirit while she was saving the crew of a crashed Barracuda is problematical. There was certainly no enemy air opposition and only negligible flak. Strategically the raid did not deflect the Japanese from their main purposes elsewhere. In the interests of balanced judgement, it must never be lost sight of that these were early days, experience was often lacking, practice infrequent and co-operation in that kind of operation in these waters only just becoming practicable.

/The

(1)

The Nicobar Islands

The group of about twenty islands known as the Nicobars extended for about 160 miles, roughly between 06° 40' and 09° 20' North and 92° 40' and 93° 40' East. Situated on the approaches to the Malacca Strait and the Kra Peninsula, they were of great strategic importance. The most important of them were Car Nicobar, Nancowry, Kamorta, Little Nicobar and Great Nicobar. Car Nicobar, the most northerly of the group, was approximately 150 miles to the south of Port Blair (Andamans). Great Nicobar, the most southerly, lay about 90 miles north-west of Pulau Weh (Sabang). There were two airfields on Car Nicobar, Nos. 1 and 2, (as there were at Port Blair), but they were the only two in the Nicobars.

In a paper by the Secretary Plans, South East Asia Command dated 30 July 44, submitted at a time when the idea of seizing the Nicobars was under discussion, the total estimated strength of the Japanese garrison of those islands was 15,000. While it was recognized that there were only a few aircraft on Car Nicobar itself, the correct and realistic view was taken that what mattered was the combined air strength available in the North Sumatra/Andaman area, for one area could rapidly reinforce the other; so, in an attack on the Nicobars, one might have to reckon, once first reactions had passed, with 50 fighters, 30 light and medium bombers and 30 torpedo and dive bombers, 110 aircraft in all. Later in the year, eight aircraft were photographed on one of the Car Nicobar airfields.

Nancowry Harbour lay between Kamorta Island on the north and Nancowry Island on the south. Eleven or more large ships and a number of small craft could find anchorage there. With two entrances with deep water in each and protection from all winds throughout the year, Nancowry was a desirable haven for mariners and very useful to the Japanese. Anti-aircraft defences had been installed at vital points on the islands. Car Nicobar had been built up as both air and small boat base.

-
- (1) Bay of Bengal Pilot, Admiralty Library: A.C.S.E.A. File F.117 (A.H.B. II J.59/103/3/97(B) Map A to Encl. 6).
 - (2) Air C. S.E.A. Airfield Report No. 28 November 1944 (A.H.B. S.E.A. Intelligence O.R.B. Appendices Dec. 44 Vol. I. INT/AIR/2).
 - (3) No. 1 at 09° 09'N., 92° 50'E and No. 2 at 09° 11'N., 92° 50'E.
 - (4) 8° 02'N., 93° 32'E.

/ Allied

Allied amphibious Strategy

It will assist in keeping the carrier operations of the Eastern Fleet in the correct strategic context if the views of the Air C.-in-C. South East Asia on contemporary plans is briefly noted. He saw the idea of seizing the Nicobars as of less importance than a massive move southwards. Nothing less, he declared, (1) than a plan to get astride of the Malayan Peninsula would work. This could not be based on carrier support, as the few we had would be too vulnerable if the Japanese switched any appreciable air strength. There were ample air bases in North Sumatra which should be first secured, so as to deny these bases to the enemy and provide an area of deployment for our own forces. It need hardly be pointed out to those familiar with the atmosphere of dissension and frustration in the Command that this idea was not generally accepted. Yet it is to be noted that an operation to seize the Andamans and Nicobars by force was never actually mounted.

/ *Plan*
When

(1) Signal 147 KANLO dated 5 Aug. 44 for Mountbatten from Stilwell (A.H.B. II J.50/103/3/97(B) encl. 12).

SECRET

373 A

When in March and April 1945, plans for the recapture of Singapore after Rangoon were still under discussion, it is plain that the realism of the Air C.-in-C. had gained ground. On the one hand, the local enemy air forces available in the area were, and were likely to remain, too weak to constitute a serious threat. On the other, the anchorages of the Andamans and Nicobars could be useful. But, it was pointed out that the islands were not well placed for supporting operations in Malaya or further afield - they were too far away from the vital areas for mounting and maintaining naval and air support. The plan was therefore discarded ⁽¹⁾ in favour of one to seize Phuket Island, ⁽²⁾ about half-way down the Malay Peninsula.

/ Plan

(1) Admiralty C.B.3303(4) p.24.

(2) Operation 'Roger'.

3
SECRET

Plan for a Diversion in the Nicobars (October 1944)

The Japanese were not unaware of the strategic value of the Nicobars and believed the Allies would one day seize them before they attempted an assault on Singapore. It would be in the Allied interest if the enemy's apprehensions could be heightened, even if the Command was not in a position yet to land. A diversion there in October would serve, it was ^{hoped} foreseen, to draw attention from the impending American landing on Leyte Island in the Philippines, disrupt shipping and communications and perhaps bring the air units on Car Nicobar to battle. The material damage sought was a secondary consideration. It was the psychological effect that would count most.

The attack on the Nicobars - Operation 'Millet' - was conceived in three phases, viz., Phase One, an air strike on Nansowry harbour, a fighter sweep over Car Nicobar followed by a bombardment; Phase Two was a bombardment of Car Nicobar the next day; Phase Three was a bombardment of Car Nicobar combined with an air strike on Nansowry. Force 63 was organized in three groups (not related to the three phases) comprising H.M.S. Renown, three cruisers and seven destroyers in Groups One and Two and, in Group 3 H.M.S. Indomitable and Victorious (again in company), H.M.S. Phoebe and four destroyers.

The whole operation was to last three days in all. The normal practice to that date of the rapid retirement of the Fleet immediately after the attack was discarded. This time, to quote a senior naval officer speaking just before the event, 'we are going right up to his back door. We shall ring the bell and then sit on the doormat until someone comes.'

Operation 'Millet', Phase One and Two (17-18 Oct. 44) ⁽²⁾

Force 63 left Trincomalee on the morning of 15 Oct. 44. At 0600 hours on the 17th, at a point about 30 miles east of Batticaloa Island, ⁽³⁾ the carriers separated and assumed flying-off positions. At 0634 hours, H.M.S. Indomitable, in fine ⁽⁴⁾ weather with a calm sea, began flying off 10 Barracudas and 8 Hellcats for a strike on shipping, jetties and buildings in Nansowry harbour. H.M.S. Victorious flew off 8 Corsairs as carrier cover and 19 Corsairs on a strike on airfields and other targets of interest on Car Nicobar.

-
- (1) She sometimes acted as Fighter Direction Ship.
 - (2) Admiralty C.B.3303(4).
 - (3) Some 17 miles S.S.E. of Car Nicobar.
 - (4) With 500 pound bombs.

The strike on Nancowry achieved complete surprise and had been over the target area for several minutes before the enemy rallied. It was then unpleasantly evident that his defenses were thicker than believed. The flak was troublesome up to 3,000 feet. One Barracuda failed to pull out of the dive and crashed. The collier Ishikari Maru of 830 G.R.T. was hit and sunk. ⁽¹⁾ It was claimed that five small vessels were also sunk ⁽²⁾ and harbour installations set on fire.

While things were livening up at Nancowry, the Corsairs from H.M.S. Victorious were flying through the flak round the airfields at Car Nicobar: they lost two of ⁽³⁾ their number to this form of defence, but reported no enemy aircraft. Hellecats from H.M.S. Indomitable photographed the whole area. The air sweep was followed by a two hours bombardment (with aircraft spotting), after which Force 63 withdrew to westward before darkness fell. A cruiser and two destroyers were detached and bombarded Car Nicobar during that night of 17/18 October. This was Phase Two. The remainder of Force 63 meanwhile proceeded south-eastward, intending to stage a strike on Sabang, then, having lulled the Japanese on Car Nicobar into a false sense of security, return to catch them, as the current metaphor ran, 'with their kimonos up'.

At daylight on the 18th, they were lying 100 miles west of Sabang. As the weather was unsuitable for an air strike on Sabang, the destroyers and H.M.S. Phoebe almost out of fuel, were fuelled from the cruisers. The Force then proceeded N.W. to W. of Nicobar Island during the night and found favourable weather. The illusion of an impending amphibious landing was kept up by a wireless diversion, (staged by H.M.S. Cumberland), of a follow-up force approaching from westwards.

Operation 'Millet', Phase Three (19 Oct. 44)

On the 19th, the ships bombarded Car Nicobar again. Simultaneously, 14 Corsairs, 8 Hellecats and 9 Barracudas attacked shipping at Nancowry, without causing any damage. Anti-aircraft fire was ^{firesome} inconvenient and four aircraft were hit, but returned safely. Two of these were lost while landing on; the pilots were saved by the screening destroyers. To this point, four aircraft had been lost since operations began on the 17th.

-
- (1) Confirmed in The Imperial Japanese Navy in World War II, usually referred to as 'The Japanese Report' in this narrative and the Admiralty Staff History.
 - (2) Cannot be confirmed.
 - (3) They crashed just north of Malacca, on Car Nicobar Island.

The ding-dong of the extended effort revealed many mechanical defects. Aircraft guns failed in action. A camera went unserviceable. At times, one of them crucial, there were electrical and radio telephone failures.

l.c. Air Skirmishes off Car Nicobar (19 Oct. 44) ⁽¹⁾

This day of 19 October merits recall, for it witnessed the first carrier aircraft encounters with the latest Japanese Army fighters. The proof that Fleet Air Arm aircrews could get the better of them in combat provided a reassuring uplift to morale. Early on the 19th, the aircraft covering the Bombardment Force intercepted a twin-engined enemy aircraft, but failed to gain sufficient height to bring it to action. Owing to a defect in H.M.S. Indomitable's high frequency R/T transmitter, communication between the Bombardment and Carrier Forces was difficult; and this carrier was unaware of the appearance of the enemy. At 0840 hours, the Japanese aircraft passed unimpeded over the Carrier Force, taking a good look and, obviously from what followed, signalling back a report to base. Gunfire and an attempt at interception by two of H.M.S. Indomitable's spotting aircraft failed to stop the enemy from escaping.

At 0930 hours, a group of unidentified enemy aircraft was detected. Fighters despatched from H.M.S. Indomitable failed to find them; but Corsairs and Hellcats flown off H.M.S. Victorious ran into them 12 miles north-east of the Carrier Force, about 10 miles south of Car Nicobar; and they were joined by aircraft from the umbrella over the Bombardment Force. The enemy formation consisted of 9 Oscars ⁽²⁾ at 7,000 feet altitude, with a top cover of 3 Oscars at 16,000 feet. Fierce fighting lasted from 0950 to 1030 hours. As a result, four Oscars were shot down and others damaged for the loss of two Corsairs and one Hellcat. The Japanese top cover made for base but ^{was} overtaken 20 miles to the north-eastward by fighters from H.M.S. Indomitable and all three shot down without loss.

l.c. Cost and Dividends of the Nicobar Operations

In the three days of operations, six aircrew members and fourteen aircraft were lost. Of these aircraft, six were lost in combat and eight (a high proportion) through accidents such as crashing in landing on. The Fleet had not been attacked by aircraft and no damage by shore batteries is recorded in the Admiralty Staff History.

(1) Admiralty C.B.3303(4).

(2) Fast modern Army fighters.

There had been, again, a pathetic series of mechanical faults, some of them critical, pointing once again to the effects of the humidity and perhaps fluctuating standards of quality in technical production. In the destroyers, their low fuel endurance was again a delimiting factor. Heavy bombardment was carried out at too great a range to silence shore defenses.

The standard of bombing varied. It was considered good at Nancowry harbour, but on the Car Nicobar airfields no damage was recorded. This was, it will be recalled, not a unique case. There would appear to be something lacking in the planning of fighter sweeps over airfields which, although these fields were certainly not crowded with aircraft, showed surprisingly poor results. The weakness lay, probably, in the tactics adopted, namely, flying too low to sight the dispersed aircraft.

Strategically, Operation 'Millet' left the general situation unchanged. The Allies, although working on plans for such a contingency, were in no shape to invade the Nicobars or undertake any other major amphibious operation; and the Japanese knew this and ignored the feigned threat to land. Later on, it might be another matter if things went hardly with them. For that eventuality they had issued a secret Combined Fleet Order on 8 Mar. 44 arranging for a diversion of strength. On 8 June, they had examined the question of reinforcing the Kotaraja - Sabang area of Sumatra, in the belief that after the monsoon we might land in the Andamans and along the Burma coast, but the scheme was scrapped. But as an insurance against surprise, the Japanese moved three brigades of troops as reinforcements to the Andamans and Nicobars after Operation 'Millet'.⁽¹⁾

/barrier

(1) Admlty C.B.3303(4).

Carrier Operations against Sumatran Oil by the
British Pacific Fleet (December 1944-January 1945) (1)

The strategic situation at the end of 1944

Whatever the degree of isolation felt by the Fourteenth Army and the supporting forces of Air Command South East Asia locked in battle with the Japanese in Burma, outside events were playing strongly on the military situation. The wind of change was blowing through the whole vast theatre. Although the enemy was being slowly starved of essential supplies by air attacks on his rear lines of communication, he was still strong and was, before long, to reinforce the whole Malayan area of South-East Asia. The Allied command was especially sensitive to the impact of events outside its perimeter. Although prevented by the lack of forces from realising its ambitions for carrying the war to Sumatra and Singapore, it certainly was in a position to attack with sea borne aircraft one of the most vital of enemy targets, viz. the oil in Sumatra. Late in the day as it was, the opportunity to do so was grasped in December 1944, and January 1945.

No sound estimate of Japan's oil position was possible, but it was known that the home islands were extremely short of oil and aviation fuel and that there had been acute shortages in the field. Production was stepped up. The American advance in the Philippines had brought the China Sea under short range air patrol and the passage of tankers was fast becoming costly to a dangerous degree. Aircraft and submarines had eaten into the tanker tonnage, caused delay to convoys, diversive routing and other difficulties: and imports of oil into Japan into the last quarter of 1944 were only about 217,000 tons, - little more than one-tenth of the tanker tonnage employed.

The Japanese foresaw the eventual severance of the Inner from the Outer Zone and laid plans to concentrate her forces and execute a final and decisive blow, on the U.S. forces. Far from weakening her defences in Burma, Malaya, Sumatra and Indo-China, these plans were, unknown to the Allies, to bring new forces on to the Allied doorstep. Singapore was to become shortly the headquarters of the new Tenth Area Fleet, which included the small Thirteenth Air Fleet.

/011

(1) Admiralty B.R.1736(50)(6) previously C.B.3303(6); Report of Experience of the Brit. Pacific Fleet (Admty Hist. Sec.): Admty. Cases 9268 and 9269 and C.B.3053(10): C-in-C. East Indies despatch on Operation Meridian (A.H.B.VI.C./4/72).

Oil and aviation fuel would present the Japanese with few problems in this area. There was more being produced in Sumatra than they could either transport or use. Stocks were high and there were plenty of small auxiliary vessels available which could slip through the air and submarine net unseen.

The importance of the Sumatran oil refineries

It will be recalled that the oil refineries at Pangkalan Brandan and Palembang had been defined as the most important strategic target in the Far East. As far back as the Cairo Conference in January 1944, the Combined Chiefs of Staff had decided on the policy of destroying the Japanese war potential, especially oil, by every available means and had named Palembang. During the whole of 1944, nothing really decisive had been done to implement this decision as it applied to oil. There had been air attacks by the R.A.A.F. on the installations in Borneo, but these were still working. In August 1944, a force of Superfortresses based in Ceylon had bombed Palembang and mined and closed its outlet, the Mooki River. After this, the oil from Brandan, instead of being sent overland to Palembang for refining, had to be sent to Singapore from Belawan Deli through the Malacca Strait, a passage under threat by our submarines. In September, Belawan Deli was itself mined and closed for a time. These efforts, serious as they were, represented a mere nibbling at the surface of a major problem. The previous records of minelaying by aircraft and submarines have shown that the limit possible with these forces had been achieved. With the knowledge already acquired of the strength and limitations of the Eastern Fleet, it would be rash to suggest that it could or would, unaided, have done anything material before December 1944 to neutralise the oil installations in Sumatra. Nothing less than a decision on the highest strategic level could have brought about the necessary diversion of forces from the crucial campaigns being waged in the Central and South-west Pacific.

British naval participation in the attack on Japan

The British were well aware that their military prestige and future were at stake in the Pacific no less than in Burma. Admiral Fraser, the C.-in-C. Eastern Fleet, realised the paramount importance, from a national standpoint, of the Royal Navy with its air component (as it was styled) engaging in the most modern type of naval warfare yet evolved, by fighting in company with its originators and prime exponents, enormous though this cost would be to Great Britain. As the

/Admiralty

Admiralty Historical Section points out, (1) in no other way could we have learned the technical lessons which this type of warfare taught. Had we not operated our striking forces in the Pacific war against Japan in her own waters, we should have finished the war with only second-hand knowledge of this revolutionary form of modern warfare. Fraser believed it would be nothing less than disastrous to our national prestige if the British Fleet should remain in its entirety in the Indian Ocean, or having been sent to the Pacific, be relegated to a rear area, as the Australians considered their own forces had been relegated, however well suited such operations might have been to our Fleet. He gained his point and plans were made to take the British Pacific Fleet into the front line with the U.S. Pacific Fleet. These were to take some months in evolving. A Fleet Train had to be created, stocks of F.A.A. aircraft established and battle exercises carried out. One particular technical ' snag ' was that the British carriers were in the process of changing over from Barracudas to the superior Avenger bombers: this process had to be completed before finally sailing from Trincomalee for Port Darwin.

The Plans for Operation 'Outflank' (2)

There is no need to re-emphasise the importance of Palembang as a strategic target for aircraft. It lay, with its complex of oilfields and refineries, about 55 miles up the Palembang (Musi) River, 300 miles south of Singapore and about 150 miles from the Indian Ocean coast. At the northern end of the island lay the oil centres of Pangkalan Brandan and the oil ports of Belawan Deli and Pangkalan Soesoe. The attack on Palembang was to be preceded by one or more practice operations against Brandan so as to provide actual experience for the major and final blow. (3)

The code word for the series of operations was Operation 'Outflank', itself subdivided into four. The first of these was to have been an air strike on the Pangkalan Brandan refinery by aircraft from the carriers H.M.S. Indomitable and Illustrious in mid-December, known as Operation 'Robson'. The refinery was situated about 50 miles north of Medan. Crude oil was piped to the refinery from

/the

- (1) See Figure 8 for locations.
- (2) Admiralty B.R.1736 (D) (6).
- (3) See Figure 8 for locations.

the oilfield and the refined products exported from Pangkalan Soesee, about 8 miles north of the refinery and connected to it by pipelines. It was also reported that a pipeline had been laid from the refinery to Belawan Deli, for the water at Soesee was too shallow for large tankers to top up to full capacity. The second phase was to be known as Operation 'Lontil'. In early January, the carriers H.M.S. Indomitable, Victorious and Indefatigable were to launch an air strike on Pangkalan Brandan, and a fighter sweep of the regional airfields. (1)

The last two attacks, known as Operation 'Meridian I' and Operation 'Meridian II' were much more ambitious. The major forces of the British Pacific Fleet with four carriers and a total complement of 236 aircraft were to sail on about 16 Jan. 45 for the last time from Trincomalee, cruise off western Sumatra, put out of action the two great refineries of Palembang and proceed to Australia.

Preparations for the strike on Pangkalan Brandan

Force 63, led by H.M.S. Newcastle (Eastern Fleet) and including the two carriers, two other cruisers and seven destroyers, sailed from Trincomalee on 17 Dec. 44. Flying off positions inside the Malacca Strait were taken up early on 20 December, undetected. The target was a valuable one. During December, crude oil consumption, and production of aviation fuel, lubricating oil and motor petrol all rose appreciably and the Allies had done next to nothing to hinder either output or distribution.

The strike force comprised 16 Avengers (2) from H.M.S. Illustrious and 12 (3) from H.M.S. Indomitable. Twelve Corsairs from H.M.S. Illustrious (4) (with belly tanks and two 500 pound bombs) and sixteen Hellcats (5) formed the escort. The alternative target was Belawan Deli, the best equipped port of Sumatra. The strike was airborne in heavy rain squalls. The flight there was a long one and the Avenger, Corsair and Hellcat squadrons involved had not previously joined in combined air manoeuvres.

/Operation 'Robson',

-
- (1) See Figure 8 for locations.
 - (2) Of No. 854 Squadron.
 - (3) Of No. 857 Squadron.
 - (4) Of No. 15 Wing.
 - (5) Of No. 5 Wing.

Operation 'Rebson', the strike on Belawan Deli
and the fighter sweep (20 Dec.44) (1)

When, on the morning of 20 December, the strike of 28 aircraft and escort were approaching the target area, they ran into thick cloud which completely obscured Pangkalan Brandan. Only two Hellcats claimed to have found anything and they were not clear whether it was Brandan or Seesee^{they} machine-gunned what they took for the primary target, then flew back at 50 - 100 feet in heavy rain and landed on their carrier. The main force pressed on to Belawan Deli. The Avengers bombed Ocean Quay, ⁽²⁾ with what they believed to be reasonable results. A heavy oil tank and a petrol tank were reported set on fire and warehouses, railway yards and harbour hit. They met no enemy fighters and only light flak. One enemy bomber - a Sally - was shot down.

In the afternoon, a fighter sweep over the airfields in the Sabang area and the harbour at Ulee Lhee was carried out by a force of eight Corsairs from

/H.M.S. Illustrious

-
- (1) Admiralty Case 9268 and C.B. 3053(10).
(2) From 1,500 feet altitude.

U.S. Illustrious and eight Hellcats from H.M.S. Indomitable. They sighted no enemy aircraft on any of the airfields. (1) Anti-aircraft fire by light and medium batteries was intense and accurate, but our aircraft suffered no damage. At Ulee Lhee (on the north-western tip), buildings and a radio station were machine gunned. A launch carrying soldiers was believed to have been damaged and a large landing craft demolished.

Operation 'Robson' in Retrospect

The strike on Belawan Del and Sumatran airfields, (the first part of Operation 'Outflank'), was hardly more than a trial run: it proved what Corsairs could achieve with long range tanks and showed up a temporary and rather surprising local weakness in air defences. It cost a good deal in fuel, ^{one aircraft} but nothing in casualties and there was nothing substantial beyond a few fires to show for it. Viewed in isolation it may appear to prove very little. Yet, set in its proper context of months of patient, intermittent practice and the triumph at Palembang soon to come, it does represent an essential stage in the co-operation between naval and air units ~~as vital in maritime war.~~

/ Second

(1) It was known at the time that upwards of 100 aircraft of various types and categories were housed on the four airfields in the area. It is hard to accept the reports of no enemy aircraft present as a serious and comprehensive statement of the true position.

l.c. Second Plan for Strike on Pangkajene Brandan refinery (1)

It was a pity that aircraft taking part in Operation 'Robson' in late December returned in ignorance of the enemy air situation in North Sumatra, for when the next strike on Pangkajene Brandan refinery was executed there had been no photographic reconnaissance of the area and almost total ignorance prevailed. The fighter sweep of 4 Jan. 45 in Operation 'Lentil' ran into some opposition and photographs of the local airfields taken soon after the visit revealed no less than 104 enemy aircraft (definitely not dummies) on the ground, of which 50 were training types and the balance twin-engined fighters and bombers in approximately equal proportions. The absence of this foreknowledge handicapped the planners and produced some faulty tactics, of which more hereafter.

The targets for Operation 'Lentil' were the oil refineries at Brandan (near Soesoe) and the four airfields at Brudjet, Medan Belawan, Tandjoeng Peera and Troemon. The naval intention had an immature ring, contrasting strangely with the accustomed presence of mind of the Royal Navy. It was to damage or eliminate the refinery proper without firing the oil tanks, thus forcing the Japanese to remove the oil by sea and giving our patrolling submarines a chance of destroying the sea transports. This involved idea, unlikely to pay any useful dividends beyond a few craft sunk, now seems an anomaly, when set against the peremptory need to send up in flames every possible gallon of Japanese fuel, so impressive in its volume at the time.

Be that as it may, on New Years Day 1945, with the carrier H.M.S. Indomitable as flagship, Force 65, 19 warships in all, moved out of Trincomalee with orders to rendezvous on the 3rd with refuelling tankers. This time, as it was the full moon period, the Fleet was to take up its position outside the waters of Malacca Strait, so as to allow the Carrier Force the longest possible stay. This position was about 6 miles off Niew ^{Singkil} Singkil, on the West Sumatra coast. On board H.M.S. Indomitable, as an observer, was the Air Tactics Officer from Air Command South East Asia. (2) Thanks to his report, it is possible to look in on the proceedings from an unusually well informed analytic R.A.F. point of view. /The

(1) Report by R.A.F. Wing Commander Air Tactics, A.C.S.E.A. 7.2.45. (A.H.B.II J.50/105/4/26 encl.14): Admiralty Case 9269: Admiralty C.B.3053(11) and B.R.1736(56)(6).
 (2) Wg. Cdr. A.N. Constantine.

The plan of action was to despatch first a force of 8 Hellcats (1) and 8 Corsairs (2) on a low level sweep over the four airfields. ^{Forty} ~~Forty~~ minutes later, the main strike was to go in. Thirty-two Avengers (3) and twelve Fireflies with rocket projectiles were to attack specific features in the refinery area. The escort was provided by 16 Hellcats and 16 Corsairs. In all, 92 aircraft were engaged, based on three carriers. (4)

The air tactics to be employed were apparently decided at a conference prior to the engagement by senior naval officers not themselves pilots. It is to be noted that the solitary fighter sweep approach was to be deck level. It may well be asked why a second sweep 10 minutes later was not planned to catch the Japanese as they were airborne for the pursuit, (a practice long known to the R.A.F.). But the R.A.F. had not been consulted. The Fleet Air Arm pilots were keen, but mostly inexperienced: nor did the R.A.F. Air Tactics Officer believe their squadron commanders and wing leaders had themselves had much operational experience. This is not an isolated criticism, for it has been expressed by official naval historians as a delimiting factor of all carrier aircraft operations from South East Asia.

Chronic delays in flying off (4 Jan. 45)

The 40 minutes interval between fly-off of sweep and strike was protracted to 2 hours 25 minutes. The series of misfortunes, some of them easily avoidable, ran on the following lines. Engines were ticking over for upwards of 40 minutes on the flight deck before the executive word to fly-off was given. Aircraft were so tightly packed together with wings folded that, as they were taxiing into take-off formation, two collisions were caused by the tail units swinging round into the turning airscrews of the aircraft behind. Four aircraft were thus rendered useless and had to be manhandled away. If aircraft were not too closely packed, engines were started much too soon. Great difficulty was experienced in deciding whether or not the Hellcat detailed to photograph the area should carry guns. Several times during the last 24 hours, its guns were removed and replaced
/with

(1) From H.M.S. Indomitable.

(2) From H.M.S. Victorious.

(3) 16 from each of the two carriers participating in the fighter sweep.

(4) H.M.S. Illustrious, the fourth, did not complete the operation.

With the ultimate result that the Hellcat crew found themselves over the target without guns forming on an Oscar! Happily, the photographs were brought safely back on board. Once airborne, the wing took about a half an hour forming up. The strike was then one hour and a half late and the enemy on the alert.

Operation 'Lentil' the fighter sweep (4 Jan.45)

At 0720 hours, the 8 Hellcats and 8 Corsairs flew off and followed the 125 mile course to the airfields they were to neutralise. They flew most of the sea distance at deck level, climbed the 10,000 feet mountain range which runs down the centre of Sumatra, came down on the approach to ground level to attack the four airfields, making one run only over each target. Forty or more aircraft were sighted on the ground, viz. 6 - 7 twin-engined bombers and upwards of 16 fighters at Medan, at Bundjel an undefined number among the trees, at Tandjoeng Poera upwards of 10 fighters, but nothing at Treemon. Of those sighted, seven were destroyed on the ground: of these, two were Sallies and four probably Sallies at Medan and an Oscar at Tandjoeng Poera. Our fighters, flying low, could only fire *that happened to be in front of their guns. Had* at anything they pulled up to over 5,000 feet altitude a few miles from the airfields, they might well have observed the numerous dispersed Japanese aircraft. Aircraft in the fighter sweep also shot down two Sallies in the vicinity of Medan.

The Firefly strike

At 0945 hours on 4 Jan.45, the main strike force of 31 Avengers and 12 Fireflies, with an escort of 15 Hellcats and 15 Corsairs stepped up to 15,000 feet, were prepared to attack the main target. When about 12 miles from the refinery, the 12 Fireflies were detached to carry out rocket projectile strikes, one flight against each of three targets, viz., the power house, the trumble plant and the pre-topping plant. They attacked and got away to the North, setting a small tanker afire as they passed over the area. One Firefly ran out of fuel and ditched near H.M.S. Indefatigable. Four oil tanks were set on fire, the smoke ascending to 27,000 feet and largely obscuring the field for a photographic reconnaissance aircraft operating there.

The Avenger strike

Thirty-one Avengers, too, following with bombs, had difficulty in identifying their targets through the haze. Glide-bombing into wind, they attacked various refinery installations including the Eddeam plant, the central pumping house and the power house. The ground defences, which opened up during the approach

are tougher than in Operation 'Robson', accurate for height and range and creeping ahead of our formations. Even then, the combined anti-aircraft and machine-gun fire was not described as outstandingly formidable. Only two Avengers were damaged by anti-aircraft fire. ^{Another} ~~and then~~ developed engine trouble and force-landed in the sea about 12 miles off-shore.

The strikes, photographs proved, had some worthwhile successes, including hits on the central pumping house and power house, near misses on both ends of the Bideanu plant, fires in the trouble plant, considerable damage to the pre-topping plant, fires raised in eight pre-topping tanks and five oil tanks. All in all, the operation demonstrated some nice marksmanship. Some Hellcats strafed separate targets at Brandan and Seesee.

Enemy air reactions ~~4/1/44, 4/2/44, 4/3/44~~

It cannot be confirmed how many of the hundred or more aircraft in the area were under repair or trainers, but the reaction on 4 Jan. 44 was certainly not typical of trained aggressive Japanese units. Only six-ten Oscars came in over Brandan. Only one of these made a determined attack and five were shot down. One pilot baled out without having been fired upon at all. The fact that the Oscar pilots took little or no evasive action may have meant that they were only trainees, but there is no evidence from Japanese sources.

After completion of the strike, the Fleet patrolled up the coast towards Sabang for the remainder of the 4th, during which time four reconnaissance aircraft - probably Dinahs - were plotted performing a square search North and South, and from 40 - 70 miles away. They had evidently lost sight of the Fleet, a fact difficult to understand, as the Fleet was always within sight of land and this square searching drew further and further away: but at 1700 hours, a Dinah closed the Fleet at 32,000 feet. The flagship opened up with anti-aircraft fire and the Dinah retired.

Operation 'Lentil' in retrospect

In its proper context of development by trial and error, Operation 'Lentil' exemplifies the best and the worst the Fleet Air Arm could do in its contemporary state of training. Although the sweep and the strike were unmatched by any strong local defences, the rocket-and bomb-aiming was good. Considerable destruction to

/refinery

refinery installations was certain. It had now been proved that carrier-borne aircraft could cross Sumatra into the Malacca Strait ports and assault key oil targets as far as Brandon and that the Japanese could literally do nothing to stop the aircrews, of whose keenness there is not the shadow of a doubt. But much more than enthusiasm would be called for in the days ahead when British aircrews entered the sealed area of Pacific operations and matched their skill against veterans of the Japanese Air Force in strength under the critical eyes of the American Carrier Forces, who had already an incomparable record behind them. Before that happened, and in the same month of January, a much more serious trial of strength was to take place, which was the attack on the strongly defended oil base at Palembang; and Operation 'Lentil' should be regarded as a rehearsal for that attack.

Turning to the debit side of Operation 'Lentil' there was substance and objectivity in the criticisms of the Air Command's Air Tactics Officers on the tactical conception and execution of both sweep and strike. The essence of error lay perhaps in the situation revealed in the following terms:-

" Though those criticisms may sound unkind, they are not intended as such; the aircrews had the disadvantage of being inexperienced, new to the theatre and having their tactics planned by non-flying Senior Officers.

Aircrews are extremely grateful for Royal Air Force tactical intelligence, but this is limited by the attitude of the Staff Officers on the spot, who would possibly prefer to learn by trial and error, rather than appeal to the Junior Service for advice."

/Against

SECRET

Against this background, the reports of deck overcrowding, chronic delay in starting, erroneous altitude and failure to follow-up the airfield fighter sweep, premature rocket attack and a high accident rate may not seem unintelligible. As for the Fleet's idea of avoiding hits on the oil tanks so that a few small transports might, in theory, be sunk, one cannot quarrel with the contention that this amounted to forsaking a mackerel to catch a sprat.

/ Japanese

SECRET

(1)
Japanese Air Defence of Palembang

When carrier-borne aircraft of the British Pacific Fleet struck at Palembang on 24 and 29 Jan. 45 in Operation 'Meridian', ⁽²⁾ they ran into the most severe air opposition yet encountered in such operations from Ceylon. Although an exact Japanese order of battle has not come to light, it may be safely stated that there were not less than 100 enemy fighters engaged.

Throughout 1944 and early 1945, the Japanese Air Forces gave a high priority to the defence of oil refineries in both Borneo and Sumatra, tying down a substantial number of their best aircraft and pilots. The responsibility for most of the oil targets (including Palembang) was that of the Japanese Army. In January 1944, a new ^{division} air ~~division~~ was formed for the special defence of Palembang and a large part of all anti-aircraft artillery and radar in the southern area was concentrated in the vicinity. Thereafter, until the Spring of 1945 and despite the urgent needs of other areas, between 50 and 100 first-line Army fighters (for example Tojos, Oscars and Nicks), were maintained near Palembang. When Allied aircraft struck in late January, the local air division was up to maximum strength. This fact enhances the value of the results of the dual operation 'Meridian'.

There were three airfields in the area likely to be used by the enemy, ⁽³⁾ namely Mana, Lembak and Talangbetootoe.

Statistics of Palembang Oil Production at the Close of 1944

The figures published by the Singapore Petroleum Board for crude oil processed and refined oils produced by the Pladjoe and Songel Gerong refineries at Palembang during December 1944 compared very favourably with the average attained ^{previous periods} in the past. It was true that some items had begun to decline on account of attrition by Allied air and naval forces on tanker tonnage and other forms of distribution by road, railway and sea. Less and less was reaching the home islands as the Pacific forces got further astride the Japanese strategic life-line. Nevertheless, production was still very high and this meant that storage depots feeding the fronts in Burma and the South West Pacific theatres of war could be kept topped up to maximum capacity for some time to come.

(1) 'Japanese Air Power', U.S.S.B.S. (Pacific) Military Analysis Division July 46, p. 20. (A.H.B.IIF.2/81/4).

(2) The third phase of Operation 'Outflank'.

(3) 3°18'S, 104°24'E.

Production figures were still striking. While the full details accessible must be deferred to an appendix ⁽¹⁾ to this volume, it is worth considering the figures for aviation gasoline for December 1944. The production at Pladje was 251,000 barrels and at Songoi Gerong 46,000 barrels, giving a grand total of 297,000 barrels, not remarkably lower than the maximum previous output figures. The corresponding output figures for motor fuel, kerosene, Diesel oil, fuel oil, lubricating oil, paraffin, cokes and asphalt were all satisfactory. The time for a strike was ever-ripe, and the means to deliver it at long last available.

l.c. Forces for the Pladje Strike ⁽²⁾

Palembang was to be attacked in two strikes. The first, on the Pladje refinery, on 24 Jan. and the second, on the Songoi Gerong refinery, on 29 Jan. 45. Operations 'Meridian I' and 'Meridian II' designed to destroy them, ^{were} to be carried out by Force 63, commanded by the Flag Officer Commanding Aircraft Carriers, British Pacific Fleet. The four carriers involved were H.M.S. Indomitable, Indefatigable, Victorious and Illustrious.

Operation 'Meridian I' ^{was} organized as follows:-

Pladje strike	10 Avengers (849 Squadron) from <u>Victorious</u>
	10 Avengers (820 Squadron) from <u>Indefatigable</u>
	12 Avengers (854 Squadron) from <u>Illustrious</u>
	11 Avengers (857 Squadron) from <u>Indomitable</u>
The above were armed with 4 x 500 lb. bombs.	
Top cover	11 Corsairs (1834, 1836 Squadrons) from <u>Victorious</u>
Strike and bow close escort	11 Fireflies (1770 Squadron) from <u>Illustrious</u>
Stern close escort	8 Corsairs (1833 Squadron) from <u>Illustrious</u>
Middle cover	8 Corsairs (1830 Squadron) from <u>Illustrious</u>
	16 Hellcats (1839, 1844 Squadrons) from <u>Indomitable</u>
Main strike	4 Avengers (857 Squadron) from <u>Indomitable</u>
Escort	4 Hellcats (1839, 1844 Squadrons) from <u>Indomitable</u>
	12 Corsairs (1834, 1836 Squadrons) from <u>Victorious</u>
Airfield sweeps	12 Corsairs (1830, 1833 Squadrons) from <u>Illustrious</u>

The number of bombers was related to the number of fighters available for escort, the estimate of enemy fighter strength and the ranging capacity of the four carriers. Both strikes were to be controlled by an Air Co-ordinator, ⁽³⁾ who was to accompany the forces (each with their own Strike Leader) take photographs and, if necessary, engage in combat. Four Avengers, two Fireflies and one escorting Corsair became unusable shortly after take-off.

