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Air Headquarters,
Bengal Command,
Royal Air Force,
Barrackpore,
Calcutta, India.

August, 1942.

From:- Air Vice-Marshal D. F. Stevenson, C.B.E., D.S.O., M.C.

To:- The Air Officer Commanding-in-Chief, Air Forces in India.

Sir,

I have the honour to submit herewith my Despatch on the Air Operations in Burma and the Bay of Bengal covering the period January 1st to May 22nd, 1942.

I have the honour to be, Sir,

Your obedient Servant,

D. F. Stevenson
Air Vice-Marshal.

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DESPATCH

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AIR OPERATIONS IN BURMA AND THE BAY OF BENGAL

COVERING THE PERIOD JANUARY 1st TO MAY 22nd, 1942

by
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AIR VICE-MARSHAL D. F. STEVENSON, C.B.E., D.S.O., M.C.

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Bengal Command,
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AIR OPERATIONS IN BURMA AND THE BAY OF BENGAL

SPRING, 1942

INTRODUCTION

1. The following is a report on the air operations carried out by a small Allied Air Force (American Volunteer Group, Royal Air Force and Indian Air Force) against the Japanese Air Force in Burma and the Bay of Bengal and the subsequent movement of the R.A.F. and I.A.F. to India whence operations against the Japanese continue.

2. In reading this Despatch the following chronological summary may be of assistance:-

<u>1941</u>	Dec. 9th	War declared by Japan.
	Dec. 23rd	Struggle for air superiority over Rangoon commenced.
<u>1942</u>	Jan. 18th	Mergui and Tavoy evacuated.
	Jan. 29th	Japanese thrust through Tenasserim towards Rangoon commenced.
	Feb. 15th	Singapore fell.
	Feb. 25th	Last Japanese effort failed to establish air superiority over Rangoon.
	March 7th	Demolitions at Rangoon commenced, Rangoon evacuated and General Alexander's Army commenced withdrawal up Prome Road.
	March 21st	Japanese inflicted severe reverse on R.A.F. Wings at Mergui.
	April 12th	Air operations based in India and Assam in support of the Army commenced.
	May 20th	General Alexander's Army withdrawn to India and Air operations against the enemy in Burma continue.

3. On the 12th December, 1941, I was informed by the Air Ministry that I was to take over Command of the Air Forces in Burma. It was proposed to reinforce Burma with a force of 4 Fighter Squadrons, 6 Bomber Squadrons and 1 G.R. Squadron with the object of making a front in Burma should the Japanese campaign against Malaya prove successful. On the 14th December I left England. I met the Commander-in-Chief in India, General Sir Archibald Wavell, and the Air Officer Commanding-in-Chief, Air Marshal Sir Patrick Playfair, on the 28th December in Delhi, where the land and air situations were explained to me.

PART I - AIR SITUATION ON MY ARRIVAL IN BURMA AND CONSEQUENT REQUEST FOR REINFORCEMENT

4. On the 1st January, 1942, I flew to Rangoon to take over command from Group Captain E. R. Manning. He met me at Mingaladon aerodrome and I proceeded to Group Headquarters. It was necessary to make an appreciation of the air situation as a first step.

5. During the first seven days of January I visited the airfields in Burma, the Station, Squadron and Detachment Commanders and met the Military and Civil Authorities. The Governor of Burma was H.E. Sir Reginald Dorman Smith, G.B.E., the Army in Burma was under the command of Lieutenant-General T. J. Hutton, C.B., M.C., while the Senior Naval Officer at Rangoon was Commodore C. Graham, R.N. - Commodore Burma Coast - who succeeded Capt. J. Hallett, R.N., up to that time N.O.I.C. Rangoon.

6. I found that the air garrison of the country comprised 1 Squadron of the American Volunteer Group, armed with P.40's at a strength of 21 I.E. based at Mingaladon, No. 67 R.A.F. Buffalo Squadron of a strength of about 16 aircraft, also based at this Sector Station, and a few obsolete aircraft of No. 4 Indian Flight based at Moulmein. Apart from the personnel of 60 Squadron - whose aircraft had been retained in Malaya - and the Communication Flight equipped with aircraft of the Moth type belonging to the Burma Volunteer Air Force, there was at that time no further flying units in the country. Reinforcing aircraft for the Far East were, however, flying through Burma to Malaya and the Dutch East Indies.

7. The American Volunteer Group, whose primary role was the defence of the Burma Road, under the command of General (then Colonel) C. L. Chennault, was based at Kunming. A Squadron of the A.V.G. had been detached by the Generalissimo Chiang Kai-Shok for the defence of the Port of Rangoon, the only port through which supplies for China could be passed.

8. Control of the R.A.F. in Burma had been somewhat chequered. Up to the 15th December, 1941, it was organised as Burgroup - later 221 Group - under A.O.C. Far East. On the 15th December, 1941, this Group was transferred to the command of the C.-in-C. India. Almost immediately after my arrival in Burma, 221 Group became Norgroup under the command of General Sir Archibald Wavell, Supreme Commander South-Western Pacific Command, to whom Air Marshal (now Air Chief Marshal) Sir Richard Peirse was Chief of the Air Staff and Commander of the Combined Air Forces. For administration Norgroup remained under C.-in-C. India.

9. Airfield lay-out and topography. Geographically, Burma is a cul-de-sac with a long tongue of jungle escarpment reaching South from Moulmein to Victoria Point. The Port of Rangoon therefore provided the only means of maintaining an Air Force in Burma, since on the West Burma is cut off from India by the dense jungle escarpments of the Arakan Yomas, in the North by the Naga Hills, in the East by the Karonni Hills, while the Pegu Yomas, a mountain range, divides the waters of the Sittang and the Irrawaddy which flow almost their entire distance through Burma to Rangoon and the Gulf of Martaban. Thus there were two Valleys in which airfields could be made.

10. The main line of airfields ran from Victoria Point to Moulmein, to Rangoon and Mingaladon and then up the Valley of the Sittang through Toungoo to the East, through Heho and Namsang and up to Lashio in the North, a total distance of some 800 miles. The lay-out and development of airfields is shown in Diagram attached - Appendix "A" (Burma Aerodromes). This line of aerodromes faced the enemy air force based in Thailand and because the territory to the East and South East of this line of air bases was mountainous country covered by jungle, through which there were few if any communications, it followed that situated here adequate R.D.F. and telephone warning of the approach of enemy aircraft attempting to attack our bases was impossible. Had Toungoo, Heho and Namsang been situated with their attendant satellites in the Irrawaddy Valley, warning would have been possible and satisfactory as long as the communications in the Sittang Valley remained in our hands. This fact gravely influenced the air campaign.

11. In general, the aerodrome development and construction undertaken on behalf of the Far East Command by the Government in Burma showed an extremely good state of affairs. Indeed, remarkable. All airfields had one or two all-weather runways fit for modern aircraft of the heaviest type. Accommodation for personnel, P.O.L. and bombs and ammunition were available and all-weather satellites were provided for most airfields. See Appendices "B.I" and "B.II". Moreover, at this time of the year the paddy fields were hard and, provided labour was available, a runway suitable for fighter or bomber aircraft could be prepared in a week. Thus airfield accommodation for a considerable air force was available in Burma. The weakness of the lay-out, however, was, as already stated, that the four main airfields between Toungoo and Lashio (inclusive) had little or no warning.

12. State of Warning of Air Attacks. It was hoped, however, to develop our telephone system in the Karenni Hills and the Valley of the Salween, and with R.D.F. to bring warning to a state where it would be practicable to base bombers and fighters at all these airfields. We asked India for the necessary equipment and personnel, including a W/T. screen of 35 posts.
13. Airfield Accommodation. Consequently, from the point of view of airfields, there was nothing to prevent the reception of considerable reinforcements as long as we held Rangoon.
14. As regards communications, a good telephone system connected all our airfields, while point-to-point wireless was in course of being put in to parent Stations.
15. Burma Observer Corps. I found the Burma Observer Corps under the command of Major Taylor to be, over the area covered, an efficient warning system. As long as main centres of communications and telephone lines were not closely threatened by land attack the system functioned devotedly and satisfactorily. The lay-out of the Observer Corps is attached, marked Appendix "C".
16. In respect of aerodrome defence I found that outlying Station airfields such as Tavoy and Mergui had garrisons while detachments of troops for land defence and anti-sabotage precautions had been provided at occupied airfields.
17. A.A. Defence. A.A. defence was weak, with an initial strength of but one battery of locally raised troops, whose equipment had only arrived at the end of December, 1941. The later arrival of British and Indian light and heavy batteries rendered it possible to organise a weak scale of defence for the important vital points. Although the A.A. defence did yeoman service they were never in sufficient strength to provide adequate defence for all the vital points and areas - let alone our airfields. Except for a weak airfield detachment the A.A. Artillery was deployed in defence of vital points in Rangoon and of our troops so that some cover against enemy bomb attacks in forward areas could be provided. Later during the withdrawal they provided such close protection as was practicable for our columns. General Alexander has remarked upon this phase of the operations in his Despatch.
18. L.A.A. - Defence. For light automatic defence against low-flying aircraft, detachments of the B.A.F., each equipped with 10 to 12 .5 Browning machine guns on A.A. mountings, were stationed at Mingaladon and Zayatkwint and later at Magwe. They were manned entirely by Burmese personnel mainly of the 12th Burma Rifles. Their training was of necessity hurried and their numbers were generally much under strength. Elements of the R.A.F. regiment arrived too late to be of much service although they were in action at Akyab.
19. Headquarters' Staff. The position as regards Headquarters and Station Staffs was not good. Only a nucleus H.Q. staff existed and Mingaladon was the only airfield having a Station H.Q. All other airfields had care and maintenance parties.
20. A store holding unit and an explosives depot existed but there was no repair organisation.

Air Appreciation - Strength of the Air Force in Burma

21. On the 14th January I completed my appreciation of the situation. Copies of this paper were forwarded to Headquarters, ABDA Command, India and the Air Ministry. The object of this paper was to appreciate the likelihood of a determined attack being made by Japan on Burma and from this to deduce the form and scale of air attack; and thus the fighter force necessary to secure our interests against this attack and the bomber counter-offensive force that would also be necessary. A copy of this appreciation is attached marked Appendix "D". From this it will be noted that I considered that the Japanese Air Force would attempt a "knock-out" blow against Rangoon in the event of the fall of Singapore and that the scale of attack might reach as much as 600 aircraft a day at maximum intensity.

22. Air Defence. The air defence system necessary to secure our interests in Burma against an attack of this kind required that the fighter force should be on a 14 Squadron basis - 9 beyond the 5 Squadrons already on programme. (These 5 Squadrons were 67 Squadron and the 4 Squadrons of 267 Wing, which had been allocated in the first place to India for Burma - Trooper's telegram 57543 of 12.12.41.) One of these Squadrons - 232 Fighter Squadron - was later diverted from Burma. The fact that the Hurricane force comprised only 3 (which only reached a strength of 2 Squadrons) instead of 4 Squadrons during the initial phase of the campaign, had a serious effect on the operations.
23. Further heavy and light A.A. Artillery was necessary together with a Balloon defence for the City and Port of Rangoon. More R.D.F., G.C.I. and Observer Corps and W/T. posts were required for strengthening the warning system.
24. Bomber Counter-offensive. As regards the Bomber offensive, I considered that the 7 Squadrons on programme would be sufficient (i.e. 60 Squadron already in Burma plus 6 reinforcing Blenheim Squadrons promised from the Middle East - Trooper's telegram 58315 of 16.12.41) until vigorous attacks against Japan from bases in China became necessary.
25. Security of Sea Communications. The 1 Hudson Squadron on programme, provided we had a force of 2 Torpedo Bomber Squadrons to call on at seven days' notice would, I considered - together with the Bomber force - go a long way to secure our line of sea communications from attack by Japanese war vessels in the Northern portion of the Bay of Bengal and the Gulf of Martaban. Apart from one or two patrol craft there were none of H.M. ships present in these waters. Thus the burden of anti-submarine protection, anti-bomber security and the attack of enemy surface vessels in the Bay and the Gulf would rest for some time on the Bomber, G.R. and Fighter aircraft of my command.
26. Reinforcement requested. After agreement in the Joint Commanders' Sub-Committee I accordingly telegraphed ABDA Command and the Air Ministry requesting reinforcements to the scale (A.418 of 18/1) recommended in my appreciation. On the 20th January ABDA Command (00186 of 20/1) informed the Air Ministry that while the reinforcements asked for were undoubtedly required, it was not known whether they would have to be found from the aircraft allotted to the South Pacific theatre. The full position was asked before agreement to allocate from the total pool was possible - since the need in the Southern Malayan theatre was more immediate than that in Burma.
27. Proposals for immediate Fighter reinforcement. On the 2nd February the Deputy Chief of the Air Staff telegraphed the Air Ministry's proposals for reinforcements for Burma in the immediate future (Webber W.446 of 2/2). This approved an immediate reinforcement of 2 further Hurricane Squadrons, bringing the programme to 6 Hurricane Squadrons in all, but assumed that we should be able to re-equip 67 Squadron with Hurricanes. There were never enough Hurricanes to do that. After the fall of Singapore on February 15th the Chiefs of Staff diverted these 2 Squadrons (30 and 261 Fighter Squadrons) to Ceylon. Thus the total Fighter force actually available throughout the air campaign in Burma was reduced to 3 Hurricane Squadrons.
28. Initial Equipment of Hurricane Squadrons and the Hurricane Flow. The inability adequately to equip our Squadrons with Hurricanes and to maintain them during air action had a serious effect on the air campaign. For example, it led to a situation in which it was only possible for 6 Hurricane II's to take the air against the first heavy attack on our air base at Magwe on 21st March - and except for 1 aircraft every Hurricane II in the Command was present at Magwe on that day.
29. The requirement initially to equip 17, 135 and 136 and to re-equip 67 Squadron was a total of 80 Hurricanes (i.e. 16 I.E. plus 4 I.R. per Squadron). Additionally, a flow of at least 24 per month was necessary to meet minimum war wastage. Therefore over the campaign which lasted three months, the total requirement was at least 128. During this period a considerable number of our Hurricanes due for Burma were diverted to Singapore. Thus of this total requirement only a proportion arrived in Burma and of these a number were obsolescent, worn-out Hurricane I's.