/ Operation

(1) Appendix 31.

(2) General sources for details of Operation 'Meridian' are Admty. B.R.1736(50)(6); Admty. M.03026/45, M.03320/45, A.0273/45, A.0329/45 and A.0657/45; C. in C. E. Fleet despatch (A.N.B.VI.C/4/72; Admty. Case 9269; Admty. C.B.3053(11).

(3) Maj. R.C. Hay, R.N.

l.c. Operation 'Meridian' - Approaches to Flying Off Position

The major part of Force 63, which included the strongest carrier force yet sailed from Ceylon, left Trincomalee at 1430 hours on 16 Jan. 45. During the first three days, night encounter, aircraft shadowing, interception and various other exercises were carried out. Force 69 had previously sailed to the first oiling rendezvous, where the Fleet oiled on 20 January.

The weather for Operation 'Meridian's two phases was unfavourable. The inter-tropical front lay obstinately against the Sumatran coast until the 23rd. While providing a convenient screen in which to operate, it detracted on the whole from success, because, on one account, spray and torrential rains affected the serviceability of the large number of aircraft necessarily parked on deck.

On the nights of 21/22 and 22/23 January, Force 63 approached the flying-off position, but was forced back on account of bad weather and the forecast of more to follow. At 0400 hours on the 24th, it was still bad, but by 0600 hours had cleared for flying-off. Rear Admiral Vian considered the good drill of the squadrons was manifested in that so considerable a group formed up without undue trouble. Their manoeuvres, in effect, fell short of the best that might have been expected and here again there appear to have been gaps in the tactical planning. We will allow the record of the Air Co-ordinator to speak for itself.

On the morning of 24 Jan. 45, the Fleet carriers must be envisaged in the flying-off position 70 miles east of Enggano Island, ⁽¹⁾ the south-eastermost of the large islands fronting the west coast of Sumatra, well down towards the mouth of Sunda Strait.

l.c. Form-up and Flight to Target

Departure of the main strike force (the first range) was taken at 0704 hours, nine minutes late. This was in a sense fortunate, for H.M.S. Indefatigable's 12 Fireflies, the 24 Corsairs of the fighter airfield sweep and the small strike on the nearby airfield of Mana were also late. Ships were slow in preparing this second range and were hampered by aircraft of the first range already returning for emergency landings. The wind was variable, at one time veering to the north-east; but the force kept fairly near the flying-off position. ~~The escort took up their correct escort intervals.~~ An accurate landfall was made at 0718 hours at 4,500 feet.

(1) In 05° 41'S., 103° 32'E.

In good formation the climb was continued to 7,000 feet, the mountains cleared and, for some reason undisclosed, this height was not lost again as planned. Weather was excellent. There was thin 10/10th mist at about 20,000 feet, enabling pilots to look into the sun with ease, and very low 10/10th stratus cloud over large areas of the country. The wind blew from the south-east and visibility was good at 60 miles. At 0739 hours, they passed over Mount Matapoera. At 0803 hours, only 12 minutes before the attack, the strike reached 12,000 feet, too late. From the escort's point of view the strike should have been at its top height a minimum of 50 miles from the target. The formation could then have descended at 160 knots, from 12,000 to 8,000 feet in 19 minutes.

When about 20 miles from the target, the Fireflies, owing to their late departure, had still not joined the main strike, so that, when the Strike Leader called on them to go ahead and attack the balloons flying at 3,000 feet round the target, there was some delay and it seems doubtful if they ever received the order. (1)

At about 0808 hours, the enemy anti-aircraft defences opened fire while the strike was still out of range, pointing to prior warning of the approach of aircraft. Almost immediately afterwards, about 25 Tojo Army fighters, flying at 13,000 - 15,000 feet, engaged the Corsair and Hellcat escort from above.

l.c.
The Fighter Sweep and the Attack on Pledjee (24 Jan. 45)

The 'Ramrod' fighter sweep forged ahead past the main strike and took the enemy on Lembak airfield by surprise. Before he had recovered, the sweep was over the Palembang and Talangbetoetoe airfields, where the news had just arrived the enemy was on the alert and the anti-aircraft fire much more intense and accurate. A typical estimate of the extent to which the defences were crippled was 34 aircraft destroyed and 25 damaged on the ground. In this way, the chances of the main strike were considerably enhanced and the by now classic plan of early defence reduction again justified.

Then followed the Fireflies, who flew through flak and a balloon barrage and, with their first bombs, hit several oil tanks which burst into flames. The Avengers followed into the increasingly accurate and consistently heavy ground fire and some of them dived through the balloons, which were flying up to 6,000 feet at sundry levels, so as to press home their bombing attacks. It was the business of the Avengers and Fireflies to saturate their targets with bombs and

(1) Owing to R/T interference.

/ stay

stay until all were dropped. It was the business of their fighter escorts to deal with the Japanese Army fighters who came up in force to break up the main strike.

To the Air Co-ordinator it appeared that No. 1 Wing (Indomitable and Victorious) hit their targets well and that No. 2 Wing (Illustrious and Indefatigable) destroyed about one-half of theirs. The area was covered with burning oil fires. In the intervals between engagements with enemy fighters and evasive actions, he took a number of oblique photographs, leaving the target area at about 0823 hours.

Air Battles

All through the attack Japanese pilots fought and saturated the escorts. The opposing formations dived and swerved through the walls of anti-aircraft fire, bursting up to 15,000 feet, in the abandon of the battle. There were three or four twin-engined aircraft seen among the Japanese, although their precise function was not understood.

The escort claimed to have destroyed a total of 13 enemy fighters and 6 probables. Japanese broadcasts later admitted the loss of 14 fighters. The small striking force sent to Mana airfield reported little activity there. One aircraft was destroyed on the ground and the runway bombed. One Hellcat pilot was slightly wounded by anti-aircraft fire. In all 6 Corsairs, the 1 Hellcat and 2 Avengers failed to return. At least two members of the crews made safe landings ashore. In addition, one Corsair pilot and one Seafire pilot had to bale out over the Fleet.

Withdrawal and Return to Carriers

Although R/T discipline was good, the excitement of combats continuing to the end so distracted the escort crews ^(already late in some cases) that when the Avengers turned for base they were inadequately protected and the few Fireflies present were insufficient to hold off the persistent Japanese fighter attacks. When these were called off at 0825 hours, the escort quickly formed up on the strike and the mission returned without mishap. The top cover flown from H.M.S. Victorious dispersed two Tojos attempting to shadow the formation. Although attempts to home by beacon failed (as they had often done), the group broke up at 0928 hours for a successful landing-on, which began at 0940 and was completed by 1025 hours. Before Force 63 retired to the south-west, an enemy aircraft was plotted, but it got away,

/ probably

probably with photographs. At 1415 hours, 24 January, a group of 'four plus' enemy aircraft was detected by radar, when the Fleet was still about 42 miles south of Enggano Island. Having circled the island this group faded to the north-west at 1430 hours, and the high combat air patrol attempting interception was recalled. This, it was believed, was the last attempt to locate the Fleet.

The main body of the Fleet sailed on 26 and 27 January. The situation revealed was that the fuel situation would allow no more than one more strike at Palembang.

l.c.
Plan for the second Strike on Palembang

Lessons learned from the first operation were employed to improve the plan for the second, which had as its object the destruction of the Sengol Gerong refinery, the next to Pladjee in importance. The first important change lay in the division of the fighter 'Ramrod' sweep into two parts, timing being such that the two independent squadrons of Corsairs arrived simultaneously at Lembak and Talangbetotee (the two main Japanese fighter fields), leaving patrols over those airfields after the sweeps. This must have pleased the R.A.F. Air Tactics Officer of Air Command S.E. Asia, who knew the importance of saturation and continuity.

The two Avenger Wing Leaders had been greatly impressed by the weight of anti-aircraft fire encountered round Palembang town and persuaded the planners to arrange for the bombers to turn right handed after bombing and proceed to the rendezvous passing south of the target by a longer withdrawal route. The danger from Japanese U-boats was borne in mind and an emergency flying-off position north of Enggano Island provided for.

Further precautions were taken to protect the Fleet which, it was apparent, had been observed and measured. The enemy, who would add to his reconnaissance evidence any information he could extract from aircrews taken prisoner, would assume a return journey and an attack on the other refinery and organize an air attack, perhaps with Kamikazes, on the units of the Fleet itself, but without appreciable reinforcements.

It was, therefore, decided to reduce the escort of the main strike and strengthen the umbrella, holding at least four fighters from each of three carriers to stiffen the standing air patrol from the fourth (H.M.S. Indefatigable).

/ The

The Fireflies were to function as close escort fighters with the exception of a few reconnoitring Mana airfield. (1)

Order of battle for Operation Meridian II

The following was the composition of the air formations for the attack on Songei Gerong:-

Songei Gerong strike	12 Avengers (849 Squadron) from <u>Victorious</u>
	10 Avengers (820 Squadron) from <u>Indefatigable</u>
	12 Avengers (854 Squadron) from <u>Illustrious</u>
	12 Avengers (857 Squadron) from <u>Indomitable</u>
Close escort	12 Corsairs (1836 Squadron) from <u>Victorious</u>
	9 Fireflies (1770 Squadron) from <u>Indefatigable</u>
Middle cover	16 Hellcats (1839, 1944 Squadrons) from <u>Indomitable</u>
Top cover	12 Corsairs (1830, 1833 Squadrons) from <u>Illustrious</u>
Airfields 'Ramrod' sweeps over)	12 Corsairs (1834 Squadron) from <u>Victorious</u>
Lembak and Talangbetotee)	12 Corsairs (1830, 1833 Squadrons) from <u>Illustrious</u>
Mana airfield armed reconnaissance.	2 Fireflies (1770 Squadron) from <u>Indefatigable</u>

Bomb-aiming was as before, 4 x 500lb H.C. bombs.

Flight to Coast and Target (29 Jan.44)

When Force 63 arrived at its position at 0600 hours on 29 January, it found heavy rainstorms off the coast and poor visibility. Assembly of aircraft was carried out more expeditiously than on the first strike. Fireflies joined up with the main body before it crossed the coast and the 'Ramrod' sweeps were at the airfields on time. Weather improved as the morning wore on.

In tidy formation, strike and escort crossed the coast at 0752 hours at 5,500 feet, climbing through cumulus to cross the mountains. Over the eastern plain thick cloud lay, favourable for their approach: but as the weather worsened and top cover was forced down by cloud, pilots wondered if they would find the target. When they did, they found clear weather, an enemy fighter patrol waiting for them, reinforced anti-aircraft defences and again the detested balloons. The wind blew steady from the north-west. All fires from the raid of the 24th on Pledjee were out.

/ Second

(1) On the West coast.

Second Sweep and Strike (29 Jan. 45)

The Ramrod Corsair sweeps found very little on their airfields, for most of the aircraft were already airborne: but their standing patrols were undoubted deterrents preventing landing, fuelling, reinforcement and further take-off. They reported destroying four aircraft and damaging two.

The main strike reached the target area without mishap but, as soon as they deployed, ⁽¹⁾ there was a time-lag in the adjustment of cover and some ⁽²⁾ were attacked on the run in to the target. The first squadron to go in ⁽³⁾ bore the brunt of the dense, accurate anti-aircraft barrage and was lucky not to suffer heavier losses. The Fireflies looked after the balloons.

Many Avengers dived through the balloons to bomb low and two of them ⁽⁴⁾ were lost in colliding with balloon cables. Most of them concentrated on their bombing and were seen to hit severely some of their targets. Bombing by the first formation - No. 1 Wing - was described as 'truly impressive' by the Air Co-ordinator then present. The smoke over the target obscured the vision of No. 2 Wing following down. Although the first bombs set some oil tanks afire, some of the last of the bombers could obviously not observe their ~~correct~~ ^{and} target, correctly chose an alternative. One stick was seen to burst along the wharves. Pladjoe lay open in clear air, inviting further destruction; but the orders were to bomb Songei Gerong and this was done so effectively that they left the area a sea of flames.

Air Opposition (29 Jan. 45)

Just before the deployment of the bombers, several Japanese fighters dived down on them, seemingly avoiding the top and middle cover. The plan for guarding individual bomber squadrons by sections of the escort failed to work and the bombers were closely harassed in their operations. There were frequent combats between our escorts and Japanese fighters, in the course of which, it

-
- (1) The step-aside deployment plan used gave our escorting fighters a more difficult task than the circular deployment used at Pladjoe.
 - (2) The second squadron of the first wing (No. 849 Squadron).
 - (3) No. 857 Squadron.
 - (4) Of No. 854 Squadron.

/ was

was claimed, seven enemy fighters were destroyed and three probably destroyed. The Fleet Air Arm had to ditch nine of the strike aircraft as a result of damage by fighters and anti-aircraft fire; the crews of eight were recovered. So much waterlanding reflected the resolve of aircrews to avoid becoming prisoners of the Japanese and in its turn created tough problems for the air sea rescue organization: in the two strikes only two crews were lost on the water. But in all, nine missing men fell into enemy hands and all of them were murdered in cold blood several months later. ⁽¹⁾

l.c. Aircraft Successes and Losses in Operation 'Meridian'

At this point, the aircraft score may be quickly noted. The total Fleet Air Arm losses of aircraft in both strikes totalled 41. Of these, 16 were by enemy action, 11 by ditching and 14 in deck crashes and similar accidents. These figures although serious, were bearable when set against the splendid results of the enterprise and certainly compared favourably with the Japanese's broadcasted claim to have destroyed over 200 aircraft.

Various official Allied sources have put forward conflicting, largely unverified estimates of the Japanese aircraft casualties in the two phases of the attack on Palembang. As there is no human means of arriving at a 100% accurate figures, it will suit most serious purposes if the considered report of the U.S. Strategic Bombing Survey, in Section VI of their study on Japanese air power, is accepted. This is, briefly, that in the operations of 24 Jan. 45, 11 aircraft were shot down and 62 destroyed on the ground; and that in the operations of 29 Jan. 45 some 13-14 were destroyed in the air and 6-7 on the ground. The total number of aircraft believed destroyed by all means is therefore put at 93.

/Enemy

(1) Admiralty R.O. Case/Cabinet Committee 727, Vol. II.

Enemy Attacks on the Fleet (29 Jan. 45)

The premonition that the Japanese would endeavour to cripple the British Pacific Fleet developed into actual fact. It was as well that the fighter umbrella had been strengthened. While the strike and sweep aircraft were in the Palembang area, radar indications were picked up (at 0900 hours) of an aircraft in the vicinity of the Fleet. When sighted at 0917 hours by Seafires, it made off at high speed and was lost in clouds. These low clouds covered the Fleet from the view of a few enemy aircraft which approached from the north at 0939 hours. The fact that Seafires sent up to intercept shot down one of them - a Dinah - 28 miles west of the Fleet seems to suggest that they might have missed the Fleet: but it may also well be that the Seafire's interception gave the Japanese a clue to its position.

At 1026 hours, a group of upwards of 12 enemy aircraft were reported approaching from the north, while the strike was landing on. Seafires and Corsairs of the fighter patrols were vectored out. Corsairs chased two single-engined aircraft carrying bombs far to eastward. One Corsair failed to return. At 1028 hours, a few more enemy aircraft passed the Fleet about 40 miles to seaward, but made no deflection from their course. It was believed they had not seen the ships. The next formations showed greater curiosity. It was at 1152 hours when aircraft were detected approaching from southwards. These were one Helen and six Sallies, all Army bombers. Seven Seafires on low patrol wide of the Fleet to the northward were vectored on to the enemy. They were joined by three Hellecats from H.M.S. Indomitable, whose crews were just relieving the Combat Air Patrol.

The Japanese dropped to 50 feet and came in to the attack from the port quarter of the Fleet upwind. The Fleet took this for the opening of a torpedo attack and manœuvred into the best defensive formations. Although the Seafires broke up the enemy formation, the latter carried on individually; most succeeded in reaching the inner, carrier, ring of ^{the} main body of the Fleet, where they were attacked by our fighters diving through the exploding shells of the ships' guns. The Sally bombers were determined. From their behaviour, although a plan of attack was lacking, they were believed to be manned by suicide crews and

/ subsequent

subsequent Japanese broadcasts tended to confirm this. Seafires, ordered to break off at Bofors range, followed the Sallys down into point blank pom-pom range of the ships with a total disregard for their safety. Six and probably all seven Japanese aircraft were destroyed. Of them, ships' guns accounted for one. The only damage to our ships was occasioned by accidental hits on H.M.S. Illustrious by shells fired by our own forces. This led to ^{some} 1/2 fatal casualties and ~~4~~ wounded.

Having used up their assault force, there was nothing more the Japanese could do but reconnoitre the Fleet. They were observed in this occupation from 1212 to 1430 hours: again, at 1818 hours, a single aircraft approached from the north-eastward at 15,000 feet. Corsairs were vectored out to meet this intruder but, miscalculating his intentions, flew too low, lost him and had to return before darkness fell. The enemy aircraft remained in the vicinity until about 1910 hours, while the Fleet steered a course towards Ceylon. This was only to assemble at the oiling rendezvous, after which Force 63 made for Fremantle, which they reached at 0600 hours local time on 4 February 1945.

Tactical Results of Operation 'Meridian'

The oblique photographs taken by the Air Co-ordinator were, although broken off on account of smoke before the end of the strike, very encouraging. At Pladje on the 24th, hits were obtained on the crude distilleries and run down tanks and enough hits in the general area of the reforming, distillation, redistillation and cracking units to suggest about 30% destruction. Either the main boiler or electric power house were hit and two transformers destroyed. At Sengai Gerong on the 29th, direct hits were claimed (but could not be confirmed) on boiler and electric power houses, hits on one cracking plant, coke stills, pipe and re-run stills and fractionating columns, with probable hits on a depropaniser and a cracking plant.

Various broad statements relating to what this meant in decreased output have been made. For example, it is recorded in the report of the Oil and Chemical Division of the U.S. Strategic Bombing Survey that production was reduced 50 per cent for one month. The Admiralty Historical Division and the author of

(1) C.B.3303(6) draft p.43 and N.I.D.02477/47.

(1)
The War at Sea say the output of Pladjoe refinery was halved (according to Japanese reports) and the production of Songei Gerong totally stopped for two months and that, as late as the end of March 1945, the Palembang refineries were only working at one third of their capacity.

A really serious enquiry into the results of the bombing, such as is customary in R.A.F. historical research, looks for some greater refinement in statistical analysis. For that purpose, the monthly throughput and production figures for all types of oil for both refineries are given from June 1942 until July 1945 at Appendix 31 to this volume. The significant fall of the graph into unprecedented troughs after Operation 'Meridian' will be at once apparent; and the figures ^{can be} related to past effort and the course of the war before and after the attacks. At the end of February 1945, the monthly crude oil output at Pladjoe had dropped from 1,039,000 to 265,000 barrels: in March, it fell still further to 173,000 barrels. The crude oil output at Songei Gerong fell from 666,000 to 160,000 barrels in February. There were corresponding falls in almost every kind of fuel produced.

There can be no disputing the fact that as a military operation in the context of the period, Operation 'Meridian' was a brave and considerable achievement. The damage and delay inflicted were on an impressive scale. It is regrettable that the Fleet was unable to deliver the third blow it intended, for, as the statistics show, the throughput was rising steeply again in March at Songei Gerong and in April at Pladjoe.

l.c. Strategic Results of Operation 'Meridian'

To adjudge correctly the impact of the Palembang strikes on current strategy, the mind must be cleared of all 'theatre complexes'. In Europe, the intense and not always entirely disinterested propaganda centering round the landings in North-west Europe has overshadowed the importance of the Mediterranean campaign and clouded the vision of some historians, who should have been less easily impressed by great weight, great numbers and great noise. So it was in the Far East. The Americans, working from the Pacific towards Japan and the Inner Zone found it hard to accord sufficient meaning to important operations in the Outer Zone such as those in South East Asia and the Dutch East Indies.

(1) Reskill.

/ Typical

Typical of the general under-estimation of the value of air operations in the Outer Zone is the way in which the U.S. Strategic Bombing Survey dismissed the effects of Allied air attacks on Palembang and Balikpapan (Borneo). The exact terms used were:

'There is no indication that these air activities had any strategic effect, because more oil was always available in the Southern Zone than could be shipped out.'

It has been claimed that the fast carrier incursions into the South China Sea knocked the bottom out of the tanker traffic and cut the lifeline between Outer and Inner Zones, that submarines made it practically impossible for ships of any appreciable tonnage to transport supplies in the India-Burma-China and the S.W. Pacific theatres of war, and so forth, ~~in fact a series of unilateral claims for the sole credit in the winning of the war against Japan.~~

It is true that the U.S. fast carrier incursions into the South China Sea dealt a serious blow to the tanker traffic, that U.S. and Australian amphibious forces cut the lifeline between Outer and Inner Zones, that Allied submarines crippled the heavier sea transport forces of the enemy. But none of these contributions, outstanding as they were, ended the war. In January 1945, the Japanese were still strong and were producing oil and distributing large quantities, although in smaller vessels. Much of it was reaching its destination, but the erosion of air attack on railways and bridges, of the mining of ports and the carrier-borne air attacks were also playing their part. The time was critical. The heavy blows on Palembang fell exactly and only just in time on the fuel output and they were decisive inasmuch that when the output was pressed up again, the situation was turning mortally against the Japanese and it was too late for recovery.

/carrier

Carrier Operations by the Eastern Fleet off Arakan
(January - February 1945)

Introduction

Detailed accounts of the Third Arakan Campaign have been written by officers of South East Asia Command and the three Service ministries: ⁽¹⁾ the Official Histories Branch is engaged on a broad survey of events in the theatre from August 1944 to August 1945. It is not intended here to go over any of the same ground; but it is of interest to isolate the landings at Ramree and Chaduba Islands. There was no direct air support for the unopposed landing at Akyab on 3 Jan. 45, ⁽²⁾ although Hurricanes and Spitfires provided top cover for the naval bombardment force which was standing by. The landing on Ramree Island on 21 Jan. 45 ⁽³⁾ met with serious opposition and was of particular interest inasmuch as land-based and carrier-based air formations co-operated in supporting an amphibious operation and land attack, as they had done at Salerno and in Provence. Small as the effort was by major standards, it showed that the Trincomalee escort carriers had one more role in their repertoire. The landing on Chaduba Island ⁽⁴⁾ on 26 Jan. 45 was entirely a Royal Navy affair. This time, the escort carrier's role was limited to spotting for the warships.

The third Arakan Campaign opens

A brief sketch of the military scene will provide background for carrier operations in the early months of 1945.

The original plan for the Arakan was known as Operation 'Romulus'. Troops and air forces were already on the move for a land advance down the Arakan which was to destroy the Japanese there. Once this was accomplished, the island of Akyab was to be retaken and large forces thereby released for future large-scale amphibious operations. It soon became clear that an unexpectedly rapid advance

(1) Despatch (No. 224 Group) by A.V.M. The Earl of Bandon 15 Oct. 44 - 15 May 45 (A.H.B.II.50/47/17); A.H.B. Narrative 'The Campaigns in the Far East,' Vol. IV; Admiralty Staff History 'War with Japan' Vol. IV and B.R.1736(50)(6); Roskill 'The War at Sea' Vol. III Part II; Despatch by Earl Mountbatten C.30868; Report on naval operations in Ramree Island area by C.-in-C. E. Indies C.32033/46 and others.

(2) Operation 'Lightning'.

(3) Operation 'Matador'.

(4) Operation 'Sankey'.

by the Fourteenth Army in Central Burma meant that it would soon be outside the range of economical air supply by the few transport squadrons available and that should the Army reach Rangoon before the 1945 monsoon broke, more advanced airfields for these squadrons would be essential. Plans were therefore laid for the early capture of Akyab and Ramree and the construction of all-weather airfields. It was only 250 miles from Akyab to Toungoo and the same from Ramree to Rangoon. The new plan, complementary to 'Romulus', was known as Operation 'Talon'. The plans to take Akyab, Ramree and Chaduba were known as Operations 'Lightning', 'Matador' and 'Sankey' respectively.

A special committee was set up to co-ordinate land, sea and air operations. No. 224 Group (based at Chittagong) sent an advanced party forward to join the new combined H.Q. at Shalimar, near Cox's Bazaar. When, on 2 Jan. 45, an A.O.P. aircraft pilot reported no movement in Akyab, the main 'Talon D' plan was modified to cover a mass unopposed landing on 3 January. Akyab was entered on that day, a fortnight ahead of schedule in what was named Operation 'Lightning', modified to suit an unopposed landing. The Navy rushed in supplies and arms and the Army, supported by the air forces, pushed on to Myeong and captured it on 25 Jan. 45. Work began on an advanced fighter base at Akyab.

d.c. Support by H.M.S. Ameer for the Ramree Island Landing (21 Jan. 45)

It was now possible that Rangoon would be captured before the monsoon broke, but the Fourteenth Army was already well outside the economical range of air transport. Ramree would, if it could be taken, function as a new air supply base from which the much shorter run could compensate very largely for a shortage of air transport if the Americans insisted on withdrawing their squadrons.

On 12 Jan. 45, an assault from the sea was made on Myebon (Burma) in what was known as Operation 'Passport'. The landings were opposed but successful. The Navy proceeded to cut the enemy's inland waterway communications and destroy his supply craft. No carriers participated.

On 21 Jan. 45, an amphibious landing (Operation 'Matador') for the recovery of the hotly-defended island of Ramree was conducted with success. The naval force was in considerable strength. Proceedings opened with a naval bombardment. The escort carrier H.M.S. Ameer accompanied the flagship H.M.S. Queen Elizabeth; her 24 Hellcat aircraft spotted the fall of the shells. Other warships fired

/ with

with direct observation. The bombardment was suspended to allow the fighter and bomber aircraft (of No. 224 Group) to cannon and bomb the landing beaches ahead of the assault troops, while, further inland, Liberators ~~(of the 7th Bomber Group)~~ and Liberators ~~(of No. 234 Group)~~ bombed targets and strong points.

After the troops were ashore, the bombardment recommenced ~~with H.M.S. Amear again spotting and providing cover.~~ ⁽¹⁾ H.M.S. Ameor spent a busy day spotting for guns, providing cover and attacking enemy positions with cannon. Ground and air attacks continued until 25 Feb. 45 when the C.-in-C. East Indies reported operations virtually ended. ⁽¹⁾

l.c. Japanese Air Attacks on the Fleet off Ramree

Spitfires and Thunderbolts provided top cover from dawn to dusk daily. Weak as the Japanese Air Force was in the region, the huge assembly of ships of all tonnages was an irresistible target. On 12 Feb. 45, at about 0915 hours, in very poor visibility, two flights of four Oscars each attacked two destroyers, considerably damaging one of them. Spitfires were scrambled, but in a failing light made no contacts. A few days later, a reconnaissance Dinah was shot down by Spitfires. The Japanese Air Force went back to the defensive, husbanding its meagre resources for small token efforts. After all, they only had a paper strength in Lower Burma of about 80 single-engined fighters and 16 twin-engined reconnaissance aircraft to support their armies.

l.c. Support by H.M.S. Ameor for the Cheduba Island Landing (26 Jan. 45)

In January 1945, the escort carriers in the Eastern Fleet were divided into the 1st and 2nd Divisions. The 1st comprised H.M.S. Empress, H.M.S. Regent and H.M.S. Shah (both anti-submarine). In the 2nd came S.S. Ameor, the flagship. It was, again, H.M.S. Ameor who participated in an amphibious landing. This occasion was the landing of a force of Royal Marines on 26 Jan. 45 at Searle Point on Cheduba Island, about 100 miles south-east of Akyab.

-
- (1) Good accounts of proceedings may be found in the R.A.F. narrative 'South East Asia' pp. 325/6 (A.H.B.) and the Earl of Bandon's despatch (A.H.B. II.J50/47/17), C.-in-C. East Indies papers at Admiralty comprising Cases 9268 and 9269 Weekly Summaries and T.S.D. 445/44 cover Naval Air operations from September 1939 - December 1945. See also C.B.3053 (10) and (11) at Admiralty.

/ Force

Force 65, which included three cruisers, left Trincomalee on 23 Jan. 45. On the 25th, they were joined by the escort carrier H.M.S. Ameer and other vessels. On arrival off Cheduba Island ⁽¹⁾ on 26 January, troops were landed and soon overcame the half-hearted defences. Covering fire was provided by ⁽²⁾ cruisers and destroyers. Helicopters from H.M.S. Ameer spotted for the guns. The neighbouring Sagu Island was occupied on the 30th.

Disappointing outcome to the third Arakan campaign

Pending a complete and final assessment of the value of these and other landings carried out during the third offensive in the Arakan, serious doubts still exist as to whether we reaped the advantages hoped for or fully exploited the situation achieved. By the end of April 1945, we were firmly in possession of the whole, long-contested coastal strip and had gained the use of valuable forward bases from which new combined operations could be mounted. It seems difficult to explain why ⁽³⁾ (writes a naval historian of repute), with virtually undisputed command of the sea and air, and an enormous superiority over the Japanese land forces, we were unable to accomplish the total destruction of the one division comprising the enemy garrison: in the event, a proportion of its troops successfully made their way over the mountains to join their main army in the Irrawaddy Valley, where they played an important part in later battles.

As regards the establishment of air bases for supply of the Fourteenth Army in its final advance, this was not accomplished, either. The increased flow of airborne supplies failed to materialise. The Akyab airfield was useful for a period, and Ramree also could provide a runway; but both were worked under the greatest difficulties by transport squadrons, and it was not until late in May, long after the fall of Rangoon, that Ramree could be said to be fully serviceable for use by air transport squadrons. The Fourteenth Army received comparatively little from Ramree. What the failure of our forces to mount an early assault on Rangoon ultimately meant in loss of strategic strength in the post-war world can only be surmised.

(1) 18°8'N., 93°7'E.

(2) There is no point in enlarging on the aircraft work. It was more or less pure routine and nothing spectacular happened.

(3) Roskill The War at Sea, Vol. III Part II Chapter XXV.

Photographic Reconnaissance and Strikes (March and April 1945)

(1)

Japanese naval and air strategy

Note must be taken of the intermittent changes in the dispositions which the Japanese were able to make, working as they did on interior lines of communication. However much is essayed towards concentrating on the South East Asia theatre per se, it is indisputable that the course of events within it was especially susceptible to the course of the war in the adjoining Pacific theatres.

The enemy's lifeline from Singapore to Japan, the Philippines and Formosa was still open, but his defensive perimeter was shrinking. The Japanese main fleet was still quite powerful, although less so than claimed. One of its weaknesses was that its force of 11 carriers had been denuded of most of its operational air squadrons and was in home waters in the course of reconstitution. The Fleet in action would meanwhile have to rely on the shore-based aircraft and on long range reconnaissance aircraft parked on the decks of its heavy cruisers. Fuel was short in supply. The Navy was badly balanced. Standards of air training had fallen to low levels.

In July 1944, the Japanese Fleet had been divided. The carriers were retained pro tem in the home islands and the battleships were stationed in the South-Western Area (Singapore) to be near the sources of oil in the Dutch East Indies and to be moved up as necessary to the Philippines or the Nansei Shoto. There were no plans for offensive operations in the Indian Ocean at the turn of the year 1944 - 1945.

The controlling naval air formation in South East Asia was the Thirteenth Naval Air Fleet, with its H.Q. first at Penang and, from the end of 1944, at Singapore. In the autumn of 1944, the Japanese abandoned their airfields round the Java Sea. The Thirteen Air Fleet controlled Malaya, Sumatra and the western Dutch East Indies. It was largely a training unit. There were in all about 400 training aircraft and some 50 fighters for defence of Borneo oilfields and 60 - 70 seaplanes for anti-submarine operations. At this period, the Third Air Army, with its H.Q. at Singapore, maintained one division of Army aircraft in Burma and one in Sumatra. These were quite distinct from the naval air formations.

The warships used the anchorage at Lingga, 90 miles to the southward of Singapore. No decisive battles were expected to be fought with the East Indies Fleet. Japanese planners forecast the area of the Philippines - Ryukus - Formosa - the home islands as the impending scene of a major and decisive clash.

(1)

Japanese withdrawal commences (February 1945)

In February 1945, the Japanese began to withdraw their outlying garrisons in the south-west Pacific and concentrate them within a reduced perimeter. They planned evacuation of troops from the Moluccas, the islands of the Banda and Arafura Seas, Timor and Ceram and to stand on the line of the Celebes, holding Borneo, Java and Sumatra as long as possible, with Indo-China and Malaya as the centre of resistance. A new unit - the Tenth Area Fleet - with H.Q. at Singapore, replaced the South-West Area Fleet (now limited to the Philippines). This included the 13th Air Fleet and boasted a strength of some 50 day fighters, 5 night fighters and 17 carrier torpedo bombers. The Tenth Area Fleet included two battleship carriers, three light cruisers and two heavy cruisers.

The movement of Japanese troops from Singapore to Indo-China (Operation 'CHI') began in March. The Japanese took over complete military control of Indo-China from the Vichy French, seizing all facilities and rapidly overwhelming the ill-equipped local resistance. The transport of troops to Indo-China was beset with disaster and only partially succeeded.

(2)

(3)

Photographic Reconnaissance in Operation 'Stacey'

At about the same time that the East Indies Fleet initiated a series of sweeps off the Andaman Islands in search of enemy warships engaged in garrison withdrawal operations, a comprehensive photographic reconnaissance was carried out by Force 62. This force was comprised of the assault carriers H.M.S. Empress (now the flagship) and H.M.S. Amber, a cruiser, three destroyers, four frigates and a tanker. This operation, known as Operation 'Stacey' sought to establish the exact situation ruling in key zones of Malaya and Northern Sumatra. The land route to China had been recently reopened and the Supreme Commander had been ordered by the Combined Chiefs of Staff, after completing the liberation of Burma to proceed to liberate Malaya and open the Malacca Strait. Without air photographic intelligence no sound operational planning could be instituted.

(1) Admiralty B.R.1736(50)(6) Chapter IV.

(2) With 2 Air Flotillas, the 23rd and 28th, mentioned above.

(3) Admiralty B.R.1736(50)(6) Chapter IV and C.B.3053(11).

The object was to make twenty separate reconnaissances in two groups, as follows:-

On 26, 27 and 28 February from positions inside the Andaman Sea:-

- (a) Kra Isthmus from 7°N to 9° 40'N and the off-lying islands to the west.
- (b) Phuket Island. This was required in detail; for although the decision to seize the island had not at that date been taken, and in the end was countermanded, the favourable strategic position of Phuket as a forward air, naval and general supply base for the assault on Singapore and Malaya was obvious.
- (c) Penang.
- (d) Langkani and Butong Islands.
- (e) Victoria Point, Hastings harbour and adjacent islands.

On 4 March, from off Simalur Island:-

- (a) Areas in the coastal belt of north Sumatra from Sabang, position 3°N., 99° 45'E.
- (b) Part of Simalur and Nias Islands.
- (c) Penang.

The operation revealed all the defects of a first experiment made with uncertain quantities and context. The Force spent from the night 25/26 February to the night 28 February/1 March in the Andaman Sea, ~~It was~~ apparently undiscovered by the Japanese, although the weather was bright and the moon full. Flying off positions and times were as follows:-

26 February	7° 45'N, 96° 22'E	0715 hours
27 February	9° 11'N, 95° 58'E	0800 hours
28 February	8° 34'N, 96° 43'E	0755 hours
4 March	3° 51'N, 95° 24'E	0739 hours

Two strikes were planned, but abandoned when photographs were found to show a complete lack of targets. ⁽¹⁾ For the last photographic reconnaissance there were no maps or photographs with which to brief Avenger pilots for a strike. On 1 March, No. 804 Squadron claimed to have shot down three Japanese aircraft, the first occasion for such a feat by escort carrier aircraft in these waters.

(1) Among locations photographed were the Kra Isthmus, Pakchan River, Chumphern, Penang, Langkani Island, N.E. Sumatra coast from Sabang to Tandjeengbodei, Nias Island, Simalur and Banjak Island.

Although weather conditions for photography were excellent, there were some mechanical aircraft and camera failures. Winds for take-off and landing-on were unfavourable, being generally light or nil and catapults were not entirely reliable. The force returned to Trincomalee on 7 Mar. 45.