30. Hurricane Effort. Consequently the maximum number of Hurricanes reached in action with the enemy was about 30 Hurricanes, i.e. the equivalent of 2 instead of 4 Squadrons. This strength, moreover, fell away rapidly due to lack of reinforcing aircraft, proper operational facilities and absence of spares, and was on 11th February 15 serviceable Hurricanes, and on 5th March only 6 (Graph showing operational effort Appendix "F").
31. Maintenance, Spares and Tool Situation. With the exception of 2 Hurricane "pack-ups", no spares for the Hurricane II's arrived in the country before the fall of Rangoon. Consequently, aircraft becoming unserviceable for lack of small parts remained so unless requirements could be provided from the cannibalisation of other unserviceable aircraft. There was a great shortage of tools and rotol kits, while the lack of air screw blades was serious. Moreover, since the equipment of our R.S.U.s. and A.S.P.s. did not arrive before the fall of Rangoon, there was no proper organisation for the repair and salvage of aircraft. This factor exercised a considerable influence on our small fighter force and contributed towards the critical shortage of serviceable Hurricanes at Mawta on the 21st March.
32. A.V.G. Maintenance. The A.V.G. Squadron at Rangoon usually had 21 P.40 aircraft of which about 15 would be serviceable. Later in March this figure fell to 10 or 7. But here again the shortage of replacement aircraft, spares, and proper maintenance for the A.V.G. reduced the effort available. The maintenance crews of the A.V.G. did remarkable work in maintaining their aircraft, often under bombing attack. As the A.V.G. were short of trained personnel, R.A.F. personnel were attached to them.
33. Bombers. As regards Bombers, the D.C.A.S.'s telegram indicated that of the 7 Squadrons promised, we should only have 3 in the immediate future. This assumed that Blenheims would be available to equip 60 Squadron. There were never enough Blenheims to do that. The aircraft, personnel and "pack-up" of 113 Squadron arrived in January and early February. The aircraft of 45 Squadron (Blenheim) also arrived but were unaccompanied by personnel or "pack-up". There was a great shortage of tools and spares. Additionally, the R.S.U. and A.S.P. organisation did not arrive in time. Consequently, the average daily bomber effort of the combined Blenheim force stood at about 6 aircraft a day. Thus throughout the campaign, we had the equivalent of one Bomber Squadron available for operations instead of 7. (Graph of operational effort - Appendix "F".)
34. General Reconnaissance. In respect of G.R. aircraft, No. 4 Indian Flight equipped with Wapiti and Audax aircraft arrived in Burma at the end of December. This was later replaced by No. 3 Indian Flight which was armed with an I.E. of 4 Blenheim I's. After the fall of Singapore, 139 Squadron en route for Java was held up in Burma and, equipped with Hudsons commencing at 6 I.E., undertook our G.R. requirements. There were no personnel or Squadron equipment and the Hudsons were maintained by No. 3 and No. 4 Indian Flights.
35. Army Co-operation. 2 Squadrons armed with Lysanders, No. 1 Indian A.C. Squadron and No. 28 A.C. Squadron, were made available for operations in Burma.
36. Constant requests were made for the re-equipment of these Squadrons with modern aircraft. The mohawks, however, were not available and the Lysanders were retained until the Squadrons returned to India.
37. Indian Air Force. The units of the Indian Air Force referred to above proved their war efficiency and gallantry on active service for the first time in their history. In addition to a number of tactical reconnaissances, No. 1 Indian Squadron's Lysanders provided 41 bomber sorties against enemy aerodromes and direct support targets. The standard of accuracy achieved in bombing was satisfactory. No Lysanders were shot down by enemy fighters. The G.R. aircraft and, in particular the Blenheim I's of No. 3 Flight, carried out a considerable number of reconnaissances in the Prepara Channel and the Gulf of Martaban.
38. P.R.U. Up to half-way through January there were a few Buffaloes in 67 Squadron with the necessary range. They undertook long reconnaissance. When these were finished we were without long reconnaissance until in the first week of February 2 P.R.U. Hurricanes en route for Java remained in Burma. These were attached to Hurricane Squadrons and met our P.R.U. requirements on an outline basis only.

39. Balloons. An advanced party of 274 Balloon Wing arrived and reconnaissance of sites commenced. The Balloon Wing, which was diverted from Basra, did not arrive in time and, in consequence, balloon defence was not available.

40. R.D.F. Warning. Of the considerable programme of R.D.F. in Burma (3 chain stations 2 C.O.L. and G.C.I.) only one C.O.L. set was in the country, the balance not having arrived. This one was at Moulmein, but its arc of observation there was ineffective. It was therefore moved out for the defence of Rangoon. It was later moved to Magwe. No spares of any kind existed for this set but local arrangements were possible to keep it in action until it left Rangoon. The lack of adequate R.D.F. equipment of the M.R.U. or Chain Station and C.O.L. type exerted a critical influence on the air battle in Burma, since early warning of low flying fighter attack and high flying bomber attack was an essential quality of successful air operations. Without such warning an air force inferior in numbers - as ours constantly was - faced annihilation as indeed later happened at Magwe.

41. To summarize under this heading: Of the Air Ministry programme of 6 Fighter Squadrons, 7 Bomber Squadrons, 2 A.C. Squadrons and 1 G.R. Squadron for the defence of Burma, for various reasons - principally that of time - only the mixed equivalent of 2 Fighter Squadrons, 1 Bomber Squadron, 2 A.C. Squadrons and one-third G.R. Squadron joined action with the enemy in the campaign. Of 7 R.D.F. Stations only 1 existed.

42. As regards other units, the following arrived:-

H.Q. 267 (Fighter) Wing
No. 60 R.S.U.
No. 39 A.S.P.
No. 7 S. and T. Column
No. 258 A.M.E.S.

The R.S.U. and A.S.P. had no equipment and the A.M.E.S. arrived so late that it was turned round at Rangoon, sited to defend Akyab, and finally withdrew to Calcutta where for many critical weeks it remained our primary means of warning for overseas attack.

43. Personnel for Group H.Q. Staff gradually arrived and Station H.Qs. Zayatkin, Toungoo and Magwe were formed.

CO-OPERATION

44. Co-operation between the Services. As regards the co-operation between the four Services, I have to record that Sir Reginald Dorman Smith, H.E. the Governor, was always ready to assist me with wise advice and his Government my service with active and energetic help so long as was practicable.

45. General Hutton's Headquarters and mine lay close together at Rangoon. I gratefully record the good feeling and understanding he extended to the R.A.F. which made possible close co-operation. We usually met each morning and evening to review the situation and to agree action. At these meetings there was an interchange of important telegrams which had been received or despatched by us. The same cordial relations continued when General Alexander took over on the 5th March.

46. Our co-operation with Commodore Graham, R.N., and earlier Capt. Hallett, R.N., was all that could be desired. Although there were none of H.M. ships present in the close defence of Rangoon and Tenasserim, there were many maritime tasks to be undertaken from day to day by aircraft and the few patrol craft that were available.

47. Co-operation with A.V.G. and the American Air Force. I took the earliest opportunity of meeting Colonel (now Brigadier-General) Chennault in Kuning on the 31st January. At this meeting we discussed and agreed the principles on which the A.V.G. Squadron in Burma would be used in air battle. As always, his primary requirement was good warning. He was quite clear that if I was unable to provide this for the A.V.G. the Squadron would have to be withdrawn to China. I have to record my appreciation of the way in which

General Chennault whole-heartedly maintained the Squadron at the highest practicable level in pilots and P.40's from his fast dwindling resources in China. On the 18th January so bad were these that he issued instructions for the Squadron to be withdrawn to China. The Supreme Commander was informed and the Generalissimo Chiang Kai-Shek, after the representations of the combined Chiefs of Staff, agreed to the retention of the A.V.G. in the defence of Rangoon. Elsewhere I have remarked upon the admirable gallantry and fighting characteristics of the 3 Pursuit Squadrons of the A.V.G. - who fought over Rangoon in turn - an admiration felt not only by the R.A.F. but by the Army also. The co-operation between the A.V.G. and the Hurricanes was close and cordial.

48. When bombing operations in Burma were later carried out from India, a small force of American Army Air Corps long range bombers closely co-operated.

49. Co-operation with the Chinese. I took the first opportunity of visiting the Generalissimo, Chiang Kai-Shek, on the 30th January. The Generalissimo very kindly gave me an interview on this day at which he promised to maintain 1 Squadron of the A.V.G. in the defence of Rangoon as long as this was possible. It is a matter of great regret to the R.A.F. that towards the end of the campaign in Burma it was impracticable on account of shortage of aircraft and the effect of the air battle for the R.A.F. to give adequate support to the Chinese Armies deployed in Burma.

PART II - STRENGTH AND EQUIPMENT OF THE JAPANESE
AIR FORCE ENGAGED IN BURMA

50. Enemy Air Effort. In the opening stages, from the 1st January onwards, P.R.U. reconnaissance and information from other sources put the enemy air force within close range at 150 plus, bomber and fighters - an effort of (say) 100 plus. They were disposed as follows:-

Prachaub Girikhan	...	...	10	
Mesohit)				
Tak )	...	...	40 +	
Bangkok	...	...	70 +	
Lampang)				
Chiengmai )	...	...	30 +	(See Map - Appendix "G")

Our effort on the 31st January was 35 plus.

51. Reinforcement of the enemy air force took place during February. The strength of the enemy air force which joined action with us rose to 200 plus - an effort of (say) 140 plus - disposed as:-

Bhisanuloke	...	...	20 +	
Bangkok	...	...	30 +	
Nagorn Sawan	...	...	20 +	
Tak and Mesohit	...	...	20 +	
Moulmein	...	...	30	
Chiengmai	...	...	40 +	
Lampang	...	...	40 +	

Our effort on February 14th was 53 plus.

52. Singapore fell on the 15th February and Rangoon on the 7th March. During this period and up to the 21st March the enemy had again brought up reinforcements, bringing his total air force, based largely on our airfields in the Rangoon area South of Tharrawaddy and Toungoo, to 400 plus - an effort of (say) 260 plus. This was the opinion of the Intelligence staff at Burwing. I considered it on the high side.

53. Some corroboration for this, however, is provided by the fact that intelligence from China and other sources has since indicated the presence in Burma and Thailand of some 14 air regiments of the Japanese Army Air Force. This would comprise a force of 420 to 500 plus aircraft.

Our total effort on March 21st when the Magwe action commenced was 42, of which 14 were at Akyab.

54. Japanese Fighter equipment. Of Japanese fighter equipment there were three types: the Army 97 with a fixed undercarriage; the Army 0.1 (an Army 97 with slightly improved performance and a retractable undercarriage) and the Naval "O" fighter. The former two were manoeuvrable with a top speed of 270 miles an hour at 15,000 feet and a climb of 2,500 feet per minute. Armament consisted of 2 machine guns. No self-sealing tanks and no armour were fitted. Similarly, the Navy "O" had neither armour nor self-sealing tanks. It had, however, two 20 millimetre machine guns in addition to 2 machine guns of the Vickers' type. This aircraft was much superior in performance to the Army 97, having a top speed of 315 miles an hour at 10,000 feet, a good climb and good manoeuvrability. It was, however, slightly inferior to the P.40 and the Hurricane II, particularly at medium heights. At heights above 20,000 feet the Hurricane II was definitely superior.
55. All three types were convertible to long range fighters with a radius of over 500 miles. Two jettisonable petrol tanks were fitted. Even without such tanks both types were superior in range to our short range interceptor fighter, having a radius of action of over 250 miles instead of the 135 miles of the Hurricane II.
56. Japanese Bomber equipment. In respect of bombers, the Army 97 heavy bomber was mostly employed. It had a cruising speed of about 200 miles an hour, a radius of action of 700 miles and a service ceiling of 25,000 feet. With a full load of petrol its lift was $1\frac{1}{2}$ tons of bombs - a formidable bomber. Indeed such range and bomb lift placed great flexibility in the hands of the enemy air command. This type was used for day bombing and occasionally for night bombing operations, and had a crew of 7. No self-sealing tanks nor armour were fitted.
57. Although air fighting frequently took place over scrub or jungle country, 32 crashed enemy fighters and bombers were located on the ground up to the fall of Rangoon. Technical examination of these - although many were burnt or otherwise destroyed beyond recognition - established the quality of equipment about which little was previously known.
58. Effect of equipment. Thus the enemy with their long range fighters were able to reach out over great distances and to destroy our first line aircraft on the ground. There were decisive instances of this kind in the Malayan campaign. Consequently unless airfields, both for bombers and fighters, had a good warning system - i.e. a time warning the equivalent of at least 50 miles - the enemy fighters, achieving surprise, would come in and by deliberate low flying attacks and good shooting could be relied upon to cause great damage to first line aircraft, if not indeed to destroy them all. This form of attack could well be met by a good ground defence, including an adequate number of Bofors (predictor controlled), automatic weapons and P.A.C., but in the campaign in Burma we were extremely weak in these forms of defence.
59. As regards bombers, such range and bomb lift gave the enemy a wide choice in the selection of objectives and great flexibility. If warning of such attacks, particularly those carried out at high altitude, was not adequate, a bomb lift of considerable weight, accurately aimed, could be expected on the objective. Operating in formations of not less than 27, such a pattern of some 27 tons of small light A.P. and H.E. bombs causes great damage to first line aircraft and P.O.L., even though dispersal and anti-blast protection has been provided. If such protection is not provided results may well be decisive and the provision of such protection requires time and labour - two needs that in the hurried movement of war may not be available.
60. Comparison of Air equipment. Thus we were much inferior to the enemy; in the first place in numbers, in the second place in the vital factor of restricted range in our fighters, in the third place range, bomb lift and speed of our bombers. The enemy, on the other hand, suffered the grave disadvantage of not having armour and self-sealing tanks, both characteristics of all our types, while from the point of view of the air battle, the Hurricane II was a much superior fighter to the Army 97, slightly superior to the Naval "O" and quite decisive against such ill-defended bombers as the Army 97. The P.40 was comparable to the Hurricane II, particularly in medium altitude fighting. With its fine clean dive and armament of .5's it could be relied upon to do as much damage or more to the enemy than the Hurricane II - especially as the air battle usually took place at medium altitude heights below 19,000 feet.

61. As regards bombers, the Blenheim with its power-operated turret gave a good account of itself against enemy fighters - only on one occasion was a Blenheim known to be shot down by enemy fighters. This, however, was mostly due to the provision of fighter escort to bombing raids or careful routing which would give the bomber formation the best chance of avoiding enemy fighter interception.

62. Conclusion. To sum up on equipment, fighter for fighter we were superior and it was only when heavily outnumbered, and without warning and proper airfield facilities, that the enemy were able to get a decision. Their bombers were "easy meat" for our fighters if interception took place, while our bombers were satisfactory for their task, though light on range and much inferior to the enemy in bomb lift and numbers.

PART III - THE AIR SUPERIORITY BATTLE OVER RANGOON

63. Situation. From the encounter attack carried out by the Japanese air force on the 23rd December against Rangoon and the second attack which followed 48 hours afterwards, in which the bomber formation on both occasions numbered between 70 and 80, with escort of some 30 fighters, it was obvious to me that I had against me at close range a Japanese air force of about 150 plus. A severe set back had been inflicted on the enemy in these two attacks by the P.40's of the A.V.G. and the Buffaloes of 67 Squadron and not less than 36 enemy first-line bombers and fighters were claimed as destroyed on these two days. The situation, therefore, that faced me on my arrival on January 1st was that I must with my small but growing fighter force defend the base facilities at Rangoon, the docks, the convoys arriving and departing and the air bases at Mingaladon and Zayatkwint. If these could be preserved from a damaging scale of day bombing attack, we should be enabled to secure our interests hereabouts and to get in our land and air reinforcements and maintenance. Additionally, I should have to be prepared to aid the Army in any operations they undertook with both fighter and bombing action.

64. Plan. Thus my general plan was to keep my fighter force concentrated in the Rangoon area, to accept such enemy bombing attacks as might be made on any other objectives in Northern Burma, to fight the enemy in the defence of the base and lean forward to hit the enemy wherever and whenever I could with my small but total force.

65. To achieve this, against a numerically superior and constantly growing air force, I must do all I could to reduce the scale of air attack on the Rangoon area, yet still be able to meet attacks on the bases in sufficient force to inflict a high casualty rate proportional to the scale of attack - thus making such attacks in this area abortive and wasteful for the enemy.

66. Reduction of the scale of attack. To reduce the scale of attack I therefore commenced to lean forward with a portion of my fighters, and by using advanced air bases like Moulmein, Tavoy and Mergui to attack enemy aircraft wherever found. Further to weaken him I must spread my bombing action in daylight to widely dispersed but important objectives such as Chiengmai, Meihohngsohn and Chiengrai in the North and in the South his aerodrome and railway communication system running down the Eastern coast of the Malaya Peninsula from Bangkok to Singora. As Singora was a main base for Japanese operations in Malaya this action was especially favourable. Thus I hoped to make him disperse his fighters by forcing protection for these widely separated points and so weaken him in the central sector opposite Rangoon. I gave instructions accordingly on January 2nd.

67. Offensive Fighter and Bomber action. Such enemy airfields as Chiengmai, Meihohngsohn, Lampang, Rahong, Mesoh, Prachuab Girikhan, Jumbhorn and Kanchanburi were searched and attacked if enemy aircraft were present. Later when in enemy hands Moulmein, Mingaladon and Highland Queen were attacked and loss inflicted on the enemy. Hangars, M.T., launches, enemy troops and trains were also attacked.

68. Results. Attacks in pursuance of this policy during the campaign resulted in the P.40's and Hurricanes and Buffaloes claiming 58 enemy bombers and fighters destroyed on the ground. In addition, a large number were damaged but could not be computed. Furthermore, attacks by bombers taking part in the air superiority battle also accounted for a considerable number. Such, however, is the difficulty of assessing results by bomber attack that no claims were made; but from the strike of the bomb lift and its position either amongst or close to enemy aircraft concentrations on the ground, further considerable losses must have been inflicted on enemy first-line aircraft.

69. This was a handsome contribution towards the air superiority battle in Burma and reduced the scale of air attack against Rangoon and our troops.

70. But this form of action was later reduced in effort, since General Chennault at this time was not anxious to undertake offensive operations with the P.40's against ground targets on account of the shortage of equipment. The Buffalo Squadron was reduced to two or three serviceable aircraft with engines too worn out to permit of flying far over jungle country. The Hurricanes with an effective range of 135 miles were unable to reach anything but the closest enemy objectives.

The Air Battle

71. The air battle over Rangoon lasted from December 23rd, 1941, until February 25th, 1942. The weight of enemy attack was directed intermittently against air bases at Rangoon with the object of destroying our growing fighter force and achieving air superiority over Rangoon to the point where it would be possible for him to undertake unrestricted day bombing operations on a destructive scale.

72. During this period of about 8 weeks, 31 day and night attacks were made - one in great weight. After sustaining serious losses - 38 claimed destroyed - in the first 3 attacks terminating on the 4th January, the enemy resorted to night bombing, his scale of effort varying between 1 or 2 heavy bombers up to 16.

73. Scale of attack brought to rest. Between January 23rd and 29th a second attempt was made to overwhelm our small fighter force, the enemy putting in a total of 218 plus - mostly fighters. In the air battle of those 6 days our fighter force claimed a total of some 50 enemy bombers and fighters destroyed. He at once went back to night operations and continued these until his third and last attempt to achieve air superiority over Rangoon on the 24th and 25th February. On those two days, when he put on a scale of attack of 166 bombers and fighters, he sustained the heavy loss of 37 fighters and bombers which were claimed destroyed with 7 probably destroyed. On the second day, the 25th, the P.40's of the A.V.G. claimed no less than 24 aircraft shot down. This terminated the air superiority battle over Rangoon.

74. Such wastage had been inflicted on the enemy that thereafter he never attempted to enter our warning zone round Rangoon until the city was captured and the air bases in his hands.

75. Result. This had a critical influence on the course of our land operations and on the security of our convoys bringing in final reinforcements. These and the demolition of our oil and other interests in the port and the final evacuation by land or sea were completed without interference from enemy bomber or fighter aircraft.

76. Thus up to the last moment the P.40's of the A.V.G. and the Hurricane force were able to provide a state of absolute air superiority over this wide and vital area against a considerable weight of air attack.

77. Conclusion. To sum up on the air superiority battle over Rangoon, for a force of 1 Squadron of P.40's of the A.V.G., a half Squadron of Buffaloes and the equivalent of 2 Squadrons of Hurricanes commencing to arrive in January and continuing to half-way through February, a claimed loss of 130 enemy bombers and fighters was inflicted on the enemy with 61 claimed as probably destroyed - the greater proportion falling to the guns of the A.V.G.

Counter-offensive action by our fighters and bombers to reduce the scale of attack had inflicted a loss of not less than 28 enemy aircraft destroyed in the ground, not counting those destroyed by our bombing attacks. Air superiority was achieved over Rangoon and maintained until it fell on March 8th. The A.V.G. - first in the field - fought with ready devotion and resolute gallantry.

Fighting Tactics

78. In regard to the major tactics employed in the air battle over Rangoon, in the first place the warning was good. As long as the telephone lines remained in our hands the Burma Observer Corps provided this with high war efficiency. The R.D.F. set from Moulmein had been sited in Rangoon looking over the main avenue of enemy approach. Thus enemy plots were accurate and frequent until the line of the Sittang was threatened.

79. Fighter deployment. Fighters in the correct proportion could be deployed against the enemy scale of attack. The A.V.G. and the Hurricanes fought together. The Wing leader system was introduced. The pilots of the A.V.G. had considerable flying experience. Some of the pilots, particularly the leaders in the Hurricane force, had considerable war experience against the G.A.F. Consequently, the force fought well together. In the operations room there were two R/T. sets for the control of the air battle on different frequencies - one for the American fighters and one for the Hurricanes.

80. The general principles of fighting the air battle were agreed between myself, the Wing leader and the Commander of the A.V.G. Pursuit Squadron, and the major tactics employed were those generally exercised in the Western theatre; the single point of difference being that on account of the manoeuvrability of the Japanese fighter (which was the only advantage it had over our aircraft), the best method of attack was a dive, taking advantage of height and the sun, breaking away in a half roll or aileron turn before resuming position to carry out the attack again.

81. Enemy escorted bomber raids were met on first interception, the bombers attacked with a suitable proportion of our forces while the fighters were attacked and drawn off by the remainder. Against the fighter formations of (say) 40 to 60 plus, which so frequently appeared at height with the object of drawing up our fighters and shooting them down before they got their height, the P.40's and the Hurricanes leant back on Rangoon and delivered their attack when the enemy fighters either lost height, with the object of carrying out a ground attack, or turned for home.

82. Throughout this air action from the 21st January onwards the fighter force in addition to defending Rangoon had also to meet its commitments over the battle area, providing security for our bombers and carrying out ground attacks on enemy concentrations in support of the Army.

83. Night Fighting. As regards night bombing, there were no facilities for night interception. Although the enemy bombers were operating without flame dampers, and at first with navigation lights burning, the P.40's and Buffaloes were not able to intercept. On the arrival of the Hurricanes, trained in night fighting however, some success was achieved. On the first night an enemy bomber was shot down in flames at 9,000 feet over the aerodrome at Mingaladon, the aircraft, with bombs, exploding close to the airfield. 2 further successful night interceptions were made, both enemy aircraft being shot down in flames. With pilots at constant readiness throughout the hours of daylight, however, it was impossible in view of our limited resources to put the Hurricanes up each night.

84. I have no doubt that on moonlight nights - and the enemy bombed on no other - considerable success would have been obtained from the "fighter night" system, had Rangoon held.

85. Assessment of Fighter Results. There was a little feeling in the A.V.G. on the assessment of results. Consequently I held a meeting with the A.V.G. Squadron Commander, and the Wing leader and Squadron Commanders, at which it was agreed that the standard of assessment should be that obtaining in Fighter Command at home. Colonel Chennault was informed. Combat reports by pilots were initialled by Squadron Commanders. The claim was then admitted. Previous claims by the A.V.G. for aircraft destroyed in the air were agreed at this meeting.

PART IV - THE LAND BATTLE - AIR OPERATIONS IN SUPPORT
OF THE ARMY IN TENASSERIM

86. Situation at Sea. After the fall of Singapore and Java the Japanese had command of the sea in these waters. There was no effective naval force of ours based in the Bay of Bengal. Thus the littoral of Burma was thereafter under the threat of sea-borne invasion unopposed by the Navy. Consequently, reinforcement by sea of the Japanese Army in Burma took place unmolested after the fall of Rangoon. This was a vital factor in the defence of Burma.
87. The Joint Commanders' Committee telegraphed on several occasions pressing for the provision of ships and material to provide some further local defence at least for the Port of Rangoon and for light craft to support our operations on the coast of the Gulf of Martaban and Tenasserim. No ships were, however, available and none arrived - except those which escorted our convoys.
88. The Land Situation. The land situation, which influenced air operations, has been fully described in the Despatches of Lieutenant-General Hutton and General Alexander. It is not proposed further to remark on this except in so far as it is necessary in order to make clear the influence of air superiority fighting and bombing action on land operations and vice versa. I should, however, make the point that until Mergui and Tavoy fell on January 19th, I assumed the security of Burmese territory from attack by the Japanese Army based in Thailand.
89. Daily Planning of Close Support Operations. Bombing and fighter action in support of the Army during the land campaign up to the fall of Rangoon was decided each evening at a general staff and air staff Conference held at my Headquarters. General Hutton and I met morning and evening to agree joint action and review the changing situation. Subsequently, the programme was adjusted according to the requests made by the 17th Division, to which an Air Liaison Officer had been attached. Communication was by W/T. and telephone. In general, the system worked satisfactorily.
90. Tenasserim unsatisfactory for Bombing Operations. Close support bombing operations in the close jungle country in Tenasserim and to the East of the River Sittang was an unsatisfactory task for the R.A.F. At the request of the Army we undertook bombing operations in jungle country where it was impossible to see the enemy or to see our troops - indeed difficult to see anything except the tops of the trees. In such circumstances not only is the objective not seen but it is impossible for navigators to pin point their target with accuracy since there are no suitable land marks. The situation is made more difficult still by the knowledge in the mind of the crew that our positions were frequently outflanked by the enemy and therefore there was always the chance that our troops and the enemy were intermingled near the objective. When attempts were made to give bombing objectives in forest clearings, crews often found on arrival that such clearings were overgrown with scrub and consequently the same difficulties arose. As, however, our forward troops in the jungle on the Kawkareik position and during the battle of Tenasserim had reported the enemy's promiscuous bombing of the jungle to be effective and as having considerable moral effect, I did not hesitate, while realising the risk to our own troops of bombing in such densely wooded country, to continue the task in order to do our best to help the Army.
91. Further obvious difficulties arose from the bombing point of view. For example, the enemy was frequently disguised in captured uniforms and native dress. This made recognition difficult. Moreover, they captured some of our transport during actions, while the native bullock carts, launches and private cars left behind and other vehicles were used freely. This made it difficult, and sometimes impossible, for crews to recognise the enemy in the open. Unsatisfactory, therefore, as the "bomb line" method was in such circumstances of cover, communications and moving battle, it had to be adopted as our primary security against the risks of attacking our own troops.
92. First Requirement - Army support. The fundamental requirement for the support of the Army in Tenasserim was the maintenance of air superiority over the Port of Rangoon, and the bases and supply depots in this vicinity. This

secured the line of communication from serious bombing attack in the form and scale best calculated in this campaign to bring about a critical if not disastrous situation. Consequently I kept my small fighter force concentrated in the defence of Rangoon with the satisfactory results noted above.