Photographic reconnaissance off Malaya and air strike on western Sumatra in Operation 'Sunfish' (April 45)

Great importance was attached to the next carrier operation, which was to complete that of the Kra Isthmus and Penang begun by Force 62 at the end of February. Things went a little more smoothly on this occasion, although perfection was by no means attained. In addition to photography, another object was to launch an air strike and shipping sweep off the western coast of Sumatra.

Force 63 consisted of H.M.S. Queen Elizabeth, the French Richelieu, two (1) cruisers, five destroyers and a carrier force comprising H.M.S. Emperor (the flagship with No. 888 Helicat Squadron) and H.M.S. Rhedeive, also carrying 24 Helicats. The original intention in Operation 'Sunfish' was to carry out photographic reconnaissance on 12 April of the Port Swettenham and Port Dickson (2) areas (both in the Malacca Strait), beginning on the 12th and then to carry out the anti-shipping strikes off Sumatra.

The schedule was rapidly upset. H.M.S. Emperor's catapult broke down while the force was at the ready west of Padang; photography was postponed for two days and bombardments on the 11th of Sabang and Oleelhee substituted. There was no enemy shipping in Sabang: it is a mystery why anyone expected to find anything there in view of all the accumulated intelligence available. Later, our ships were attacked unsuccessfully by a force of ten enemy aircraft, two of which were shot down by our fighters.

On 12 Apl. 45, Force 63 fuelled from its Tanker Force and then operated off the west coast of Sumatra. The photographic reconnaissance carried out on the 14th and 15th was an almost complete success. One of our aircraft was lost and our fighters shot down one enemy aircraft. On the 16th, an air strike was made on Rums Haven the port of Padang, in the course of which one enemy aircraft was

(1) This escort carrier joined the East Indies Fleet in March.

(2) The Supreme Commander intended an assault on this area in September 1945.

(1)

shot down and one 400 ton merchant ship claimed as damaged. Two destroyers swept between the outlying islands and the mainland, claiming to have sunk six junks. The force returned to Ceylon on 20 April. The naval reports of the period mention the delays, as well as breakdowns and accidents and list casualties amounting to six Helleats.

l.c.
Photographic Reconnaissance in Operation 'Balsam' (June 1945)

Between March and June, the Eastern Fleet received escort carrier reinforcements, mostly from the Mediterranean. (2) In March, H.M.S. Emperor, Stalker, Wasp and Hunter arrived in Ceylon and in May and June, H.M.S. Attacker, Pursuer and Searcher (all assault carriers) and H.M.S. Activity (a ferry carrier).

The third photographic reconnaissance of Malaya, named Operation 'Balsam', was carried out on 18, 19 and 20 June 45 by Helleat aircraft of H.M.S. Amber in Force 63. From a flying-off position in the northern approaches to the Malacca Strait, the photographic aircraft filled in the record on Southern Malaya. Rangoon had now fallen and the thoughts of South East Asia Command were directed to the capture of Singapore. There were several alternative operations on the table, but none of them stood a chance of success without more information on the local defenses and communications.

To test the likely weight of Japanese air defenses, air strikes were made on 20 June by aircraft from the other two escort carriers with Force 63, viz., H.M.S. Khadive (3) and H.M.S. Stalker (4), on the Sumatran airfields Lhokseumawe, Medan and Bindjai. This was the first occasion when Seafires had struck at Sumatra. Runways at Medan and Bindjai were put out of action with 500 pound bombs. On the ground, three enemy aircraft were claimed as destroyed, seven probably destroyed and nine damaged. No Japanese aircraft were airborne in opposition. Buildings, locomotives and wagons were effectively fired upon.

Altogether this may be classed as a successful operation. The photographs of Malaya were excellent. The presence of Force 63 apparently remained undetected although close to land, airfields had been put out of action and squadrons crippled and railway installations damaged. All this was achieved for the loss of only one Helleat.

-
- /6 carrier
- (1) Not listed in the Japanese Report.
 - (2) The force of three escort carriers and six destroyers recently employed in Aegean operations was known as the 21st Aircraft Carrier Squadron.
 - (3) Strength 24 Helleats of Nos. 804 and 808 Squadrons.
 - (4) Strength 24 Seafires of No. 809.

l.c. Carrier Support for the Capture of Rangoon (April - May 1945)

Introduction

On 23 Feb. 45, Mountbatten declared his intention of carrying out a rapid lunge from Mandalay south to Rangoon by land. The plan for a seaborne expedition against Rangoon (Operation 'Dracula') was accordingly cancelled. By the beginning of April, it still seemed doubtful whether the Fourteen Army, successful as it had been, could fulfil its schedule and capture Rangoon before the monsoon broke in mid-May. The alternative situation which such a failure would imply was far too grave for hesitation. Mountbatten therefore decided to remount the amphibious expedition against Rangoon (in modified form) and issued his orders on 17 April. The landings at Akyab, Ramree and elsewhere and the series of naval sweeps which gave him complete control of the Bay of Bengal have already been touched upon. The record now advances to the point of the departure of the covering naval forces for Rangoon, while the Army, supported by the Strategic Air Force, continues its two-pronged lunge southward. (1)

The special interest in this study is still the contribution of the carrier-borne aircraft. What part could these small escort carrier forces, (recently strengthened by the 21st Aircraft Carrier Squadron) (2) play in a large scale amphibious operation against little or no aircraft opposition and unpredictable naval, coastal and ground defenses? Would the operations add anything to the repertoire of carrier-borne air squadrons? (3)

Co-operation by No. 231 Group in the expedition

Before briefly relating the work of the carrier-borne aircraft, it is of interest to note the small but not inconsiderable contribution made by No. 231 Group in the way of maritime cover, over and above their weighty bombing offensive in support of the Fourteenth Army and the naval landing. ~

-
- (1) For factual records of the Air Force contribution see A.H.B. narrative on South-East Asia, No. 231 Group O.R.B. and appendices, the Earl of Bandon's despatch and A.C.S.E.A. O.R.B. appendices. For the naval operations the best source is Naval Staff History Battle Summary No. 42, 'Burma 1941-1945 Naval Operations, which has been consulted.
 - (2) This force, commanded by Commodore G.N. Oliver, comprised the light cruiser H.M.S. Royalist, the escort carriers H.M.S. Hunter, Stalker and Emperor and six destroyers.
 - (3) S.A.F. Operation Order No. 1/45 (No. 231 Group O.R.B. Appendix AIR/76).

/ In

↳ In addition to heavy bombers, No. 231 Group (representing the Strategic Air Force) was to prepare to construct a fair weather fighter strip in the Sadaingmut area by D plus 3 Day. Various Special Duties aircraft were to drop agents: air transport units might have to maintain the paratroop and ground forces once landed and an Air Sea Rescue organization was set up along the long course across and in the vicinity of the landings.

One Sunderland was detailed to be on air sea rescue patrol on D minus 1 Day to cover paratroop operations in the Elephant Point area. On D Day and after for as long as required, a Catalina patrol was maintained throughout the hours of daylight, to patrol midway between the Assault Carrier Squadron and the outer anchorage. No. 224 Group was aided by No. 346 Wing, its neighbour. The air sea rescue forces were linked in a Very High Frequency signals network including the H.Q. Ship, the Fighter Director Ship and the air sea rescue launches. The total forces available for air sea rescue totalled to 6 Liberators, 12 Catalinas, 5 Sunderlands, 5 Sea Otters, 1 lifeboat and 9 launches, based at Akyab, Ramree, Agartala, Cox's Bazaar and Foul Island. Small forces provided cover for the Fleet which already carried its own cover on board the carriers. D Day was 2 May and H Hour was 0700 hours.

(1)

Operation 'Dracula' (30 Apr. - 6 May 45)

The units of the naval assault force (Force W) assembled at Akyab and Kyaukpau, forming up into six convoys. Fighter protection was afforded by H.M.S. Royalist commanding the escort carriers H.M.S. Hunter, Stalker, Emperor and Khadive, also four destroyers and the cruiser H.M.S. Phoenix as Fighter Direction Ship. H.M.S. Hunter and Stalker were still carrying their 24 obsolescent Seafires, the other two carriers flew 18 Hellcats each. While a powerful covering force (Force 63) kept the Japanese in the Andamans and Nicobars fully occupied and prepared to intercept any naval interference, a destroyer force patrolled the Gulf of Martaban to intercept enemy forces escaping by sea from Rangoon.

-
- (1) Battle Summary No. 42 (Admiralty): Admiralty G.B.3303(4); Admiralty War History Case 9269 p. 168 and War Cabinet Summary of Naval Air Operations 1.5.45 - 1.8.45.
 - (2) Near Ramree Island.
 - (3) Operation 'Bishop'.
 - (4) Operation 'Gable'.

On 1 May, a Gurkha parachute battalion was dropped at Elephant Point with orders to seize the coastal battery at the mouth of Rangoon River. On 2 May, Rangoon was bombed by strategic aircraft, one of whose crews reported that the Japanese had gone. They actually left Rangoon on 25 April, a fact which entirely escaped Allied Intelligence. On 1 May, minesweepers reached the river entrance and began work. The convoys anchored that night and assault craft formed up. Bombing was stopped, air support modified and the build-up programme cancelled. The assault troops were landed by skilful navigators in appalling weather amid a chaos of looting and anarchy and in a seriously, but not fatally damaged port. A few hours after the landing, the monsoon broke early and torrential rains fell on the whole battle front. The Army, now only a few miles to the north, entered Rangoon on 3 May. It was some days before contact with the Japanese was regained.

(1)

Carrier support for Operation 'Dracula'

(2)

The aircraft embarked in the four escort carriers of the 21st Aircraft Carrier Squadron totalled to 64. Flying off began at 1000 hours on 30 April 45 and during that day 16 sorties were flown as cover to convoy 'Baker', as well as 4 as cover to the Carrier Force. Flying ceased at 1805 hours. On 1 May, flying was carried out between 0600 and 1755 hours in bad weather: 32 sorties were flown on convoy cover, 20 on carrier umbrella. During that day, H.M.S. Royalist and the destroyers fuelled from the carriers (as had been done in previous expeditions). At the close of day, the squadron, now near the lowering position, retired to the south-west for the night, but at 0530 hours on 2 May returned to the operating area south of Rangoon River and commenced flying off. During the unopposed assault, 82 sorties were flown to cover the landings and beachhead in addition to 16 fighter bomber sorties and 12 as carrier cover. Flying ceased at 1800 hours and the squadron retired south-westward.

(1) Admiralty Battle Summary No. 42 (A.H.B. IIR/18/33).

(2) Khedive, 808 Sqn., 18 Hellcats: Emperor, 800 Sqn., 18 Hellcats: Hunter, 807 Sqn., 24 Seafires: Stalker, 809 Sqn., 24 Seafires.

At 0530 hours on 3 May, the force was back in the carrier operating area, but there were no calls for air support. In bad weather the ships waited until 0620 hours the next day - 4 May - when an effort was made to fly off. Sixteen sorties only were flown before the weather grew too dangerous. The day was spent in fuelling the destroyers from the carriers. At 1715 hours that day, the C.-in-C., East Indies ordered the carrier squadron to proceed southward to carry out attacks on enemy shipping between Mergui and Victoria Point. Operations opened at a point 60 miles west of the Mergui Archipelago at 0655 hours on 5 May. Registering a total of 48 fighter bomber sorties, the squadrons attacked the town of Mergui, where the jetty was destroyed and barges damaged. On Petit Island they damaged a jetty, ^{and} some warehouses and four lighters found between the island and Mergui were fired upon. Near Turrets Island a camouflaged junk was bombed and left burning. In addition, 18 sorties were flown as carrier cover. After retiring seaward for the night, the squadron returned on the 6th to a point some 80 miles north-west of Victoria Point (at the mouth of the Pakchan River). At 0630 hours, fighter bombers were flown off to attack Victoria Point. The radar station and barracks were bombed and cannoned, a barge was sunk and a junk left burning. Bad weather stopped flying at noon, by which time 12 offensive sorties and 6 cover sorties had been flown. The force then retired, setting course for Trincemallee where it arrived at 0850 hours on 9 May 45.

It is not suggested that the Carrier Force operations, which met with no air opposition, were important, but as training they indisputably had some value. Casualties were by no means negligible. In a total of 282 sorties flown, 6 Seafires were lost owing to accidents, 2 Hellcats and 13 Seafires damaged but repairable and one Seafire slightly damaged by enemy anti-aircraft fire. One officer was killed in a flying accident, but this was the only aircrew casualty.

/The

(1)

The threat of the enemy warships in Singapore

Dispositions had to be made to meet the threat by enemy warships in Singapore to the convoys in Operation 'Dracula'. At that time these forces consisted of the heavy cruisers Ashigara, Haguro, Takao and Myoko. The last two named ships had suffered damage in October 1944 in the battle of Leyte Gulf and were under repairs after retreating first to Brunei Bay (Borneo) and limping back to Singapore. The Myoko had attempted to make Japan for permanent repairs, but the U.S. submarine Bergall had intercepted and damaged her on 13 Dec. 44 off the coast of Indo-China, forcing her back to Singapore. It was believed in S.E. Asia Command that the Takao might be used in action to some extent. Actually she, like the Myoko, was non-operational.

To meet the threat of interference with the expedition to Rangoon it was decided that all available units of the East Indian Fleet should now operate in the Andaman Sea.

(2)

Disposition for Operation 'Bishop' (April - May 1945)

On 30 April, R.A.F. Sunderland and Liberator aircraft based on the Arakan coast (as outlined above) ⁽³⁾ began cross-over patrols from the South Andaman Islands due east to the Tenasserin coast. Three submarines patrolled the southern part of the Malacca Strait. Force 63, strong in heavy ships (with H.M.S. Queen Elizabeth as Flagship) sailed from Trincomalee on 27 April. Its commander had a free hand to execute minor operations designed for the confusion and discomfiture of the enemy. He decided to interfere with any possible Japanese attempt to base aircraft on the Andamans and Nicobars and at the same time destroy all shipping found in these areas. The islands had been, it will be recalled, reinforced in 1944 with three brigades and, although the garrison must be short of supplies, nothing short of a bitter and major operation would have eliminated this thorn in the Allied side.

The inclusion of two carriers in this long expedition (which lasted until 9 May) and the full weight given to the threat of the enemy air factor is an interesting case of the Navy's awareness of the growing influence on maritime power of air forces as such, whether land-based or carrier-borne. Force 63

(1) Battle Summary No. 42 (A.H.B. IIR/18/33): Admiralty B.R.1736 (50)(6) and Case 9269 p. 168.

(2) Ibid.

(3) No. 231 Group.

was divided into two groups, Force 64 and Force 68. The carriers, who sailed at the same time, were to be attached to either force as necessary. As two small escort carriers were quite inadequate to refuel such a large force of ships at sea, two oilers, escorted by a destroyer (Force 69), accompanied the expedition.

Operation 'Bishop'

The carrier H.M. Shah, now repaired and refitted after leaving her anti-submarine work for the yards, embarked 10 Avengers⁽¹⁾ and 4 Hellecats.⁽²⁾ Her companion, H.M.S. Empress embarked 20 Hellecats.⁽³⁾ On 30 April, Force 63 made course for Car Nicobar, where at 0500 hours airfields, anti-aircraft batteries, radar station and shipping were heavily bombed. Carrier aircraft spotted for the ship's batteries. At 0710 hours, bombardment was suspended while aircraft went in to strike the airfields. Then bombardment was resumed until 0810 hours. Unfortunately no enemy aircraft were present.

The force proceeded to Port Blair (Andamans), where airfields and batteries were bombed during the afternoon until 2100 hours, when the ships and carriers retired out to sea for the night. At dawn on 1 May, the Force was again off Car Nicobar, which was again bombed. As there had been no report of any enemy sortie from Singapore, hence no surface threat to the Rangoon assault convoys, Admiral Walker (Commander, Force 63) decided to shell the Port Blair airfields again. This was done on 2 May and the Force then withdrew to the north-east to a position 120 miles south of Rangoon, still cruising in a relative vacuum. On 3 May, aircraft from H.M.S. Shah flew an armed reconnaissance to seek out any shipping along the usually busy stretch between Heansay Basin and the Tavoy River. Results were barren, the only claims were of damage to a bombed coaster which they drove ashore.

The Force 63 split into its two components. The two carriers accompanied Force 68, remaining in the covering area. On the 4th, their aircraft attacked the airfields at Mergui and Victoria Point and again, on the 6th, they followed in to Port Blair after an opening bombardment (for which they spotted) and claimed considerable damage to shipping in the harbour for the loss of one Hellecat and its pilot. At 1030 hours on that day, the Force proceeded to Stewart Sound and

-
- (1) No. 851 Squadron.
 - (2) No. 804 Squadron, now no longer flying Wildcats.
 - (3) No. 804 Squadron.

scored four hits on a gun which had damaged two of our destroyers in March. On 7 March, the Force once again visited Car Nicobar and in the afternoon a strike was flown off the carriers to attack four enemy aircraft revealed by a photograph as hidden in jungle there. When attacked, the aircraft proved to be dummies, but motor transport and personnel on the airfield ^{were} attacked with what appeared to be good results. Thereafter, Force 64 set course for Trincomalee, arriving on 9 May, one day after Force 68.

(1) As a carrier operation, against zero air opposition, little advance in the art of air tactics could be claimed for the effort. As a series of precautionary measures, the whole conception of the expedition was sound, for, as was soon to be seen, the Japanese Fleet in Singapore was still prepared to take chances. The impression remains that Allied Intelligence was very poorly served, not only as regards the massive enemy evacuation of the Rangoon area, but the ^{situation} ~~intentions and movements~~ of the Japanese units at Singapore. Fortunately the vigilance of submarines and aircraft saved the situation in time.

/ Pursuit

(1) Only 1 'bogey' showed up on the radar screen during the whole operation.

416

SECRET

1.c Pursuit and Destruction of the Japanese Cruiser Haguro (May 1945)

Introduction

It was in the nature of things that the land-based and carrier-based aircraft in South East Asia Command should have put in so much effort for so long at such a cost and for meagre tangible results, and equally so, and especially ironic, that so late in the day as May 1945, when the fate of the enemy in Burma was practically sealed, that they should participate together in such a brilliant operation as Operation 'Ducedon', which culminated in the frustration of the Japanese design for the Andamans and the destruction of the heavy cruiser Haguro.

The record of the chase and destruction of the Haguro, from the first sightings by H.M. submarines in mid-Malacca Strait to the launching of the naval expedition with a carrier group, over the loss of contact for three days, the sightings of the enemy forces by Liberators and their shadowing by Liberators and Avengers until our ships could deliver the coup de grace comes as a tonic interlude in a long story of great hardships and monotonous periods of waiting and watching.

The official naval historical accounts of the operation, although excellent of their kind, omit, as so often, to illuminate the air contribution. It will be the business of this narrative to present the facts. It may be that the co-operation of submarines, land-based Liberators and carrier-based Avengers with surface units may serve as a fruitful model for study of such operations in waters far beyond the confines of the Indian Ocean.

/Operation

SECRET

3

Operation 'She (Akiraka) (1)

At some time late on 9 or early on 10 May 1945, the Japanese launched the first phase of Operation 'She (Akiraka), (2) the evacuation of troops from the Andaman and Nicobar Islands to Singapore. There were four ships engaged in two forces. Force 1 comprised the heavy cruiser Haguro (3) and the old destroyer Kamikaze. (4) Their task was to carry food to the Andaman Islands and bring back troops (5) to Singapore. Two earlier attempts to supply these islands had failed when our aircraft sank the ships. Force 2 consisted of the auxiliary supply vessel Kuroshio Maru No. 2. (6) escorted by Submarine Chaser No. 57. (7) Their task was to run supplies from Singapore to ^{the} Nancowry in ~~the~~ Nicobar. The two forces passed northwestward through Malacca Strait in company. The Haguro carried long range naval reconnaissance aircraft, a common practice at the time. The carriers were lying up in home waters. The two forces had a reasonable chance of success. Their aircraft ^{could} locate any Allied forces in the vicinity in time for retirement, or, if forced into combat, the heavy cruiser would give a very good account of herself. (8)

/ Alarm

-
- (1) Admiralty, B.R.1736(50)(6).
 - (2) One of four evacuations to reduce the perimeter.
 - (3) 10,000 tons displacement.
 - (4) 4,918 tons displacement. Listed in the Japanese Report as a converted gunboat.
 - (5) It is not yet confirmable whether part or all of the garrison was to be evacuated.
 - (6) Tonnage unknown.
 - (7) 130 tons.
 - (8) She had ten 8 inch guns.

Alarm, first engagements and loss of contact (1)

A wise provision in the plans for the capture of Rangoon had been the positioning of three British submarines in the Malacca Strait to report and then attack destroyers and any larger vessels during the operations. On 9 May, the order was altered to 'attack and then report'. On 10 May, then H.M.S. Subtle Statesman and Seydlitz were patrolling near the Arca Islands, just to westward of One Patham Bank, about half-way up ^{Malacca} Malacca Strait. At 1640 hours, H.M.S. Subtle sighted a northbound Hachi class cruiser, escorted by a destroyer and 'two submarine chasers', and attacked. The cruiser turned away, while our submarine hit bottom prematurely and stayed there to avoid depth charges. At 1905 hours, she passed an 'enemy' report. At 1747 hours, H.M.S. Statesman sighted the upper works of the cruiser, but was unable to attack. She passed an 'enemy' report at 1811 hours.

Contact was lost with the enemy until 0640 hours on 12 June. The enemy continued on course until some time on the 11th, when their aircraft reported Allied surface forces proceeding towards the zone of operations.

Air and Naval interception plans (2)

The East Indies Fleet had received advance information that the heavy cruiser Achigara accompanied by the Kamikaze was due to sail on 10 May for the islands. In the event, the Achigara did not sail as scheduled. On receipt in the late afternoon of the 10th of the submarines' sighting reports, all available ships were formed into Force 61 and No. 222 Group called in for co-operation. Force 61 sailed that evening for the Ten Degree Channel to attack the Japanese forces. The operation was named *Operation 'Dukedom'*.

Apart from two battleships, two cruisers and eight destroyers, four escort carriers were pressed into service. With H.M.S. Royalist again acting as flag-ship, they proceeded as the 21st Aircraft Carrier Squadron. These force carriers were H.M.S. Hunter, Khadive, Shah and Emperor and they embarked a total of 73 aircraft. (3) H.M.S. Shah's catapult proved defective, so most of her Avengers were embarked on H.M.S. Emperor. The whole operation was named *Operation 'Dukedom'*. Included in the air forces were six Liberators of No. 222 Group. An oiling force (Force 70) sailed on the 10th. /Although

(1) Admiralty C.B.3306(3) Submarines Vol.III.

(2) Admiralty D.R.1736(50)(6) pp. 38-40.

(3) Hunter 24 Seafire, 1 Walrus; Khadive 20 Hellcat; Shah 4 Hellcat; Emperor 15 Hellcat, 9 Avenger.

Although the air commitments at this time were heavy, the force of six Liberators was rapidly assembled at Kankecanturai air base on the Jaffna Peninsula at the north-west tip of Ceylon. Three of them came from No. 203 Squadron and a detachment of three was lent by No. 354 Squadron. They were briefed on shadowing tactics. Both squadrons were veterans in the theatre and long endurance flights were a commonplace in their routine. Anything they undertook would be carried out with tenacity and expertise.

The enemy force turns back and is again sighted

The situation changed rapidly. On the 11th, the two enemy forces had cleared the northern mouth of Malacca Strait, and were holding on course when they received a report from a Japanese army reconnaissance aircraft that part of Force 61 had been sighted west of the Nicobars. They thereupon turned back towards Penang.

While the enemy force continued its course towards the south-east, it was sighted on 12 May in Malacca Strait by H.M. submarines. The first sighting was by both H.M.S. Subtle and Statesman at about 0640 hours. The cruiser, now with destroyer and air escort, passed out of range from Statesman, but Subtle attacked, firing six torpedoes at 0704 hours. The tracks were seen, the Insuro turned away and the destroyer counter-attacked, inflicting considerable minor internal damage, mostly electrical and radio. H.M.S. Subtle withdrew, surfaced at 1925 hours and made an abortive attempt to pass an 'enemy' report. Meanwhile, Statesman attempted to attack the Kamikaze, but was foiled by the Japanese evasive measures and the appearance of three more destroyers. Her 'enemy' report got through. The submarine lost contact here and continued patrolling their appointed beats. The enemy force lay up in hiding all the 13th in Malacca Strait. Their commander decided to make another break and they sailed from One Fathom Bank some time on 14 May 45.

Early Liberator patrols called off (12-13 May 45) (1)

On 12 May, six Liberators were airborne, briefed to carry out a parallel track sweep east of the Nicobars. Before they reached the patrol area, it was learned that the Japanese cruiser had turned back towards Singapore and the aircraft were recalled on the 13th.

/Aircraft

No. 203 Squadron C.R.B.

Aircraft had been kept at 3 hours readiness. At mid-day, orders were given for six aircraft to take off at 2230 hours in order to be on patrol at first light on 14 May, but when the time came, there was a general disappointment. One aircraft returned early with mechanical trouble. There was no precise information as to the whereabouts of the two enemy forces and the rest of the Liberators were recalled. The Japanese were, of course, still in the vicinity of One Patten Bank in mid-Strait.

The net closes (1)

Vice-Admiral Walker, commanding Force 61, learning that on the 12th the enemy were speeding back to port through the Strait, took measures to conceal his surface forces. If he could dodge the Japanese reconnaissance aircraft the enemy might well attempt a second sortie. He accordingly steered for a position about 200 miles south-west of Achin Head (N. Sumatra), made a rendezvous with his oiling force and called for every available ship in Trincomalee to join him. As a result, Force 62, comprising a cruiser and three destroyers, and Force 67, (a second Oiler Force) were despatched in time to reach his main force some time 14-15 May.

On the evening of 14 May, the 21st Aircraft Carrier Squadron and the 26th Destroyer Flotilla were detached and proceeded so as to reach a position about 50 miles west of the Six Degree Channel at 0700 hours on the 15th. The heavy ships remained to the westward to refuel. One must visualize the carrier force as hastening towards the most likely area the enemy was estimated to have reached if, and only if, he had decided to carry out his original task.

The escape of Force 2 to Penang (2)

Having separated from Force 1 at the second sortie from the Strait, Force 2 (the Kurashio and S.C. 58) reached Nancongy, its objective, on the 15th and was returning to Malaya with 450 Army troops on board. The two ships were sighted on the morning of 15 May and attacked (contrary to orders) by an Avenger of H.M.S. Shah (3) operating from H.M.S. Emulator (since the Shah's catapult was defective). At 0730 hours that morning, an armed search of four Avengers was

/Flown

-
- (1) Admiralty B.R.1736(50)(6)
 - (2) Ibid.
 - (3) No. 851 Squadron.

flown off with orders that the first aircraft to sight the enemy was to report and shadow, the others were to close and attack with bombs. The attacking Avenger was hit and crashed into the sea. Its crew ^{were} made prisoners of war. The attack caused ^{damage} no damage to the enemy force. A second armed search of four Avengers was flown off to attack, but found nothing. One of them searched for the ditched crew, one turned back with engine trouble and the other two encountered our destroyers. After spending an hour trying to identify whether they were friend or foe, they were running out of fuel and returned to their carrier. The two enemy ships reached Penang unscathed.

The Haguro sighted by Liberators (1)

It may be fairly claimed that the ultimate victory over the Haguro stemmed directly from the vigilance of our land-based Liberators and carrier-borne Avengers, the only two types with sufficient endurance to participate in the entire Operation 'Dukeston'. By the establishment of contact by two Liberators in the early hours of 15 May 45 and later by other Liberators and Avengers, by interceptions and relays from base, an idea of the enemy position was, although intermittent, established in such a pattern by 1500 hours that day as to enable the Force Commander to take up final dispositions and trap the heavy cruiser in a night engagement only 45 miles from Penang.

The Liberator crews, averaging 10 men to an aircraft, had the toughest task of all the aircraft. The patrols they flew from the Jaffna Peninsula to the target and back meant a journey of up to 2,000 miles and 18 hours flying each. The aircraft had already done a great deal of hard work and the crews had had little respite for a long time.

The three Liberators 'L' 'U' and 'Y' of No. 354 Squadron left base before midnight on 14 May, some five hours before their three colleagues in No. 203 Squadron. Aircraft 'L' must have developed engine trouble in the Nicobar zone, for at 0345 hours, 'U' received a signal asking if they had received an S.O.S. from 'L'. They had not and continued on course for Little Nicobar. (2)

At 0444 hours, aircraft 'Y' made the first sighting of the cruiser and destroyer, followed at 0454 by a sighting by aircraft 'U'. These were the crucial sightings which determined the whole course of events and it is simple

/justice

(1) No. 203 and 354 Squadrons O.R.B's: Admiralty B.R.1736(50)(6)

(2) Aircraft L/354 and its crew were lost.

justice that all service histories should place the credit where it is due. Liberator 'Y' circled the warships, who apparently now aware of their presence, increased their speed from 20 to about 30 knots, still proceeding at 90°. At 0520 hours, 'Y' sent a signal to No. 222 Group 'I have made contact' and continued to shadow. At 0600 hours, a black twin-engined enemy aircraft, believed to be a Dinah, was seen to approach to within one and a half miles, then to disappear into a rain cloud. The Japanese now know, therefore, that they were being shadowed. It might be advanced at this point that the sightings by submarines on the 10th and 12th were the earliest and therefore the crucial sightings, but with the lapse of more than two days complete ignorance of the enemy's intentions or whereabouts on the debit side, the sightings by the Liberators must be candidly admitted as a decisive godsend. From that point the tale moves with an Euripidean fatality towards its finale.

At 0700 hours, 'Y'/354 sent its final signal to Group and at 0721 hours ended its patrol and flew back to base landing at 1556 hours after sending a signal soon after 1110 hours. In the meantime, 'U'/354 had continued circling the enemy force, apparently unseen over a point 7°12'N, 97°12'E. Unhappily it developed engine trouble and at 0543 hours was forced to set course for base, where it landed at 1413 hours. At 0721 hours on 15 May, 45, therefore, visual contact with the Haguro ended temporarily. (1)

In due course, Liberators 'A', 'M' and 'N' of No. 203 Squadron moved into the area. At 1015 hours, they picked up an S.O.S. from aircraft 'L'/354, but whether this was direct or transmitted cannot be determined. The sighting report from aircraft 'Y'/354 was received at 1110 hours. About this time, that is round about 1100 hours, aircraft 'M'/203 picked up the enemy forces, which had divided into two, the last position mentioned being 7°04'N., 96°53'E. Radio reception was bad: as 'M' had picked up no previous signals, they set course for a point 30 miles distant to make their first sighting report. After regaining contact with the two warships, (now down to 15 knots), they found themselves down to fuel danger point and left for base. The two other Liberators picked up the report and made for the position, took photographs of the ships and returned to base after reporting positions at 1320, 1345, 1320 and 1352 hours. (2)

/There

-
- (1) All details from No. 354 and No. 203 Squadrons O.R.B's.
 - (2) All details from Nos. 203 and 354 Squadrons O.R.B's.

SECRET

There was no lack of incident. One Liberator descended to 200 feet, undulating and circling, while the ships altered course 90° to starboard, the destroyer making smoke ineffectively and the cruiser opening inaccurate fire from 2 miles range. Weather was squally, with 10/10 cloud down to sea level in some places. The average visibility was 8 miles.

The Haguro sighted by Avengers

There was hardly a break in the contacts, for the Emperor's Avengers were new in the area. At 1056 hours, they had made their first sighting, which they gave as in 6°55'N., 96°50'E., and the general direction is south-eastward. Their reports flowed back to Force 62. The enemy were about 15 miles to the south-eastward of the scene of the air attack on Force 2 the previous day. A strike of three Avengers was flown off H.M.S. Emperor at 1335 hours and at 1500 hours they made an unsupported bombing attack on the two ships, causing slight damage to the Haguro from near misses. After the attack, the enemy turned to an easterly course. It seems clear they were making for Penang. It is noteworthy that during the whole operation, the enemy were out of range of the Seafires and Hellcats.

Approach of Force 61 and the end of the Haguro

When the news of the morning sighting of the enemy heavy cruiser was received the Force Commander despatched two destroyer divisions, five ships in all, to gain a position between the enemy and his base. Reports from Liberators and Avengers of the enemy's position differed considerably as to position and it remained uncertain whether contact would be made in daylight or darkness. By 1300 hours, their whereabouts was fairly accurately grasped and by 1900 an estimate was made that they were about 75 miles to the northwestward, making in the general direction of Penang.

At 2245 hours on 15 May, H.M.S. Venus obtained the first radar contact; on confirmation of its authenticity new dispositions were made, the flotilla

/formed

SECRET

SECRET

formed into a star formation and the order was given to attack at 0100 hours on 16 May. It is beyond our scope to describe the series of actions which followed in detail. (1) It definitely was, as Mountbatten reported to the Chiefs of Staff, an outstanding example of a night attack by destroyers. (2) It ended at 0209 hours on the 16th with the sinking of the Haguro about 45 miles S.W. of Penang. (3) The Kamikaze, only slightly damaged, ran for Penang and returned to pick up the cruiser's survivors.

/ Carrier

-
- (1) For a clear description of the final stages refer to Admiralty D.R.1736(50)(6).
(2) Although its imperfections denied it classic status.
(3) In 5°N, 90°30'E.

SECRET

Carrier Aircraft Participation in Minesweeping Operations (July 1945)

Introduction

Right up to the end of the war, the Fleet Air Arm continued to display its versatility. In the last full month, it was shown that, albeit on a modest scale aircraft transported by carriers could operate to advantage in both the strategic and tactical fields during a single expedition. The capture of Rangoon and the shrinkage of the Japanese perimeter in the Pacific areas both forced a defensive war on the enemy, and the vicious mining and suicide aircraft attacks were only two desperate markers of the knowledge that there was no alternative.

Two serious problems in July 1945 were the mined ports vacated by the Japanese in Burma and the mined approaches to Phuket Island off Malaya. Up to that period, the Allies had been but little troubled by enemy mines. Such passive forms of defence were uncongenial to the Japanese, who expressed themselves more effectively in offensive action. When open combat was denied them, they enjoyed the use of such devices as midget submarines, human torpedoes, suicide boats, floating beebie traps and swimming limpeteers, and they had wasted untold labour and ingenuity in such wills-o'-the-wisp. The first of the two operations now to be related dealt with minefields off Car Nicobar and, as a rider, bombed and cannoned the airfields of Northern Sumatra. The second, the last escort carrier operation by the Eastern Fleet in the war period, cleaned up the waters off Phuket Island and struck at targets on the Kra Isthmus, an air and traffic zone.

Operation 'Collie' (2 - 14 July 45).

On 2 Jly 45, Force 62 (a minesweeping flotilla) sailed from Trincomalee to sweep mines off Car Nicobar. Force 61, in support, included the escort carriers H.M.S. Ameer (2) and Emperor (3), both flying Hellcats. The task included bombardment and air strikes against suitable targets. Carriers were to refuel the destroyers and minesweepers. The minesweepers operated off Car Nicobar daily from 5 to 10 July inclusive, and recorded 167 moored mines swept, all to the eastward of the island.

(1) Admiralty B.R.1736(50)(6).

(2) With No. 896 Hellcat Squadron.

(3) With No. 800 Hellcat Squadron.

To cover the minesweepers, a naval force bombarded gun and other positions on the island, while Hellcats carried out a series of strikes, during which (it was reported), radar stations were put out of action and all craft seen in the area put out of action. They met some accurate anti-aircraft fire which claimed four of our aircraft. All of our pilots were rescued inshore, one by a Walrus aircraft⁽¹⁾ off the Emperor and three by destroyers. On 7 July, Force 61 bombarded Nancowry and Hellcats (two of which were shot down) bombed the target. This was not the end. At first light on 11 July, 24 Hellcats (of which one was forced down into the sea) attacked Keta Raja and Ihe Nga airfields in N.W. Sumatra. It hardly affected the small enemy air forces, for no aircraft were seen, but runways and buildings were bombed and damaged, so piling up the enemy's difficulties if the Allies landed, as hoped, in the island before the end of the war. One solitary enemy aircraft approached the Fleet and was shot down by our naval fighters. We had lost seven aircraft but only one pilot.

Operation 'Livery' off Phuket Island (19 - 30 July 45)

Once Rangoon had fallen, the capture of Singapore became the main objective. For this, the capture of Malaya and subsequent operations against Siam and ^{Sumatra} ~~Sumatra~~, a forward air, naval and supply base was essential. Phuket Island was chosen as this base. If all had gone according to schedule, the attack on this island, about half-way down the Malay Peninsula,⁽²⁾ would have already gone in. As it was, everything had been poured into Operations 'Dracula' and 'Bishop', the assault had not yet been mounted and the monsoon was blowing. There was still a good deal of preparation ahead and minesweeping was the most urgent task.

Accordingly, Force 63 was formed, air cover being provided from two escort carriers in the company - H.M.S. Empress and Amber, both flying Hellcats.⁽³⁾ Allied mines already laid in April were, of course, dummies. Minesweeping was carried out on 24, 25 and 26 July and 24 mines were found. Hellcats carried out strikes against the Kra Isthmus, reporting the destruction of three small ships,⁽⁴⁾

(1) Normally used in most Air Sea Rescue units.

(2) Roughly 8°N., 98°E.

(3) Empress No. 896 Squadron: Amber 804 Squadron.

(4) Not listed in the Japanese Report, which does not include ^{vessels} vessels of low tonnage.

damage to rolling stock and the bombing of a camp. Six or more grounded aircraft (1) were reported destroyed on Sungei Patani airfield. One Helocat was lost.

Nothing really decisive can be claimed for the air attacks. Like those in the preceding operation, they must be accepted as carrying the practice of air tactics a little further and the cover viewed as a routine defence exercise. It is regrettable that they were not given a chance to participate in the struggle against the only serious Kamikaze attack of the campaign.

First suicide air attack on East Indies Fleet (26 July 45) (2)

Although individual Japanese pilots had shown great determination in attacking shipping in South East Asian waters and a Kamikaze attack on the Allied surface units hunting the cruiser Haguro had been intended, the first organized attack employing the tactics the Allies had found so redoubtable in the Philippine and Ryukyus campaigns did not occur in the Indian Ocean until 26 Jly 45, when Force 63 was minesweeping off Phuket Island and Helocats from H.M.S. Empress and Ameer were striking at Malayan land targets.

The puny weight of the suicide operations and the apparent lateness of the occasion must not be allowed to distract attention from the full strategic import of the occasion. It is intended, therefore, firstly to report what happened, then to outline the tactical and psychological principles of the Special Attack Units and to present the part allotted to them in the Outer Zone for operations in the summer of 1945 to defend the Japanese possessions there.

It must be pointed out that the Force Flagship was now the battleship H.M.S. Nelson, which had replaced H.M.S. Queen Elizabeth, recalled home. It was from H.M.S. Nelson that, on the morning of 26 Jly 45, a single enemy aircraft was first detected at 38 miles distance and 8,000 feet altitude. (3) Although the two escort carriers were operating fighters at the time, H.M.S. Nelson did not direct them, hence no interceptions were made. The Admiralty Staff History leaves us in the dark as to this omission, which requires explanation. Shortly afterwards, the

-
- (1) The minesweeper H.M.S. Squirrel was mined on the 24th and had to be sunk.
 - (2) Admiralty B.R.1736(50)(6): U.S.S.B.S. Report on Japanese Air Power (A.H.B. IIF.2/81/4).
 - (3) Approximate position 7° 06'N., 97° 52'E.

/ enemy

enemy were reported as a group, now dropped to 6,000 feet. Two aircraft were then seen at about 4,000 feet, but they rapidly disappeared into cloud. They appeared to be alone. The next happenings came without warning. The 'sun lookout' saw two Val Mark I naval bombers diving out of the sun.

H.M.S. Nelson and the carrier H.M.S. Ameer took them under fire successfully.

H.M.S. Ameer hit one in its dive; it burst into flames, dropped its bomb in the sea and crashed in after it. H.M.S. Sussex shot down the second dive bomber in flames about 50 yards from the ship; the aircraft struck the ship's side after hitting the water, but no explosion occurred and only slight damage was caused.

H.M.S. Sussex shot down a third aircraft, but one Kamikaze hit the minesweeper

H.M.S. Vestal, who caught fire, lost some ratings killed and had to be sunk by our own guns. So ended the last active operation undertaken both by the Eastern Fleet and its carrier squadron in the war.

Last East Indies carrier operation ('Carson') abandoned

Operation 'Carson', the attacks on shipping and airfields in the Penang and Medan areas, had been planned for 14 and 15 Aug. 45. It might well have proved a fruitful expedition, for Force 61 of the East Indies Fleet, created for the purpose included five escort carriers - H.M.S. Ameer, Emperor, Empress, Khedive and Shah. The Japanese plans for attacks by suicide aircraft might then have developed to a point at which they had to be taken seriously.

However, on 11 August, news was received of Japan's offer to accept the Allied surrender terms. Force 61 was ordered to remain west of 90°E and await developments. Later, the operation was cancelled and the ships returned to Trincomalee on 15 Aug. 45.

/Kamikaze

(1)

Kamikaze and the Tokko Tai

Introduction

The suicide attacks by a handful of Japanese aircraft on the Fleet during the chase of the Haguro were of more than superficial interest. They were only a foretaste of what would have happened in the course of amphibious landings in Malaya had the atomic bombs not led to the premature surrender of Japan. Before the East Indies Fleet was brushing off these four aircraft with relative impunity, the U.S. Pacific Fleet and the British Pacific Fleet with its four fleet carriers had learned to respect the growing menace of the multiplying Special Attack Units (by then 200 in number) in the Philippine and Ryukyus campaigns and suffered serious casualties at their hands.

Before proceeding further, it is necessary to clear up some of the popular misapprehensions on the philosophy and practice of Kamikaze operations and to define the role planned for them in the defence of Malaya, bearing in mind that the single most effective air weapon developed by the Japanese was what they called these Kamikaze aircraft of the Special Attack Units, or Tokubetsu Tai abbreviated to Tokko Tai. The results of this enquiry, although expressed in simple terms, may go some way towards explaining why the psychological warfare effort on both sides was so singularly ineffective and why the war in the Far East lasted so long.

(2)

The four periods of 'suicide' attacks

The first and patternless period of premeditated and occasionally accidental crashes covers the time from Pearl Harbour to 23 Oct. 44, four days after the American landings in the Philippines. These operations were not organized, but marked individual decisions. The second period was one of premeditated attacks by an organization during the Philippine campaign, beginning with the battle for Leyte Gulf (23 - 27 Oct. 44) and lasting until completion of the landings in Lingayen Gulf in January 1945. The third period was one of (3) organized attacks, many in large formation, during the Ryukyus campaign, beginning with the first carrier attack on Kyushu, on 18 Mar. 45, and lasting

(1) Special Attack Units.

(2) U.S. Strategic Bombing Survey (Pacific) Report on Japanese Air Power July 1946 (A.H.B. IIF.2/81/4).

(3) During which the British Pacific Fleet operated.

until the end of the campaign, 21 June 45, less than 8 weeks before the Japanese surrender. The fourth period covered preparations for the defense of the Japanese homeland and the Singapore area. It began some weeks prior to the end of the Ryukyus campaign and was never completed.

(1)

Forms of suicide operations

Four forms of suicide operations were carried out or planned by the Japanese. The first was the attack on Allied ships and the second was a series of ramming attacks on Superfortress aircraft flying over Manchuria and Japan from 20 Aug. 44 onwards: they never became a serious menace to the Twentieth Air Force. The third was the crash landing on Allied airfields. One or two only were attempted, but by mid-July preparations for such operations by 150 - 200 aircraft of sundry types were well advanced and were only rendered abortive by the U.S. Task Forces. The fourth was the launching in mid-air of a rocket-propelled one-man guided missile known to the Japanese as 'Oka' ('cherry blossom') and named by the Allies 'Baka' ('foolish'). Of some 800 manufactured, no more than 50 were launched against Allied ships and of these only 3 are admitted by the U.S. Navy as scoring hits, in all, a relative failure. But if later projects had been carried through, a graver threat would have been presented.

Organization of suicide attacks on ships in the Pacific

The idea of massed suicide attacks originated from both the Japanese Navy and Army, although the Japanese uphold the Navy's claim to be the first at the post by a short head. During the Philippines campaign, all pilots were volunteers from regular tactical flying groups (Hokutai). They were formed into Special Attack Units. (3) The aircraft used then were still all combat types (although many were obsolescent) and the general effort was experimental.

-
- (1) The U.S.S.B.S. report referred to above contains an informative survey of the whole subject of definite authority, as it incorporates evidence from interrogation of Japanese officers after the war (A.H.B. IIF.2/81/4); for U.S.N.I.D. reports on attacks and defense methods refer to the U.S. Navy Dept. papers in A.H.B. IIF.2/42/68 Nos. 120/276 and 121/106. The U.S. Naval Institute Proceedings No. 9 includes an informative article by Inogachi and Nakajima, condensed from their book published in December 1951 by Nippon Shuppan Kyodo.
 - (2) The unit operating these 'Harudai' weapons was designated Jinrai Butai (Corps of Divine Thunderclaps). Refer to Okumiya and Horikoshi Zero, Cassell, London, 1957.
 - (3) Tokubetsu Tai, abbreviated to Tokko Tai.

Operations expanded rapidly in the Kyushyu campaign and were jointly controlled by the Navy and Army. Command stemmed from the Supreme Commander, Combined Naval Forces in Tokio, down to the detailed command by the Army Commander in consultation with the C.-in-C. Fifth Air Fleet. There were local variations in the exact balance of control exercised by Army and Navy.
Japanese air plans for the defense of S.E. Asia

By March 1945, S.E. Asia and the western group of the Dutch East Indies was^a virtually isolated and self-sustaining Japanese theatre. In April and June, its air forces were depleted of first-line aircraft, leaving in the general southern area about 1,000 aircraft of all types, some in need of major repairs and about 65% of them trainers. It is estimated that of about 1,000 pilots available to man them, two-thirds were only partly trained and only capable of suicide attacks in trainer aircraft.

The Southern Army decided to conserve its air strength until an attack on Singapore⁽¹⁾ or Malaya⁽²⁾ was launched and then to expend all its aircraft in 'suicide' attacks on Allied transports and presumably escort carriers. The Japanese forecast the end of September as the very earliest date for the attack and had accordingly, by July 45, only made a small start towards concentrating its widely flung air forces into Malaya. Only four of thirteen concealed airfields for the deployment of suicide aircraft had been completed, and only a few aircraft were actually in a state of readiness for attacks on an invasion force.⁽³⁾ It may be concluded that had we landed at Port Swettenham, Port Dickson and Singapore as originally planned, the Japanese reaction would have been piecemeal, even if determined, and that by the time their suicide force had reached sizeable dimensions, the main forces would have been ashore. Nevertheless, on the showing of statistics of their successes in the Pacific, they might well have inflicted serious casualties in our naval forces and perhaps airfields, for neither our land-based and carrier-borne air forces nor our warships had had any experience worth mentioning of numerically strong and well-organized Kamikaze attacks.

-
- (1) Operation 'Tiderace'.
 - (2) Operation 'Zipper', scheduled for 1 Sept. 45.
 - (3) U.S.S.B.S. Report on J.A.F. (A.H.B. IIF.2/81/4).

(1)

No. 221 Group prepares for Kamikaze attacks (July 1945)

For some months before the first Kamikaze attack on the East Indies Fleet, the Intelligence Sections of Air Command S.E. Asia had been sifting evidence from the Pacific on the various forms of suicide attack. Guidance was circulated to lower echelons and plans sketched of the scale and nature of defence that attacks on land air bases might call for. No. 221 Group in particular came in the picture as the authority in local control of the newly-won airfields in the Rangoon area.

They considered that the suicide bombers might attack land targets if worthwhile, in the absence of shipping targets. They did not take the Oka (Baka) piloted rockets very seriously, but gave some thought to the likelihood of 'suicide' attempts by airborne troops (Taishin units). The drop at Ormoc on Leyte in the Philippines in late November 1944 had impressed them, although it had failed. (2) Some time in April or May, seven Japanese Army medium bombers, carrying twelve suicide paratroopers each, attempted to crash-land on the valuable Yontan airfield recently seized by U.S. forces. Only one aircraft succeeded and the troops in it did considerable damage. (3)

The essence of No. 231 Group's personal reaction to any kind of 'suicide' attack on their airfields was to warn all concerned that they were not to be treated as an empty threat and officers commanding wings were to take all necessary precautions. The forces to be mobilised were to come from the R.A.F. Regiment and outlying units on various guard duties were to be pulled in so as to build up a central defence force of eight field squadrons and five A.A. squadrons. These squadrons were to be disposed as follows:-

1 A.A. Squadron and 1 Field Squadron on each of the 5 operational strips in the Rangoon area, with the option on 3 more Field Squadrons then serving on radio locations. (4)

No. 221 Group
(1) R.A.F. Burma File 221G/38/1/AIR (A.H.B. IIJ.51/48/3/38).

(2) Surprise helped them in an initial measure of success, but they were wiped out.

(3) Neither No. 221 Group's papers nor the official U.S. history The Army Air Forces in World War II, Vol. V refer to this latter incident.

(4) No. 221 Group file 221G/38/1/AIR (A.H.B. IIJ.51/48/3/38).

/ The

The true spirit of the Special Attack Units

Leave cannot be taken of the subject without an attempt to clear up the pervading misunderstanding of the factors that made Kamikaze operations possible and to state the true definitions of the relevant terms used by the Allies and the Japanese.

Firstly, the Japanese word for suicide is harikari. A 'suicide' charge in the field is a banzai. Kamikaze has quite a different meaning, which is 'Divine Wind': it referred strictly only to Navy aircraft and pilots. It is an historical reference to the storm which destroyed the Mongol fleet invading Japan in the Middle Ages. ⁽¹⁾ Only to the western world is Kamikaze synonymous with suicide. High ranking Japanese officers gave a rendering of their state of mind during and after the war before the interrogating teams of the U.S. War Department General Staff. Two in particular throw considerable light on the subject, although they did not admit the cynicism of the General Staff in exploiting the patriotic and religious feelings of their pilots to strictly material ends. Most serving officers and all ranks of the Japanese Air Forces became, as the invasion of Japan approached, potential Kamikaze personnel. ⁽²⁾ The testimony therefore comes from involved and dedicated people.

Lieut. Gen. Kawabe, Commanding General of the Army's Air H.Q. testified, to quote the indifferent translation in the U.S. Strategic Bombing Survey Report, in the following terms:

'Everyone who participated in these attacks died happily in the conviction that he would win the final victory by his own death. The Japanese, to the very end, believed that by spiritual means they could fight on equal terms with you We believed our spiritual conviction in victory would balance any scientific advantage and we had no intention of giving up the fight.'

You call our Kamikaze attacks 'suicide attacks'. This is a misnomer and we felt very badly about your calling them 'suicide attacks'. They were in no sense 'suicide'. The pilot did not start out on his mission with the intention of committing suicide. He looked upon himself as a human bomb which would destroy a certain part of the enemy fleet for his country. They considered it a glorious thing, while a 'suicide' may not be so glorious.'

(1) It was Kublai Khan who, in 1281 A.D., launched this armada.
 (2) A more detached viewpoint is expressed by Capt. R. Inoguchi and Cdr. T. Nakajima, formerly of the Imperial Japanese Navy in their book of December 1951, in which they refer to Kamikaze as the most diabolical tactic of war the world has ever seen: see below for reference.

Capt. Inoguchi, Chief of Staff of the Navy's First Air Fleet in the Philippines campaign, blended the tactical with the moral, suggesting that the High Command saw the operational advantages of crash attacks at a time of desperation and were fully aware of the grave psychological ⁽¹⁾ as well as material damage such attacks were certain to provoke in Allied circles.

'The centre of Kamikaze is morale (just prior to the Philippine landings) we felt as follows: we must give our lives to the Emperor and the Nation, that is our inborn feeling. I am afraid you cannot understand it well or you may call it desperate or foolish. We Japanese base our lives on obedience to Emperor and Nation. On the other hand, we wish for the best place in death, according to Bushido. ⁽²⁾ Kamikaze originates from these feelings The trouble with the United States' way of looking at it is if you start out on a mission with the idea of coming back, you won't proceed to carry out the mission with 100 per cent efficiency.'

The sentiment of patriotism and the willingness to sacrifice one's life for one's friends is common to both the Christian and Bushido ethics. Racial thought appears to divide however on the value placed on the life of the individual. The Japanese, when trapped by our fighting forces, often preferred to take their own lives rather than face a shameful future as defeated captives. One pitiful example of this was fresh in the British mind. In the early hours of 30 April, Force 62, in the course of Operation 'Gable', intercepted ten small craft evacuating about 750 Japanese troops from Rangoon to Moulmein and destroyed them. In the words of the Naval Staff History, these troops refused to be saved and were left in the sea. To a civilised European such action seems pointless and he is inclined to link it with the widely accepted view of the psychologists that the act of suicide springs from an inability to face the realities of life as they present themselves at the time. ⁽³⁾

-
- (1) The U.S. Navy, from the beginning imposed a rigid press and radio ban on news of Japanese 'suicide' attacks, so as to conceal their losses both from the Japanese and the Allies. Cf. Inoguchi reference in previous f/n.
 - (2) The code of Japanese feudal warriors. One of the best expositions of this code is Hitobe's 'Bushido' in English translation: but refer also to Lord Russell's damning indictment of inconsistencies in the modern debasement of it in 'Knights of Bushido'.
 - (3) For the record of Kamikaze attacks in the Pacific campaigns and close estimates of their success, refer to Naval Staff History - War with Japan, Vol. VI (Admiralty B.R. 1736 (50)(6)).

AIRCRAFT CARRIER OPERATIONS IN SOUTH EAST ASIA 1944 - 1945

Legend

Code name, course and
operational period

PEDAL 21-6-44

Flying-off position

Air strike, sweep or support

Enemy airfields

Oil refinery production

Refineries

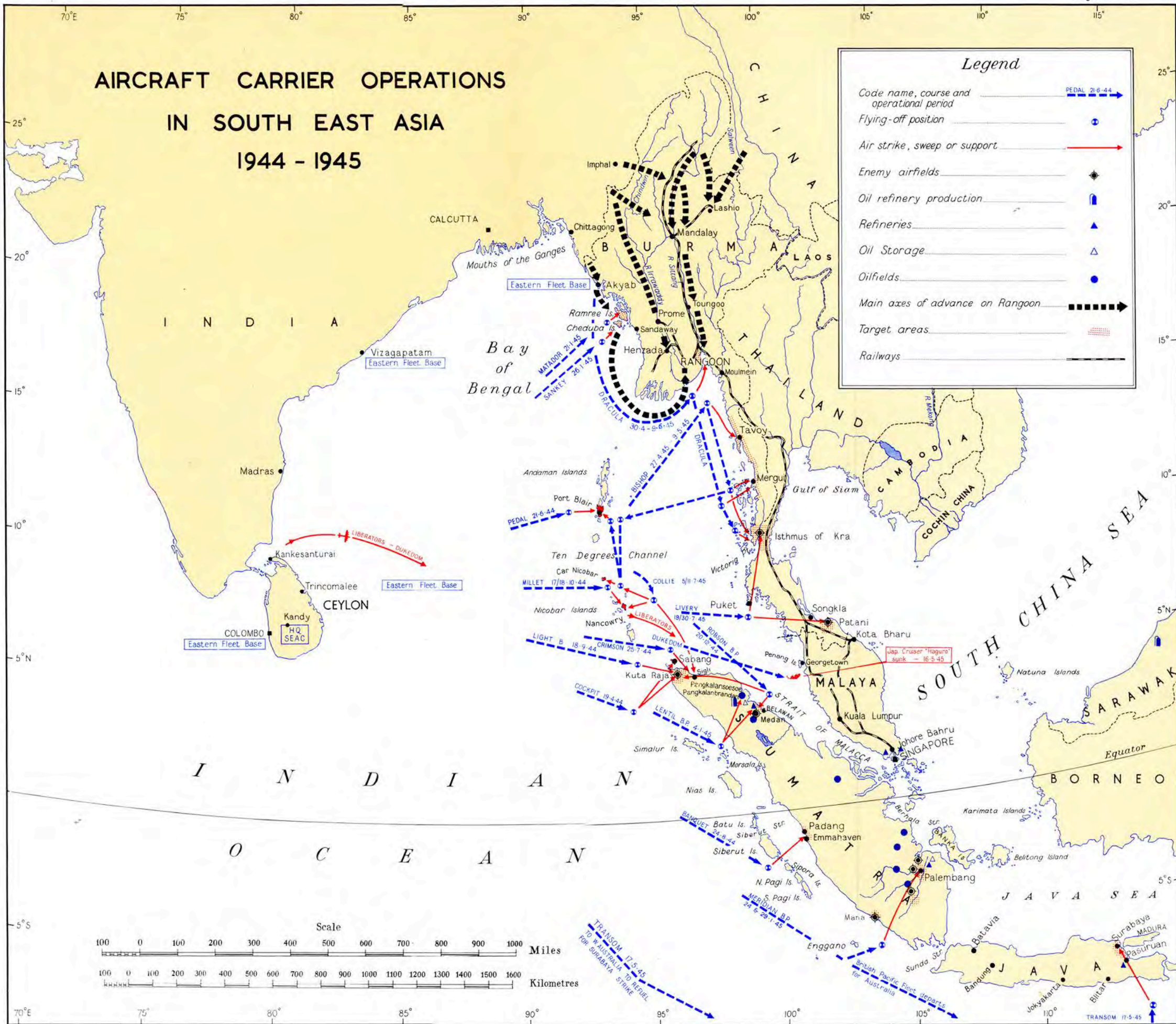
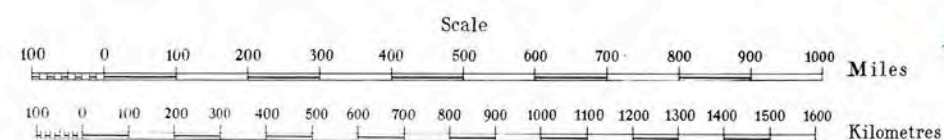
Oil Storage

Oilfields

Main axes of advance on Rangoon

Target areas

Railways



(1)

l.c. The Climax of British Aircraft Carrier Achievement in the Pacific

Introduction

The operations of the aircraft carriers of the British Pacific Fleet and its Air Train in the final stages of the war against Japan must now be briefly outlined, so that some last words on our carrier-borne aircraft in the Second World War may be considered. The record has been amplified by an Appendix (2) providing a comparative study of operational conditions ruling in British and American carrier expeditions. Some knowledge of these conditions is basic to all study of carrier-borne aircraft and serves to emphasise the successes achieved in spite of the many handicaps and the admirable fashion in which Fleet Air Arm personnel acquired the new tactics of air warfare at sea far from land bases and made a considerable contribution to the assaults on Okinawa and Japan.

It must be emphasised that it was the Americans who developed the art of carrier-borne air operations to an unprecedented level; and while they themselves admit that they fell short of perfection, they remain at this date the prime exponents of this the latest expression of maritime air warfare. We must set our effort in the context of their operations over three strenuous years to see all round the subject. It was the U.S. Fast Carrier Forces that did most to bring about the collapse of Japan's maritime empire and the fact that the Japanese knew this is proven in their final choice of the Allied aircraft carriers as the top priority targets for their air forces.

British Pacific Fleet reports for duty

After the attack on Palembang in late January 1945, Force 63 set course for Fremantle (Australia) to join the British Pacific Fleet. This comprised some 95 ships and vessels and was given the title of Task Force 113. In addition, the skeleton of a Fleet Train (Task Force 112) was created, which was to be greatly expanded before the Fleet could spend long periods at sea. Sydney, the main base, was some 4,000 miles from the fighting area.

(1) Sources for reference include Admiralty B.R.1736(50)(6): Roskill - The War at Sea Vol. III Part II: C.-in-C. B.P. Fleet - Report of Experience of the B.P. Fleet from January - August 1945 (Admiralty H.01779/46).

(2) Appendix 32, which should be carefully studied.

On 15 Jan. 45, the C.-in-C. (Sir Bruce Fraser) reported for duty to Admiral Spruance, C.-in-C. of the Fifth U.S. Fleet. On 19 January, some of the British vessels reached the intermediate base of Manus (Admiralty Islands) but the main forces had to build up their strength and organization, absorb aircraft reinforcements and exercise; and it was not until the last week in February that it sailed from Sydney for Manus.

The British Pacific Fleet then became Task Force 57 and, on 23 Mar. 45, sailed from the advanced base of Ulithi (Caroline Islands) to operate on the flank of the Fifth Fleet in the first phase of Operation 'Iceberg', the assault on the Okinawa group of islands.

Three series of British carrier operations

The aircraft carrier operations of the British Pacific Fleet fell into three distinct periods. The first was as Force 57 with the Fifth Fleet. It lasted from the end of March until late May. The Fleet was at sea for 62 days and conducted offensive operations on 26 days against Japanese airfields in the Sakishima Gunto Group, as its contribution to the assault on Okinawa.

The intermediate period fell in mid-June, when British carriers and warships conducted operation 'Inmate', an independent strike on Japanese naval units at Truk.

In mid-July, the British Pacific Fleet was transferred to Admiral Halsey's Third Fleet as Task Force 37; its warships and carriers operated until mid-August in the final air onslaught on Japan, a consummation for which the Royal Navy and the Fleet Air Arm had long and devoutly wished.

The full record of these operations must be sought in the official Allied histories, the C.-in-C's reports of proceedings and the Admiralty Naval Staff History. The limitations of the British effort must be candidly acknowledged, but if it is realised that the Royal Navy and the Fleet Air Arm had lived through the years of fighting alone and suffered grievous losses in the process, then the final efforts off Okinawa and Japan may appear in a very creditable light. A brief record of the results and cost of these final operations will bring their triumphs and limitations clearly into perspective. The air operations will be outlined in chronological order after a glance at the organization of the carriers.

British air tasks in the Okinawa campaign

When the four British carriers took up stations, a much larger force of four U.S. groups, each with three or four fast carriers, had been occupied with the now classic preparatory anti-air force attacks, striking at the enemy air reinforcement system with the aim of maintaining local air superiority in the Okinawa area. On 25 March, U.S. forces began landing on Kerama Retto (15 miles west of Okinawa) where they built a naval base. On 31 March, they landed on the outlying island of Kaniyama and on 1 April on Okinawa itself, an island already badly shaken by a week's bombardment and air assault.

Formosa was now the headquarters of the Japanese First Air Fleet. Between Formosa and Okinawa lay the group of islands known as the Sakishima Gunto and within that group lay the islands of Ishigaki Jima and Miyako Jima, each boasting of three strongly defended airfields. The task allotted to the British Force 57 was the neutralisation of the islands, with the airfields as priority targets. Later, the strikes were to be extended to the airfields of northern Formosa. All these targets would certainly figure in the enemy's plans to destroy the invasion shipping. Top priority targets were the Anglo-American aircraft carriers and the most sought-after points for the Kamikaze pilots were aircraft parked on the flight decks and the tops of the hydraulic aircraft hoists.

The situation on 25 March was that the U.S. carrier forces were near the Nansei Shoto Islands awaiting the order to soften up the Okinawa Islands. The British contingent - Task Force 57 - ^{was} moving up toward a position south-east of the Sakishimas.

Fleet and escort carriers in the Okinawa operation

There were four ^{ageing} Fleet carriers ⁽¹⁾ in Task Force 57, and two replenishment carriers, ⁽²⁾ one aircraft repair ship, ⁽³⁾ one aircraft component repair ship ⁽⁴⁾ and one air store issuing ship ⁽⁵⁾ in the Fleet Train. The principal and most flexible offensive power of the Fleet lay in the 218 aircraft embarked in the

-
- (1) H.M.S. Indomitable, Victorious, Indefatigable, Illustrious.
 - (2) H.M.S. Striker and Slinger.
 - (3) H.M.S. Unicorn.
 - (4) H.M.S. Deer Sound.
 - (5) H.M.S. Port Colville.

/ carriers

carriers, who left Ulithi on 23 March. These aircraft were of six different types, viz., 40 Seafires (which were by then relics of a bygone age), 29 Hellcats, 65 Avengers, 73 Corsairs, 9 Fireflies (with rocket projectiles) and 2 old Walruses for air/sea rescue. The Barracudas had gone for ever, but the Seafires ^{skill} limited the strategic value of the whole force. The American aircraft had been adopted to British standards, which meant that the carriers and replenishment ship had to be furnished with cargoes of spares entirely disproportionate to the number of squadrons employed. The various carrier manoeuvres essential to flying-on the different types of aircraft reduced the Fleet's mean speed. However, there was little that could be done at the time and within the Fleet to mitigate the asperity of the many problems.

British carrier operations in the assault on Okinawa fell into two broad periods, viz., the first from 26 March to 20 April and the second from 4 to 25 May.

(1)

Japanese Air Force reorganizes before Okinawa

March

In early ^{March} January 1945, the Japanese High Command faced a desperate situation. They had lost the Philippines and Iwo Jima, their main Fleet was crippled beyond recovery, their carrier-borne air forces broken and out of operations, their Inner and Outer Zones cut off from each other: the Allies were standing astride the lifeline of Japan proper, poised for the next point of attack. This point, the enemy correctly adjudged, would probably be Okinawa and vigorous defensive preparations were begun. The only hope was to defend the Ryukyus and the homeland with land-based air forces. Guided by the ruthless hand of Admiral Ohnishi, the commander of the First Naval Air Fleet, plans were accelerated for an all-out last ditch effort by crash aircraft. Every expendable young half-trained pilot and every airworthy trainer aircraft were roped in. Swarms of new Special Attack Units were formed and human beavers laid out small, well-camouflaged hide-outs for them.

(1) Inoguchi and Nakajima. The Divine Wind. U.S. Naval Institute, Annapolis. 1958: Inoguchi gave invaluable evidence at the U.S.S.B.S. interrogations, the report on which has been already quoted several times and has again been used in this section.

/ By

(1)

By early March 1945, Japan's naval air strength was disposed as follows:-

<u>Air Fleet</u>	<u>No. of Aircraft</u> (approximate)	<u>Deployment</u>
First	300	Formosa and Sakishimas
Third	800	Tokyo area
Fifth	600	Kyushu
Tenth	400	Honshu
	<u>2,100</u>	} Japan

The First Naval Air Fleet in Formosa had been concentrating on 'suicide' methods ever since its withdrawal from the Philippines, but could hardly expect more than 100 aircraft replacements. It consisted now of four new groups. From the Formosan airfields to targets in the Ryukyus, the line passed through the Sakishima Group: air detachments were stationed there and the airfields prepared to function as staging posts. The First Special Attack Corps on Formosa was christened the Nitaka Unit, which included Zeros ('Zeko') and Suisei carrier bombers ('Judy') drawn from the Tainan Air Group. Ohnishi gave one of his 'pop' talks, this time terminating on a sinister note:-

'Even if we are defeated, the noble spirit of this Kamikaze attack corps will keep our homeland from ruin. Without this spirit, ruin would certainly follow defeat.'

This unit was blooded on 21 Jan. 45, inflicting appreciable damage on two American carriers and a destroyer E.S.E. of Formosa. The much stronger forces on Kyushu were also continuously in action, although defence for the expected landings in Japan still dictated a policy of conservation.

While the American invasion forces were gathering for Operation 'Iceberg', the Japanese put the finishing touches on 'Ten Operation No. 1' for the defence of Okinawa and, on 26 March, (the day following the landing on Kerama Retto), Ten was begun. The Third and Tenth Air Fleets were placed under operational control of the Fifth Air Fleet in Kyushu (Western Japan) from whence the major air onslaught was to be launched. The First Air Fleet on Formosa and the Sakishima Islands was to operate as a thorn on the Allied flank.

-
- (1) No trustworthy order of battle for the Army Air Force is available, but a reasonable estimate of the aircraft available to the enemy at the end of the war ~~are~~ given in Appendix 34.
- (2) 132nd, 133rd, 205th and 765th.

The Japanese Naval and Army Air Forces in Kyushu were both under the tactical command of the Navy for the entire Okinawa campaign, the object being to produce a unified strategy. It was the first time the two air arms had combined in a major defensive undertaking. The Army's special commitments were the defence of Japan proper (except for targets of peculiar Navy interest such as naval bases and fleet anchorages) while the Navy was responsible for repelling attack offshore. ~~Both Army and Navy air units attacked the Allied shipping off Okinawa.~~ The Supreme Commander, Combined Naval Force issued over-all tactical directives to both the Sixth Air Army and the Navy Air Fleets. The C.-in-C. of First Mobile Base Air Force (i.e. the tactical title of the Fifth Air Fleet) was in tactical command of all Naval air units. The closest ^{Army} co-operation found expression in the provision of air cover from Kyushu to Okinawa.

(1)

The Kikusui air attack plan

Army and Navy worked out the tactical details of the plan for the destruction of the Allied warships and transports. The exact balance of forces intended for employment, although known to the Japanese at the outset, altered with wastage and the changing situation. Although the sorties from Kyushu outnumbered those from Formosa and the Sakishima Gunto by more than seven to one, the total of suicide sorties alone flown from the latter bases alone reached 250 against a total of 1,650 from Kyushu. Between 6/7 Apr. and 21/22 June, ten major attacks from Kyushu, known as Kikusui missions, were carried out. In these the Navy's contribution was heavier than the Army's - roughly in the proportion of 3 : 2. Of the 250 suicide sorties from the Formosa area, 200 were by Army aircraft and 50 by Navy aircraft. There seems to be little or no relation in timing between this local flank effort in the battle area and the long-range missions from Japan. From time to time, both affected the Carrier Force of the British Pacific Fleet, which was considerably disturbed in its operations and was obliged twice to change its battle stations.

-
- (1) A Japanese word meaning literally 'chrysanthemum water'. The characters composing the word were used in the crest of a Japanese hero who took the side of the Emperor in a prolonged civil war against heavy odds.

/ British

British carrier operations - first three phases (26 March - 7 April 1945)

(1)
Task Force 57, late and short of many essentials, sailed from Ulithi on 23 March. Their general task in the first phases of Operation 'Iceberg' was to crater the runways of Ishigaki and Miyako, on each of which islands there were three serviceable airfields. Few of the airfields appeared to be in active use, but knowing the Japanese skill in camouflaging their Kamikaze aircraft and the strips they used, it is doubtful whether the complete pattern of the enemy's forces ever emerged.

On 26 and 27 March, the first air attacks were carried out. They involved a total of 574 sorties; all the known airfields, barracks and installations were bombed and cannoned, as well as a few coasters. Crews reported the destruction of 20 aircraft on the ground and 1 in the air. Our own losses were 17 aircraft, of which 6 were shot down by anti-aircraft fire. Although sighted at least twice, the Task Force itself was not attacked. It returned to the refuelling area (this was to become an enforced practice) and prepared for the second phase.

After 31 March, the whole atmosphere changed. Early on 1 April, an enemy force of some 10 aircraft was picked up by radar at a distance of 75 miles and it pierced the carrier fighter screen. One Kamikaze pilot dived into the base of H.M.S. Indefatigable's island and put her flight deck out of action for a time. The superstructure, radar installations and arrester gear were damaged and a number of men killed. Although now short of aircraft, she was reasonably operational by the afternoon and continued her fighter sweeps. Attacks were renewed at 1730 hours that evening by four enemy aircraft, two of which were shot down. No damage was caused.

During the afternoon, the Japanese tried staging aircraft into a Sakishima airfield. Our carrier patrols sighted over 20 of them and claimed the destruction of 14 (on the ground) and damage to the remainder. It was now decided to give air attack the priority over bombardment in the Sakishimas and air operations were continued throughout 2 Apr. 45, after which Task Force 57 again returned to the 'service area' for replenishment of aircraft, fuel, stores and so forth. Heavy weather held up refuelling, but by dawn on 6 April the Force was ready for the third series of strikes on the Sakishimas.

(1) In the Palau Islands: advanced naval base.

The Japanese were on the alert, shadowed them in the forenoon and attacked them with about four 'suiciders' in the afternoon. Two Kamikazes were shot down by our fighters and one more shared by fighters with ship's guns. It will have been discerned by now that means were being found by the British without outside assistance of handling the crash bomber. This was further exemplified when one Kamikaze near-missed the carrier H.M.S. Illustrious who took evasive action whereby the enemy crashed into the sea after a harmless wing tip hit on the island superstructure. All the runways on the Miyake airfield were bombed and were ~~believed~~ to have been rendered unserviceable. Results of attacks on Ishigaki airfield are not recorded.

During this third series of air strikes, eight enemy aircraft were claimed as destroyed, five in the air and three on the ground. Our losses again pinpointed grave technical and manoeuvre difficulties. We lost 14 aircraft, 2 in combat and 12 by 'other causes'.

/mass

Mass Japanese air attacks on U.S. forces at Okinawa

The British Task Force carriers were fortunate in getting off so lightly. Its Commander voiced their awareness of this in a signal:-

'The Nips do not seem to be trying down our end'. Yet up at the American end, they tried extremely hard, opening with one of the heaviest air attacks of the whole war, the first of ten major attacks from Kyushu, ⁽¹⁾ bearing the code name of 'Kikusui', and a considerable number of smaller ones. Service-ability fell sharply after each effort and on only one occasion after 6/7 April, the date of the first effort, were the Japanese able to mount more than 150 suicide sorties in one day.

— During the Ryukyus campaign, March through June, 25 Allied ships were sunk by suicide attacks. The enemy scored 182 hits on our ships and 97 other aircraft scored damaging near misses.

(1) Official U.S. estimation of suicide sorties from Japan and Formosa area (6 Apr. - 22 June 1945).