93. Security of Bombers and Fighter support for Army. From day to day, however, security for our bombers acting in support of the Army was necessary, since few as they were their destruction by enemy fighter action would have brought about a serious situation. Consequently, each day a careful appreciation of the air situation was made and a portion of the fighter force was thrown off from the Rangoon defence to undertake the Army support role. Indeed, when a particularly favourable ground target presented itself, I accepted the risk of an attack on Rangoon, and all fighters, with what bombers were available, were thrown in to support the land battle. The point here is that where the command of the fighters and bombers is undivided, such operations are practicable and close co ordination between fighter and bomber operations can be readily achieved.

94. Bombing of Bangkok. The aircraft and crews of 113 Squadron had arrived during the first week in January. The night of their arrival the enemy base at Bangkok, the main enemy base in Thailand, was attacked by 10 low flying Blenheims. 11,000 lbs. of bombs were dropped on the dock area in the centre of the town and fires were started. The Squadron was then withdrawn to Lashio to enable aircraft inspections to be carried out after its long desert flight. Owing to the shortage of tools and spares, it was the 19th January before the Squadron was in action again.

JAPANESE OFFENSIVE BEGINS

Mergui and Tavoy

95. On the afternoon of the 18th January the situation at Mergui and Tavoy suddenly deteriorated and I was informed by the B.G.S. Burmarmy that instructions had been issued for the evacuation of Mergui. I accordingly ordered the withdrawal of our refuelling parties from both aerodromes, and as Tavoy was closely invested, an attempt was made to evacuate our detachments by air. On arrival of the aircraft the following morning the aerodrome was, however, in the hands of the enemy. Both detachments were safely evacuated by sea.

Action at Kawkareik

96. Concurrently with this, reconnaissance beyond the Kawkareik position on the track through Mesoht and Raheng had disclosed some, but not unusual activity. We had also destroyed a number of enemy bombers and fighters on both these forward landing grounds. The country was densely covered with jungle and unsuitable for air action since movement on the ground could not be seen from the air.

97. On the 20th the enemy commenced their attack on the Kawkareik position. Air action in support of the troops holding this position was difficult, since no clear picture of the whereabouts of the enemy or our own troops was possible. Accordingly the enemy forward landing ground and base depots at Mesoht was attacked by bombers and fighters. 2 enemy aircraft were destroyed on the aerodrome. Reconnaissance was carried out over this position and towards Tavoy in the South with the object of locating our own troops and the enemy.

98. The withdrawal from the Kawkareik position to Moulmein took place on the 22nd January. On the 21st and 22nd the Blenheims attacked Raheng aerodrome and village and Mesarieng, dropping some 6,000 lbs. of bombs on each raid. Fighter escort was provided with the object of clearing the air for short periods over the Army front and providing support for the bomber operations. Moulmein was bombed by a strong formation of enemy escorted bombers which was intercepted by the escort of our bomber raid on its outward journey - an occasion on which our attempt to choose the right time proved correct. 7 enemy bombers and 9 fighters were destroyed in this air action. Reconnaissance was continued over the battle area.

The Action at Moulmein

99. On the 30th January the Japanese attacked Moulmein. Our forces were disposed holding Moulmein and the right bank of the Salween from Pa'an, southwards, with one Brigade in the Bilin area. During the period between the 23rd January and the 30th, frequent low visual reconnaissance by fighters was carried out covering the battle area and the coast of Tenasserim together with Japanese lines of communication. Information obtained, however, was sketchy owing to the nature of the country and the fact that, in open country, the enemy lay close in the day time and moved by night. Our available bomber force - an average of about 6 a day - with the aid of such fighters as could be spared from the defence of Rangoon, acted in support of our land forces in the area.

100. Our bombers and fighters attacked enemy aerodromes, M.T., and the enemy line of communication, through Kawkareik, Myawaddy and Mesoh, while the enemy main base at Bangkok was attacked again on the nights of the 24th, 27th and 28th. In these operations a total of 42,100 lbs. of bombs were dropped.

101. Limited escort to our ships coming into Rangoon, anti-submarine patrols and G.R. reconnaissance in the Gulf of Martaban were carried out from day to day.

102. The fighter support which was provided over the Army forward positions each day on a limited scale had accounted for at least 7 aircraft shot down and 13 damaged (to end of January). Our losses were slight.

103. The main objective of the Japanese air force, outside the Rangoon area, during this period, was Moulmein, which was attacked on 7 occasions between the 3rd and 22nd January. The first attack was carried out by 9 fighters, and the later ones by bombers, in pairs by night, and in formations up to 27 in number by day with fighter escorts of up to 15 aircraft, the chief target being the aerodrome.

The Action on the Bilin

104. From the 30th January until the 15th February, when the 17th Division took up a line on the Bilin River, all available bombers were employed in direct Army support with the maximum number of fighters it was practicable to spare each day. Bombing operations took the form of support to our hard pressed detachments. Attacks were made on river craft on the River Salween and off Moulmein with both bombers and fighters. The fighter effort available was employed in attempting to intercept at this great distance from its base the enemy raids on our forward positions, and providing security for our bombing operations. During this period river craft, batteries, enemy concentrations, troops, landing stages, railway stations and barracks and stores were attacked. A total weight of 70,136 lbs. of bombs were dropped on these objectives with successful results. Most of the bombing was carried out from a low altitude and, in consequence, the results could be seen, provided objectives were not in the jungle. The raids were carried out on such places as Kado, Martaban, Pa'an, Moulmein, Minzi, Heinze, the Thaton Road and the Dunzeik Road. The fighter effort diverted from the Rangoon defence in support of the Army and bombing operations was usually from 6 to 12 per day and sometimes sorties were repeated.

105. During this period the Japanese air force continued night activity against Rangoon on a small scale up to the 8th February. Daylight operations, apart from support of their land forces, comprised 4 attacks on Toungoo aerodrome by raids of 6 to 15 bombers on the 3rd and 4th February. From the 8th to the 12th enemy bombers attacked our troops between Pa'an and Thaton, but generally with little effect.

The Battle of the Sittang

106. The withdrawal to the Bilin River commenced on the 15th February, and this position was attacked by the Japanese on the 17th. On the 18th the River had been crossed and the withdrawal to the Sittang position commenced. On the 22nd our forces had reached the right bank of the Sittang.

107. During this period air operations continued at the maximum intensity practicable in support of the Army. The air battle of Rangoon still continued. With the loss of Moulmein we lost our forward air base in this area. Consequently, air operations, both fighter and bomber, were carried out from the main air base at Rangoon. Furthermore, with the capture of territory by the enemy, our warning system in Tenasserim was rapidly rolled up. Now, warning of the approach of enemy raids over Tenasserim was impossible. For the defence of Rangoon we still had observer posts to the East of Rangoon, while our R.D.F. set provided some warning. But the interception of enemy aircraft supporting the Japanese Army was impracticable unless such attacks took place when our fighters were present over the line.

108. The Supreme Commander, General Sir Archibald Wavell, visited the Command during the last week of January and on the 5th February. At these meetings I explained the air situation and our urgent need for reinforcements, particularly the acceleration of the 2 reinforcing Hurricane Squadrons which had been promised and for an allocation of 24 Hurricanes per month from the flow. As regards bombers, I asked for 2 further reinforcing Blenheim Squadrons, for 16 Blenheims to equip 60 Squadron and for 12 Blenheims a month from ABDA Command flow of maintenance aircraft, and additionally for the Mohawks to re-equip the 2 Lysander Squadrons. General Wavell said that he would do what he could to meet these requirements, but explained the pressing need for air support in Malaya and the N.E.I.

109. During the period 16th to 23rd February the maximum effort that could be put forward by the bombers was 102 sorties in which 89,992 lbs. of bombs were released in low flying attacks on the enemy, accompanied by machine gun fire. Such objectives as the railway station at Moulmein, troop concentrations and M.T., river traffic and aerodromes were bombed. Direct hits on such things as trains and paddle steamers in Sittang were observed. Fighter support for the Army and the security of our bombers continued.

Air Action on the Bilin - Kyaikto Road

110. For the first time in the campaign the enemy provided a satisfactory bombing target. On the 21st an enemy column of some 300 or more vehicles, ox-carts and M.T. was reported on the road between Bilin and Kyaikto. The "bomb line" ran North and South through Kyaikto. The total fighter effort of the Rangoon defence and what bombers were at readiness were ordered to attack at 16.25 hours. The first sortie off was one of 12 P.40's at 16.30, closely followed by 8 Hurricanes at 16.40. A total of 38 fighter sorties and 8 Blenheim sorties were engaged in the attack. Direct hits were reported on M.T. and horse transport accompanied by many fires. The village of Kyaikto through which the column was passing was also set on fire. At 16.25 hours the Army Headquarters moved the "bomb line" to a line running North and South 2 miles West of Kyaikto.

111. The enemy had during the afternoon of the 21st penetrated through the village of Kyaikto and moved along the road running North to Kimmun. That afternoon their infantry were seen by the Duke of Wellingtons West of this road (and North of the Kyaikto Road). Their thrust that night at the Sittang Bridge took place up this road when they worked round our left flank and attacked the Bridge in the rear of the 16th and 46th Brigades. It is evident that although our air attack in some weight on the enemy's main column could not have entirely prevented his attack from developing, it must have reduced its scale and intensity.

Alleged bombing of own Troops

112. There was an incident reported on this day and remarked upon in Army reports. It is alleged that our troops at Mokpalin were bombed and machine gunned by some Blenheim aircraft between 12.00 and 15.00 hours. The facts are that at the request of Army Headquarters 8 Blenheims bombed Kawbein (near Bilin) in the morning and landed back at their base after mid-day. After an exhaustive enquiry in which I have taken the opinion both of Officers who were in the air and on the ground, I have failed to reach a firm conclusion that our aircraft did, in fact, bomb our own troops at this time and place. The enquiry is complicated by such statements as "the attacking aircraft were identified by roundels on the underside of their wings" - our Blenheims have roundels on the upper side of the wing but certainly not on

the underside, and the possibility that the Japanese used captured Blenheims during this campaign should be considered. There is, moreover, a great similarity between the plan silhouette of the Japanese Army 97 medium bomber and the Blenheim, and there must have been a number of enemy bombers flying over Mokpalin about this time because the enemy effort was concentrated on the Sittang area, a few miles to the West of Mokpalin. Since, however, the country between the Rivers Sittang and Bilin is closely covered in jungle, I consider it not improbable that some crews by mistake may have bombed the wrong objective. The enemy effort reached on this day a total of 90 fighters and 12 bombers in action in the Sittang area. The Sittang Bridge was the scene of the heaviest attacks.

113. In the meantime, Mandalay had its first attack by 10 bombers on the 19th.

114. G.R. Escort for Shipping. Such escort to shipping, G.R. reconnaissance and coast-wise search in the Gulf of Martaban as was practicable was carried out with the slim effort available. Fighter support against bomber attack was provided once our convoys came in range.

115. To extend the range of our reconnaissance for this purpose and to give forewarning of enemy naval movements in the direction of the Andaman Islands, it was decided to locate reconnaissance aircraft at Port Blair. The construction of a landing ground in the Andaman Islands presented some difficulty, but after considerable work it was possible to construct a runway of 800 yards at Port Blair. The only type of reconnaissance aircraft available that could be operated from such a base was the Lysander and 2 of these aircraft were fitted with long range tanks and flown over escorted by Hudsons on the 11th February. These aircraft were able to carry out reconnaissance until the Andamans were evacuated.

116. Daily coastal reconnaissance was also carried out throughout the campaign against possible Japanese attempts to attack our Army by landing behind them. Such an attack did happen on one occasion - at night.

117. This concludes the air operations carried out in support of the Army in Tenasserim.

Air Directif - ABDA Command

118. On the 17th January air directif 0087 from Headquarters, South Western Pacific, was issued to Norgroup. This gave our primary tasks as:-

- (a) To secure the arrival of reinforcements and to protect the Port of Rangoon, and
- (b) To reduce the scale of air attack on Malaya.

Subsequent directifs received from ABDA Command related more to the battle in the South Western Pacific than to operations that could be based in Burma.

PART V - AIR OPERATIONS COVERING THE EVACUATION OF RANGOON

119. In February it seemed to me that the troops available in Burma might be unable to hold the country against the form and scale of land attack which the Japanese were exerting through Tenasserim. This question was discussed in the Joint Commanders' Committee on several occasions. Our forward air bases at Mergui and Tavoy had fallen. The Moulmein airfields had been captured. Our warning system East of the Sittang was in enemy hands.

120. At this time the fighter force and bomber squadrons building up in Burma comprised the only Allied air force between the Japanese and India, indeed between the Japanese and Middle East. Had we had time to establish and consolidate the forces in passage from the U.K. and Middle East comprising personnel, equipment, maintenance and warning system, there would have been a good chance of presenting a firm front to the enemy air force with their inferior equipment. On the other hand, if the Port of Rangoon fell into enemy hands in March or April, the flow would stop, and there was a grave possibility that our air force might well be destroyed piece-meal in Burma before it was strong enough and had time to organise. Such a defeat in detail could be of no help to the Army in Burma and would uncover India at a critical time.

121. The question therefore arose as to whether plans should not be prepared to prevent the annihilation of our force by moving our base to India and providing it with strong mixed Wings in Burma maintained from India. Thus dispersed, air support could be given to the Army in Burma and bombers based in India could support operations in Burma. Such action, moreover, would contribute to the air defence of India in her critical and naked sector.

122. On the 12th February I therefore telegraphed ABDA Command, A.677 of 12/2, indicating that in the unlikely event of the loss of Rangoon administrative plans might be necessary to enable fighter equipment to be withdrawn, and requesting a directif as to whether the R.A.F. units should proceed with the Army North towards China or whether they should proceed in the direction of India for the defence of Calcutta and North Eastern India. I pointed out that if they were withdrawn to the North there was no adequate warning on the airfield line Toungoo - Heho - Namsang - Lashio and that the forces there located would therefore be open to fighter attack without warning when on the ground. If withdrawn to Calcutta they could provide a strong defence. R.D.F. cover could be provided. Once separated from Rangoon (the only point through which maintenance for an air force could pass) the force instead of building up to its planned size would become a wasting force. In China there were few or no facilities for operating our bombers and fighters, whereas with lay-back bases in India and forward bases and strong detachments in Northern Burma, bomber and fighter action in support of the Army could continue. No reply was received to this telegram.