Kikusui Number	Date 1945	Suicide Missions (including Escort)		
		Navy	Army	Total
1	6/7 April	230	125	355
2	12/13 April	125	60	185
3	15/16 April	120	45	165
4	27/28 April	65	50	115
5	3/4 May	75	50	125
6	10/11 May	70	80	150
7	24/25 May	65	100	165
8	27/28 May	60	50	110
9	3/7 June	20	30	50
10	21/22 June	30	15	45
Total for 10 Kikusui missions.		860	605	1,465
Additional suicide sorties between Kikusui missions.		140	45	185
Suicide sorties flown from Formosa area.		50	200	250
Grand Total				1,900
Total combat losses				3,000
Total Japanese losses, all causes in Ryukyus campaign				7,000

/British carriers

British carriers ordered to attack North Formosan airfields

For two days, the four British carriers were to join in the evergreen strategic problem of reducing the Japanese air effort from Formosa. This island offered, among other important targets, an airfield system superior to anything found outside the home islands, in fact, a complex of some fifty strips. Formosa was an old target for the U.S. Army Air Force, but now that the Okinawa campaign was in full swing, its importance was heightened.

There ^{were} ~~was~~ conflicting and erroneous views on the enemy's strength; and his skill in dispersal and the energy of his repair gangs were both underestimated. While most of the Kamikaze attacks were flown from Kyushu, the enemy's approaches deceived U.S. naval commanders as to their actual point of origin and Formosa was considered a hornet's nest which must be neutralized. This period, therefore, saw a series of powerful blows by the fifth U.S. Army Air Force on a dozen or more airfields in the north ^{and} along the eastern and western coastal plains.

Tacit Force 57 was expecting to return to the combat area off the Sakishimas on 10 April, but on 9 April, Admiral Spruance cancelled the Sakishima strikes and ordered the British forces to supplement the efforts of Allied Forces S.W. Pacific Area by bombing Shinghiku and Matsuyama airfields in Northern Formosa. Although all hands were feeling the strain, the assignment was accepted. Both airfields were known to be very heavily defended by anti-aircraft batteries, but aircraft were cunningly dispersed and camouflaged by day. It was rightly assumed that both were important enough strategically to call for drastic treatment; and our carrier strikes were to be tied in with American attacks concentrated in time and weight. It must be advanced at this point that of the two airfields attacked, only Shinghiku was used by the Japanese during the Okinawa campaign. Matsuyama was hotly defended by anti-aircraft ^{batteries} ~~first~~, but it may well be that the over-all Anglo-American effort denied it to the enemy as an operational base. As reference to Appendix 33 will confirm, the other bases employed were Takao, Tainan, Ciren, Taichu and Taito.

/Air operations

Air operations against Formosan airfields (12-13 Apr. 45)

The Fleet moved closer to a point some 50 miles off Formosa on the 12th of April. Matsuyama was found to be covered by the low cloud so frequent on Formosa and the strike flew on to Shinchiku. Few aircraft were observed but the field was attacked by every available aircraft.

That evening, Ichigaki airfield (last attacked on 7 April) was again active and the Japanese flew off a strike of 12 aircraft to attack the Fleet. It was intercepted by fighters who claimed to have shot down eight of them. (1) One Hellcat was lost.

On 13 April, the Formosan fields were hit again. There were claims of plenty of hits on parked aircraft, a bridge, a train, a factory and ammunition or oil stores. Before dawn, the Japanese put up one of their heaviest efforts. Thirty aircraft from Taichu and six from Shinchiku (still active) carried to attack the Fleet. Four of them reached the carrier area and attempted to attack H.M.S. Indomitable. One was destroyed by ship's gunfire and the rest withdrew. Two further enemy attacks also proved abortive. The total claims for the two days over Formosa and the Fleet amounted to 36 aircraft destroyed, several more probably destroyed and five or more damaged. (2) H.M.S. Illustrious was ordered home for refit and was replaced by H.M.S. Formidable on 14 Apr. 45.

On 12 April, a total enemy effort of 95 aircraft against Allied shipping had been launched and had resulted in some losses and a great deal of damage to American shipping. Rawlings made an offer, gratefully accepted, to stay in the area and deal heavy blows on 16 and 17 April on the Sakishima airfields. The promise was carried out and both Ichigaki and Miyako were left apparently unserviceable. However, the First Air Fleet managed to despatch small missions on 16 (3 aircraft), 17 (9 aircraft), and 18 (6 aircraft) April from Ichigaki, but none from Miyako. It was claimed that 4 enemy aircraft were shot down. The Japanese tables admit 4 lost from 12 to 14 April.

/Although

(1) In Appendix 33, the Japanese claim (and the U.S.S.B.S. has not corrected this), that all 12 aircraft returned, a fact which suggests that even this authoritative table must be treated with reservations.

(2) Unconfirmable.

Although the Fleet had received no aircraft reinforcements since 9 April and was short of fighters it was decided that a sixth operational period, if confined to one day, was possible.

Sixth and last airfield strike series (20 Apr. 45).
Fleet returns to Leyte

At the end of their tether, the carriers took up their flying-off positions about 100 miles from the Sakishimas on 20 April and carried out a three days series of strikes on the two Sakishima airfields, leaving none of them unscathed. No enemy aircraft were met in the air and few fresh arrivals were noted. A total of 75 tons of high explosive bombs were dropped, but it is now realised these were not of sufficiently heavy calibre to affect the runways permanently.

23
On Apr. 45, Task Force 57 returned to Leyte ^{Philippines} (Philippines) after its first period of major operations with the U.S. Fleet in the Pacific. Its tankers had been too few and too slow and the Fleet Train had proved inadequate. To retard a return to operations still further, three fighter wings, at the end of their operational tour, had now to be relieved.

Summary of first period of operations

During that first 26 days of operations which began in late March, the carrier force had completed 12 days of strikes, usually in periods of 2 days, followed by an interval of 3 to 5 days for refuelling. The average flying hours for the period were:- Corsairs (fighter) and Hellcats (fighter), 45; Seafires (fighter), 22. The scale of effort by the Hellcats, 1.22 sorties per complement aircraft per strike day, and the scale for the Corsairs, only slightly lower, were comparable with standard American flying effort. The Avenger bombers were not extended, owing to lack of suitable targets. Our losses were 19 aircraft in combat and 28 operationally. Enemy aircraft claimed & destroyed in the air were 28 and 34 on the ground, not all operational.

It had been apparent from the beginning that, however thoroughly the airfields were neutralised by day, the Japanese were determined and able to effect repairs under cover of darkness. The frequent missions from Ichiyaki and Shiohiku prove this. Had we had night intruders, it might have been a different story. We were unable to swamp the gun defences at Miyako, who continued to inflict casualties on our aircraft to the end. The full diversionary impact of the

/British

British carrier aircraft attacks by day is therefore beyond exact assessment, although a graph of the enemy effort shows steep troughs in serviceability after our attacks. It is certain, however, that up to 40 determined Japanese pilots were held at bay intermittently and a number of them shot down or killed in operations which they might otherwise have diverted to the main landing and covering forces off Okinawa.

l.c.

Summary of Carrier operations in May 1945

After resting at Leyte, the Fleet sailed again on 1 May (with H.M.S. Formidable replacing H.M.S. Illustrious) to continue the neutralisation of the Sakishima Gunto. Some of the replacement crews were young and untried. On the first strike day, 4 May, the battleships and cruisers went close in to bombard airfields and gun batteries, while the carriers, some 30 miles to southward, flew off strikes on the airfields. The Japanese caught the carriers without their warship cover and despatched a force of some 37 aircraft from Shinchiku, Giran, Taito and Ichigaki. The carriers then passed through one of the most costly and chaotic periods in their careers.

At 1131 hours, although the radar screen showed no 'bandits', a Zeke dived from a great height on to H.M.S. Formidable. Although hit, the Kamikaze pilot crashed into the ship's flight deck, starting a large fire in the deck park of aircraft, killing and wounding some 55 men, damaging 11 aircraft beyond repair, hoisting and denting the flight deck to a depth of two feet. If such things had happened to an American carrier, she would have been put out of action and sent back to base for repair: but British carriers enjoyed the advantage of armoured decks. For that reason, the ship was again flying-off aircraft by 1700 hours. Two other Zekes that attacked H.M.S. Indomitable a few minutes later achieved nothing. The heavy ships returned to their covering stations. Afternoon and evening enemy air attacks were broken up and several of his fighters shot down.

On 9 May, H.M.S. Formidable was again hit by a suicider which put 16 aircraft out of action, but caused little other damage. In 50 minutes, the ship

/was

was again serviceable to fly-off aircraft. H.M.S. Victorious was twice hit, but apart from a few aircraft rendered unserviceable, survived in good condition. After these last days of operations, the Task Force moved its launching position further eastward and stationed radar pickets N.W. and S.W. of the Fleet. Thereafter, our forces were left in comparative peace.

With mobile bases and cramped accommodation added to weather difficulties, the chance of accident is high. For example on 18 May, H.M.S. Fearless suffered a serious fire while fuelling and exchanging aircraft. A Corsair in the hanger accidentally fired its guns into an Avenger, which exploded. About 30 aircraft were damaged or destroyed. After final strikes on 25 May, the Fleet returned to Harms and rear bases to prepare for the final operations.

The air effort and its cost in Operation 'Iceberg' (1)

Of the 62 days that Task Force was at sea 23 were air strike days. Carriers flew 4,691 sorties, dropped 927 tons of bombs and fired 950 rocket projectiles. The Force claimed to have destroyed some 100 enemy aircraft. The U.S. Fifth Fleet allowed them 75. Our aircraft losses were rather high for the conditions encountered, viz:-

26 shot down in combat.

72 destroyed operationally (including 61 deck-landing crashes).

32 destroyed on board as a result of suicide attacks.

30 lost in H.M.S. Fearless's hanger fire.

160 Total.

Flying casualties are given as 41 killed and missing.

Non-flying casualties 44 killed and 83 wounded.

In two respects the operating statistics of British carrier forces compare unfavourably with those of the United States. (2) The following table shows that our operational aircraft losses were nearly double the American, proportionately:-

/ Operational Losses

-
- (1) Admiralty B.N.1736 (59) (6).
(2) So far as available.

	Operational Losses	No. of Complement Aircraft	Days at Target	Aircraft Days per aircraft ^{see} lost Operationally.
U.S.	231 *	919	80	318
British	72 **	218	5	163

* Excludes 15 lost in typhoon.
 ** Excludes 30 lost in Formidable's hangar fire.
 *** Number of complement aircraft * number of days at target.

Most of the 61 British aircraft destroyed on deck landing crashes were Seafires, whose proportion of crashes per sorties was some 50 per cent higher than that of the Fireflies and, during the first phase of Operation 'Iceberg', nearly three times as great as those of the Avengers and Corsairs.

The American Task Force 58 claimed 25 times more enemy aircraft brought down than the more 75 allowed the British Task Force 57. The British had far fewer opportunities in their area of inflicting heavy losses on the enemy. The enemy formations were usually quite small in our waters, whereas the Americans went through ten major Kikusui attacks. As these suicide mass attacks declined, so did the enemy losses in the air.

The creation of the Air Train

Owing to chronic deficiencies in the strength and structure of the Fleet Train, it became necessary to resort to a series of drastic moves to ensure the end of living from hand to mouth. As a result, the second part of the Okinawa proceedings showed an improvement. It will convey some idea of what it cost to keep a carrier force at sea when it is stated that about 180,000 tons of fuel oil, over 2,000 tons of aviation fuel and 140 aircraft were supplied to Task Force 57.

From 1 to 24 June, the Fleet, now known as Task Force 37 and under command of the Third Fleet, underwent a major replenishment and rehabilitation.

One of the most vexatious problems had been the replenishment of aircraft. To abbreviate a long story admirably covered in the Admiralty Staff History, it must be stated that the Fleet Train anchorage was largely fixed by the

/question

SECRET

450

question of fuel tankers, but the replenishment carriers were tied to their airfields and replenishment ports (which ^{might} be in different places) and ₁ to obliged to operate from a different anchorage from the remainder of the Fleet Train. Therefore the Air Logistics Groups were separated as from 10 June 45 from the Fleet Train and were christened the Air Train, which operated under a Commodore (COMAT), responsible himself to Head-Admiral Fleet Train. This now comprised ferry and replenishment carriers and all aircraft maintenance, repair and store ships. By mid-May, the number of replenishment carriers had risen to five.

/The

SECRET

The raid on Truk (14-15 June 45)

While preparations for Operation 'Olympic' (changed to 'Majestic') the invasion of Japan proper, proceeded, it was decided to eliminate any possible threat from places already by-passed by the American forces. In the interests of this plan and to afford much-needed battle practice for newly-joined units of the British Pacific Fleet, Task Group 111.2 was formed and sailed on 10 June 45 from ^{Manus} ~~Marinus~~ for a raid on Truk in the Carolines. This complex of islands and atolls had once been a vital Japanese naval and seaplane base, but a series of heavy American bombing attacks had reduced it to impotence and forced the withdrawal of the enemy's Navy to safer quarters.

Operation 'Immato', as the attack was named, was on a smaller than usual scale; and bombardment, as well as air strikes, was to be a feature. The aircraft concerned were carried in H.M.S. Implacable, who bore on her strength 21 Avengers (some trained for night operations), 11 Fireflies and 45 Seafires. The Force included the escort carrier H.M.S. Ruler as a standby flight deck.

The attack on Truk was inconspicuous and inconclusive. From early on 14 June to night fall on 15 June, the Force flew 103 day and 10 night offensive sorties. Seafires were used as fighter bombers and Fireflies used rocket projectiles. All strikes were escorted. Two enemy aircraft were destroyed on the ground. On one occasion when H.M.S. Implacable was caught in a heavy squall with aircraft ranged for the next strike, H.M.S. Ruler came to the rescue and landed-on six Seafires which might have failed to land on their parent ship.

Doublon Island and other targets were attacked and damage claimed to shipping, a floating dock, harbour installations, radio and radar equipment and shore batteries. The shore defences were very weak and there was no air opposition. In the light of Japanese records ⁽¹⁾ it is plain that the Americans had already finished the task and the life had gone out of Truk.

End of the Okinawa campaign (21 June 45)

After nearly 12 weeks of bitter fighting, enemy resistance on Okinawa ceased on 21 June. Its capture at great cost in lives and shipping had justified the operation, for the Allies now held sites for air and naval bases within

/350

(1) There are no admissions of shipping losses in the authoritative Japanese Report.

350 miles of industrial Japan. A major fleet anchorage and a large number of potential airfields were available for the final assault on the enemy's homeland. Furthermore, the attacks of the confirmed aircraft carrier forces had cost the Japanese something in the region of 7,000-8,000 aircraft and destroyed the best part of their extra-metropolitan air forces.

British carrier participation in the final air assault on Japan

It is beyond the scope of this record to attempt coverage of the final phase of operations by the Third U.S. Fleet, which included Task Force 37 (the British Pacific Fleet), against targets in the Japanese homeland islands. The intention here is first to define the British task in the final expression of maritime strategy and to give an epitome, shorn of all superfluities, of the carrier-borne aircraft strikes and assessable results. The object of presenting for consideration the pitch of British achievement in that field as it was fulfilled at the close of the Second World War will have been then attained. If the present state of our carrier forces is placed in that context, it may be seen to what degree the lessons of that war have been learned and applied.

The task of the British Pacific Fleet in the last phase

The plans for an amphibious landing in Japan went steadily ahead, although some argued that the war could be ended by air power alone. Although the Japanese were on their knees, it was believed they must be brought to the state of mind to admit defeat without invasion. Unremitting pressure must be brought to bear on them by air assault. In July 1945, a new army air force, known as the U.S. Army Strategic Force (U.S.A.S.A.F.) was formed (independent of General MacArthur) and placed under command of Gen. C.A. Spaatz. A new Tactical Air Force of the Pacific, consisting of both Army and Navy aircraft, was also formed. An intensive bombing and minelaying campaign was being conducted. On 25 May, the directive was issued for a landing on Kyushu (Operation Olympic) to take place on 1 Nov. 45.

These operations were now to be supplemented by aerial bombing and surface bombardment of Japan by the U.S. Third Fleet, including the British Pacific Fleet. The Far Eastern Air Force was to provide air protection for the Fleet while engaged in carrier strikes against Japan. The lesson inflicted by the suicide attacks at Okinawa had been a sharp one and was unlikely to be forgotten in a hurry.

/The

The object of the Third Fleet's assault was to reduce the enemy's tactical air strength, to destroy any strategic targets directly supporting the Japanese war effort, and to assess the enemy war potential in northern Honshu and Hokkaido, both out of practical range of land-based aircraft. The British force, Task Force 37, comprised four fleet carriers with screen and possessed a total aircraft complement of 255. The British force acted to all intents and purposes as a Task Group of the U.S. Task Force 38. The role of the carriers was to destroy enemy aircraft, on the ground and in the air. Enemy camouflage, dispersal and caution were certain to make this very difficult. The aircraft complements of the British carriers had been increased to figures not much below those of the U.S. carriers of comparable age. (1) Our aircraft were still inferior to the American. (2)

Carrier operations (17 - 19 July 45)

For the present purposes, the record of the bombardments will be omitted and only the air strikes detailed. The first series took place on 17 - 18 July, when Task Forces 37 and 38 attacked airfields in the area north of Tokyo. Three British carriers participated. Weather varied over the airfields at Masuda, Sendai, Matsushima and Hilgato, but the Fleet Air Arm were more fortunate than their American colleagues. Four out of our six strikes launched were successful, but the full programme was cut by worsening weather. Our aircraft dropped 83 x 500 pound bombs and fired 28 x 60 pound rocket projectiles. It was claimed that nine enemy aircraft were destroyed and nine damaged, all on the ground. Only three of our aircraft were shot down by the enemy batteries and their pilots were saved. On the afternoon of the 17th, a mixed bombarding force was covered by day and by the first night combat air patrol employed by us in the war. (3) Other aircraft spotted for the guns. Long range Superfortresses came in a day later to increase the havoc caused by ships' guns.

/On

(1) The average complement of the ten U.S. fleet carriers and six light fleet carriers used in the final operations was about 74. The complements of the four British fleet carriers were as follows:-

Bornhamb - 54. Victorious - 53. Implacable - 78. Indefatigable - 70;
average - 66.

- (2) Refer to Appendix 33 for a survey of operational conditions.
(3) Admiralty E.R.1736 (50)(6).

On the 18th, H.M.S. Victorious found her striking power seriously impaired by the leakage of salt water into the petrol system: but she managed to send off one strike of six Corsairs. H.M.S. Formidable flew-off 24 Corsairs and H.M.S. Implacable 28 aircraft (5 strikes in all) to attack six airfields and one seaplane station in the Tokyo area. It was reported that 12 enemy aircraft were destroyed and 18 damaged by our aircraft. Although the anti-aircraft fire cost the Americans 12 aircraft, only two of our Corsairs, with pilots, were lost.

Carrier operations (24-30 Jly.45)

In the next series, the awaited break in the bad weather enabled the planned attack on the Japanese Navy in Kure port to come about. For prestige reasons, as a settlement for the Pearl Harbour surprise, the Americans were understandably determined to finish off the remaining units of the Japanese Fleet themselves. Accordingly the targets allotted to the British Fleet were for the most part airfields, but did include the port of Osaka and shipping in the Inland Sea. Here an escort carrier (1) was hit and two frigates (2) sunk, while minor shipping and installations ashore were heavily attacked. Furthermore, it was claimed, 15 enemy aircraft were destroyed. We flew-off 15 strikes, including 5 combined strikes, a total of 261 aircraft, of which 227 carried out attacks. Total sorties on the 24th were 416. We lost 4 aircraft in combat.

On the 25th, flying-off began at 0430 hours. Before afternoon bad weather put an end to operations, our carriers, flying-off three-hour sorties, (3) launched 155 aircraft of which 118 found and attacked their targets. Only one Avenger was lost. Three groups of enemy bombers threatened the Fleet at dusk while day fighters were being landed-on. The first group closed in and was intercepted by four British Hellcats from H.M.S. Formidable, the only British aircraft in the air. The British pilots proved their skill by shooting down three Japanese. U.S. night fighters and gun crews on the picket destroyers engaged and broke up the second group. Discouraged, the third group turned away. Not a single British aircraft was lost that day.

On 28 July, Task Force 37 flew-off 10 individual and 4 combined (with the American carriers) strikes, a total of 260 aircraft sorties, in addition to 135

/for

-
- (1) Apparently the Kaiyo.
 - (2) C.D.No.4 and C.D.No.30.
 - (3) As against four-hour sorties by U.S. carrier aircraft.

for defensive patrols and 4 for photographic reconnaissance and search. The targets were shipyards and minor shipping in the eastern part of the Inland Sea and aircraft and air installations on the mainland. Many small vessels were reported sunk or damaged and much damage was believed done in shipyards and factories. Strong enemy air opposition was again met and we lost 8 aircraft in combat. While these operations were proceeding, American ships and aircraft had brought to its final destruction what remained of the Japanese Fleet in a series of operations against Kure and the coasts of Kyushu.

The Fleet moved to a fresh launching position and, on 30 July.45, turned to air strikes on shipping in the Matsura area, Nagoya Bay and airfields in south-west Honshu. Results of the Allied strikes were difficult to assess, as might be expected, but the total shipping sunk was not really impressive. Only three of our aircraft were lost in combat out of 216 launched on offensive missions. Of the 216, 192 reached their targets. In addition, 130 defensive sorties were flown. The Fleet disengaged for urgent refuelling, retiring 700 miles to the fuelling area. The difficulties encountered in this refuelling were enormous and varied and showed up some of the most glaring faults in our organization for carrier aircraft warfare. (1)

Heavy swells were followed by a great typhoon which immobilised the American Fleet for a week and gave the British Pacific Fleet a badly-needed respite, so that when it returned to the operational area off Honshu on 9 Aug.45 the situation, on the face of it, had improved.

Late British carrier operations (9 - 13 Aug.45)

While great advances had been made in improvisation, ^{and} distances travelled ^{while} and a fine spirit was invariably shown by our aircrews, the basic faults in our organisation were making continuous operations less and less feasible and it is perhaps as well for the British Pacific Fleet that events were moving towards a climax. General MacArthur was impressed by air report, that the Japanese had massed the greater part of their remaining aircraft on the northern ^{Honshu} Honshu - Hokkaido fields for an attack on Okinawa, now under his command. He asked that the combined Fleets should move north to a point off northern ^{Honshu} Honshu and deal ^{with}

(1) These should be studied in Admiralty D.R.1736(50)(6) pp.225-226.

with the enemy forces. Two previously untouched and apparently stockpile airfields had been discovered there.

On 9 Aug.45., Hokkaido was fog-bound, so the strikes made that day were on airfields and shipping in northern ^{Honshu} Honshu. Of the 267 British aircraft launched on strikes (and photographic reconnaissance), all except nine found and dealt with their targets. We lost seven aircraft and four pilots in combat. Curiously, the enemy air defenses did not rise to meet us, but saved their aircraft for some heavy attacks on the Fleet. At intervals all day long, suicide bombers arrived at intervals from the Tokyo airfields and attacked the flank picket destroyers continuously. (2)

Most of the enemy air attacks were repulsed by the picket groups and combined combat air patrol, which claimed the destruction of 12 enemy aircraft. Fog forced the Fleet into a position within easy range of the Tokyo airfields, not at the time under our air attack. However, the Japanese Air Force suffered a major setback in the two days 9 and 10 Aug.45 at the hands of the air strikes, bombardments and land-based air attacks. Total claims amounted to no less than 720 enemy aircraft destroyed or damaged.

It had been Admiral Rawlings (1) intention to stage one more strike on 10 August, then to withdraw his Task Force to base, refit and replenish prior to Operation 'Olympic', the amphibious assault on Japan proper.

Although serious complications of several kinds were fast overtaking him, he agreed to stay to the limit of the Fleet's capacity. On 10 August, 227 of our 236 aircraft attacked airfields, as well as shipping at Osakaichi and Onagawa Wan. Six of our aircraft and six crewmen were lost in combat. Two small naval vessels were sunk.

On 13 August, from positions about 35°N., 142°E., the Fleet attacked targets in the Tokyo area. Two hundred and fifty-four enemy aircraft were claimed destroyed on the ground and 149 more damaged. The Japanese air units made a concerted effort to damage our ships. During daylight and after dusk, 21 enemy

/aircraft

(1) In tactical control of Task Force 37.

(2) In all these combined U.S.N. - R.N. operations, it is often impossible to separate roles, combat claims and damage assessments. It is, after all, the over-all results that mattered.

aircraft approached the Fleet. None succeeded in getting nearer than 25 miles from the combined force. The American plan of perimeter pickets fitted as fighter control ships worked wonders. All the enemy aircraft were shot down. Rawlings described the precision and speed of control and interception as 'a most finished performance'.

Again the British Pacific Fleet had to fall back on the American tankers to enable it to stay in operation.

The last British carrier air strike of the War (15 Aug. 45)

At 0400 hours on 15 Aug. 45, H.M.S. Indefatigable launched her first strike against targets in the Tokyo area. (1) Results were obscured by cloud, but it was believed that a camouflaged factory was successfully bombed. In air combats which ensued with aircraft of ^{our} the two Fleets, it was claimed that 26 enemy aircraft were shot down and 6 destroyed on the ground.

The Fleet Air Arm strike was intercepted by 12 Zekes (Mitsubishi Zero minus 3 fighters) of which 4 were shot down and the remainder probably shot down by the escorting fighters. Two of our aircraft were lost.

At 0700 hours, 15 Aug. 45, instructions were received from the C.-in-C. Pacific, that all strikes were cancelled. At 1110 hours, the signal to cease offensive operations against Japan was hoisted. At 1120 hours while the signal was flying, a Judy dive bomber, which had eluded our patrols, dived on to H.M.S. Indefatigable and dropped two bombs close to her. Corsairs shot the Judy down. During the afternoon, up to seven more Japanese aircraft approached the British Task Force. Six of them were destroyed by our aircraft and one by ship's fire.

Admiral Ugaki, C.-in-C., Fifth Air Fleet flew out that day on a suicide mission to Okinawa and did not return. Admiral Onishi, the creator of the Kamikaze Corps, committed hara-kiri.

Admiralty summary of Naval air operations (March - August 1945) (2)

The production of statistics may continue indefinitely, for so many individuals seek so many solutions in them. The operations were neatly summarised in the simplest possible form by the First Lord of the Admiralty, when introducing

/the

(1) From 34°N, 142°E.
(2) Hanseard, Vol. 420, No. 97, 537 - 38.

the Navy Estimates on 7 Mar. 46. He stated that between the time when the British Pacific Fleet left Leyte on 18 Mar. 45, and the end of the war five months later, our naval aircraft attacked the enemy on 33 strike days, flew 7,255 sorties of all types, dropped nearly 1,400 tons of bombs, fired over 1,000 rocket projectiles and about a million rounds of smaller ammunition, destroyed 288 enemy aircraft and damaged 247. They caused considerable damage and dislocation to the enemy's industries and communications, and sank or severely damaged 309 of his ships, both warships and merchant vessels, totalling 356,760 tons. These successes cost only small losses in our own aircraft and, despite repeated attacks by Japanese suicide bombers, we did not lose a single ship. This was a remarkable testimony to the design and construction of our aircraft carriers.

The expert who looks for greater definition must turn to the Official Naval Staff History, where, in Vol. VI of War with Japan, he will find the operations and issues discussed in great detail. The struggle of the Fleet against an appalling background of shortages, unbalanced air strength, inadequate speed and ship performance, great distances, lack of training, technical shortcomings and setbacks must be read about to be believed. The British effort, enterprising and courageous as it was, was, in comparison with the brilliance and mastery of the Americans in the field of great maritime operations, not in the same class.

Nevertheless the study of the advance of British carrier operations, as traced in these pages, is of prime importance for the future. The operational capabilities of aircraft, whether land or carrier-based are of perennial importance to the R.A.F. It is now, perhaps, possible to define the true role of carrier-borne aircraft in air and maritime strategy.

/ Conclusions

Conclusions

All the significant operations of British aircraft carriers in South-East Asia and the Pacific have been recorded and assessments made of the effects on the general military situation. It must be assumed that the official war and naval staff histories have been studied in so far as they treat of the strategic use of carrier forces by the U.S. Navy and that the British effort has been set in that American context. From this point one may advance a few comments for consideration.

Captain S.W. Roskill ⁽¹⁾ has traced the course of our carrier achievement back to the short-sighted and near-fatal parsimony of inter-war government and to public indifference to our own security. He lists the delays that rendered our recovery so hard and slow and expresses doubts as to whether sufficient vision and imagination were exercised in the development and employment of our carrier forces. No comment need be added to his findings or those of the author of the Naval Staff History. They speak for themselves. Both authors are well aware of the increasing role of aircraft in maritime operations, but their definitions deserve close scrutiny.

Is the aircraft in maritime warfare a weapon pure and simple, like the shell, the bomb, the torpedo and the depth charge? Control of the sea, it is stated, is one of our cardinal requirements and the principal instruments employed to that end are our ships. Every ship is equipped according to her function. An aircraft carrier is merely a special type of ship. The carriers with their aircraft and aircrews constitute the Navy's air component. The use of the aircraft (the weapon launched from the carrier) is merely an expression, we are told, of maritime strategy in general and maritime tactics in particular. Such a line of definition may fit some occasions, but does it cover operations in South East Asia? On consideration of the whole course of the carrier achievement there, and on comparison with that of the R.A.F. in various theatres, there does seem to emerge a backwardness in the field of tactical doctrine and this may possibly be traced to the too close fusion of naval and air doctrine.

/Can

-
- (1) In Part II of his Vol.III of "The War at Sea".
(2) War with Japan - Vols. I to VI. Restricted.

Can we not detach the air element and see it as an entity in its own right conforming to its own laws? The carrier is, when all is said and done, a mobile manned aerodrome, one which sometimes offers peculiar difficulties to aircrews and may prove disastrously costly in accidents and casualties. The aircraft is not itself (except in the case of a suicide bomber) just a weapon. It is a means of conveyance controlled by human beings. Locally, it may appear that it is serving a purely maritime end, but it is also (or should be) the agent of the Fleet Air Arm organization. The Fleet Air Arm, like the R.A.F., must enjoy a certain integrity, especially in the application of air tactics. In the case of the operations by carrier-borne air formations in South East Asia, it is relevant to ask how the training, control, methods and results of air operations compared with some of the air campaigns in the West.

Tribute has been paid in these pages to the individual sense of dedication displayed by the aircrews. They did their best, but if the over-all air role cannot be called decisive, other factors must be taken into consideration. As regards the strategic role, ^{on} examination of the diagram of carrier operations given at Figure 10, it will be seen that the choice of targets did conform in the main with Allied operational planning. It was not the fault of the Fleet or the carrier air forces that so much of their work was rendered abortive by shifts in ~~an~~ over-all strategy. The execution of exploratory strikes on territory figuring in future assault plans was in keeping with traditional and contemporary thought. The providing of air cover for the main Fleet forces and for ground forces in amphibious operations, the development of fighter control ships, spotting for ship's guns, all these were normal and necessary. When, however, the choice of targets is examined and set against the huge expense of keeping a large expedition under way and maintaining and operating several air squadrons, it cannot always be said that the end justified the means. It is very doubtful if the attacks on ^{Sigli} ~~Sigh~~, Sabang, Padang, the Nicobars and Andamans and Belawan Deli were really worth the trouble.

From a long term point of view, perhaps what matters most was the gradual development through trial and error, conducted with fortitude under every sort of handicap, of the principle of an experienced and versatile force and an corpus of precious knowledge of the highest possible value to us in the post-war world.

461

S E C R E T

CHAPTER 4

THE END OF THE SUBMARINE WAR, AND THE
ANTI-SHIPING CAMPAIGN OF 1945

A. THE END OF THE SUBMARINE WAR
(SEPTEMBER 1944 - FEBRUARY 1945)

Final developments in the enemy submarine situation

(1)

The fate of Axis submarines in the last year of the war

The autumn of 1944 saw the Penang base becoming progressively untenable for German U-boats. Maintenance troubles, Japanese inability to defend their own ports and the steady pressure of Allied submarine and air minelaying efforts had created increasing tension. Any lingering optimism was crushed when Liberators mined Penang harbour in October. Dispersal was ordered to Jakarta (Batavia) and other ports, followed in late 1944 by an order that, as none of those German U-boats carried Schnorchel apparatus, those remaining were to sail for Kiel by mid-January 1945 at the latest.

In the meantime, the U-boats were suffering casualties. On 23 Sept. 44, U.859 was sunk off Penang by H.M. Submarine Trenchant. The first to leave for Kiel was U.168, sunk on 5 October by the Dutch submarine Zwaardvisch off Java. On 9 Nov. 44, the next to sail - U.537 - was sunk in the Java sea by the U.S.N. Submarine Flounder. On 30 Nov. 44, U.196 was sunk by mine or accident in Sunda Strait.

In mid-November, by special permission, the commander of U.862 sailed his ship down to the waters off Australia and sank two ships before continuing on to Europe. He returned later to the Far East. At the end of 1944, U.181 developed defects while nearing the Cape of Good Hope and returned to Jakarta. In mid-January 1945, U.510, U.532 and U.861 sailed, arriving safely in Europe. All three surrendered in May.

In January 1945, there were no attacks on shipping in the Indian Ocean. A few transport submarines crossed with strategic cargoes. Apart from a sinking in February, there was little to report until 23 Apl. 45, when U.183 was sunk by the U.S. submarine Besugo in the Java Sea.

(1) Naval Staff Histories C.B.3306(3), C.B.3303(4) and B.d.U. war diary.

(2) In 66° 20'S, 111° 28'E.

(3) In 07° 13'S, 115° 17'E.

(4) On 24 Dec. 44 and 6 Feb. 45.

(5) C.B.3303(4) p. 199.

When Germany collapsed in May 1945, she handed over two operational and four transport submarines to Japan. The two operational boats - U.181 and U.862 were renamed I.501 and I.502 respectively and lay at Singapore. Japanese crews were sent to man them and they were assigned to the First South Expeditionary Fleet, but took no part in active operations.

U.219 (converted from minelayer to cargo transport type) was renamed I.505 and lay at Batavia; and U.195 (converted from U-cruiser to cargo transport type) was renamed I.506 and lay at Surabaya. Like their two sister ships, they were manned by Japanese but took no part in active operations. Two ex-Italian cargo transport submarines - U.It.24 and U.It.25 were also taken over from Germany by Japan and renamed I.503 and I.504 respectively. Their fate cannot yet be ascertained here.

The disposal and fate of the German U-boats remaining in the South East Asia orbit has now been traced chronologically from October 1944 to May 1945. After a brief reference to the end of the Japanese U-boats and the end of submarine transport of strategic materials, the few U-boat operations and successes will be noted. Against this ~~pattern~~ pattern of Axis activity, the anti-submarine and escort effort of East Africa, Aden and No. 222 and 225 Groups, as well as the changes in air and naval organization resultant on the end of the submarine threat, will be recorded.

The last chapter on the Japanese submarines may be quickly disposed of. In September 1944 only three boats - I.8, I.37⁽¹⁾ and I.165 - remained in the Penang - Sumatra - Java area. Although reinforced by the short range boats RO.113 and RO.115, the few submarines of the 8th Flotilla that lingered on at Penang accomplished almost nothing. The Japanese realised that these small forces could never exercise any decisive influence in this area of the Outer Zone. The great decisions were being fought out far to the East. An appreciable volume of submarine traffic passed between Japan and Singapore until near the end. A few I-class submarines travelled to and fro, bringing important cargoes such as cryptographic material, munitions and aircraft components and taking back to Japan aviation spirit, which was in very short supply.⁽²⁾ The main submarine strength was concentrated in the major combat areas of the Pacific, in accordance with Japanese doctrine.

(1) Damaged by a mine south of Penang 27.4.44.

(2) An imaginative use of the submarine as tanker, already practised by the Germans.

U-boat successes (September 1944 - February 1945)

When September opened, the old order was changing, but had not entirely yielded place to the new. Sinkings by U-boat had been pushed up in August to another world peak figure and the situation boded no good to the Allied Command. Air units in all the active sea areas were on the alert. There were no signs of the menace abating. U.862 had been on patrol off Mombasa when she last reported. U.861 was somewhere north of Madagascar about to return to Penang. U.859, after a long and successful run, had left her hunting grounds in Aden's waters and was somewhere between Socotra Island and the Maldives.

On 5 Sept. 44, U.861 ⁽¹⁾ torpedoed a Greek steamer from Durban bound for Aden, ~~and sank her.~~ ⁽²⁾ She was S.S. Ioannis Pafalios and she sank about 250 miles east of Mombasa. ⁽³⁾ Air H.Q. East Africa only learned of the loss several days later. Some survivors were not landed until the 10th, ~~This was~~ at Kismayu (Italian Somaliland).

No ships were sunk in October 1944, at the end of which month all German U-boats except U.862 had been withdrawn from offensive operations.

On 2 Nov. 44, the U.S. tanker T-E Fort Lee ⁽⁴⁾, independently routed from Abadan to Brisbane, was sunk by U.181 ⁽⁵⁾ about 1,230 miles south-east of the Chagos Archipelago. ⁽⁶⁾ No. 222 Group knew on that day that two U-boats were on passage but the position was too far for them to cover effectively at short notice. Indeed, it was only two days later that the Group received the tanker's signal that some of her crew were in lifeboats. Ships in the vicinity were warned and some 50 of the crew were later brought into Albany and Fremantle.

-
- (1) A note in B. d. U's war diary on 12.9.44 confirms the report by U.861 of the sinking. ~~With~~ ^{Nei Key} U.859 nor U.862 made claims of a kill on 5.9.44.
 - (2) 5,670 G.R.T.
 - (3) 4° 20'S., 43° 57'E.
 - (4) 10,198 G.R.T.
 - (5) U.181 was the only German U-boat who could possibly have been in the area at the time. U.862 had not yet left Penang. No evidence has been traced that a Japanese submarine was responsible.
 - (6) In 27° 35'S., 83° 11'E.

On 5 Nov. 44 the British S.S. Marion Haller ⁽¹⁾, sailing from Colombo ^{to} Calcutta, began to straggle from the convoy LG.66 on account of bad coal. During a rain squall, 15 minutes before midnight, she was torpedoed by one of the two short range RO-type Japanese submarines known to be at large in the Bay of Bengal. ⁽²⁾ The position was roughly 100 miles north of Trincomalee. The full complement of 71 was saved, for as soon as news arrived at H.Q. No. 222 Group at 1050 FG hours the next morning, aircraft and ships co-operated in search and rescue. ⁽³⁾

No ships were sunk by enemy submarines in December 1944 or January 1945 in the Indian Ocean, but the enterprise of the Commander of U.862 soon began to show results. ⁽⁴⁾ On 24 Dec. 44, she sank the U.S. Liberty ship S.S. Robert J. Walker about 165 miles S.S.E. of Sydney (New South Wales) and escaped unseen. Again, the ship was proceeding independently. On her return journey to Jakarta, U.862 sank another lone vessel on 6 Feb. 44. This was the American ⁽⁵⁾ S.S. Peter Sylvester and, as she sank about 800 miles west of Fremantle, her loss counts among the Indian Ocean casualty tables. Her sinking was only known three days later when some survivors were picked up by another ship. Others floated on the ocean until 28 February. Until the record of U.862 is fully examined, no explanation can be offered as to why she did not account for many more targets in the busy area south of Sydney. The passing of the U-boat menace in the Indian Ocean was not fully given credence in S.E. Asia Command until the turn of the year 1944 - 1945, but once realised, radical changes and economies were put into force.

/ Indian

-
- (1) 3,827 G.R.T.
 - (2) 10° 40'N 81° 10'E.
 - (3) Details later under No. 222 Group activities in November 1944, given in a subsequent sub-section.
 - (4) 7,180 G.R.T.
 - (5) 7,176 G.R.T., also a Liberty ship.

July

Indian Ocean general reconnaissance operations (September 1944 to January 1945)

(1)
Air H.Q. East Africa (September - December 1944)

When the news of the sinking of S.S. Ioannis Pafalis reached Air Headquarters at Nairobi, it was already late to think of finding the U-boat. The first task was to search for survivors and this was done, although Allied ships were in the vicinity first and saw the rescued men safely to land. Two contacts with the U-boat were reported and action at once taken thereon. Aircraft reinforcements were flown to the Seychelles and sweeps instituted, but all in vain. The rest of the month of September 1944 passed uneventfully. Searches and routine tasks such as shipping escort and patrol absorbed 900 hours of flying.

In October, there was no enemy activity in East African waters and flying was confined to training and meteorological work. November passed without sightings or contacts, although anti-submarine sweeps, searches and shipping reconnaissance occupied some 350 flying hours between the bases of Diego Suarez, Tulear, Mombasa, Pamanzi, Dar es Salaam, Mauritius and Seychelles. Negotiations for the hand-over of the port of Diego Suarez in Madagascar to the French naval authorities had now reached an advanced stage.

In December 1944, the pattern of maritime operations showed signs of change. A search for a B.O.A.C. Lodestar missing on a flight from Juba to Nairobi was abandoned on 8 Dec. 44. (2) Convoy escort was provided by Wellingtons and Catalinas at Mogadishu. (3) Weather reconnaissance and training were maintained. The war was not over yet, it was realised. One piece of evidence of the local frame of mind was the decision to scrap Lindi as a base for Indian Ocean general reconnaissance operations, (4) but that all remaining bases were to be maintained for at least another 12 months. Fire damage at Tombeau Bay (Mauritius) was to be made good. (5) Tulear and Pamanzi, instead of being allowed to run down, were to be built up to meet the possibility of later operational commitments. Three squadrons from Mombasa were to be re-armed. (6)

- (1) A.H.Q., E. Africa O.R.B. appendices.
- (2) It was not until 31.12.44 that the Lodestar was located some 300-400 feet from the 12,500 feet summit of Mount Kinangop in the Aberdare range.
- (3) No. 244 Squadron detachment together with Catalinas completed more than 230 hours continuous escort to Convoy C.M.14.
- (4) Lindi airfield was handed over to the Tanganyika Government on 1 Mar. 45.
- (5) The camp had been burnt down on 30 Sept. 44.
- (6) Refer to appendices 13 and 15 for flying hours.

Change of Air Officer Commanding East Africa (November 1944)

During November, A.V.M. H.S. Kirby, who had been in command since March 1943, handed over to A.V.M. Sir Brian E. Baker. There were changes in the posts of S.A.S.O. and Ops. 1. On 24 Apl. 45, Baker, in turn, handed over to Brigadier H.G. Willmott.

Developments in Ethiopia (1943-1944)

In August 1943, tribes in northern Ethiopia rebelled against the authority of the Emperor of Ethiopia. Following a call to Air H.Q. Aden for aid, a small force of Blenheim bombers was sent to Addis Ababa to assist. The highest authorities had agreed that it was in accordance with British interests. Relations with the British worsened thereafter. To realise how greatly the situation had deteriorated since the country's liberation, the course of events from 1941 until September 1944, when Slessor called for an aide-memoire,⁽¹⁾ must be briefly summarised. The need for stability in the Middle East and Arabia in general was a standing commitment of the British military commands and a glance at one of the many problems involved will amplify the record of air operations.

The Emperor returned to Ethiopia on 5 May 41 and control in that country, which had been under our Military Administration, was gradually handed back to him. In January 1942, the 1942 Agreement and Military Convention was signed. This confirmed the complete restoration of control to him, except over the Ogaden, the reserve areas, Addis Ababa Cantonment and the Franco Ethiopian Railway. The British Government paid an annual subsidy to Haile Selassie.

Thereafter, the country's security gradually deteriorated, the slave trade was revived in the West and lawlessness increased. During 1942 and 1943, a series of organized raids took place across the Kenya border, extending later the whole way up to ^{the} Ethiopia - Somaliland border and many thousands of cattle were rustled from the Somalis. In September 1943, serious trouble broke out in Tigre Province (Northern Ethiopia), where a large-scale rebellion threatened the existence of the Throne. The British Military Mission Ethiopia took over direction of the regular Ethiopian Army and Air H.Q. Aden was called on for assistance, first in dropping leaflets and then in bombing troop concentrations.

(1) A.H.Q., East Africa C.R.B. Oct. 44 Appendix F/AIR/1.

The intervention of Air H.Q. Aden in these operations is of curious interest. Although on a very low scale indeed, it was applied at the right time in the right places and proved decisive. A detachment of three Bisleys bombed up at Aden and flew on 5 Oct. 43 to Addis Ababa. On 6 Oct. 43, one of them bombed rebels moving southwards from Quiha to Medani Alem. On the 9th, another Bisley bombed troops in the area Buie - Antale - Asciyalage effectively. After a day's pause, they flew six sorties on 12 October in the Macalle - Quiha area, dispersing rebel concentrations. These attacks were decisive and brought immediate relief to the Government forces, who were in Quiha, the key town, by the 14th. Two more days of reconnaissance confirmed the complete success of ground and air operations and the conference of 20 Oct. 43 put the seal on the whole affair. The Bisleys flew back to Aden.

The Emperor learned one or two lessons from this. He retained the British Military Mission for his own protection and would have liked to raise his own air force. Sliding into financial difficulties, he flirted with the Americans, sacked some of his British advisers and reflected the general suspicion of British intentions by a series of threats and ultimatums aimed at completely taking over the areas administered by the British. The position on 26 September 1943 was that a British Mission arrived in Addis Ababa to meet the Emperor's wishes as far as possible, while postponing the final solution until after the defeat of Germany.

/Declining

Declining operational effort from East Africa (January - May 1945) (1)

January was a busy month, although there were no submarine contacts. In sweeps, patrols and convoy escort the squadrons were kept in practice. One of the worst cyclones Mauritius had ever known swept the island on the night of 16/17 January, causing widespread damage to R.A.F. buildings and installations, but fortunately no casualties. Any idea of rebuilding Tombau Bay camp was abandoned and it was agreed to use it for emergency purposes only. Sunderlands could use the anchorage at Grand Port, but only limited rebuilding was envisaged at Plaisance.

February was also free of U-boat threats. The first Sunderland V for No.209 Squadron arrived at Mombasa. March and April were uneventful. No.209 Squadron continued its re-equipment with Sunderland Vs. (2) destined for Geylon. The bold plans of late 1944 were watered down in the face of the growing realization that ^{the decisive battles} ~~operations~~ were being ^{fought} ~~made~~ in ~~the~~ ~~East~~ ~~Africa~~ and the Pacific and that the tide of war had left East Africa high and dry. Drastic reductions in the island bases and Mo ^gadishu were begun.

In May, the last two anti-submarine patrols were flown, after which No.222 Group ordered the task to be discontinued. Germany had surrendered. Now, not even cargo transport submarines would cross the Indian Ocean. Sunderlands continued to practise night radar flying with the co-operation of the corvette H.M.S. Jasmine.

Palomondo

(1) A.H.C. E.Africa. Total maritime operational hours 1945

January	267
February	235
March	250
April	130
May	74

Refer also to Appendices 13 and 15.

(2) I.E. 12 aircraft.

Reluctance in Aden waters (September to December 1944) (1)

September 1944 was a typically busy month for Air H.Q. Aden. Many hours flying were consumed in looking for survivors from torpedoed ships and in such ~~shipping~~ tasks as convoy escort. No chance developed of organizing a hunt and the U-boats which had had infested the area in August got clear away, but 204 ships passed through Command waters. Catalina J/321 did an excellent job of work in locating the survivors of S.S. Troilus (who had been adrift for five days) and heading Naval forces on to them.

Operational sorties totals dropped monthly until the end of October, although continuous mistaken sightings and reports by ships kept aircrews on their toes and occasioned many vain patrols. December saw a revival in the offensive effort as reports of submarines in areas where we now know they were non-existent ^{came in;} and searches for aircraft lost on these hopeless hunts called for scrambles.

/ Aden air(1) Table of maritime operational sorties Air H.Q. Aden (Sept.-Dec. 44)

Type of Sorties	SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Sorties	Flying Hours & Mins.	Sorties	Flying Hours & Mins.	Sorties	Flying Hours & Mins.	Sorties	Flying Hours & Mins.
Escort (defensive)	44	394.50	23	219.20	26	212-45	21	153-15
Anti-sub sweeps (offensive)	98	352.25	30	151.10	15	77-35	19	97-35
Submarine hunts	3	38.40	12	91.10	8	36-20	29	281-55
Air/Sea Rescue	13	60.45	1	2.55	-	- -	33	250-25
Totals	118	846.10	66	464.35	49	326-40	102	783-10

463.95

Aden air operations and shipping changes (January - February 1945) (1)

January and February saw a steady decline in almost all maritime activities, although a number of erroneous sightings and fictitious contacts ~~stuffed~~ called out a few aircraft on sweeps and a hunt. Escort tasks declined.

There was a gradual return to normal shipping routing, and all troopships running between Aden, the Persian Gulf, Bombay and Ceylon, and all sailing in the area north of a line from Dar es Salaam through position 15° S., 50° E., Chagos and Dandra Road (Ceylon) were allowed to proceed unescorted unless carrying large numbers of troops. In February 1945, the Aden Escort Force (Naval) was disbanded. (2) Many convoys from henceforward dispensed with the call at Aden. Her escort forces went to build up the British Pacific Fleet. A few sorties on escort and sweeps were registered in March but in April the only Indian Ocean ^{were on} sorties ~~was~~ a solitary search for an aircrew in distress.

In April, No. 222 Group advised that there were no submarines in the Aden area, hence no need to escort convoys. On 21 April, Nos. 8 and 24 Squadron were declared non-operational by Air Command S.E. Asia. In May, they were disbanded and No. 621 put on the list for rolling up.

/Last words

(1) Table of maritime operational sorties by Air H.Q. Aden (Jan.-Apr. 45)

Type of sorties	JANUARY		FEBRUARY		MARCH		APRIL	
	Sorties	Hours & mins.	Sorties	Hours & mins.	Sorties	Hours & mins.	Sorties	Hours & mins.
Escort	21	176-40	9	75-52	5	41-37	-	-
Anti-sub sweeps	7	33-40	6	16-35	5	28-22	-	-
Submarine hunts	-	- -	4	33-0	-	- -	-	-
Air/Sea Rescue	3	23-40	1	3-20	-	- -	1	?
Totals	31	239	20	135-47	10	69-59	1	?

(2) Naval Staff History C.D. 3303(4)

Last words on Aden

The surrender of Germany removed British Forces Aden from the sphere of active co-operation in the South East Asian and Pacific campaigns, which it had so long and loyally sustained. Since early 1940, when H.M.S. Glorious was escorted through by her aircraft, when she was being refused even Valentia aircraft, was laying an airfield on Socotra, holding the roads against marauding sheiks and the frontier against the restless Yemenis, all through the bitter campaigns against the Italians in Africa and U-boats in the Red Sea and her gradual establishment as the vital link in our sea lifeline between the two worlds, Aden had come a long way, seen great days and accomplished remarkable feats.

Aden Command has never been accorded the prominence in the official histories it deserves. It has been the constant pre-occupation in this present record - at least as regards the period from late 1943 onwards - to present the true course and relevance of its ^{maritime} maritime operations and to remind the student of its perennial importance. For most of the war, it served as a Gibraltar - Malta - Singapore all rolled into one, always as the active centre of a very wide field of operations. This should always be borne in mind in the study of global war. It would be a grave error, perhaps fatal in its results, if ever Aden were relinquished.

No.222 Group policy development (September 1944 - July 1945)

Although month after month passed in late 1944 without reliable evidence of aggression by enemy submarines, South East Asia Command remained incredulous. After years of apprehension and all-out maritime operations they could hardly be expected to relax in a hurry. There was still a long way to go in the Burma, China and Pacific theatres before the Japanese, whose philosophy included suicide, could be broken. The records show how much basic work had been perforce neglected. The moment labour was released, the Group turned to several gnawing problems whose solution was long overdue. Although even these belated efforts were hamstrung by the increasing repatriation of expired tour of duty men, results soon became apparent. As the Spring approached and the submarine menace passed, first the offensive against shipping, then the great assault on Rangoon and the loosening of tension changed the operational climate. Air units moved down to Rangoon, then to the Cocos Islands. Life in the empty ocean spaces slowly became a thing of the past. Famous names were struck off the register. Almost without warning, the war ended. Yet more weeks were to pass flying relief and photographic missions to Allied prisoner of war camps before the great Group was at last disbanded. The landmarks of these changes were, in chronological order, on the following lines.

September, 1944, a quiet operational month, saw a start made on the badly needed mobile field hospital at Kankasanturai (North Ceylon). A school of ship recognition (No.2) was opened in Colombo. Air Sea Rescue strength was increased and the famous airfield at China Bay leased to the Fleet Air Arm. In October and November, the repair and salvage organization was reinforced. In December, the Group took over all General Reconnaissance operation in the Bay of Bengal. There were several squadron moves and a start was made on running some of them down.

In January, the streamlining process continued. No.222 Group took over General Reconnaissance from the west coast of India. ICGROPS and the Group H.Q. integrated their staffs. A.V.M. Durston relinquished his command as A.O.C. in favour of Air Cdre. J.M. Mason.

/February,

(1) No. 222 Group O.R.B.'s and appendices.

SECRET

February, March and April were busy months, culminating in the fall of Rangoon, whereafter the emphasis of operations changed both in nature and geographical area. May saw the successful shadowing and destruction of the enemy cruiser Naguro. More and more aircraft were being fitted with centimetric radar, although the pity was that there was so few submarine targets.

The first air personnel moved down to the Cocos Islands, set up a signals' unit and founded what became known as R.A.F. Station Cocos Islands. No.222 Group took over ¹⁶ control from A.C.S.F.A. and in turn, passed it to No.231 Group.

Anti-shipping operations off Eastern Malaya and Siam were carried over into June and successful experiments by aircraft dropping depth charges proved the superiority of these as anti-shipping weapons. This month saw the first stages of the closing down of the R.A.F. seaplane stations at Addu Atoll (San), Kelai and Diego Garcia islands.

While No.191 Catalina Squadron was disbanded in June, the newly arrived long range Sunderlands of No.230 Squadron, now based on Rangoon, showed a brief, belated flash of brilliance in their attacks on shipping off the Kra Isthmus. But this was nearly the end of the last chapter. Quite suddenly, in August, the war ended, but not the hard work. On the contrary, it increased for two months, while the Group flew much more than the normal monthly sortie average on relief drops to Allied prisoner of war camps in many parts of Asia and accumulated photographic evidence of local conditions.

/ 10 GROUPS

SECRET

(1)

IOGROPS maintains the watch on the U-boats (September - December 1944)

The anxiety generated by the enemy's submarine offensive in August 1944 in East Africa and Aden Commands found its counterpart in No. 222 Group in Ceylon and No. 225 Group along the shores of Eastern and Western India, both integrated within the specially created unit of Indian Ocean General Reconnaissance Operations (IOGROPS). Being so much closer to the Burma battle area, and athwart the Australia-Colombo shipping route, containing the largest concentrations of shipping and lying within range of U-boats at Penang, Jakarta and Sourabaya, their maritime problems were more intensified than anywhere else. It was in these waters of South-East Asia that the combined pressure of Allied surface craft, submarines and aircraft was brought to bear most rapidly and sometimes, at least, most effectively, on the enemy submarine forces. These latter, although very low numerically and often operating at the limits and beyond of aircraft ranges, were still capable, (as experience elsewhere had proved) of inflicting grievous casualties if they remained at large. They seldom broke radio silence, a fact which introduced a heavy factor of doubt into plans for aircraft and Fleet searches. Although it was known that some of the German U-boats were not on patrol, but carrying strategic cargoes, it was also a fact that these craft would not hesitate to pick off any lone ship that crossed their path. Furthermore, in the last four months of 1944, some very important Fleet movements were proceeding, including expeditions by carrier and battleship forces.

It has sometimes been stated that the enemy U-boat campaign collapsed in September 1944. The following record of certain air/naval operations in the last four months of 1944 may lead to a more considered opinion.

(1) No. 222 Group O.R.B. appendices.

/ IOGROPS

IOGROPS anti-submarine and reconnaissance operations (September - October 1944) ⁽¹⁾

The threat of U-boats moving east from the east coast of Africa and the Gulf of Aden meant that certain shipping had to be protected. Sometimes those U-boats maintained radio silence for periods up to 14 days. It was decided to route all shipping to the south of Ceylon along one meridian and to fly daily anti-U-boat patrols along the route. The insurance of this policy and the beneficial effect it had on the morale of merchant seamen, justified, so IOGROPS and the Navy believed, the number of flying hours involved. The usual routine on quiet days consisted of sweeps by Ceylon based Catalinas south of the island. Wellington patrols off the west coast of India from Cochin to Santa Cruz, meteorological flights by a Catalina and convoy escort by Liberators and Wellingtons of No. 225 Group. No. 222 Group also carried out a constant series of transit flights reinforcing the Island Bases.

Both IOGROPS and the Eastern Fleet believed there was still time to intercept the U-boats returning to Penang and organised a series of sorties from 5 to 13 September, in the early stages of which Force 65, comprising ⁽²⁾ H.M.S. Battler and escort vessels, co-operated. The air pattern was complicated. On 5 Sept. 44, three Catalinas from Addu Atoll and three from Diego Garcia swept west of the Maldives. Liberators from Ceylon flew to Gan (Maldivian Islands). Catalinas from China Bay continued patrolling the southern shipping lane. The sweeps continued, by nine island Catalinas on the 6th, three Liberators on the night 6/7 September and four Catalinas on the 7th, but no sightings (except of empty rafts and large oil patches) were recorded. This was typical of the day and night pattern of intersecting patrol that continued.

(1) Hours flown by G.R. aircraft September 1944

No. 222 Group	approx.	2,221
No. 225 Group	approx.	1,180
Total forces and convoys given air cover		22
Attacks on ships by U-boats and ships sunk		1
Sightings of U-boats by aircraft, by ships,)		
U-boats attacked by aircraft/ships, and)		nil
aircraft lost on operations		
Number of U-boats estimated in India and)		4 German of which 3 passed
Ceylon area during month		through area without operating

- (2) The veteran escort carrier, who had for years been providing convoy escort in the Indian Ocean from Aden and elsewhere.

/ No

No sightings, except of the wreckage of old sinkings and oil released by careless ships, were made. There were two contacts on a German U-boat in the area of the Seychelles and several ships were wrongly persuaded that a shoal of fish was a submarine; but the enemy evaded discovery. On receipt of the second contact on the 15th, Catalinas from Diego Garcia were detailed to join in the search, but in the early morning of the 16th, the Chagos Group was hit by a cyclone, the first in the area for 83 years. It came without warning, damaged two Catalinas which had to be beached, sank all marine craft and refuellers and rendered the flare path and pier unserviceable.

Two days later, on the evening of the 17th, a German U-boat mysteriously broke silence from a position between 500 and 650 miles east of the Chagos Archipelago. Patrols, false alarms and vain searches continued daily until 24 September, by which time the war of nerves eased, there was no trace of submarines and reconnaissance fell to a minimum. The constant air and naval effort had undoubtedly kept the submarines submerged and hamstrung any possible plans of aggression.

/ Attack

Attack on Ro-100 Japanese submarine (October 1944) (1)

The lull continued through the first three weeks of October. Normal patrols, escort and photographic reconnaissance continued over waters apparently free of enemy submarines. The monotony was broken sharply on 21 October, when the U.S. tanker S.S. Venendrye reported a U-boat in the Bay of Bengal in the waters off Cocosnada. In spite of aircraft A.S.V. contacts and combined air/naval searches, the target disappeared.

The excitement died down after the 22nd until the 28th. Two parallel track sweeps were being flown, one by Catalinas from China Bay and another further to the north by four Liberators from Kankasanturai. The latter met with quick success, for soon after 0200 hours, (2) Liberator A/No.160 Squadron signalled that it was over a surfaced U-boat some 200 miles N.W. of the Andamans (3) and, shortly afterwards, added that an attack had been made with depth charges resulting in probable hits. The aircrew had sighted the Ro-100 class submarine fully surfaced and approached out of the sun apparently undetected, for the enemy took no evasive action. Depth charges were released and three were observed to explode, the nearest 10 feet from the submarine and the others approximately 50 and 100 feet away. The sole occupant of the conning tower was wearing a yellow shirt and white hat. The U-boat disappeared, leaving bubbles and an oil patch about 100 feet in diameter, but no bodies or wreckage appeared. The aircraft remained patrolling the area for 75 minutes, but, having reached the limit of its endurance, dropped marine markers and returned to base. A few hours later (4) another Liberator (5) sent a sighting signal; but it was too late to attack, as the suspected U-boat was already fully submerged.

(1) Analysis of G.R. aircraft operations from India and Ceylon (October 1944)

Operational sortie hours flown

No.222 Group. 992 approx.

No.225 Group. 1,535 approx.

Total forces/convoys given air cover: 14.

Sightings of U-boats by aircraft: 2 probably authentic.

U-boats attacked by aircraft: 1

U-boats attacked by ships: 1 Jap. Ro-100 class,
by H.M.S. Stygen, believed destroyed at the time,
but doubtful in light of later evidence.

Aircraft lost on operations: 1.

(2) Z system.

(3) Position 15°28'N, 90°15'E.

(4) At 0956Z hours.

(5) H/No.200 Squadron.

A 'hunt to exhaustion' was commenced, despite the manifest difficulties of distance from the air bases, lack of servicing facilities at Outback and the after-effects of the cyclone of 26/27 Oct. 44 at Redhills Lake (Madras) and Cocanada. Nos. 222 and 225 Groups shared the searches until first light on 29 October, by which time Force 66 ⁽¹⁾ had moved into the area and special searches were arranged in collaboration.

Carrier-borne and land-based air forces hunt the Japanese submarine
(28 Oct. - 14 Nov. 44) (2)

In August 1944, Force 66, which then consisted of the escort carriers H.M.S. Begum and Shah and five frigates, had co-operated successfully with No. 246 Wing of Air H.Q. East Africa in the pursuit and destruction of U.198. It was hoped to repeat this victory in the Bay of Bengal. When the Liberator of No. 160 Squadron attacked the K9-110 type submarine on 28 Oct. 44, Force 66 was 95 miles away. Unfortunately, H.M.S. Begum's catapult had broken down and her aircraft was unable to reach the scene before the Liberator had to leave; and the relief R.A.F. aircraft also did not arrive until after the first one had left the area. In the precious interval thus lost, the pattern grew confused. The position was an approximation and when Force 66 reached the area it was baffled by two sea markers some 30 miles apart. It must, however, be borne in mind that without No. 160 Squadron, Force 66 would have been severely handicapped. This is proved by the fact that on the 27th-28th, when the Force needed essential spare parts before it could operate a ^{Ratmalana} ~~Battle~~ ^{Beaufighter} from ~~Ratalana~~ ^{Ratmalana} flew with them to Kankesanthurai and, from thence, they were taken by Liberator P/No. 160 approximately 600 miles and successfully dropped by parachute within reach of Force 66. It was thought at the end of October that the submarine was either killed or out of range.

The maritime reconnaissance air units carried out a variety of routine tasks and noted the position of a U-cruiser crossing to round the Cape. Force 66 searched the Bay for the U-boat until 14 November, but no further contact was made.

/November

(1) An anti-submarine escort carrier force which began operating in June 1944 and which, in October 1944, employed the escort carrier H.M.S. Begum and six frigates.

(2) Admiralty C.B.3303(4) p.197 and No.222 Group O.R.B.

November operations

On 4 Nov. 44, the signal from the sinking tanker S.S. Fort Lee was received, but ICGROPS had no aircraft within range of the attack. News arrived ^{on 6 November} of the torpedoing of S.S. Marion Moller in the Bay of Bengal. At 1310 hours, Catalina Y/No. 321 Squadron signalled that she had located survivors in four lifeboats. She waited until early evening, when a destroyer picked up the complete crew of 71 men. Destroyers and aircraft searched in vain for this submarine and for another on the 10th believed to be returning to Penang. (1)

Various inconclusive fixes and signals in the days following suggested that Japanese were still in the Bay of Bengal, probably about 200 miles west of the Andamans. There were now two U-cruisers crossing the Indian Ocean. Rather more hours were flown in November than in October. (2) Bad weather made flying hazardous and sometimes fatal.

Two German U-boats sunk (November 1944)

On 9 Nov. 44, the U.S. submarine Flounder sank U.537 just south of Sepanjang Island (N.E. of Bali). (3) On 30 November U.196 met with a fatal accident in the Sunda Strait (between Sumatra and Java). It was never ascertained whether the loss was due to a mine, some internal failure or other marine misadventure. Although neither were employed at that late period on offensive patrol, their loss removed a definite threat to Allied shipping and retarded the exchange of strategic cargoes between Japan and Germany.

The landing of Japanese agents in India

The submarine had long been a favourite instrument for landing secret agents on enemy coasts. Mention has already been made in this volume of early landings effected by submarine as Jask, on the northern shores of the Arabian Sea. In May 44, some agents landed at Cochin had been captured. For some time, Japan had made use of saboteurs and Indians hostile to the Allied cause; (4)

(1) F.G. time.

(2) November operational hours flown in November 1944

No. 222 Group. 1,360 approximately.

No. 225 Group. 1,210 approximately.

Forces and convoys given air cover: 14.

Aircraft lost on operations: 1 Sunderland, 1 Mitchell.

(3) Position 07° 13'S., 115° 17'E.

(4) Such as Chandra Bose.

SECRET

it was known that they favoured certain localities round the Bay of Bengal to put ashore men who could be relied upon to do us the maximum harm.

Attention must now be directed to one of these areas, for it seems certain that at least one of the small Japanese submarines that disturbed the air convoy and naval forces to such purpose in November and December 1944, was bound for Chilka Lake ⁽¹⁾ along the shores of the state of Orissa, near the sacred temple of Jagannath (Puri town).

Chilka Lake was a considerable shallow expanse of water, separated from the sea by a long sandy ridge, with a small mouth of doubtful use to a submarine. At the south-western end it was bordered by lofty hills, but northward it disappeared in endless shallows, sedgy banks and islands just above the surface. It was ideal terrain for concealment. Although not more than 40 miles from the Liberator base at Cuttack, and although known to be used by the enemy, all the chances were in favour of a handful of determined clandestine visitors, who could merge effortlessly with the general background. The time was appropriate for a landing, ^{for} the fine weather season there was from mid-November to mid-March.

Attack by Liberator on submarine (3 Dec. 44)

On the afternoon of 3 Dec. 44, three Liberators of No. 200 Squadron (No. 225 Group) were carrying out a sweep in the area between India and the Andamans. ⁽²⁾ At 1710 Z hours, Liberator H, then about 250 miles West of the Andamans, sighted what it believed to be an RC-33 class Japanese submarine surfaced two miles away. The Liberator attacked with eight depth charges, straddling the target. The nearest charge exploded five yards behind the conning tower to port, the spray obliterating the enemy from view. Nothing further was seen except a heavy disturbance of water and a brief dull green glow. The other two Liberators arrived promptly, searched the area with Leigh lights, but could see no wreckage.

At this great distance from base, patrols were only possible for a few hours at a stretch. Relays of aircraft were laid on - Liberators from Minneriya and Kankesanthurai and Catalinas from China Bay and Redhills Lake. The watch had now

/lasted

(1) Coastal area about 19°40'N., 85°20'E., on the Coromandel coast.

(2) Position 12°37'N., 88°40'E.

lasted until the morning of 5 December, when Force 66, consisting of H.M.S. Beagle and six frigates, joined the hunt. It was assumed that the enemy was making a north-westerly course for the east coast of India and dispositions ^{were} made accordingly. The escort carriers' catapult went out of action once again after 6 November, but her aircraft, ^{and our} ~~her~~ anti-submarine vessels covered the day search until relieved at dusk by Liberators and by Catalinas, by day, who flew on the flanks of Force 66. The naval Force swept inshore until 11 Nov. 44, when it proceeded to Vizagapatam. As so frequently in the past, the Japanese evaded detection.

The probable course of the U-boat (December 1944) (1)

From the evidence of a number of successive sightings, it is possible to suggest with some degree of probability the course of the submarine attacked by No.200 Squadron on the 4th, although there is a chance that two boats were engaged on similar missions. No.222 Group treated all reports with reserve. Long experience had taught them that as soon as an area was considered under threat from enemy submarines and shipping was warned accordingly, this invariably resulted in a series of false sighting reports. It might have been a psychological reaction or the effect of doubling ship's watches and so producing more sightings of whales, dolphins and barracudas. One positive fact was that the Japanese seldom wasted torpedoes.

At mid-day on 10 November, H.M.I.S. Patna claimed to have attacked a good submarine contact at a point about 160 miles E.N.E. of Chilka Lake and 50 miles S. of the Hooghly River mouth. (2) The U-boat attacked by aircraft M/No.200 could have reached this position at a given rate of advance of 3 - 3½ knots. For some obscure reason, little reliability was placed on the report at 10CROPS, and a Liberator despatched by them to investigate found nothing.

Five days later, reports emanating from an unspecified source in the North (perhaps from coast watchers) stated that some time between 8 and 13 December, enemy agents must have landed in the Chilka Lake area, for canvas and rubber boats had been found broken and buried in the ground: presumably the naval authorities were well aware of this. Army reports on 24 Nov. 44 had reflected their suspicions of the presence of a U-boat and the landing of agents.

/Nothing

(1) No.222 Group O.R.B. Appendices: monthly reports of anti-submarine warfare No.222 Group File Air/1000 (A.H.B.II J.7/5/3/6): Admiralty C.B.3303(4) and C.B.3306(3).

(2) Position 20°49'S., 88°11'E.

Nothing was heard of the U-boat until first light on 18 November, when S.S. Empire Tudor (Karachi to Vizagapatam), reported two torpedo tracks and a submarine off Narasapur Point (Eastern India) near the 16° North parallel. (1) Three Catalinas from Redhills Lake (Madras) were airborne to continue the hunt to exhaustion, but were ordered back when the vessel signalled that she was safe. ICGROPS was unconvinced of the presence of a submarine in Indian coastal waters and had at this juncture just abandoned a joint sweep with the Navy N.E. of Ceylon. (2)

The next day - 19 October - torpedo tracks were reported by an American Liberty ship, S.S. Charles W. Wooster, (3) in a position only 75 miles from that of the S.S. Empire Tudor report. (4) After amplification, aircraft alerted were stood down. No more was heard of the submarine until the 25th, when a merchant vessel reported a periscope in a position roughly 50 miles N.E. of the Charles W. Wooster's sightings of the 19th, (5) but again, although a patrolling Catalina was directed to the area, nothing transpired.

Combined air/naval hunts

The night of 13/14 Dec. 44 saw the commencement of Operation 'Hayrick', on which land-based aircraft carried out a series of sweeps N.E. of Ceylon with Force 62. (6) The datum point was near the position 10° N., 84° E. This was not the area in the Madras-Vizagapatam waters, but its choice reflects the Fleet's sensitivity to any submarine threat in the vicinity of its major bases in Ceylon. ICGROPS put in what aircraft it could, i.e. three Liberators through the night 13/14th, three day Catalinas on the 14th, more Liberators during the following night and Sunderlands during the 15th. Another naval force - Force 66 - co-operated in another coastal sweep about this time. None of these efforts led to anything. From study of 'Swamp' operations in the Mediterranean it may fairly be suggested that much greater saturation by aircraft would have been a pre-requisite for a successful search. As it was, the Japanese, as so often before, escaped undetected. (7)

/The

- (1) Position 15° 55' N., 82° E.
- (2) Operation 'Hayrick', see below.
- (3) Calcutta - Colombo.
- (4) Position 14° 46' N., 81° 28' E.
- (5) Position 15° 00' N., 82° 15' E.
- (6) Under the Captain, East Indies Escorts in H.M.S. Landguard, with 7 minesweepers of the 22nd Minesweeping Flotilla and 4 sloops.
- (7) No. 222 Group O.R.B. appendices: Admiralty C.B. 3303(4)

The only sighting in the latter half of December which was fully accepted as genuine was that ~~reported by the~~ S.S. Cape Lambert (Calcutta - Colombo) who sent a report in the night 26/27th, ~~of a surfaced submarine~~, of a surfaced submarine, which later dived in a position off south-eastern Ceylon. (1)

Further proof that at least two Japanese submarines were operating was furnished by a report from a British submarine operating off Penang. (2) H.M. Submarine Thule, after laying mines off Penang on 16 Dec.44, continued to patrol in Malacca Strait. On 28 December, she attacked a Japanese submarine at 0245 hours 21 miles N.W.W. of Penang. She fired a salvo of three torpedoes and saw one explosion in line with the target which disappeared. She stated the submarine was not sunk and no loss is reported in the official list of Japanese losses.

The total hours flown by general reconnaissance aircraft on operational sorties in December 1944 dropped a little to about 2,460. There had been two attacks on U-boats. Two Liberators were lost.