123. On February 15th Singapore fell.

124. On the 18th February, General Hutton sent off his telegram O.749 of 18/2 which indicated the possibility that the enemy might penetrate the line of the Sittang and that the evacuation of Rangoon might become an imminent possibility. Consequently, in view of this serious situation, I telegraphed my appreciation at Appendix "I" (telegram A.787 of 18/2) in which I set out the factors of the air situation and indicated three courses of action. Firstly, to remain with the Army during the move northwards towards China. In these circumstances the R.A.F. units would have become a wasting force, since maintenance would be difficult if not impossible once Rangoon had fallen, while heavy losses for small return would be inevitable in the event of reinforced enemy scale of attack. Secondly; to withdraw the air force to India when Rangoon was closely threatened. The final course was to leave a mixed force of 1 Hurricane Squadron, 1 Blenheim Flight and 1 Army Co-operation Flight, withdrawing the remainder of the force to India. No reply was received to this telegram.

125. On the 20th February instructions were given for the withdrawal of the 17th Division behind the River Sittang. A meeting was held at Government House at which General Hutton and I were present. The G.O.C. stated that he had instructed the Commander of the 17th Division to fall back behind the Sittang. He outlined the steps that he proposed to take in this situation in regard to commencing the evacuation scheme of Rangoon and the establishment of Rear Headquarters at Maymyo.

126. Our Rangoon air bases were closely threatened. The warning facilities except for limited R.D.F. and Observer Corps observation had practically gone. As a result of this meeting the G.O.C. despatched his telegram O.792 of 20/2.

Decision to organise base landing grounds in India with mixed
Wings in Burma

127. I therefore telegraphed Headquarters ABDA Command indicating the situation described at this meeting. A copy of this telegram is attached, marked Appendix "J" - A.801 of 20/2. There was no time to be lost. General Hutton agreed with me that the only course open to us to maintain our effort in support of the Army in Burma - once our airfields and warning at Rangoon had been lost - was to establish base landing grounds in India, operational landing grounds at Akyab and Magwe with advanced landing grounds in the Rangoon area to provide what fighter and bomber support could be given. Failing immediate instructions to the contrary, I proposed in my telegram putting this plan into action.

128. Arrangements were accordingly made to leave a mixed Wing one 1 Hurricane Squadron, 1 Blenheim Squadron and half an Army Co-operation Squadron, organised as a mixed Wing, with 1 Squadron of the A.V.G. in Upper Burma, based at Magwe, 1 mixed Wing of 1 Hurricane Squadron, 1 Bomber Squadron and 1 G.R. Squadron at Akyab and to build up and feed these 2 Wings from a base organisation in India.

129. The decision which set the size of the Wing left at Magwe was based on the amount of maintenance in the country on the 20th February. It was calculated by the staff that there was sufficient maintenance in this mixed Wing for a period of 3 months. As regards Akyab, access by sea was still open and maintenance therefore would be satisfactory. There was no overland communication between Magwe and Akyab. The route from India in the North down the Manipur Road had not been completed.

130. The decision to base the force in Northern Burma at Magwe was made because it lay behind two lines of observer corps telephone lines, one down the Valley of the Salween towards Rangoon and the other down the Valley of the Irrawaddy. It was proposed to attempt to evacuate the R.D.F. set if Rangoon fell. By this means it was hoped to provide sufficient warning at Magwe to secure the base against anything but the heaviest scale of attack. Since Singapore had fallen on the 15th February the weight of the Japanese air force could now be turned towards Burma. I therefore expected that if Rangoon fell, with the considerable number of airfields now prepared in the Rangoon area, heavy reinforcement of Japanese aircraft would be flown in at will to Burma. The enemy would have control of the communications and the free use of the Port of Rangoon and thus a large air force could be maintained.

131. I received no reply to my telegram. Action was commenced. I had received a personal telegram from Air Headquarters, India on the 19th (A.O.C. 113 - Appendix "K") in which the A.O.C.-in-C. informed me that if the necessity arose he had prepared a plan for the withdrawal of my force to India. On the 20th we requested air transport to be flown to Magwe, whence it would work a shuttle service between Magwe and Akyab. Onward transport of personnel from Akyab would be by sea. The personnel to be evacuated numbered some 3,000, the majority of whom were in the Rangoon area. A proportion were moved by sea, the remainder by air.

132. On the 21st the Postmaster General reported to me that the telephone system in Rangoon would cease functioning at 18.00 hours that day. Except, therefore, for our single R.D.F. set - worn-out and of the wrong kind - there would be no warning for the defence of Rangoon and our airfields. Arrangements were at once made to man the observer centre in the Central Telegraph Office with R.A.F. personnel. This limited warning continued until within a few days of the fall of Rangoon.

133. Beyond the general statement by the Army that in the event of the evacuation of Rangoon they would proceed to the North and generally in the direction of China, there was always the element of doubt as to whether they would proceed to China or fall back towards the Manipur Road and so towards India. Rear Headquarters had been established at Maymyo and stocks were being back-loaded up country to the Mandalay - Maymyo area. The initial line of withdrawal, I had always been informed, would be along the Prome Road, a road 150 miles in length.

134. Our air bases in general lay on the other main route to the North - up a Valley of the Sittang. The main railway system ran through this Valley to Mandalay and branched to Myitkyina in the North, and Lashio in the N.E. The Burma Road lay along the same route to Mandalay and Lashio.

135. In consequence, from the air point of view the Prome route was unsatisfactory since there were no air bases of any kind of withdrawal between Rangoon and Mandalay suitable for the operation of modern fighters and bombers with high wing loading - except Magwe, and that had no accommodation, no pens and no dispersal. Indeed the only other aerodromes were at Myitkyina, 600 miles to the North (runway incomplete) and Meiktila - our depot of the future - where a runway was finished. But Meiktila was rather too much to the North and East to be effective in the initial stages and had only slight warning facilities.

136. I had foreseen the possibility of having to operate my mixed fighter and bomber effort in what might well be - and later proved to be - a tense situation, in which the Army would be attempting to withdraw along this single line of communication. There would be no opportunity of dispersing off the road and no cover from air attack. Accordingly, I had a series of strips cut into the hard paddy land along this line of communication and on the ~~31st~~ March, when the C.-in-C., India, visited Rangoon, I was able to report that I was prepared to operate on this route.

137. But operating a numerically inferior force from such landing grounds against a weight of air attack without adequate warning was a risky, and fortuitous operation. Thus I had grave doubts about our ability to maintain ourselves in being. But when and if this situation arose we should have done our best to secure the Army against enemy air action.

138. Against this threat, therefore, the location of our "kutcha" strips had been kept as secret as possible and a very useful number had been prepared in the vicinity of Mingaladon and towards the North and West up the Irrawaddy to Prome.

139. At night all first-line aircraft, bombers and fighters, were flown off the parent airfields at Mingaladon and Zayatkwint to "kutcha" strips. Thus the location of our fighting force, when based on such temporary airfields, was not readily obvious to the enemy. Pilots and air crews were motored into their accommodation. They arrived at the "kutcha" strip before dawn the next morning to fly their aircraft. This, we found, the only method of ensuring secrecy of the strips and the security of equipment from the damage caused by night bombing. With large numbers of small bombs the enemy's night bombing of Mingaladon was accurate and effective. If Rangoon were to be evacuated when the warning had entirely gone, I proposed to guard the security of my fighters by the use of these strips, and evacuate the parent airfields. The bombers on account of their range could operate from Magwe and refuel and rearm in the forward area, but the fighters with an extreme fighting range of 135 miles would have to be brought back along the Prome Road in steps of some 50 miles so that security could be provided for our retiring columns.

140. All preparations practicable were made to improve the warning system at Akyab and Magwe, but with the time and resources available this proved to be a hopeless task. Furthermore, much work was necessary at Magwe to make it a satisfactory base, and labour was difficult to get. The provision of satellite "kutcha" strips was, however, undertaken to provide dispersion. Magwe, although it had a runway still under construction, had been a civil air port and, since it lay in the back area of Burma, was not intended in the general plan to be an operational aerodrome. Anti-blast protection in the way of pens or dispersal arrangements had not been started. Had, for example, Toungoo been situated where Magwe was, it would have been a different story and the situation in regard to P.A.D. measures would have been much more satisfactory for the operation of a mixed Wing.

141. Final preparations to continue to fight the battle over Rangoon, and for the withdrawal to the North, were taken in hand at once. Rear Headquarters was opened up at Magwe on 22nd February with forward Headquarters in Rangoon.

Formation of "X" Wing

142. To control the fighter action and the bombing offensive action in support of the Army throughout this phase, I formed an "X" Wing Headquarters under the command of Group Captain Noel Singer, D.S.O., D.F.C., with a strong staff, reasonable communications, and good mobility. The role of "X" Wing was to maintain air superiority over Rangoon until the demolitions of the oil interests at Syriam and Thilawa, the docks, power stations, munitions and stores had been completed and until the Army had withdrawn from the area and thereafter to provide air superiority over the area in which the Army was moving, until it reached Prome.

143. The detachments on Toungoo, Heho, Namsang and Lashio would continue in operation to enable limited air action to take place in support of the Chinese, while a landing ground was prepared at Mandalay to serve Rear Headquarters at Maymyo. A scheme was drawn up to enable detachments to be withdrawn from forward aerodromes should the situation necessitate - with

preparations for the evacuation of equipment, stores, etc. Arrangements had been made with Army Headquarters that in these circumstances all petrol and oil would be handed over to the Army for the use of the Armoured Brigade and M.T. columns.

144. On the 23rd February the Sittang Bridge was blown. Except on the days on which the enemy had thrown the weight of his attack against the Rangoon defence, his bombers and fighters flew over their forward troops advancing through the jungle. Air action was carried out against our troops intermittently on most days. As explained previously, we did the best with the slim fighter resources available to support the Army in this respect.

145. On the next two days, the 24th and 25th, the final attack was made by the Japanese Air Force on the Rangoon defence system with the object of attaining air superiority over the area. As noted elsewhere, this failed in a signal manner and severe casualties were inflicted on the enemy. Thereafter, until the fall of Rangoon, his fighter force was occupied purely defensively over the area in which his advance was taking place, formations of up to 40 plus operating each day. When possible, therefore, in order to keep them on the defensive, bombing operations were carried out in the area in which the enemy fighters were working. We attempted to make interceptions but with no great success, since their fighter effort was only over the area of operations at certain times. On the 23rd, however, a message was received from the 17th Division and interception did take place in which 2 enemy aircraft were shot down.

146. Our fighter effort which had built up to no less than 44 - Hurricanes and P.40's - on the 17th February, dwindled away after the air battle on the 24th and 25th and after our air operations over Tenasserim to a low mark of under 10 on the 28th February, due to the lack of maintenance, spares and the number that were "shot up" in the air battle. The figure, however, gradually increased again to 27 on the 4th March, but fell to an average of about 17 aircraft from this date until the 10th March.

147. As regards bombers, the effort built up to 16 on the 17th February and fell away during the battles in Tenasserim to a low mark of under 5 on the 25th February for exactly the same reasons as described above. It built up, however, to 12 aircraft on the 28th February and to an average of about 10 serviceable from that time until the 10th March.

The Battle of Pegu

148. On the 23rd February I visited the 17th Division at Pegu with General Hutton. The Armoured Brigade had now arrived and was mostly deployed in this area. The enemy used the hours of darkness to cross the Sittang and pressure was exerted against our forces at Waw on the 26th February. Between this time and the 5th March the battle developed.

149. On the 4th March General Alexander arrived at Magwe. He flew down with me to Rangoon. I accompanied him on his visit with General Hutton to the 17th Division at Pegu. The enemy had engaged our forces round Pegu and an infiltration in strength, accompanied by light tanks, had taken place to the North through the jungle country of the lower Pegu Yomas in the direction of the Prome Road - our line of communication. This movement was observed by low flying Hurricanes on reconnaissance. The 63rd Brigade had been accepted and General Alexander planned the last stand in the defence of Rangoon. Throughout this action which terminated on the 8th March with the completion of the demolition and the final evacuation of the Port of Rangoon, an interesting air situation arose.

150. It was of paramount importance that the last vital demolition on a big scale should be completed without the interference of hostile aircraft and that the movement of the Army which was disposed astride the Pegu Road and in Rangoon should be enabled to give last cover to demolition parties and to withdraw as planned through the cross-road at Taukkyan and North up the Prome Road. The Army was tied to the road on account of the nature of the country and the fact that it was mechanised.

151. As already noted, the air actions over Rangoon on the 24th and 25th had inflicted severe casualties on the enemy air force. From that day until the evacuation of the Army from Rangoon had been completed, until all our convoys and ships had left the Port in security and until our demolition parties had been withdrawn, no enemy bomber attempted to enter what had previously been our warning zone round the airfields of Rangoon, i.e. roughly a circle 40 miles in radius from the centre of the town.

152. I can only assume that when their last effort to establish air superiority failed, the enemy air force were determined not to incur further wastage until Rangoon fell. Consequently the demolitions and the withdrawal of our forces from Rangoon took place in a state of absolute air superiority.

153. As regards the enemy effort in the battle of Pegu, air attacks took place against Maymyo, Toungoo and Bassein, whilst considerable activity was maintained over the battle area.

154. On the 2nd March I gave instructions for the R.D.F. station, which had been made mobile to move to Magwe, to provide some R.D.F. warning for our new air base. Consequently, when the telephone observer corps system collapsed there was no warning in the area except that provided by observation from military points and airfields.

155. To offset this to some extent a "Jim Crow" Hurricane was kept over Rangoon by day.

156. During this critical phase, fearing that my fighter force might be caught on the ground and destroyed by surprise low flying fighter attack, I had moved them out to a newly prepared "kutcha" strip at Highland Queen from which offensive fighter patrols were maintained. To give the impression that the force was still at Mingaladon, wrecked aircraft fuselages and dummies were parked in the readiness position on the runways.

157. During this critical phase to the 7th March, the bomber effort was directed against the enemy wherever he could be found. The fighters accompanying the bomber raids came down to shoot up enemy objectives. 96,800 lbs. of bombs were released, and a considerable number of fighter offensive and protective sorties carried out. Such objectives as enemy troop concentrations, trains, boats on the Sittang and M.T. columns were attacked with satisfactory results. The bombers operated from Magwe aerodrome using Highland Queen and John Haig as advanced bases.

158. General Sir Archibald Wavell, now Commander-in-Chief, India - to which Command Norgroup had reverted - visited Burma on the 1st and 2nd March. A meeting was held at Magwe on the morning of the 1st March in which the Commander-in-Chief reviewed the land and air situation. At this meeting H.E. the Governor, General Hutton and myself were present. I described the air situation and the need for reinforcing Hurricanes and Blenheims. With Rangoon now closely threatened, with our warning non-existent, with a slender fighter force of 20 serviceable Hurricanes and a few Buffaloes, with the A.V.G. force standing at 4 serviceable aircraft at Magwe, it was a position in which I said we should be unable to deny the enemy freedom of air action; while our bombing effort in support of the Army would be limited to the efforts of our quickly dwindling force of 16 bombers.

Attack on Highland Queen

159. On the 6th, an enemy formation of about 20 plus aircraft which was flying over the Japanese troops advancing through the jungle towards the Promote Road over-shot its mark and, by accident and without warning, arrived flying low over Highland Queen where our fighters, some bombers and some G.R. aircraft were on the ground.

160. Fortune attended us on this occasion. The enemy shooting was bad and some Hurricanes were able to take off. Although no claims were made there were indications that 2 enemy fighters were damaged or destroyed. 2 aircraft of ours were destroyed on the ground. The anti-aircraft defence of the aerodrome went into action satisfactorily. This was a raid which might well have been a decisive end to our small air force.

161. I immediately issued instructions for all aircraft to fly in from Highland Queen to Mingaladon, whence our last sorties were carried out.

162. Infiltrations by boat had taken place up the River Rangoon. Offensive action by our fighters was taken but movement continued by night. On the afternoon of the 6th March I left Wing Headquarters, Rangoon, and flew to my Headquarters at Magwe.

163. Our fighter force had for some days been split between Magwe and the forward bases round Rangoon, Highland Queen and Mingaladon. The Hurricane force which was then standing at about 15 aircraft was a mixed one comprising commanders and pilots of 17, 135 and 136 Squadrons, and operating from the forward bases was maintained from Magwe, where maintenance inspections were carried out. The P.40's of the A.V.G. which had done such sterling work were now suffering from acute unserviceability due to lack of spares and replacement aircraft. I therefore placed them in the defence of the air base at Magwe. This made good my promise to General Chennault that I would not employ them at airfields without adequate warning.

Evacuation of Rangoon

164. I had been with General Alexander until 14.00 hours. He had told me of his decision to evacuate Rangoon, and the code word for blowing demolitions and evacuation was issued just before midnight on March 6th. With his agreement I moved Headquarters "X" Wing from Rangoon to Zigon, the first "kutchu" strip from which we would operate in support of the Army's withdrawal along the Prome Road. A small party of Officers and airmen were left behind to complete the demolition of the operations room and the facilities at Norgroup Headquarters. They were then to go on to Mingaladon and help to complete the demolitions at this airfield. This party came out with the Army.

PART VI - AIR OPERATIONS COVERING WITHDRAWAL UP THE PROME ROAD

165. There was a heavy haze on the 7th and 8th, which interfered with observation by fighters, made worse by the great pall of smoke from the burning oil which rose to a height of 15,000 feet and was blown North over the area of operations as far as Tharrawaddy. General Alexander's force failed to dislodge the road block at Mile 22 on the 7th, but on the morning of the 8th was able to overcome this resistance, and the withdrawal of our Army commenced North up the Prome Road.

Operations from Zigon

166. The rough surface of Zigon proved unsatisfactory for Hurricanes. I had to decide whether to risk damaging Hurricanes - which when damaged might not be repaired - or to operate the fighters from Magwe where their range would not have enabled them to provide security over our troops. The following day from Zigon the fighter effort was maintained.

167. The column of our withdrawing Army was reported by aircrews to be some 40 miles long, mostly M.T. vehicles and tanks - an admirable target for enemy bomb action in country where there was little or no cover from air attack and no possibility of getting off the long straight tarmac road.

168. But the state of air superiority finally established on February 25th still continued. Fighter patrols were carried out over the line from Zigon to Rangoon. The Army, without molestation from the enemy air force, was thus able to take up and consolidate its position on the Petpadan - Tharrawaddy line.

169. As regards fighter sweeps to secure the withdrawal, the Hurricanes at Zigon carried out about 12 to 18 sorties a day until "X" Wing had withdrawn from Prome to Magwe on the 11th March. It was then disbanded on the formation of Burwing at Magwe. Group Captain Singer, who arrived on the 12th March, took over the command of Akwing, which was then in formation at Akyab.

170. Operations from Zigon resulted in the tail unit of a Hurricane giving way on an average of 1 in every 5 landings. A bamboo skid was fitted to the tail of the Hurricane which then took off and landed at Magwe for repair. 2 Buffaloes were badly wrecked by the aerodrome surface and were eventually burnt. 1 Blenheim and 1 Lysander were also rendered unserviceable, but were repaired and flown out before the airfield was left.

171. The sole Japanese air attack driven home at this time was directed against the town of Tharrawaddy, where the bomb lift of 10 bombers was disposed of on civilian quarters causing a number of civilian casualties.

172. G.R. Reconnaissance in the Gulf of Martaban and the Bay of Bengal continued and escort was provided for the last convoy which carried detachments and demolition parties. All ships got safely away.

Operations from Park Lane

173. The range for fighters was now shortened and, consequently, "X" Wing moved to Park Lane, a "kutchu" strip North of Prome. This move was completed on the night of the 9th March. The enemy did not locate and attack the fighters at Zigon or Park Lane.

174. Fighting continued and on the 25th March the Army had taken up their position on the Prome line, with the 1st Bur. Division's move from Toungoo to Allamyo in progress.

175. During this period, from the 7th March to the 21st March, the bomber force was either held in readiness for close support of the Army or attacks were made in order to reduce the scale of air attack and so aid the fighters in their task of security. Attacks on enemy objectives in support of the Army were also carried out. A total of 31,500 lbs. of bombs was released with good results on such objectives as troop concentrations, aerodromes, road and railway communication and river craft. Constant reconnaissance was carried out over the entire front towards Rangoon and in the Valley of the Sittang, while a close watch was kept on our old air bases in the Rangoon area and at Moulmein for signs of the arrival of the enemy air force and reinforcements. Some effort, however, was wasted because bombers available were held standing by for objectives which the Army did not provide.

176. The enemy attacked Toungoo on the 17th March and carried out reconnaissance of our airfields up the Burma Road, Tangan, Namsang, Nyaunglebin and Meiktila - obviously searching for our ~~air force~~ air force.

Formation of Burwing

177. Burwing, comprising No. 17 Hurricane, No. 45 Bomber Squadron, the elements of an Army Co-operation Flight, 1 weak A.V.G. Squadron and the R.D.F. Station, had been formed at Magwe under the command of Group Captain Seton Broughall. This was a fully mobile mixed Army support force which, by instructions from Air Headquarters, India, was placed under the operational control of General Alexander on the 18th March.

Air Directif - March 9th

178. On the 9th March I flew to Akyab to meet Air Marshal (now Air Chief Marshal) Sir Richard Peirse, the Air Officer Commanding-in-Chief, Air Forces in India.

179. The Air Officer Commanding-in-Chief issued a Directif in which I was told to maintain my two mixed Wings at Magwe and Akyab and to support the Army in Burma and to organise the air defence of Calcutta, Asansol and Tatanagar in India, and of Digboi oil installation in Assam; also to continue from India offensive bombing operations in support of the Army in Burma. Additionally, a further role of the force was reconnaissance and the attack of enemy surface vessels in the Bay of Bengal in aid of the security of our sea communications.

Formation of Akwing

180. My Headquarters were moved from Magwe to Akyab on the 12th March, where I commenced forming Akwing. On the 17th this Wing comprised 135 Squadron, armed with obsolete Hurricane I's and 1 Hurricane II, a G.R. Flight

and a small air communications detachment. It was proposed to make good the warning (R.D.F.) and to build the Wing up with 1 Bomber Squadron (113 Squadron) when Blenheims became available from flow and 1 G.R. Squadron (139 Squadron) when Hudsons became available.

181. On the 17th March I flew to Calcutta to meet the Commander-in-Chief and the Air Officer Commanding-in-Chief. My Headquarters was in process of opening in Calcutta.

PART VII - REVERSE INFLICTED ON MIXED WING AT MAGWE

182. On the 22nd March I returned to Burma to inspect Akwing at Akyab and Burwing at Magwe. On landing at Akyab I received a telegram from Group Captain Seton Broughall to say that the enemy had attacked Magwe in force the previous day. This was immediately followed by a signal telling me that heavy attacks had recommenced and closing the aerodrome to approaching aircraft. He reported that nearly all first-line aircraft had been written off or damaged and asked for approval to move to Lashio and Loiwing to refit. I telegraphed agreement and flew on to Mandalay where I arranged for Group Captain Seton Broughall to meet me.

The Bomber Attack at Mingaladon

183. Examining this action in full detail:- On the 20th March reconnaissance carried out by Burwing had disclosed concentrations of the enemy air force taking place in the Rangoon area. More than 50 aircraft were reported on our old airfield at Mingaladon. Group Captain Seton Broughall decided to attack the following morning in an effort to reduce the scale of attack in Burma which his intelligence staff had put at 400 plus in all. A raid of 10 Hurricanes and 9 Blenheims of 45 Squadron accordingly took off. The Blenheims were intercepted by enemy Naval "O" fighters 40 miles North of Rangoon and fought their way in to Mingaladon. The bomb lift of 9,000 lbs. with stick adaptors was dropped on the runways among the enemy aircraft. The formation fought their way back to Tharrawaddy. During this gallant engagement in which 18 enemy fighters were encountered the Blenheims shot down 2 enemy fighters and claimed 2 probably destroyed and 2 damaged. Most of our aircraft were shot up but none was shot down. There were no casualties to personnel except 1 pilot wounded.

Low Flying Fighter Attack on Mingaladon

184. The Hurricanes carried out a low flying attack. 9 enemy fighters were destroyed in air combat while 16 enemy bombers and fighters were destroyed or damaged on the ground. This was a magnificent air action. Some Hurricanes were badly shot up while 1 crashed on our side of the line through lack of petrol, following combat. C.C. Burwing intended to repeat the attack that afternoon, but while final preparations were being made for this sortie, the enemy commenced their considerable attack on the air base at Magwe.

185. It should be appreciated that on this day at Magwe all serviceable operational aircraft, fighters and bombers, of my command were present with the exception of 1 Hurricane II and 9 worn-out Hurricane I's, ex O.T.U., at Akyab.

Enemy Attack on Magwe Begins

186. Over a period of some 25 hours, commencing at 13.23, Magwe was attacked in force by the enemy. In all the scale of attack reached about 230 fighters and bombers, which included 166 Army 96 and 97 medium and heavy bombers. It is calculated that a great weight of bombs, some 200 tons, were accurately released in patterns during this attack.

187. Similar attacks had been carried out against Rangoon without decisive effect. But at Rangoon there was good warning and the number of fighters available against such attacks was usually 20, rising on occasion to the high figure of 45.

Fighter Effort

188. 21 fighters were present at Magwe when attacked, but as a direct result of the air action which had been fought over Mingaladon in the morning, the number of serviceable aircraft at readiness to take to the air was only 12. It should here be mentioned that the leaders and many of the fighter pilots at Magwe had been at 2 minutes readiness day after day, from dawn to dusk, for a period of some 8 weeks.

Warning

189. The only observer corps system remaining to the East and South-East was the observer post belt as far South as Toungoo and Prome on the main line of communication, reporting through Mandalay, and a chain of posts on the railway line Pyinmana - Kyaukpadaung which reported direct to Magwe operations room over an R.A.F. W/T. link. There was no observer corps system to the West and North East of Magwe - an outflanking avenue used by the enemy during this attack. The R.D.F. set was of wrong type; its arc of observation was to the South East. The equipment had given 3 months hard service and no spares had been available. The warning was weak and unreliable.

The Enemy Air Action

190. At 13.00 hours on the 21st March, a report was received of a single unidentified aircraft approaching and 2 Hurricanes were sent off to intercept, but were unable to make contact. At 13.23 hours the approach of an enemy formation was confirmed and all available fighters took off. But they numbered only 4 Hurricanes and 6 P.40's. At 13.30, 21 bombers escorted by 10 fighters attacked, bombing and machine gunning the airfield. Our fighters intercepted and destroyed 4 enemy aircraft with 1 probable and 1 damaged, but the weight of the attack got home and considerable damage resulted in which communications were destroyed.

191. The enemy followed this up with further raids at 14.10 and 14.30. In all the scale of attack was 59 bombers and 24 fighters that day.

192. On the 22nd March, plots of movements were received from the R.D.F. set at 08.04 and 08.11 hours. Immediately afterwards there was a temporary breakdown of the W/T. link which, combined with interference, prevented the reception of plots in the operations room until the enemy attack had developed at 08.45 hours. 2 Hurricanes had been sent off to intercept a high flying enemy reconnaissance aircraft heard over the airfield at 08.30. They had not yet made contact when at 08.47 hours 27 bombers with an escort of 10 plus fighters appeared over the aerodrome, followed a quarter of an hour later by a second wave of 27 bombers also with fighter escort. As no warning of these raids had been received, no further fighters were sent off to engage. The 2 Hurricanes already in the air engaged the Japanese formation and damaged 2.

193. Considerable damage was sustained. The runways were rendered unserviceable, communications were broken down and a number of aircraft, both bombers and fighters, were destroyed on the ground.

194. Immediately afterwards, the Commander of the Second Pursuit Squadron, A.V.G., reported to Group Captain Seton Broughall that in view of the absence of warning and the scale of attack he was compelled by the terms of his instructions from General Chennault to withdraw his remaining flyable aircraft to refit. At this stage of the action only 3 P.40's and 3 Hurricanes remained flyable, the Hurricanes alone being operationally serviceable. The A.V.G.'s P.40's withdrew to Loiwing that afternoon followed by their ground party.