Submarine threat accepted as virtually ended (January 1945)

January 1945 was the month when the British Pacific Fleet worked up, carried out their practice operations against the Sumatran refineries and proceeded in stages to Australia. Representing, as it did, the cream of British naval strength in the Far East, the exact status of the enemy submarine threat was a vital matter. In spite of a series of 'phoney' reports of sightings and attacks, both from merchant vessels and aircraft, the flow of reliable intelligence reports from all sources pointed to a complete enemy evacuation of the waters of the Bay of Bengal and the Indian Ocean. Even when this was at long last accepted as a fact, the habit of caution persisted. When on 11 and 12, Force 'Aintree' sailed from Colombo for Australia, it was escorted by aircraft; and again, when on the 26th, Force 'CB' left Trincomalee, bound for Australia, it was covered by aircraft. Mining by No.160 Squadron began and photographic reconnaissance was extended. It was a month of transition, (3) that marked the end of the grave threat to our shipping that had existed for two years and had cost so many valuable lives, ships and cargoes. Apart from the solitary sinking

/on

- | | | |
|-----|--|--------------------|
| (1) | Position 5°48'N, 80°50'E. | |
| (2) | Admiralty C.B.3306(3). | |
| (3) | <u>Hours flown by C.A. aircraft in January 1945.</u> | |
| | Convoy escort | 197 hours. |
| | Anti-submarine sweeps and patrols | 1,103 hours. |
| | Air sea rescue | 96 hours. |
| | Meteorological flights | 407 hours. |
| | Mining | 375 hours. |
| | Photo-reconnaissance | 82 hours |
| | | <u>2,260 hours</u> |

on 6 Feb.45 of S.S. Peter Sylvester some 800 miles west of Fremantle by the raider U.862, there were no serious operations and no sinkings on the shipping lanes in S.E. Asia Command's area for the rest of the war.

Profit and loss account of the submarine war. (1)

In June 1940, four Italian submarines were accounted for, two of them by naval surface craft. One (the Galilei), must be recorded as shared by surface craft and aircraft, for it was the aircraft that first sighted and attacked it, rendering its capture by a trawler possible. A fourth ran ashore in the Red Sea. Two losses were in the Red Sea, one in the Persian Gulf and the capture 30 miles south-east of Aden.

During 1942, Japanese submarines attacked 91 ships, but suffered no losses to Allied action.

In May 1943, German submarines opened operations. Two German submarines were sunk, one off Madagascar and one in the Gulf of Oman, both by aircraft. One Japanese submarine was sunk by a British submarine off Penang.

In 1944, the enemy losses rose to 11, for 10 of which the Allies were responsible. Naval surface craft and submarines sank 5 German and 3 Japanese submarines. Allied aircraft sank 2 German submarines and 1 German submarine was sunk by unknown causes. For this improvement in the score, various factors, such as strengthened naval patrols, improved air force organization and inter-service co-operation, extensive use of the convoy system, exchange of intelligence and greater familiarity with the enemy's tactics are responsible. (2)

In 1945, with the exception of a solitary German U-boat and a few cargo transport U-cruisers, the U-boat threat hardly existed, but one of the latter-named type was sunk by a U.S. submarine in the Java Sea.

The total sunk during the war in the Indian Ocean and neighbouring waters (3) was 19, of which 11 ended their careers in 1944.

Against this credit figure of 19 sinkings must be placed the formidable toll of Allied shipping taken by the Axis submarines from 1940 to 1945. *Merchant*

(1) Refer to Appendix 36 for nominal list of enemy submarines sunk in the Indian Ocean and neighbouring waters (Red Sea, Persian Gulf and Java Sea) with analyses by year and cause.

(2) It also indicated a greater degree of enemy daring.

(3) Red and Java Seas, Persian Gulf and Gulf of Oman.

(4) Red Sea 3; Persian Gulf 1; Java Sea, Singapore and Sunda Strait 5; Indian Ocean (including Gulf of Oman, Arabian Sea, Bay of Bengal and Malacca Strait) 10.

Merchant ship losses (1939-1945) (1)

Now that the record of the submarine war is closed, a review of its cost in shipping to the Allies and neutrals may be briefly undertaken. These statistics will then be set in the context of losses in other theatres. Standing in isolation, the totals simply measure the loss in numbers of ships and their gross registered tonnage, year by year from 1939 to 1945. They only acquire full meaning when set in the over-all context of the progress of the war in the Indian Ocean and South-east Asia and when it is gathered, from the foregoing pages of this and other service and official histories, what was the course of the military undertakings of which our sea supply and maritime air controls formed an integral part.

After the loss in 1939 of a single small ship, ⁽²⁾ the losses rose steeply to 24 ships in 1940. ⁽³⁾ ~~Twenty~~ ^{Twenty} ~~the same number of ships (24)~~ were sunk in 1941, but their total tonnage was less than one-half. ⁽⁴⁾ 1942 was a year of disaster. In April, a Japanese naval force staged a highly successful raid on the harbours and airfields of Ceylon combined with attacks on shipping in the Bay of Bengal, sinking some 29 merchant vessels in a few days. ⁽⁵⁾ These, with other losses to raiders and submarines, sent the annual total of ships sunk rocketing up to 205 ¹⁹⁵ ships of a total tonnage of ~~725,485~~ ^{757,964}. This exceeded greatly the equivalent totals for every other theatre of war, excepting the North Atlantic, (where the enemy sank no less than 1,006 merchant ships of a total tonnage of 5,471,222). 1943 was a year of very serious losses, 82 ships being sunk of nearly half-a-million tons. ⁽⁶⁾

In 1944, during part of which period the Eastern Fleet was depleted in strength and the maritime air forces fought on with no appreciable reinforcements, the total for the Indian Ocean exceeded that for all other theatres, ⁽⁷⁾ and most of the total 50 ships, ~~486,324~~ ^{322,802} tons was sunk in the first 8 months. Thereafter, owing to Allied pressure everywhere against the Axis, the enemy effort dwindled away to zero.

Comparative

(1) Refer to Appendix 37 for full annual analysis of causes and comparative annual totals by theatres.

(2) 706 G.R.T.

(3) 173, 416 GRT.

(4) 73,155 G.R.T.

(5) As well as 2 large cruisers, 1 small aircraft carrier, 2 destroyers and 1 corvette.

(6) 486,324 G.R.T. total.

(7) For naval purposes, shipping operations were grouped into six theatres:- North Atlantic, Mediterranean, United Kingdom, Indian Ocean, South Atlantic, Pacific.

Comparative statistics of Allied merchant shipping losses (1)

The bare facts of the comparative theater totals of merchant shipping lost in the Second World War viewed in percentages are as follows. While aircraft and surface craft both claimed a heavy toll, the bulk of the losses were caused by submarine attack. This stands out clearly if the Indian Ocean, with its various handicaps for the defence is considered.

During the War, 5,150 Allied merchant ships were lost due to enemy action. Their total tonnage was ^{21,570,720} ~~21,570,720~~ gross registered. Of this huge total, 55.1% of the tonnage was lost in the North Atlantic, 17.5% in United Kingdom waters, 8.3% in the Indian Ocean, 8.2% in the Mediterranean, 6.2% in the Pacific (South-west, Central and Northern) and 4.7% in the South Atlantic. All six maritime theatres were vital in ~~changing degrees~~ to Allied communications and the developments in each of them played in varying degrees of emphasis on the global situation.

Analysis of submarine attacks on the East Indies Station (1942-1944) (2)

To complete the analyses of submarine warfare operations in the Indian Ocean and so prepare the ground for a few conclusions, a brief glance should be taken at the relation of casualties to attacks and the nature of the attacks by German and Japanese submarines.

The total number of ships attacked during the years 1942-1944 was 226, distributed as follows:-

- 1942 - 91.
- 1943 - 76 (German U-boats began operating in May).
- 1944 - 59.

The percentage of ships sunk, damaged or escaped of the total number attacked was as follows:-

	1942	1943	1944
	Per cent	per cent	Per cent
	(No German U-boats operating).	(German U-boats operating during 8 months.	(German U-boats operating throughout the year).
Sunk	59.5	65.8	79.6
Damaged	4.5	10.5	6.8
Escaped	36.0	23.7	13.6

/Methods of

(1) C.B. 3303(4) p.200 - 201.
(2) Ibid.

Methods of attack, shown as a percentage of the total ships attacked, were:-

	1942	1943	1944
Torpedo	62.6	92.1	86.4
Gunfire	11.0	1.3	-
Torpedo followed by gunfire	12.1	5.3	11.9
Gunfire followed by torpedo	6.6	1.3	-
Other means	1.1	-	-
Not known	6.6	-	1.7

These tables prove that in successive years submarines ~~summarily~~ sank a larger proportion of ships attacked, while at the same time Allied surface craft, submarines and aircraft enjoyed greater success in sinking enemy submarines. Attacks by gunfire (Japanese) diminished to a single attack in 1943 and nil in 1944. All the ships fired on had been hit by torpedo first and were only finished off by gunfire; in every case but one the submarine concerned was Japanese. Of the 59 attacks made in 1944, German submarines are believed to have carried out 35, sinking 29 ships (just over 85 per cent of those attacked) and Japanese 24 attacks sinking 18 ships (75 per cent). Only five attacks were made in 1944 on convoys or escorted ships. Each attack was made by a single submarine and two of the submarines were sunk by the escorts. The attacks resulted in two ships being sunk and one damaged in one attack, and three ships sunk and one damaged in the remaining four attacks. The number of attacks is, of course, far too small to form the basis of any conclusions, but it duplicated our experience in the Atlantic that important (1) killings of U-boats were made around convoys, despite the slow speed, out of date equipment and inadequate numbers of many of the convoy escort in the Indian Ocean. (2)

/Analysis

(1) The Admiralty Staff History says 'the most important killings' but that conclusion is not born out here after study of the conditions of all the killings of U-boats in the Indian Ocean.

(2) This refers to surface craft escorts.

Analysis of all causes of merchant shipping losses (1939-1945)

The revised analysis of all the causes of losses to merchant shipping in the Indian Ocean (1) reveals the variety of ^{the} conflict and the weapons used. Certainly the threat from submarines proved the most serious, but, as the following table shows, it was not the only one.

Cause	Tonnage lost	Ships lost	%
Submarine	1,250,127	221	/
Aircraft	119,176	26	
Mine	7,365	2	
<u>Raiders</u>			
Warship	109,800	23	
Merchantman	297,642	44	
Other causes	39,239	59	
Total	1,823,349	375	

After 1942, there were no losses to mine or aircraft, for the Japanese withdrew from active operations in the Indian Ocean and had no suitable aircraft available. Apart from three ships sunk by the last German raider in early 1943 and the ship sunk in the freak sortie of the Singapore force in early 1944, the submarine was henceforward the enemy arm to be most respected and there was an almost perpetual state of alert in one or more sea areas up to the end of 1944. The toll exacted by the enemy seems all the more remarkable when the small number of operating submarines is considered. Had the combined aircraft and naval strength available to the Allies been sufficient for them to stage saturation tactics, then something resembling the 'Swamp' operation, so effective in its culminating phase in the Mediterranean, might have developed with important results, at any rate in coastal waters.

/ Aircraft

(1) Refer to Appendix 37 p.1.

Aircraft versus submarines

While a full Admiralty assessment of the lessons learned and conclusions arrived at from study of the submarine war in the Indian Ocean and neighbouring waters is still awaited, it will be of some value to attempt an assessment of the impact of the land-based aircraft and flying boat pool on the submarine war.

It is known that the Japanese ocean-going submarines were bigger, faster and less manoeuvrable than the German U-boats employed, that most of the solid planning and organization was provided by the Germans, that although neither national type of commander was over-fastidious, it was the Japanese whose conduct veered most widely from ^{Western} ~~Western~~ standards of fair play. Both were aggressive and cautious when it suited them. They had the advantage of tactical surprise and, although Allied intelligence improved with time and occasionally forestalled an attack, the enemy forces knew how to wring the utmost advantage out of our inadequate escort and air strike forces and the vast areas involved. In the course of time, practice made them more perfect. As has been seen, they progressively sank higher proportions of ships attacked and, as the official naval historian ^{Roskill} ~~Roskill~~ has concluded, there were periods when results amply repaid their effort.

Taking the period of hostilities as a whole, the resultant destruction ^{and} damage, the tying-up of effort, equipment and manpower and delays effected in the Allied build-up for the Burma campaign and the British Pacific Fleet, ^{then} the need for adequate protection by aircraft and warships of our maritime communications in the Indian Ocean ^{has} ~~have~~ been clearly outlined for all time. The basic requirements in long-range amphibian and shore-based aircraft ^{were} ~~are~~ much higher than those achieved. The use of convoy on every practicable occasion was rightly accepted in the end as a sound philosophy.

Catalina flying-boats and land-based Wellingtons and Liberators all proved to be of sterling worth in anti-submarine warfare. The great range of both Catalina and Liberator (and in the last phase the Sunderland) aircraft and the strength and manoeuvrability of the Wellington were valuable assets. While speed was sometimes of importance in covering great distances, it did not count so much when the opportunity of a strike on a submarine occurred. At those times, accuracy of aim with depth charge or bomb was vital. The later types of aircraft borne in aircraft carriers engaged in anti-submarine hunts were sometimes well adapted to the task, but, it is as well to bear in mind recent informed suggestions that the helicopter will prove itself an ideal anti-submarine weapon. How the helicopter is to defend itself against heavy and accurate gunfire from an aggressive submarine is a matter for discussion.

THE ANTI-SHIPING CAMPAIGN OF 1945

Japanese waterborne supply

Introduction

By the end of January 1945, it was clear to South East Asia Command that the submarine threat was almost non-existent and that some Liberators and Sunderlands controlled by No. 222 Group would be best employed in interrupting the flow of supplies by sea, river and canal to the Japanese armies in Burma and military stations in Malaya, Siam and the Netherlands East Indies. The air forces had never been able to give the problem their undivided attention. Bomber squadrons of No. 224 Group (1) had frequently attacked river craft as part of their support for the Fourteenth Army, but only now could integrated air action be planned to accompany minelaying by aircraft and submarines, and with sweeps by the East Indies Fleet.

The heyday of the enemy's ocean-going transport in the Indian Ocean was over and many of his old routes were abandoned. Allied supremacy had closed the open waters of the Bay of Bengal and off Malaya to them and few major ports offered safe anchorage. It had become progressively, as it had for the Germans in the Mediterranean, a war of small ships and small harbours, camouflage, ~~concealment~~, dispersal and night travel.

Of several factors rendering the target system one of great complexity, the most salient were the intricate configuration of most of the coastal and river terrain, the great variety of craft engaged, the enemy's new construction programme and his native cunning. Aggravating the effects of these were the lack of complete air photographic coverage of the vast areas involved, the weather and the bitterness of the struggle in Burma.

/In

(1) Nos. 27, 177 and 211 Squadrons, comprising No.901 Wing at Chiranga air base in the North.

In the first quarter of 1945, the enemy was receiving by one means or another, his bare subsistence for the armies in the field. ⁽⁺⁾ Regular Japanese sea trucks, luggers, barges and landing craft, together with hordes of native craft, were pressed into service in increasing volume and construction of new wooden vessels was soaring. All this helped to bolster up the tottering Japanese system. The questions were how much could the Allies do to impede this traffic and how long would elapse before it was brought to a standstill? The rot had already set in, but the defeat in Burma and the loss of Rangoon were to aggravate the enemy's position beyond endurance and lead to the disorganization of his entire strategic position. He could then not even retire in security across the Sittang River or migrate across the Gulf of Siam.

The intention here is to concentrate on the operations of the two leading exponents of anti-shipping strikes, viz. Nos. 222 and 224 Group from 1 Feb. 45 onwards, for it was only then that this offensive acquired a recognizable pattern and appreciable weight. The pattern of Japanese shipping will be described and the broad lines of the air effort until July 1945 related against the huge background of the Outer Zone, where distances travelled by some missions were so great that on the long legs out and home a member of the crew had time to enjoy an entire novel and that several countries practising different languages and using different craft were concerned.

In the first place, the myth that the Japanese had no Navy left must be exposed. Perhaps in terms of big ships, it was no longer effective in South East Asian waters; but they suffered from no lack of small craft to further their military purposes.

/The

delete
line

~~(1) A Japanese division of 10,000 men required only 10.8 tons of rations per day.~~

The Japanese change from steel to wooden ships (1)

To offset the tremendous Japanese losses of steel ships, a programme of wooden ship construction was inaugurated in 1943. In 1944, the programme was given an 'A' priority by the Navy. A near peak of 1,000,000 gross tons was hoped for, but not attained. In the face of a general shortage of steel, wood was adopted on a wholesale scale and metal was used only for nails, certain special installations and propelling machinery. Dockyard facilities for steel construction were strained to the utmost and wood was easier to work for untrained labour. Wherever timber was plentiful, it was easier to put up yards, cranes, ships and shops with local material and to begin constructional work on the spot. There was still plenty of good timber available in 1943 - teak in Indo-China, Java, Siam and Japan, pine and fir in Manchuria, the Philippines and South China. To accelerate production, five standard tonnage designs had been laid down, viz. 500, 300, 250, 150, and 100 tons. But as time passed, the quantity of seasoned timber available diminished fast and more green timber had to be used. This brought its own problems, for the hurried building methods, added to the greenness of the wood employed, rendered repairs more difficult later, indeed the volume of unrepaired, abandoned shipping was fast increasing.

The Japanese plan was that motorised wooden vessels were to ^{ultimately} carry ~~alternately~~ all coastal cargoes, (2) (such as those for the Burma front), whereas steel ships were to be run for overseas traffic only. The principal cargoes carried home were rice (a staple Japanese food) and raw materials for industry such as rubber and fuel. The small wooden coasters were best adapted to small packaged cargoes not exceeding two tons per item, for example, ammunition and food; but they were not as well adapted for heavy items such as tanks and artillery. Their primary advantage was their expendability and ease of repair.

These flotillas of small coasters, like other naval auxiliary and native craft employed, presented very difficult targets for aircraft and photographs of

/them

(1) A.H.Q., R.A.F. East Africa O.R.B. Appendix - Intelligence Summary No. 69 15.11.44.

(2) Late in 1944, the Japanese Cabinet decided to introduce freight control for shipments by wooden vessels. The coastal trade by these and junks became especially noticeable on the sea lanes between China and Siam and Indo-China.

them were sometimes hard to interpret. They were often camouflaged with palm ^{fronds} ~~fronds~~ or other vegetation and, lurking as they did, close to shore, could be easily mistaken for islets. Their slight draft enabled them to be sailed over reefs or into shallow waters inaccessible to Allied ships. Their great tactical disadvantage was their low speed - in the region of 8 knots - and their limited sea range, which was about a 10 days' operating period. With their normal slight defensive armament they were for a long time an easy target for aircraft and readily sunk or set on fire by machine gun bullets or light bombs.

A more thorough analysis and description of the numerous groups into which Japanese coastal shipping was divided for target purposes will be given later. First, a glance will be taken at the naval centre of Singapore and building activity at Rangoon.

/Singapore

Singapore the vital link in Japanese power (Winter 1944-45) (1)

South East Asia Command had a well-grounded notion all through 1944 that Singapore was then a well organized port, the best naval base in the Outer Zone and a centre of distribution, but there was insufficient detailed evidence from ground sources and aerial photographic reconnaissance as to how important it was strategically. By January 1944, these omissions had been remedied and the real situation partially revealed.

Singapore's port, harbour, warehouse facilities and ship-building and repair yards were being utilized to the utmost and the oil installations were active. Very extensive reconstruction of most of the facilities destroyed three years before had been carried through. At that moment - January 1944 - Singapore was the most vital link in the maintenance of Japanese power in the Southern Regions. If it were lost to the Japanese, the economic value of these regions to Japan must diminish or disappear. This eventuality did not yet exist, although American forces had landed on Leyte on 20 Oct.44 and on Iuzon on 9 Jan.45 and were advancing in Manila astride Japan's lifeline.

Singapore was, at the end of 1944, certainly the most important transshipment centre, naval and merchant ship repair depot and wooden shipbuilding centre in Japanese Occupied Asia. Much of the essential sea-going traffic to and from the Netherlands East Indies, Burma, Siam, French Indo-China and Malaya passed through Singapore. The oil traffic from Pangkalan Seesoes, Belawan Deli and Palembang has already been fully described in this history. In addition, bauxite from Malacca, Johore and Bintan Island, coal and sulphur from Sumatra, rice from French Indo-China and all other cargoes from the South flowed in small boats and supply craft to Singapore for redistribution to the Outer and Inner Zones, and other goods flowed back for the Southern Regions.

This narrative is principally concerned with the wooden cargo shipping. In this connection, the results of interpretation of air photographs taken on 5, 8 and 20 Nov.44 are of especial interest. There was an approximate average of 120,000 tons of merchant shipping and 27,000 tons of naval shipping in Singapore Harbour and at the Naval Base. Both figures exclude small vessels, e.g. merchant vessels of

/less

(1) Based on an extract from Economic Intelligence Section, C.S. Branch, G.H.Q. India Weekly Intelligence Summary No.101 (A.C. S.E.A. O.R.B. Appx. INT/WIS/7/45).

less than 100 feet in length (800 - 1000 tons). Extremely large numbers of small wooden vessels were seen at many points in and around Singapore, but their total tonnage was beyond estimating and cargoes could not be defined. In addition to the heavy ship facilities, numerous small works and shipyards had been set up on Pulau Brani, along the Stamford Canal and in the Kallang and Tandjong Rhu areas. Most of the ships under construction appeared to be in the 100 foot class. Singapore's industry was geared to Japan's military needs and among the numerous local products were small parts for wooden ships.

Effect of the loss of the Philippines on Singapore

Although the loss of Rangoon in early May 1945 threw the whole pattern of Japanese coastal sea supply into confusion, the capture of the strategic islands in the Philippine Group between January and late April, which led to the severance of the Outer Zone from the Inner Zone was an even greater catastrophe for the Japanese. American carrier-borne air power now created havoc on the shipping routes. The last convoy for Japan left Singapore in March 1945 and the great city rapidly sank to the status of a provincial capital doomed to a gradual decline. The last reports of the minelaying Liberators from Ceylon spoke of a city without lights or sign of life. But before the Japanese machine in South East Asia collapsed, the Air Forces were to ^{labour} ~~pit~~ their wits for several long months in an endeavour to bite into the bare essential supplies the enemy needed in the field.

Identification Systems

For the identification of Japanese shipping, the manual in general use by the Air Command and the Eastern Fleet was B.R.199. Merchant shipping recognition courses were held periodically by No. 222 Group at their No. 2 Ship Recognition School and crews were given a good grounding in basic shipping knowledge and specific recognition and reporting methods. This adherence to the local textbook worked well until early 1944.

By the month of April 1944, No. 222 Group had become increasingly committed (although still on an inadequate scale) to seeking out Japanese shipping. They looked forward to the time when the gap in their air reconnaissance and that carried out by the South-West Pacific was closed (i.e. the regions over and around Sumatra - Malaya, and Borneo and Java respectively). It seemed desirable to some for both Commands to use the same method of identification and reporting.

/In

SECRET

496

In South West Pacific Area the system in use was known as J.H.S.T. (1) or Japanese Merchant Shipping Tonnage system and continuous pressure for its adoption in South East Asia received a final refusal in August 1944. Nevertheless, a great deal of information from the Air Forces in the S.W. Pacific was gratefully assimilated and used in Nos. 222 and 224 Groups, who were in more intimate contact than the Fleet with the great variety of shipping employed by the Japanese.

/Sugar

(1) They used a parallel system for warships known as J.W.R. - Japanese Warship Recognition.

SECRET

(1)

Sugar Dogs and other small Japanese vessels

Every day in South East Asia Air Command there was talk somewhere of Sugar Dogs, a loose term used for small Japanese vessels of under 300 tons. The actual technical nomenclature was not quite so simple, for their strategical importance was fully realised (2) and they were all classified for the use of aircrews and others. Perhaps the system most in favour in Allied Air Intelligence circles was that (already referred to) used in the South West Pacific Area - the J.M.S.T. Code. (3)

The Fox Tare Dog (4) was a small well-armed freighter transport 120' to 200' in length, with a normal cruising speed of 10 knots. Sugar Charlie (5) and Sugar Dog (6) were the medium and small versions respectively of the 'sea truck'. The position of ^{their} the deck house was the same but the number of hatches was different. There were two main types of luggers, each of 50 - 100 tons. They were motor sail-boats or, as they were technically termed in Europe, auxiliary boats or sailing boats with auxiliary engines. Running at 6 to 10 knots, they differed from the sea truck in the plan of superstructure and position of their engines. Victor Charlie covered two types of fuel barges: neither was self-propelled and both were towed. One Charlie was quite flat with 8 hatches on deck and the other (a very difficult air target) showed only a very small deck section, while the main cylindrical tank section was below the waterline. The numerous Victor Baker series (7) included such vital elements as the Navy and Army type of landing craft, both of 10 - 15 tons: the Navy type carried only 80 men, as it had a deckhouse, whereas the Army type, with only a control position, carried 100 - 120 men. There was a cargo version of the same craft, and a very small bowaprit type and a 100 ton 'Haru' craft. Most or all of these were suitably armed and their gunnery was rapidly improving.

/ Native

-
- (1) Information from ICHROPS Quarterly Review January 1945 and the Japanese Merchant Shipping Tonnage (J.M.S.T.) chart used by Air Command, S.W. Pacific Area, to be found in A.C.S.E.A. File INT/108 (A.H.B. II J.51/40/3/35).
 - (2) A Japanese division of 16,000 men was estimated to require only 20.8 tons of rations per day.
 - (3) Refer to Figure // for silhouettes of the types described.
 - (4) 300 - 1200 G.R.T. with varying deck design.
 - (5) 300 - 1000 G.R.T.
 - (6) 150 - 300 G.R.T.
 - (7) Refer to Figure //.

Native craft (1)

To the air forces engaged on long range armed and photographic reconnaissance, copious vocabulary was essential to identify the many native craft sighted and to distinguish friend or neutral from foe. The aircrews were not merely loitering round the Andamans and Nicobars. As 1945 progressed, they were drawn more and more into the South China Sea, the Malacca Strait and the waters of the Netherlands East Indies.

To simplify their tasks, native craft were divided into four groups, which can be checked in the special Appendix provided. It will be sufficient for our present purposes if the broad features of the list are disclosed. It must be remembered that these exotic craft were part and parcel of the daily lives of many aircrews.

Group I comprised schooner-rigged, junk-rigged and ketch-rigged types, i.e. most of the larger craft. Tavoy schooners of 100' - 120' were common along the Tenasserim coast from Moulmein south to Tavoy and Mergui. The normal trading schooner of 80' - 120' might be found in any Malayan port or running between Java and Singapore or Bangkok. Junks, frequently mistaken for fishing vessels, could be of at least five types, including the local Sandoway and Mergui junks up to the large Nylam junk found later in 1945 in the Gulf of Siam and the Singapore area. Ketches and sloops had a very wide distribution, the Chinese type of 95' - 100' being the largest.

Group II, containing five definite types, comprised large barges and lighters, fitted with one or two sails, which were frequently seen around harbours and along the coastal routes from as far north as Chittagong down to Java. Paddy gigs of 60 - 80 feet plied in tidal waters, rivers and estuaries, all along the Burma and Malaya coasts.

/Group III

(1) Refer to Appendix³⁴ For a detailed grouped list of native craft.

Group III, covering one - or two-masted coastal traders of smaller tonnages from 20 - 75, familiar sights in the Burma campaign, included the laung, the larger sampan, the Kistic boat and the lundwin.

Group IV was a large assortment of fishing vessels and small craft, usually of small military value, mostly fishing canoes, ferries, dugouts and small sampans.

Many of these craft were certainly going about their lawful vocations, carrying food and wares to the needy populations of the occupied countries, but others were certainly working for the Japanese. The presence of a gun was normally taken as a sign of hostility, but this left a vast number open to insoluble doubt.

Military landing craft and supply barges

As the enemy's losses in merchant vessels mounted, signs appeared in several theatres of the Far East of his recourse to the construction of improved specialised types of wooden landing craft and supply barges. The early types (A to G) of assault craft ⁽¹⁾ were diverted to supply; and energetic measures were observed for the building of craft such as the Type H twin-screw craft.

By this time preparations for the final Allied Burma offensive were ^{advanced} ~~taking~~ ^{and} ~~shape~~, the air intelligence on the enemy's craft construction programme was taking shape. In early February, one particular area was closely analysed on the basis of photographs taken from mid-December 1944 onwards. This was ~~in~~ the Rangoon - Moulmein area. ⁽²⁾ Five types of wooden craft between 45 and 60 feet long were either under construction or lying in creeks or off quays at a number of slips at Rangoon and at one at Moulmein. All the 89 craft could not be identified with known types. Seven at least were in service (without power, and under tow) as cargo craft on the Moulmein - Martaban ferry.

/Camouflage and

(1) Specifications of the G type were:-

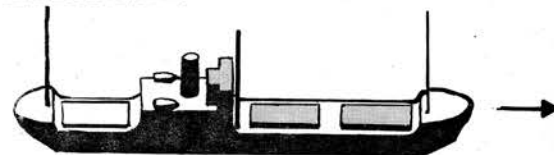
Hull length	-	70 feet
Beam	-	20 feet
Draft	-	5 feet
Gross tonnage	-	60
Armament	-	1 machine gun.

(2) Ten of these photographs are printed in No. 65 of A.C.S.E.A. W.I.S. of 11 Feb. 45 in A.C.S.E.A./Int. O.R.B. Appendices for February 1945 and show about 90 of these craft.

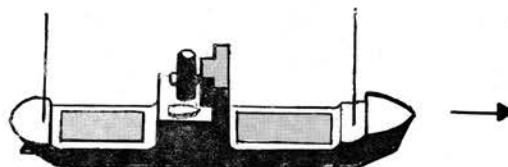
JAPANESE SMALL CRAFT

FREIGHTER TRANSPORTS

FOX TARE DOGS



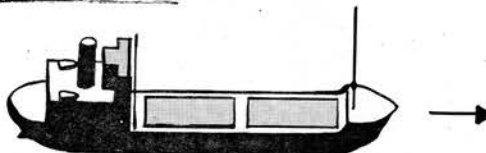
LENGTH. 120 - 200 Feet.
SPEED. 10 Knots.
TONNAGE. 500 - 1200.



TONNAGE. 300 - 1000

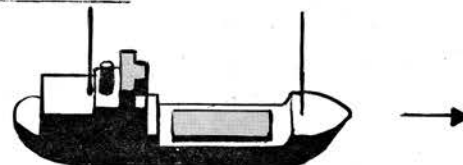
SEA TRUCKS

SUGAR CHARLIE



LENGTH. 120 - 180 Feet.
SPEED. 8 - 10 Knots.
TONNAGE. 300 - 1000.

SUGAR DOG



LENGTH. 80 - 110 Feet.
SPEED. Normal, 8-10 Escort, 15-20 Knots.
TONNAGE. 150 - 300

LANDING CRAFT

SMALL MARU



TONNAGE. c. 100

NAVY



TONNAGE. 10 - 15.
80 men.

ARMY



TONNAGE. 10 - 15.
100-120 men.

CARGO



BOWSPRIT



May or may not have deckhouse.
TONNAGE. 10-15.

LEGEND

HATCHES.



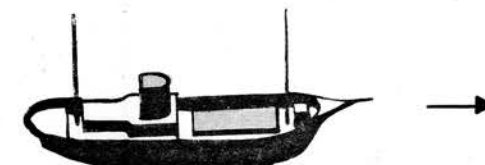
BRIDGE OR DECKHOUSE.



SHIPS' COURSE.

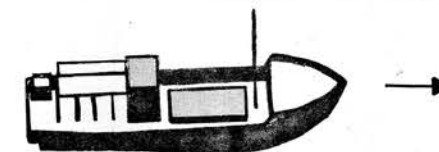


LUGGERS



1 or 2 masts.

LENGTH. 60 - 100 Feet.
SPEED. 6 - 10 Knots.
TONNAGE. 50 - 100.

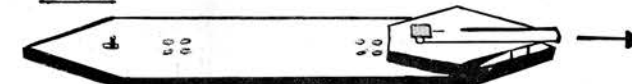


With or without mast

FUEL BARGES

VICTOR CHARLIES

TYPE X



199 x 25 Feet.

TYPE Y



104 x 16 Feet.

Cylindrical section below waterline

Camouflage and armament of small craft (1)

During the day, coasters, barges and small craft on the Arakan and Tenasserim coasts were camouflaged with branches and palm fronds and hidden in creeks (such as the Heaney Chaung). Some of the Tenasserim coasters had dazzle-painted hulls, but most were wooden vessels of standard design relying entirely on cut foliage and a careful choice of moorings for concealment. When the tide was high enough to permit the use of narrow creeks shaded by overhanging trees, a considerable degree of success was achieved and the vessels were difficult to pick up on distant oblique photographs. It was easy for ships so camouflaged to escape notice from low-flying aircraft, also, if drawn close along shores favoured with steep cliffs and concealed with foliage. This was the practice along the Burma coast from the Salween to the Pakohan River and in the Andamans and Nicobars. Another trick was to create the illusion of small islands.

In the frantic development of the barge as the answer to their shipping shortage, the question of armament of these vulnerable craft was not overlooked. ^{Command,} In South East Asia, the problem was not fully examined, but serious efforts were made to consolidate evidence from other theatres better equipped in the field of Intelligence through longer and closer contact with small shipping. Certain ^{observed} general tendencies elsewhere were to be put to the test in 1945 in S.E. Asia. These included increases in the mounting of larger calibre guns, coupled with the use of special craft as 'flak-barges' to defend convoys of other wooden craft.

Anti-shipping

(1) A.C.S.E.A. W.I.S. No. 70 April 1945 O.R.B. Int. Appendix.

Anti-shipping operations by Nos. 222, 224, and 225 Groups
from 1 Feb. 45 to the fall of Burma 7 May 45 31 Mar. 45

No. 224 Group's long campaign against enemy shipping

Since 1 Dec. 42, when consolidated statistics first became available, the ~~records of the~~ Beaufighter, Spitfire, Hurricane and Thunderbolt squadrons of No. 224 Group (1) had waged a continuous campaign on enemy surface craft, whether at sea, off the coasts or up the deltas and wide rivers of Burma. For day-to-day purposes, the sorties were divided into those which counted as direct tactical support of the Fourteenth Army and the indirect strategic efforts they called their 'Long Range Offensive'. Most of the casualties inflicted on enemy river craft were the work of fighters closely supporting the Army in a campaign over country criss-crossed by rivers, all at one time or another used by the Japanese to effect movement of their troops. The casualties to steamers and sea-going powered craft were registered off the coasts, down near the mouth of the great rivers or in ports and havens.

There had never been a major anti-shipping campaign as such. (2) Fighter aircrews were often briefed to attack communications, usually railway stations, tracks, and junctions and rolling stocks; and often the appearance of surface craft in their claims represented targets of opportunity or alternative targets. Railway and road targets always stood high on the priority list.

/The

(1) Squadrons which figured in the anti-shipping campaign December 1942 to April 1945 were Nos. 22, 177, 211.

(2) But all the following squadrons had at various times registered successful attacks on enemy coasters and river craft:- Nos. 2, 4, 5, 10, 30, 67, 123, 134, 135, 258, 273, 615 and the U.S. 459th and these are included in the game book given in the following footnote.

The claims by No. 224 Group must, in the absence of primary confirmation by Japanese documents, be handled with suitable reserve. (1) Experience has shown that the earlier period of hostilities was marked by over-estimation of results, but that as time passed this was steadily replaced by greater accuracy. ~~and non-observation. What matters here is the general trend and the idea of~~ ~~great losses and attrition in the Japanese maritime communication effected by a~~ ~~single group in two years.~~ The 13 months ending 31 Dec.43 pointed to the impressive estimated totals of 88 sea-going ships and 636 river craft destroyed. There was an appreciable drop in 1944 in sea-going ships destroyed, but the ^{in estimates} increase from 636 to 1188 river craft destroyed and the doubling ^{of} river-craft damaged were pointers to the periods of fierce fighting in Burma.

/In

- (1) No. 224 Group's shipping gains
(1 Dec.42 to 30 Apr.45)

Period		Sea-going powered craft, steamers etc.		River craft	
		Destroyed	Damaged	Destroyed	Damaged
1.12.43 (a)	31.12.43	88	441	636	3,137
1. 1.44	31.12.44	58	273	1,188	6,279
January	1945	8	28	122	2,073
February	1945	2	31	79	1,088
March	1945 (b)	27	123	113	1,520
April	1945	10	27	56	679
Total 1.12.42 - 30.4.45. (c)		193	923	2,224	14,776

(a) Figures first available 1.12.42.

(b) Note the significant rise of casualties above almost all the best previous monthly periods.

(c) After the capture of Rangoon on 2 May 45, No. 224 Group's Beaufighter squadrons were withdrawn.

Sources: No. 224 Group O.R.B. appendices April 1945.

In January 1945, sea-going targets were noticeably scarcer, but the pressure on the Burma front showed up in heightened averages in the monthly total of rivercraft destroyed and damaged.

It is at this point, i.e. 1 Feb.45 that the theme of anti-shipping operations will be developed, for the last three vital months of the advance on Rangoon were to see the virtual breakdown ^{of} in the enemy's supply system.