195. At 13.30 hours reconnaissance aircraft were again reported approaching and 2 of the 3 remaining Hurricanes were sent up but failed to intercept. While they were returning to land at 14.30 the enemy again commenced his attacks with 2 waves of 27 and 26 bombers respectively, each accompanied by fighter escort. This terminated the enemy's attacks.

196. Great damage had been done and 9 Blenheims and at least 3 P.40's were destroyed on the ground, 5 Blenheims were unserviceable, while 3 Hurricanes had been destroyed in air combat. The remaining 20 aircraft (6 Blenheims, 3 P.40's and 11 Hurricanes) were flyable but unserviceable due to normal unserviceability or damage from enemy action. These aircraft, except the P.40's, were flown out to Akyab.

197. This grave reverse to Burwing - the R.A.F. detachment in Upper Burma - was the result of our weakness in fighters, the weakness of the warning system at Magwe and the complete absence of aircraft pens and bad dispersal arrangements at this airfield so hurriedly occupied. There has been a good deal of criticism of the subsequent hasty move of Burwing from Magwe, while it had an adverse effect on the morale of both the Army and the civil population.

198. The convoy left Magwe for Lashio and Loiwing early on the morning of the 23rd. Salvage and refuelling parties were left behind.

199. On the nights of the 22nd and 23rd respectively, I met General Alexander and Group Captain Seton Broughall at Maymyo. It was confirmed that Burwing would be withdrawn to Lashio and Loiwing - the only remaining aerodrome where fair warning existed - for refitting.

200. In the meantime it was proposed to try and make good the warning at Magwe, to put it into a proper state of defence and fit for Burwing to return there for operations. As the convoy had already left Magwe I issued instructions for the R.D.F. set to be turned round and sent back to Magwe and for the salvage and working parties at Magwe to be strengthened.

201. Loiwing was the only airfield left with reasonable warning and therefore the proposal to leave Magwe and to refit at Loiwing was not unsound despite the great distance of the latter airfield from the area in which the Army was operating. By use of the advanced landing grounds, limited support could be given to the Army until the defence at Magwe was satisfactorily completed and the aerodrome reoccupied. At Lashio warning was weak.

202. As events turned out it would not have been possible to reoccupy Magwe since the airfield fell into enemy hands 3 weeks later and the organisation of the warning system and the provision of works - for which only limited labour then existed - could not have been done in time. Additionally, the observer corps belt in the Sittang Valley and the Valley of the Irrawaddy was gradually being rolled up and with it any warning from this source.

Enemy Action - Akyab

203. The enemy had also found our small force at Akyab. A similar action took place which commenced on the 23rd, was repeated on the 24th and on the 27th. Our fighters intercepted on 2 occasions inflicting a loss of 4 enemy aircraft destroyed and 3 probably destroyed for a cost of 6 Hurricanes.

204. Although warning was received on the 27th, low flying enemy fighters caught our small force unprepared on the ground on this occasion. 2 Hurricanes got into the air and engaged, 1 being shot down. 7 Hurricanes were destroyed on the ground and a Valencia. Instructions had already been issued by Air Headquarters, India, to withdraw Akwing from Akyab to Chittagong as warning was so weak. Akyab would continue to be an advanced landing ground for refuelling aircraft and to enable our Hudson reconnaissance to reach the Andaman Islands. A small R.D.F. set with a limited range of 20 miles, had been flown in and was operating, but the observer corps warning for Akyab was poor. The posts were few, only the outlines of communication existing owing to the difficult nature of the country.

205. These two actions - at Magwe and at Akyab - in effect terminated the R.A.F. activities based in Burma. The supply of aircraft now became the critical factor. The necessity to build up our defence in North Eastern India and Ceylon brought about a decision by the Commander-in-Chief, India, not to re-equip Burwing. The maintenance of a small force in Burma was uneconomical in view of the lack of warning and increasing weight of attack. Indeed, such air forces of ours operating in these circumstances would be destroyed piecemeal, giving but small returns for considerable losses.

206. Burwing continued, however, as an organisation, and although bombers were flown in to Lashio and Loiwing to operate for a few days and return to Calcutta, very little could be achieved. 8 Hurricanes that were flown in on 6th April lasted only a few days in the face of Japanese attacks on Loiwing.

207. With the reverse that the Chinese 5th Army sustained on the Southern Shan front on 20th and 21st April which led to the rapid advance of the Japanese to Lashio, Burwing was withdrawn to China to provide British refuelling parties at main Chinese air bases. The personnel of 17 Squadron were withdrawn via Myitkyina to take their part - re-equipped with Hurricane II's - in the Calcutta defence.

208. But using the depth towards India, our bomber operations were continued on a slight but growing scale. Much remained still to be done for the support of the Army and the evacuation of our wounded and civilians.

PART VIII - WITHDRAWAL OF BURMA ARMY TO INDIA

209. General Alexander's Army moved from the oil field area through the dry zone of Upper Burma to Mandalay with Headquarters at Shwebo, the final withdrawal taking place across the River Chindwin through Kalewa and over the Manipur Road through Tamu. The Army passed through the forward screen of 4th Corps troops on the Lochac pass on the 18th May and General Alexander's force finally reached Imphal on the 20th May.

210. The enemy air force now extended their patrols over a wide area in Northern Burma and carried out attacks on Lashio, Mandalay, Loiwing and Meiktila. Support was given to their forces operating against our Allies in the Taunggyi and Mawlaik areas whilst flying boats based on the Andaman Islands commenced attacks on shipping in the Bay of Bengal between 28th March and 5th April.

211. The Japanese reinforcement of Burma took place during the first week in April. Under the cover of a vigorous attack on Ceylon and on our shipping in the Bay of Bengal on 6th April a convoy of ships reached Rangoon. We were powerless to prevent this. Fortress aircraft of the U.S.A.A.C., however, attacked with five and a half tons of bombs an enemy force in the Andamans and straddled a cruiser and a transport. Further night flying attacks were carried out on the enemy convoy at Rangoon with useful results - fires and explosions being seen in the dock area.

212. During the 8 weeks from 21st March, when the Magwe action took place, until May 20th, when the Burmarmy was finally withdrawn to India, action with bombers and fighters continued against the Japanese in Burma.

213. The fighter action was limited to such fighter sorties as could be carried out within the range of the Mohawk Squadron based at Dinjan. Bomber action was exerted either from aerodromes in Assam - Tezpur and Dinjan - or from bases in the Calcutta area, using Chittagong as a forward landing ground. 103 tons of bombs were released on the enemy in these attacks. On arrival in Eastern India Squadrons were reformed and aircraft reconditioned slowly but as quickly as possible.

214. On the 12th April the first attack was made in support of General Alexander's right flank, when 9,000 lbs. of bombs were dropped on Japanese troops at Nyaungbintha. The enemy and his transport were also attacked at Singbaungwe, Allannmyo, Magwe, Sandoway and Taungup. In all 15,000 lbs. of bombs were released.

215. Attacks, helped by some long range bombers of the U.S.A.A.C., continued on objectives of all kinds. In all 58 raids took place in support of the Army's withdrawal, some to reduce the scale of air attack and the remainder in direct support of the Army. Most of the bombing took place on General Alexander's right flank, although 3 raids were directed against such places as Mongpaw, Laikha and Kongchaiping on the Chinese front.

216. Such airfields as Mingaladon, Akyab and Myitkyina were kept under a harassing scale of attack. Operations against Akyab and Myitkyina were particularly effective and when the enemy attempted to establish himself there on forward bases, bomber action made these untenable by the destruction of his first-line aircraft on the ground.

217. Of the 58 raids, 13 were undertaken by aircraft of the U.S.A.A.C. and 45 by the R.A.F. A total of 231,900 lbs. of bombs in all were dropped, mostly followed by low flying machine gun attacks.

218. The enemy were using river craft to out-flank the Army in Burma. This line of communication was continuously harassed by our aircraft and a total of some 30,000 lbs. of bombs were released on steamers, barges and wharves while the attack on a concentration of river craft at Monywa on the 4th and 5th May was, by its delaying action, largely instrumental in preventing the Japanese encircling movement of the right flank of our forces, then withdrawing from Yu to Kalewa, a movement which if successful would have proved embarrassing to our Army.

219. A single Blenheim which had attacked Akyab on the 22nd May was engaged by 4 Army O.1 fighters. The fight lasted 20 minutes and was broken off by the remaining 3 fighters when 70 miles out to sea the aircraft of their leader, the Japanese air ace, Lt.-Col. Takeo Kato, was shot down in flames. No other Allied aircraft attacked Akyab on that day.

220. Requests for bombing action and tactical reconnaissance were made by General Alexander to Headquarters in Calcutta. Reconnaissances continued, 55 being completed for Burmarmy.

221. No. 31 air transport Squadron had been placed at my disposal equipped with D.C.2 and later some D.C.3 aircraft. This Squadron did magnificent work. Their daily effort was about 3 aircraft and considerable air transport requirements had to be met. Food had to be dropped on the 3 routes along which the evacuation of civilians from Burma was taking place. These routes ran from Shwebo - Kalewa - Tamu to Imphal, from Myitkyina - Mankwan - Shingbuiyang to Ledo and from Katha - Indaw - Horalin/Tonhe to Imphal. Evacuees travelling along these routes required supplies of food and medical stores to maintain them during their march to India. Additionally, many of our wounded were evacuated by air from Magwe, Shwebo and Myitkyina in turn as the battle moved northward. Civilians were also evacuated when there were no wounded to move.

222. In all a total of 8,616 persons, which included 2,600 wounded, were flown out to India and 109,652 lbs. of supplies were dropped for victualling refugees and troops. In carrying out this task we had the help of D.C.3 aircraft of the American Air Force - I have to record the good work carried out by these crews.

223. About the middle of March a serious situation had risen in the Bay of Bengal. In the Port of Calcutta there was some one-quarter of a million tons of shipping. It was not known how long the enemy naval force would remain within striking distance of our line of sea communication between Calcutta and Ceylon. There were none of H.M. ships available at this time to provide the necessary cover to secure this shipping now also within the range of attack of the enemy long range bombers based at Mingaladon and Magwe.

224. Instructions were issued for the Port to be cleared. There were two courses of action - either to sail convoys close in shore and to provide what fighter protection against bomb attack - and bomber protection against attack by surface units - as was practicable or to use diversional sailing which would spread the ships over a large area in the Bay of Bengal. The latter course was chosen.

225. It seemed possible that the attacks of our coast-wise shipping on the 6th April were an offensive move covering the arrival of the large convoy of troops in Rangoon. Consequently it was likely that if enemy air reconnaissance could be prevented - the sailing of this large tonnage of shipping over a short period might be secured from enemy surface and air attack, since the enemy would be unaware of the operation.

226. We knew where the enemy reconnaissance force was. 9 four-engined and two-engined reconnaissance flying boats had been located at Port Blair. On the 14th April this figure had risen to 13. Moreover, there were indications that the enemy had developed the aerodrome at Port Blair and that local fighter defence had been put in. 2 out of the 3 serviceable Hudsons of 139 (now 62) Squadron, the only aircraft that could (refuelling at Akyab) make the range, were instructed to carry out an attack with the object of destroying and damaging all aircraft of this reconnaissance force. A determined low-flying attack was carried out in which 2 twin-engined boats were left burning, 1 four-engined flying boat left sinking and all the other flying boats were believed to be damaged. This attack was repeated on the 18th, when 2 Hudsons again attacked 12 four-engined flying boats. 2 of these were destroyed and 3 severely damaged. On both occasions the enemy were moored in lines and the Hudsons carried out a number of mast-height runs of them using their turret guns. On the 18th, Navy "O" fighters engaged our 2 aircraft - 1 failed to return and the second was hit by cannon shell and machine gun fire. After these attacks this enemy reconnaissance force remained inactive. Not only during the critical time when some 70 of our ships made the passage through the Bay of Bengal, but until the end of July no activity by it was recorded.

PART IX - CONCLUSION

227. To summarize, during this air action which commenced on the 23rd December, a small Allied air force, consisting of 1 Squadron of the A.V.G., the equivalent of 2 Hurricane Squadrons, the equivalent of 1 Bomber Squadron, 2 Army Co-operation Bomber Squadrons and the equivalent of half a G.R. Squadron, engaged the Japanese air force in the defence of Rangoon and in the support of our Army in Tenasserim and Burma. But the early fall of Rangoon, diversion of reinforcements and the shortage of aircraft equipment prevented the air force building up to 16 Squadrons (6 Fighters, 7 Bombers, 2 Army Co-operation and 1 G.R.) and full maintenance promised on programme. Up to the fall of Rangoon - by which we lost our warning system and our organised airfields in this vicinity - air superiority over Rangoon had been maintained and after its fall continued until the Magwe action on the 21st March.

228. During this period the enemy, finally unable to subject the base of Rangoon to unrestricted day bombing, which would have given him the best chance of surrounding and destroying the Army, turned his effort to defend his troops and aid their advance. In Tenasserim, enemy day bombing attacks were carried out on our forward troops and Headquarters. Although support was given, our attempts to prevent this bombing were not successful, it being impossible in the circumstances of poor warning and shortage of fighter equipment.

229. It is a remarkable fact that from February 25th - when the enemy's last attack to achieve air superiority over Rangoon failed - he would not face our fighter force until Rangoon was in his hands and considerable reinforcements had been flown into the country after the fall of Singapore. Consequently, this absolute state of air superiority remained over Rangoon at this critical time - and no "Namsos" here took place.

230. On March 21st he began his determined attack to stamp out our now fast dwindling air force at Magwe and Akyab. Having achieved this, although good bombing objectives were constantly present as our Army withdrew to India, he did not follow up his success by attacking our moving columns. Thus the casualties to our Army from enemy air action during withdrawal over great distances with poor cover from air attack were small. This may well have been because the enemy did not know the temporary success that he had achieved. The main weight of the enemy bomber attack was directed on such places as Prome, Mandalay and Maymyo, where great damage resulted with considerable moral effect on the civil population. The bases at Toungoo, Heho, Namsang, Lashio and Loiwing were constantly searched and attacked, though except at the latter there were no aircraft present.