Squadrons engaged in 1945 operations

During the period under discussion, No.901 Wing (H.Q. Chiringa) was progressively expanded to meet its commitments to the planned advance of the Fourteenth Army. In January, it comprised three Beaufighter squadrons (1) based at Chiringa. In March, another Beaufighter (2) and one Mosquito (3) squadron had joined the strength. In the Order of Battle on 1 May, as our troops stood before Rangoon, there were three Beaufighter (4) and three Mosquito (5) squadrons. The full Order of Battle for No.224 and other groups for this period may be studied in another volume of this series. (6)

The Beaufighter squadrons have been selected from among others for their special role in the anti-supply shipping campaign. It will be found ^{that} many other squadrons participated. (7) It is not intended to analyse every day's operations, for that would obscure the issue, but to give the general drifts and tendencies in the last critical months of 1945.

Unification of maritime reconnaissance under No.222 Group

Before the intensification of the anti-shipping campaign and the final ~~draw~~ down of the anti-submarine campaign, various steps in the direction of ~~simplification~~ ^{of} and streamlining the air organization were essential. On 11 Dec.44, No.222 Group in Ceylon took over control of all general (long range maritime) reconnaissance units in India, that is to say, from No.225 Group. On 1 Jan.45, this control was extended to embrace the west coast of India. Centimetric radar apparatus, ironically enough, now began to flow in and steps were taken to equip Nos. 203 Liberator squadron (8) and No. 205 Catalina squadron (9) with it. /February

- (1) Nos. 27, 177 and 211.
- (2) No.22.
- (3) No.110 /10.
- (4) Nos. 22, 177 and 211.
- (5) No.45 and 82 (ex No.221 Group) and the same No.110, all three based at Joari.
- (6) The Campaigns in the Far East Vol.IV.South East Asia (A.H.B.)
- (7) Including Nos. 2, 4, 3, 10, 30, 67, 123, 134, 135, 258, 273, 615 and the U.S. 459th ^{also} played a minor part in the erosion into Japanese supply ships and craft.
- (8) No.225 Group.
- (9) No.222 Group.

(1)

February 1945 operations

Akyab, Ramree and Cheduba in the Arakan were now firmly in British hands and the sea flank thus secured. Preparation were intensified for the final thrust towards Rangoon. Japanese supply leaned with increasing weight on coastal and river traffic in small craft. In the Gulf of Martaban, their situation was crucial and, on account of the increasing effects of our aerial mining and heavy bombing, every cargo was eagerly awaited.

No. 222 Group's February contribution to the newly mounted anti-shipping drive was mainly deputed to No. 354 Liberator squadron, based for convenience at Cuttack. After a few early sweeps, the squadron concentrated, in the week ending 19 February, on the Andaman Sea and the Gulf of Martaban, registering ten sorties. Each aircraft carried eight 250 pound G.P. bombs. First blood was drawn on the 13th when three Liberators attacked a motor launch and two small coasters off the east coast of North Andaman Island. Fire was exchanged and one coaster seen to be driven ashore at Pluto Bay. One aircraft, hit in an engine, had to return to base. The next morning, four aircraft returned to the position, found all three vessels completely destroyed and drove another launch ashore. They dropped their remaining bombs on the radar station on Great Coco Island and pumped ammunition into harbour buildings in Port Bonnington. Guided by photographs taken by Mosquitoes from China Bay, other sweeps were carried out intermittently, but without success.

Beaufighters made several strikes in the Gulf of Martaban and along the Burma rivers. They found large assemblies of river craft and claimed to have inflicted serious casualties among some 750 craft of different types (including a few schooners) attacked. A few Thunderbolts and Mosquitoes joined them during the week ending 26 February. Meanwhile, large ports such as Chumphorn and Bangkok were attacked by the strategic heavy bombers.

(1) Details of all anti-shipping operations taken from the joint reports in the O.R.B appendices of No. 222 Group, No. 354 and 203 Squadrons and Nos. 224 and 225 Groups.

/March

March 1945 operations

Small formations of No. 354 Squadron's Liberators swept off the South Burma coast during March on a fair number of days, occasionally reporting the destruction of small schooners, Sugar Dogs and other craft. On the 20th, No. 203 Squadron joined the anti-shipping campaign in an attack on the port of Olehleh on the north coast of Sumatra. Six Liberators were airborne from Kankasanturai. Five bombed and machine-gunned concentrations of small freighters at the quays and in the basin. In bad light, the attack apparently had some success; bombing was carried out from only 50 feet altitude, but detailed results could not be observed. One aircraft was lost to anti-aircraft fire. Photographs taken on the 22nd revealed one coaster (200 tons) sunk. No. 203 Squadron repeated the earlier strike that day and claimed direct hits on jetty and coasters, all bombs exploding and all aircraft returning safely to base. On the 7th, 76 heavy bombers attacked the jetties at Martaban, a key post. ~~Beaufighters made several forays over the Burmese rivers and claimed a total of some 500 craft of all types (including a few coasters and a few large barges) destroyed.~~

Operation 'Onboard' and the annihilation of the Andaman convoy (26 Mar. 45)

The East Indies Fleet had carried out a short series of Andaman sweeps in February and March 1945 without notable success. Force 70, (four destroyers strong), left Akyab on 25 March to co-operate with aircraft of No. 354 Squadron, airborne at Cuttack at first light on the 26th. At 1030 hours, Force 70 sighted an enemy convoy of two merchant ships. These were S.S. Risui Maru (1,500 G.R.T.) and S.S. Teshio Maru (400 G.R.T.) and they were escorted by Submarine Chasers 63 and 34. On receipt of the sighting message at Colombo, the six Liberators were directed to the position, ⁽¹⁾ which was about 150 miles south-east of the main Andaman group. Aircraft A and P/No.354 were the first on the scene of action and, homed to the target by the Senior Naval Officer, attacked S.S. Risui Maru (already stopped by destroyer gunfire) from low level. Aircraft A obtained a perfect

(1) In 10° 36'N., 94° 56'E.

straddle of bombs and sank her. Unfortunately, the aircraft hit the mast, crashed into the sea, exploded and caught fire. (1) Two more aircraft arrived on the scene and saw S.S. Risui Maru sink, but, realising that the destroyers had the situation well in hand, did not attack. S.S. Teshio Maru (2) and Submarine Chaser 14 were sunk by gunfire and Submarine Chaser 63 (3) by torpedo. An important capture of prisoners was made. After this brilliant exploit, the rest of the Liberator effort seemed an anti-climax.

Slowly the enemy craft were becoming harder to find. Beaufighters create havoc among small shipping
The high lights of the Beaufighter effort against water-borne supply were the efforts of 9, 13 to 19, 21 and the night 29/30 March. Most of it was directed by small formations against river craft. On 9 ~~April~~ ^{March}, they claimed about 72 river craft hit out of a day's total of 372 believed destroyed and damaged on all parts of the front. In the week ending 19 March, they were joined by Mitchells and Mosquitoes and it was believed that some 350 craft were either destroyed or damaged. On the 19th, for an example of daily operations at the time, one Beaufighter on an evening flight to the Bassein district, set fire to a basha south of Atok. Another, in the Gulf of Martaban, sank a Mergui schooner and damaged two kisties, another Mergui craft, a Sandoway junk and two barges. Two other Beaufighters (of No. 22 Squadron) operating between Minbu and Hensada, damaged a total of 24 river craft, 5 barges and 2 laungs. On the Delta waterways, another Beaufighter damaged 14 barges and destroyed 1.

The tempo of air operations in the Burma area was accelerating fast. Spitfires of No. 273 Squadron, directly supporting XV Corps, attacked craft off the Sandoway coast and Beaufighters roamed the Martaban Gulf, the Minbu-Hensada area near Rangoon and the Delta waterways, reporting widespread damage caused to rivercraft day after day. The whole coastline, including the Ye-Tavoy strip, was combed; coasters and barges (some camouflaged) were blown up or stopped. None of the rivers or their estuaries were spared. Among the enemy casualties figured a high proportion

-
- (1) Two survivors of the crew of eleven were picked up by the destroyer H.M.S. Saumarez.
 - (2) Carrying meat and oil.
 - (3) 5 naval officers, 36 naval ratings, 2 soldiers, 3 merchant seamen and 7 women.

of substantial barges and coasters, no doubt carrying desperately needed supplies and ammunition and transporting troops. The detail of these daily efforts is astronomical. It will give a clearer idea of what was happening if a brief examination is made of the results at the end of March.

/ Japanese.

Japanese facing supply crisis in Burma (March 1945)

It was estimated by the Enemy Logistics Committee of South East Asia Command in February 1945 that the total military air force, engineer, transportation and civilian requirements from outside Burma of all the enemy forces in Burma were about 22,000 tons for the month of March. They had only limited reserves stored north at the time.

All these supplies came to Rangoon and so to Burma by two main channels. The principal land routes were the Siam-Burma railway and the rail routes from the Tenasserim coast ports, both of which fed the Pegu-Martaban railway with replenishments. Severe dislocation of traffic on the Burma-Siam line by the Strategic Air Force and its U.S.A.A.F. colleagues in their attacks on bridges had been already effected and was intensified through March. Even then, heavy road traffic may have well brought the deliveries up to about 4,000 tons. The other main supply channel was the sea-borne traffic up to Rangoon, Mergui, Moulmein, Tavoy and other Tenasserim ports by coasters and other craft.

Before March 1945, the estimated volume of supplies reaching Rangoon by sea was 20,000 tons a month. This figure alone almost guaranteed current requirements. But as March passed, photographic reconnaissance and other sources showed dramatic shift of emphasis in distribution and a fall in Rangoon's turnover.

Enemy coasters avoiding Rangoon (March 1945) (1)

During February 1945, 55 coasters and other small ships were estimated to have arrived in Rangoon, whereas in March the total fell steeply to only about 7 arrivals. The flow of supplies for Burma had therefore dropped to an estimated total of some 1,800 tons in March and there were no signs of revival. It had already been shown that if aerial mining or other forms of pressure neutralised one port, traffic was switched to one or more other ports. It was, therefore, no surprise to find coaster traffic at Mergui showing an increase of eight arrivals over the February estimate of eighteen. Moulmein, on the other hand, appeared to be unaffected, showing ten in March against twelve in February. The Enemy Logistics Committee spent some time seeking in the facts pointers to future Japanese strategy. In this they appear to have been only partially successful. Perhaps, it was thought,

/the

(1) A.C.S.E.A. W.I.S. No. 75 22.4.45 in O.R.B. Appendix INT/WIS/25/45.

SECRET

511

the Japanese were stockpiling at Mergui and building^{it} up to replace Rangoon altogether; perhaps Burma was being temporarily starved in favour of other areas; or perhaps the Army in Burma was getting its supplies by road. There must be some good reasons for a seventy per cent reduction in the basic supplies for Burma. ~~What seemed clear was that~~ unless the enemy resumed his coastal traffic into Rangoon, he would be compelled during April to eat into his reserves in Burma to the extent of some 7,000 tons.

As a result of our air attacks, the Pegu - Martaban sector of the railway was now the chief bottleneck in the enemy's lines of communication into Burma. His reserves stored north of Pegu seemed to be limited, so that severance of communications between Southern Burma (both ports and rail depots) and his forward areas, in for instance the Toungoo-Pegu or Rangoon - Prome sectors, would virtually deprive his army in Central Burma of access to the bulk of his reserve supplies and would shorten very considerably the length of time he could oppose our advance by stabilising on an East-West line in Central Burma.

/ R.A.F.

SECRET

R.A.F. maritime developments in April 1945 (1)

The Burma campaign reached the 'point of truth' in April 1945 and anti shipping operations both inland and in the waters of Burma and Malaya were closely tied in with the plans for Operation 'Dracula', the seaborne and airborne attack on Rangoon. No. 224 Group found itself with the same four Beaufighter squadrons (2) but its Mosquito squadron (3) was reinforced by two others. (4) No. 222 Group, preoccupied with mining, nevertheless found enough aircraft to achieve some valuable sinkings.

As the Burma battle front grew more mobile, the Japanese were dislodged from their strongpoints, and fought to keep open an escape route and organise a line of retreat to the Sittang river crossings. This movement threw up the Sittang bridges as a very worth while target system of which the air forces were quick to take advantage.

Anti-shipping attacks had been carried out with bombs and guns alone up to late March, but in April ^{saw} two high level bomb attacks preferred to other methods. Again, in May, yet another method found favour. No. 203 Squadron's Liberators (which began training in March) used depth charges against small craft with such success that in June many aircraft were carrying four depth charges and four 250 pound bombs. At 4,000 feet altitude, depth charges achieved better results than bombs against ships well-armed with anti-aircraft guns. (5) The powerful Sunderlands did not yet ^{figure} ~~figure~~ in the anti-shipping campaign. April operations will next be briefly reviewed after a survey of the shifts in the opposing maritime ^{strategies} ~~strategy~~ in the last phase.

/The

-
- (1) No. 222 and 224 Groups O.R.B's and appendices.
 - (2) Nos. 22, 27, 177 and 211.
 - (3) No. 110.
 - (4) Nos. 45 and 82, lent by No. 221 Group.

(5) No parallel to this practice has been traced in the Mediterranean campaigns.

The rival strategies in the last phase

Japanese strategy (1)

In early 1945, it was becoming apparent to Allied Intelligence that major military Japanese withdrawal movements had begun, although the entire plan for the future was not yet apparent. As the weeks passed, these moves within the Southern Japanese Zone became increasingly intelligible. Operational planners in S.E.A.C. worked out combined operations to interfere with these movements in every possible way. As a result, as has been seen in Chapter 3 of this volume, a series of expeditions by escort carrier forces was begun. Complementary sweeps of the waters of the Andaman Sea and the whole area therefrom to the Tennasserim Coast and the waters off Malaya and Sumatra were gaining momentum. In April, the organization had so far developed as to dictate geographical zones covered by surface craft and aircraft of No.222 R.A.F. Group respectively. Remote waters in and south of the Malacca Strait were the hunting grounds of Allied submarines.

In February 1945, the Japanese began to execute four separate evacuation operations, in which their outlying garrisons in South-East Asia and the South-West Pacific were to be gradually withdrawn and concentrated within a reduced perimeter with Malaya and Indo-China as the centre of resistance. The two major operations which concern this chapter most were Operations 'Sho' (Akiraka) (the evacuation of troops from the Andaman and Nicobar Islands to Singapore) and Operation 'Chi', (the movement of troops from Singapore to Indo-China via Saigon). The attempted execution of Operation 'Sho' brought some of the more sizeable ships into the open, a kind of target long unfamiliar in the Indian Ocean.

While the fighting in North Burma was at its height, the Japanese held a plan for their small Burma Navy (2) to fall back on the Irrawaddy Delta and Rangoon and to prepare strong defensive positions there. Should it become

/necessary

(1) Admiralty B.R.1736 (50) (6) Chapter IV. S.E.A.T.I.C. Naval Bulletin No.231 (A.H.B.II J.50/118/7).

(2) According to Vice Admiral Tanaka, this comprised 30 motor landing craft and 12 wooden transports, handled by a total of some 3000 men. They used bases at Taungup, Myaungaya, Rangoon and Mergui.

necessary to evacuate South Burma, the first intention was to evacuate the Andamans. Naval forces at Mergui were to make their way across the Malayan neck to Prachuab Girikan. Later the plans hardened as the situation worsened. While the effort of the main forces was still to cross into Indo-China through Siam, there was then no intention of completely evacuating either Malaya or the Andamans, which were to be left as strongpoint, or, as they put it, ^{boxes} 'Geyes'. There was typical 'Kamikaze' talk of suicide operations by small surface craft and aircraft, but in the event all these fictions foundered in disaster.

Although Allied blows were cracking the perimeters, Singapore still remained for a time the hub of military affairs. On 5 Feb.45, the headquarters of the new Tenth Area Fleet ⁽¹⁾ was set up at Singapore. It controlled (as well as ships), some 50 day fighters, 5 night fighters and 17 carrier torpedo bombers. At the time of the launching of Operation 'Dracula', (the amphibians assault on Rangoon), there was a sufficient enemy naval force in Singapore to justify the Allied apprehensions and elaborate precautions. Two heavy serviceable cruisers - the Ashizara and the Haguro ⁽²⁾ and two others - the Myoko and the Takao (both seriously damaged but under repair) lay there. Up to 10 Feb.45, there were also the two battleship carriers Ise and Kyushu, but they sailed for Japan. For a fortnight in February 1945, the light cruiser Oyado was there, too. On 25 Mar.45, the light cruiser Ioudan used the base for patrols off Makassar, in which waters she was sunk on 7 Apr.45 by U.S. submarines. In spite of aerial mining and bombardment, Singapore remained a factor to be reckoned with; it could not yet be taken by direct assault, nor subdued by air bombardment. Only massive pressure from other zones could reduce its importance and this pressure was accumulating day by day in the Central Pacific.

/South-East Asia

-
- (1) Replacing the S.E. Area Fleet withdrawn to the Philippines.
 - (2) Refer to the previous chapter for the destruction of the Haguro on her sortie to the Andamans.

(1)

South-East Asia Command's expanding horizons and deferred hopes

The aspirations of South-East Asia Command lay far beyond the limits prescribed at the time of its formation. The ground troops may have been earthbound in Burma, the Fleet too weak to mount a major amphibious assault anywhere and the maritime Air Forces confined to the onslaught on Japanese supplies for Burma, but nothing could damp the hopes of the commanders that they would one day burst open the iron door that confined them in the Indian Ocean. For a whole year, discussions and exchanges between the theatre, the home Governments and the British and American Chiefs of Staff had consumed energy and patience and tied up communications, but so far without any tangible departure from routine battles over stale ground. The Command was in favour of a leap first into Sumatra, then into Malaya, into Singapore, into Siam and of final participation in the assault on Japan. They did not think the departure of the British Pacific Fleet was the only token they could give of the desire of the British Commonwealth to take part in the final battles on the enemy's doorstep, nor did the British Chiefs of Staff.

Almost everything except the authority for timely and decisive action was granted them. They were encouraged to plan for operations to come, but when the day for execution approached the plans were shelved, with regrets all round. One of the many forms in which the incessant delays were palliated, was the steady extension in space ~~as well as time~~ of the frontiers of South-East Asia Command's orbit. Others, notably MacArthur, had been no less mystified than S.E. Asia Command at the prevailing atmosphere of indecision and rumour among the grand strategists. But when the time was ripe, the latter showed themselves realists.

(2)

Evolution of the final plans

Mountbatten had already been told in 1944 that his responsibilities covered Sumatra and Siam. His aircraft had already attacked targets in those areas. In April 1945, the end of the war with Germany could be fixed with reasonable accuracy. If it finished, as forecast, at the end of May 1945, considerable British forces would be available for redeployment in the Far

(1) Ehrman. Grand Strategy, Vol. VI.

(2) Ehrman. Grand Strategy, Vol. VI.

East. This, it was agreed, would free MacArthur's forces for battle to the North and call for a new British command in the South-West Pacific. Mountbatten was to break out of his frontiers towards this area. With luck, the British would then be in the South China Sea by April 1946.

The final decisions on changes to come were made in June 1945. The boundaries of South-East Asia Command were to include Borneo, Java and the Celebes, so embracing all of the Dutch East Indies and New Guinea. ⁽¹⁾ A suggestion that the new Command should be set up on about 15 Aug. 45 was amended to read 'after the capture of Singapore'.

Future plans called for a complex, forward-looking organization and shortly after the surrender of Germany in early May, the Americans offered to provide bases in Okinawa Island for ten British air squadrons. On 20 June 45, the first British convoy sailed out of Liverpool.

Meanwhile Rangoon had fallen and Mountbatten was ready to launch his planned attack on Port Swettenham - Port Dickson ⁽²⁾ in the second half of August, without a preliminary attack of Phuket Island ⁽³⁾ and this in turn would allow him to attack Singapore by the end of 1945. All the reinforcements he could obtain were two escort carriers. There were more delays when plans were set afoot to withdraw increasing numbers of time-expired men. But in July, the Command was still building up for Operation 'Zipper'.

The concluding move came on 2 Aug. 45, when the Combined Chiefs of Staff confirmed the next task as the early opening of the Straits of Malacca, the eastern boundaries to include Borneo, Java and the Celebes. If all went according to plan, he was to liberate Malaya, maintain pressure on the Japanese across the Burma - Siam frontier, capture the key areas of Siam and establish bridgeheads in Java and/or Sumatra, developing Singapore and other bases for further offensive operations.

/ Air

-
- (1) But not the Admiralty Islands or the eastern Solomons (in both of which the Commonwealth was interested) or the Ocean and Nauru Groups.
 - (2) Operation 'Zipper'.
 - (3) Operation 'Roger'.

Air operations (April - July 1945)

Beaufighter anti-shipping operations (April 1945)

During the military crescendo of April 1945, Beaufighter squadrons intensified their attacks on ships and craft coast-crawling with supplies for Rangoon, especially in the Gulf of Martaban and along the Tenasserim coast, as well as on river transport. In the first eight days, they successfully attacked some forty craft, including two schooners. In the following week, aided on occasions by Mosquitoes, they claimed to have made 28 successful attacks on barges and a schooner. The score was put at 11 more in the following week and in the last week of April they claimed to have dealt severely with at least 20 craft, including 5 coasters, eight barges and a schooner.

No. 222 Group operations (April 1945) ⁽¹⁾

In the five days ending on 9 April, small forces of Liberators hunted for shipping off the Tenasserim coast and Andaman Islands, claiming five ⁽²⁾ craft destroyed. Port Blair itself was given a wide berth, owing to its heavy concentrations of anti-aircraft fire. The hunt continued at short intervals through the month. Some days were more rewarding than others. For example, on 11 April, six Liberators sweeping south of the Andamans and east of the Nicobars sank a merchant tanker vessel (302 G.R.T.) ⁽³⁾ and her escort a submarine chaser after a stern battle. The month finished with weather worsening but sizeable claims of hits and damage accumulating. The total bag may not have been outstanding and cannot be precisely verified. What seems clear is that there were less craft to hit. The back of the problem was already nearly broken, but the watch on the ports was maintained.

No. 222 Group made an attempt to count the casualties they had inflicted between 13 February and 3 May 45. Although these totals cannot be confirmed, it may well be that the figures for vessels destroyed - viz S.S. Risui Maru, S.S. Agata Maru, Submarine Chaser 7, one motor launch, 4 coasters, two

(1) No. 222 Group O.R.B. appendices.

(2) Including a 300 ton steamer.

(3) Survivors confirmed both sinkings. The tanker was S.S. Agata Maru (302 G.R.T.). Position 9° 21'N., 95° 40'E. The escort was Submarine Chaser No. 7.

schooners and many small barges sunk are fairly near the mark. The same remark applies to the claims of considerable damage inflicted on freighters, coasters, landing craft, schooners and so forth. The Liberator casualties were very light.

No. 222 Group operations (May 1945)

After the fall of Rangoon, No. 224 Group's Beaufighters were withdrawn and it was left to the Liberators of No. 222 Group to seek out shipping in Tenasserim waters and island ports and to bomb the harbours likely to be used by the retreating Japanese forces. The heaviest port attacks were those of 3 May by 18 aircraft on Moulmein (heavily defended), of 5 May by 27 aircraft on Mergui and Martaban, of the night 9/10 May on Moulmein by 34 aircraft and of 17 May by 18 aircraft on Port Blair. Judging by the results reported, they started big fires and wrote off a good deal of small shipping and must have caused confusion among the enemy units trying to adjust themselves to the disaster that had overtaken them. Liberators mining as far afield as Siam also bombed shipping.

(1)

Japanese naval evacuation from Rangoon

Interesting confirmation of the distress occasioned to the enemy by these various attacks on shipping over several weeks is found in the evidence of Vice Admiral Raizo Tanaka, who commanded No. 13 Naval Base at Rangoon from October 1943 until its abandonment.

The last week in April must have been spent in frantic manoeuvres, with the small naval forces still available, to transfer troops to safer areas. These naval forces had suffered steady attrition from aircraft attacks. Tanaka said that only five landing craft and ten motor boats reached Moulmein. Of the landing craft, five were sunk almost immediately by Mosquito aircraft. (2) The intentions seem to have been to transfer the naval personnel at Mergui to Prachuab Ghirikan and hold them in that seurer port for eventual rearguard action, but the Japanese situation in the west Malayan and Tenasserim ports rendered them to all intents and purposes ineffectual. The Allies moved down the coast at their leisure in September to round up a defeated enemy.

(1) S.E.A.T.I.C. Naval Bulletin No. 231. Item 2423 (A.H.B. II J.50/118/7).

(2) These co-operated, it will be recalled, with the Beaufighters in the last week in April.

Liberator attacks on enemy naval auxiliaries in the South China Sea
in June 1945 (1)

The month of June was marked by several notable Allied successes against Japanese naval and auxiliary naval units in waters of the South China Sea, to which the main Liberator attacks were now switched. After two severe attacks on Houlmein in late May, an anti-shipping strike was planned in the Satahib Bay area (south of Bangkok, Siam). Of a force of 27 Liberators, a good proportion reached the target and attacked two merchant vessels and the Angthong, a submarine depot ship. One of the vessels was damaged and appeared to be sinking; another was hit on the stern. On 1 June, 12 Liberators returned to the Satahib area and set the Angthong ablaze. She sank, as did a 250 foot motor vessel after being hit. Two other vessels (possibly sloops) were seriously damaged. There were no casualties among the aircrews, who brought their Liberators safely back to base.

In worsening weather, only slight successes followed in the succeeding week, but there was one interesting occurrence. This marked the first recorded appearance of Sunderlands into the anti-shipping campaign. It was only a minor affair by all standards, but the one aircraft engaged, on armed patrols in the Chumphorn area, straddled depth charges on two 80 foot vessels and recorded cannon hits on both.

The period 9 - 15 June saw Sunderlands on almost daily armed reconnaissance in the Gulf of Siam and off the Tenasserim coast. One schooner was blown up, one large oil barge destroyed and a second driven ashore; one 'Tachin' class sloop, one M.T.B., two T.B.'s, two small coastal craft were attacked with depth charges but results not seen.

Destruction of a 10,000 ton tanker by Liberators (15 June 45) (2)

Acting on a report from a Sunderland, No. 222 Group despatched a force of 14 Liberators on 15 June 45 with orders to attack a 10,000 ton oil tanker escorted by a destroyer in the waters adjacent to Bandon (on the western shores of the Gulf of Siam). It was a long time since any vessel of this

(1) A.C.S.E.A., W.I.S. No. 82 (A.C.S.E.A., O.R.B. appendices INT/WIS/37/45); No. 222 Group O.R.B.

(2) A.C.S.E.A. O.R.B./INT. Appendices June 1945.

tonnage had been seen in those waters and, if loaded, her cargo rendered her a valuable target. The tanker turned out later to be the
 (1)
 S.S. Toho Maru (10,238 G.R.T.). She was found off Koh Samui Island and attacked. Some seven or eight direct hits caused an explosion, with smoke rising to 7,000 feet. Two dramatic photographs of the attack have
 (2)
 survived, showing the bombs straddling the doomed ship and the pillar of smoke belching from her. The next day she was seen by a Sunderland and the report confirmed the fact that the tanker was submerged, only her funnel and mast visible, with the sea around still covered with blazing oil. The destroyer escaped.

(3)
Destruction of cruiser Ashigara by H.M. Submarine Trenchant (8 June 45)

The Allied landings on Borneo were due to be launched on 10 June 45 and a cover group of cruisers and destroyers were posted 50 miles west of Brunel Bay. Their presence proved to be no more than formal, for in the event the greatest possible menace to the security of the operation - a heavy, well-armed Japanese cruiser - was sunk on 8 June by the combined efforts of two submarines of the British Pacific Fleet.

There is, unfortunately, insufficient scope in this record for a full account of this brilliant attack, carried out from enclosed and shallow waters inside an Allied minefield, but as it occurred within the orbit of South East Asia Command and sealed the virtual end of Japanese naval power in the Southern Area, the bare facts cannot be overlooked.

The Ashigara (10,000 tons), of the 5th Cruiser Squadron, was the only ship of fighting value in the Tenth Area Fleet. On 3 June 44, she sailed from Singapore with the destroyer Kamikaze to bring back troops from Batavia. They left Batavia on 7 June with some 1,200 troops for Singapore, part of the garrison of the Lesser Sunda Islands. Although no air cover was provided on account of the unfriendliness of the Army, the Fleet considered the risk from Allied submarines in the shallow waters of the western end of Banka Strait slight enough to be accepted and air reconnaissance from western Java discovered nothing untoward.

-
- (1) At the time it was incorrectly assumed that she was S.S. Husisan Maru but the American List of Japanese naval casualties (A.H.B.II F.2/42/118/1) confirms her as the Toho Maru.
 (2) Reproduced in A.C.S.E.A. W.I.S. No. 85.
 (3) Naval Staff History - Submarines Vol.III Admiralty C.B.3306(3).

On 8 June, Trenchant had been ordered to shift station from the Java Sea to the coast of Malaya, but on intercepting reports from U.S. submarines that a heavy cruiser had entered Batavia, permission was granted to patrol off Sumatra and ^{she} proceeded to the north end of Banka Strait. There she patrolled inside the Allied minefield near Muntok Bank and Hendrik Klitten Shoal, where, outside the minefield, H.M. Submarine Stygian patrolled.

At 0955 hours, the destroyer Kamikaze was sighted. At 1148 hours, the Ashigara was sighted. While H.M.S. Stygian kept the Kamikaze fully employed, H.M.S. Trenchant approached the cruiser and at 1209 fired a full salvo of eight torpedoes. Some of ^{them} ~~this~~ hit the cruiser, blew her bows off and set her afire. At 1239 hours on 8 June 45, the Ashigara sank. The operation was described as the C-in-C. British Pacific Fleet as one of the finest submarine exploits of the war.

/ The

The Japanese shipping position in the South China Sea (June - July 45)

In June and July, there was a gradual running-down of enemy coastal shipping in the Gulf of Martaban and off western Malaya. In Burma itself, there was feverish activity at the river crossings in the areas still held by the Japanese. It was only in the South China Sea (especially in the Gulf of Siam and off the Kra Isthmus) that our air squadrons could now find an occasional worthwhile target. A broad idea of the enemy's surreptitious coastal traffic in this period may best be grasped if a few sighting and photographic reports are considered.

On 24 June 45, South East Asia Air Intelligence took stock of reports from all sources of what was known (and it was admittedly only partial) of the East Coast ports. The following shipping had been reported during the few weeks preceding:-

Bangkok	3 motor vessels (190'-220'), 50 wooden coasters (100'-110'), 6 sailing vessels (100'-110')
---------	--

The few arrivals and departures were more marked among the sailing vessels.

Smut Prachan	2 motor vessels (2,000 tons)
At 13° 24'N, 100° 40'E	2 motor vessels (800 tons)
Off Paknam River	2 motor vessels (175'-200' and 200'-250')
Samudh Sougram	14 coasters (45'-60')
Samudh Sakorn	2 small coasters and 2 medium sailing vessels
Prachuab Girikhan	12 sailing vessels (50'-60'), 1 sailing vessel (80')
Chumphorn	12 small laden coasters offshore
Bandon	(This was a busy port in which standard sailing vessels were built) 1 coaster (100'); 31 sailing vessels (90'-100') and 7 sailing vessels (60'-70'). There were usually 100 junks.
Singora	Reported by ground source that a convoy of 20 ships covered by 6 destroyers stopped here 16-19 May en route northward.

Chumphorn had been recognised for some time as a key traffic centre. Heavy bombers had put out its three bridges and created havoc among its installations, but craft still used the port. A useful report was made on 23 June by two Liberators sweeping between Chumphorn and Prachuab Girikhan. In the latter harbour, numerous native craft were seen. On the way to

/ Chumphorn

Chumphorn, one large sailing junk, one Siamese passenger ferry and two Sugar dogs were seen (and both destroyed). In Chumphorn harbour, five Sugar dogs were seen and, further on, a tug, a large oil barge and a Sugar Dog were attacked with some success.

A ground source of air reliability reported movements in the Johore Straits area. Between 23 and 30 June, he stated, arrivals were checked of one passenger ship, three loaded cargo ships, two unidentified ships, five tankers and a few small assorted vessels. Departures were checked of four tankers and nine ships (six unidentified).

A typical picture of the changing situation along the East Siam coastal route was provided by aircraft on armed reconnaissance on 7 and 8 July. At various points off the coast, they attacked, with fair success, eight coasters and one big Sugar Dog on the 7th and, on the 8th, two coasters, a barge and a group of sampans. Meanwhile, in the belt from Prachuab Girikhan to 40 miles south of Chumphorn, other aircraft attacked five coasters, a laden barge and a motor launch.

The construction of standard wooden coasters for which Bangkok was formerly a thriving centre was falling off fast, but at Bandon this work was gaining momentum, as aircrews testified. One estimate placed the output in late July 1945 as having reached a total of 70, all towed to Singapore. Singora too, was coming into view as an active centre of shipping traffic.

Photographs taken of Singapore on 13 July revealed 14 medium merchant vessels in the harbour and three at the naval base. This was a marked fall from the figures in April, when the average was about 33 vessels; and there was no proof that all were active.

Reduced activity off the Kra Isthmus (July 1945)

While the Allies debated the best means of bringing about the surrender of Japan, and the Mikado and his pacifist supporters sought an end to bloodshed with honour, the war in the South East Asia orbit ground to a stalemate. The Japanese knew themselves to be cut off from reinforcement and supply from the homeland. In the air and in the field, they had suffered a major

/ defeat

defeat. But they held on to the vast territories still left to them. The Allies were not yet prepared to attack the rest of the Southern Area from Burma, India and Ceylon. Bad weather, too, helped to keep the maritime war to a very modest scale. Quite apart from the rapid drawing to a head of the decisions which were to end the war in a few weeks, South East Asia had been reduced by events to the status of a backwater campaign. Nothing could rob the Allied ground, naval and air forces of the credit for a campaign well fought; but on the other hand, nothing could render anything they still might do decisive in the outcome of the war.

July anti-shipping operations were on a very restricted scale. Using photographs to select their targets, small formations of Liberators and odd Sunderlands were despatched on 6 July to Banden harbour and off the Kra Isthmus coast, during the week ending the 16th to the waters south of Chumphorn and on 17 July along the coast down to Singora. Results were satisfactory by normal standards, but could not in themselves impose a negotiated end to hostilities. In Burma, Spitfires operated every day over the Sittang River, causing the maximum discomfiture to the hard-pressed, under-nourished Japanese, destroying or damaging river craft, coasters, barges, rafts and sampans.

(1)

Check list of events in the last phase

On 21 June 45, organized resistance on Okinawa ceased and on 5 July, the liberation of the whole of Philippines was announced.

On 16 July, an atomic bomb, containing plutonium, was exploded successfully at Alamogordo (New Mexico) and on 17 July, the Potsdam Conference ⁽²⁾ began, ending on 2 August. It was, in the meantime, decided on the highest level that the best method to bring the conflict to a speedy end and force the Japanese to accept the Allied terms of unconditional surrender was to make a surprise attack on them with the new and devastating weapon.

(1) Eruman. Grand Strategy Vol. VI for a clear, well-documented account of the final events: for details of atom bomb operations refer to the U.S.A.F. official history, Craven and Catz, The Army Air Forces in World War II Vol. V.

(2) Code name 'Terminal'.

/ At

At 0915 hours on 6 Aug. 45, the first atomic bomb was dropped on Hiroshima. On 8 August, Russia decided to declare war on Japan on the 9th, although this move had no longer any real strategic value. On 9 August, the second atomic bomb was dropped, this time on Nagasaki. Early on 10 August, a full Cabinet meeting in Tokio ratified the Emperor's announcement that the war must end and this news was despatched through Switzerland at about 0700 hours on that day - 10 August. On 11 August, the Americans stated the terms for the surrender itself, in the light of the Potsdam Declaration. On 14 August, the Japanese Cabinet, overriding the Army chiefs' protests, formally accepted the terms. At about 1600 hours on the 14th, the news was received in Washington and on 15 Aug. 45, the Emperor broadcast the news to the Japanese people. It was not until the end of August that all elements in the Japanese armed forces finally accepted the inevitable.

The cease fire, then, was ordered in Tokio on 16 Aug. 45, but it took a long time to put into effect and for the Allies to take over the enemy-occupied territories. In South East Asia, the preliminary Instrument of Surrender was signed between 26-28 August in Rangoon. On 29 August, American forces began landing in Japan and, on 30 August, a British naval force landed in Hong Kong. The official surrender of Japan was signed on 2 September on board U.S.S. Missouri in Tokio Bay. The surrender of enemy forces in the South West Pacific Area was signed on 6 September off New Guinea. On 12 September, the ceremony of surrender of all Japanese Expeditionary Forces of the Southern Region was held in Singapore by the Supreme Commander, S.E. Asia Command. The Andamans were formally surrendered on 9 October, naval forces in Burma surrendered on 19 October at Mergui. Sumatra was surrendered at Padang on 21 October; Palembang was reoccupied on 23 October and on 24 October, at Rangoon, the Japanese 28th Army surrendered.

These details show the bare bones of the pattern of surrender. It merely remains to relate the movements of our armed forces as they fulfilled the last chapter and carried out the necessary operations of military occupation, rescue and relief in a continent and in islands ravaged for three years past.