231. Norgroup was then using the depth to India, and with its base organisation being hurriedly prepared in the Calcutta area and up the Valley of the Brahmaputra, was able with what resources were available, to continue a harassing scale of bombing attack in Burma with some fighter action in the North. By the nature of the campaign and the shortage of warning, of aircraft, of equipment, and of maintenance, we were unable to maintain our 2 mixed Wings in Upper Burma and Akyab.

232. In the Burma campaign the main brunt of the fighting was borne by the P.40 Squadrons of the A.V.G. They were the first in the field with pilots well trained and with good fighting equipment. Their gallantry in action won the admiration of both services.

233. According to the records available in the Intelligence staff of Norgroup, 233 enemy fighters and bombers were claimed destroyed in the air in this campaign, of which the A.V.G. claimed 179 and the R.A.F. 54. 58 were claimed destroyed on the ground, 38 by the A.V.G. and 20 by the R.A.F. 76 were claimed probably destroyed, 43 by the A.V.G. and 33 by the R.A.F. 116 were claimed damaged, 87 by the A.V.G. and 29 by the R.A.F.

234. From January 1st the cost in losses was 38 fighters shot down by the enemy in air combat. Of these 16 were P.40's and 22 Buffaloes and Hurricanes, but the majority of the pilots were fortunately saved. I regret to report that there were 2 substantiated incidents when Japanese fighter pilots attacked and killed our fighter pilots while descending by parachute.

235. As regards bombers, 8 failed to return from operations.

236. Our losses on the ground due to enemy action were 51 aircraft, 17 fighters, 23 Blenheims, 4 Hudsons. The remainder were transport and communication aircraft.

237. Comparable with the total of 233 enemy fighters and bombers claimed to have been shot down in air combat by the A.V.G. and the R.A.F., the Allies' losses were 46. Thus an average of slightly more than 5 enemy aircraft were claimed shot down for each of our aircraft lost.

238. We destroyed more of the enemy's aircraft on the ground than the enemy destroyed of ours. We made no claim moreover in respect of enemy aircraft destroyed on the ground by bombing attack, the number of which must have been considerable.

239. The bomber action in close support of the Army has been described. Slight as the effort was, valuable results were achieved. Counter offensive bombing action to reduce the scale of attack made an effective contribution towards the maintenance of air superiority over Rangoon.

240. The evacuation of R.A.F. personnel from Burma by air and sea, with small parties by land, was completed without loss.

241. As regards stores, much valuable equipment was back loaded at the last moment from Rangoon. The majority of stores remaining in Burma were moved to the Lashio area, whence on the sudden and unexpected Japanese thrust in that region as much as possible was moved into China. The remainder was destroyed except for some large bombs which were rendered useless.

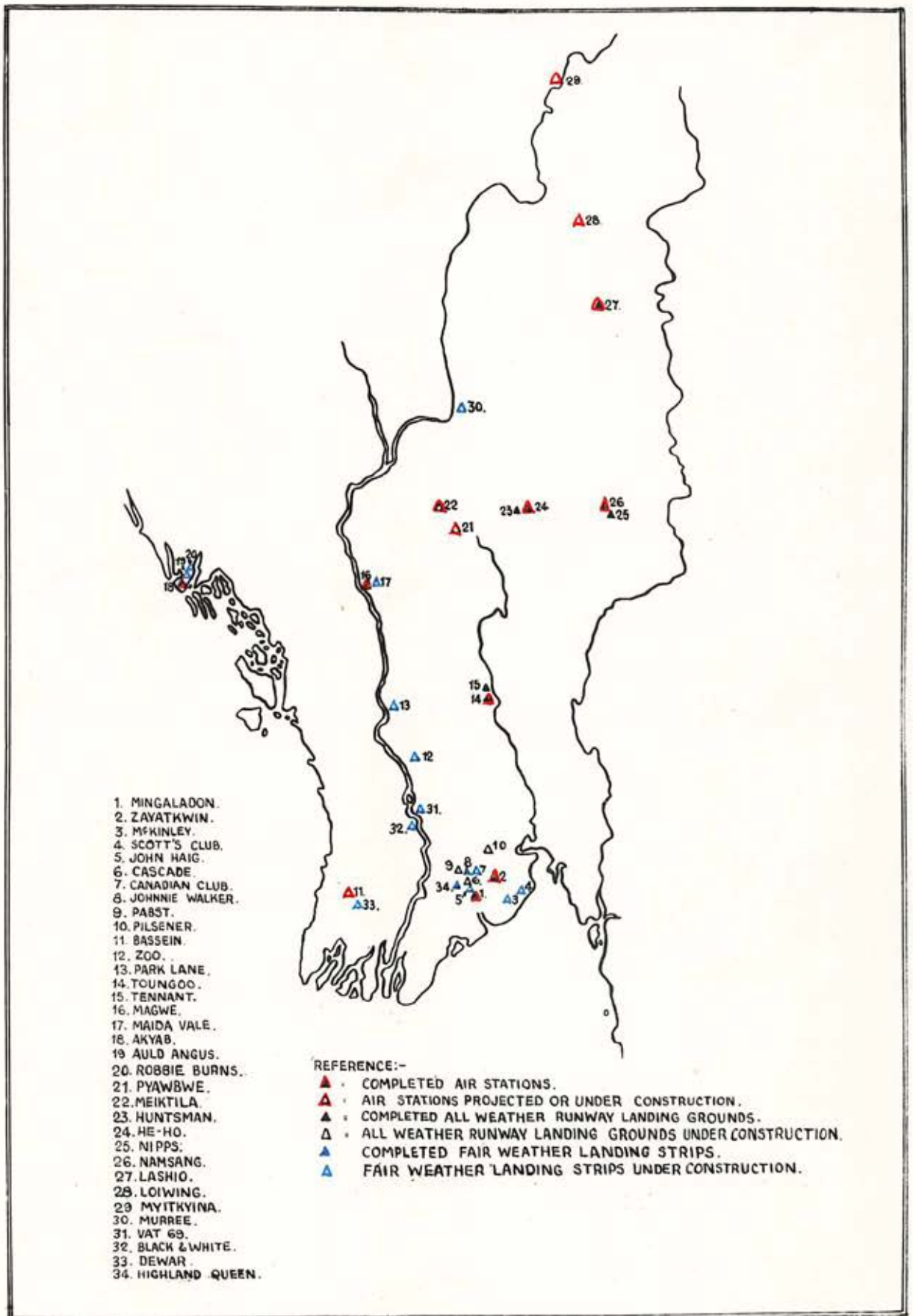
242. The task of supporting General Alexander's Army terminated on May 20th when it was withdrawn to India. Air operations based in Eastern India continue against the Japanese in Burma.

243. Awards and Mentions. My list of recommendations for awards and mentions is attached (Appendix "L").

LIST OF APPENDICES

- Appendix "A" - Burma Aerodromes - Airfield development map.
- " "B.1"- Airfield Accommodation.
- " "B.2"- Bomb and P.O.L. Stocks.
- " "C" - Lay-out of Observer Corps, Burma
- " "D" - A.O.C.'s appreciation of situation, January, 1942.
- " "E" - Fighter sector defence map.
- " "F" - Graph showing operational effort - fighters and bombers.
- " "G" - Airfield map of Burma and Thailand.
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- " "I" - Signal A.787 of 18/2 - Norgroup to ABDAIR.
- " "J" - Signal A.801 of 20/2 - Norgroup to ABDAIR.
- " "K" - Signal A.O.C.113 of 19/2 - A.O.C.-in-C., India, to A.O.C.,
Norgroup.
- " "L" - List of Awards and Mentions.

BURMA AERODROMES
(Airfield Development Map)
APPENDIX A



AIRFIELD ACCOMMODATION

<u>Airfields</u>	<u>Runways</u> (as at 7.12.41)	<u>Accommodation</u>
Victoria Point	Poor all-weather strip Unoccupied.	Rough accommodation for 20
Mergui	2 all-weather strips. C. and M. party only	Complete for 420
Tavoy	1 all-weather strip 1 still under construction C. and M. party only	Complete for 420
Moulmein	1 all-weather strip 1 nearly completed C. and M. party only	Ready for 420
Mingaladon	4 all-weather strips 60 Squadron (ground personnel) 67 Squadron	Ready for 600
Zayatkin	1 all-weather strip nearly finished Unoccupied	Nil
Toungoo	2 all-weather strips, 1 not quite finished Occupied by No. 1 A.V.G.	Ready for 420
Heho	2 all-weather strips C. and M. party only	Ready for 420
Aungban (Satellite)	1 all-weather strip	Nil
Namsang	2 all-weather strips Unoccupied	Ready for 420. Water supply still uncertain
Lashio	2 all-weather strips C. and M. party only	Ready for 420
Magwe	1 all-weather strip 3 all-weather strips under construction Unoccupied American-built aerodrome and hutments	Half-ready for 150
Akyab	2 all-weather strips Small C. and M. party	Ready for 26
Meiktila	1 dry-weather strip half finished Unoccupied	Nil
Myitkyina	Short all-weather strip R.A.F. Signals' section only	Nil

AERODROMES - P.O.L. AND BOMB STOCKS AS AT 7.12.41 (continued)

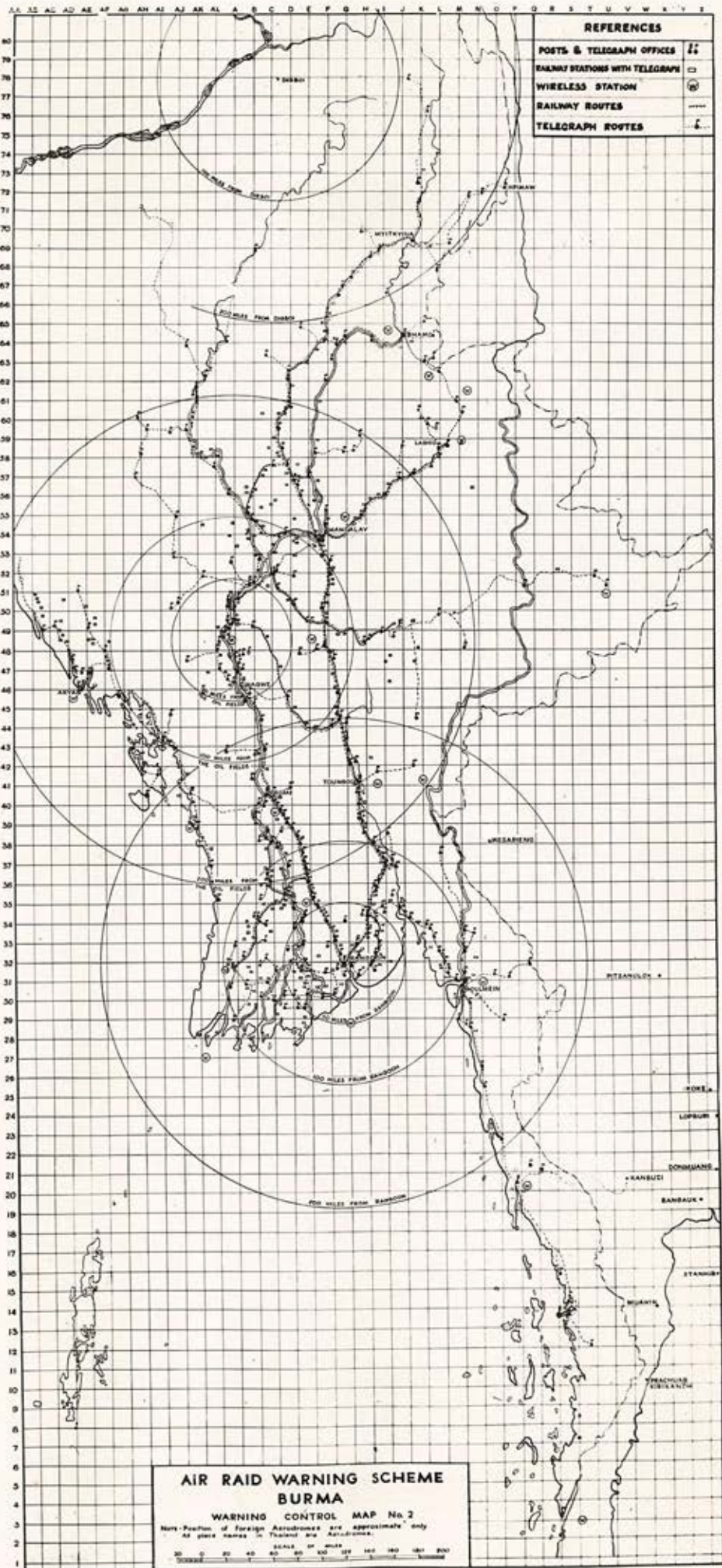
NOTES:-

- (1) 1340 250lb. and 1680 40lb. bombs were held at Lashio for onward transmission to Area "A". The 250's were subsequently withdrawn to Magwe for use there.
- (2) N.B. * This P.O.L. was distributed between Yunnanyi, Kunming, Tangling and Chan-yi in Yunnan Province of China (Area "A").
- (3) All petrol held in 40 gallon 16 gauge drums oil in 5 gallon and 45 gallon drums stored in open, normally in 3 compounds, each with a capacity of 170 tons fuel. This policy was rapidly being amended to wide dispersal following the return of the R.A.F. Mission to China on 2.12.41, where the necessity therefore had been amply demonstrated.
- (4) Toungoo was occupied by the A.V.G. and therefore carried no stock of armament.
- (5) Namsang was not occupied other than by small C. and M. Party.
- (6) Serious oil deficiencies were to have been met by issues ex Singapore of 27,000 gallons 472C and 61,000 gallons 472B, but these never materialised. Proportionate holdings were maintained by the issue from India at the end of December of 21,000 gallons of 472C, 17,600 gallons 472B, arrangements having been made for subsequent maintenance either by India or direct from Air Ministry.
- (7) Total Bulk Storage Facilities:-

Mingaladon	-	2,000 gallons
B.C.C. Syriam	-	14,000 tons
B.B.P.C. Thilawa	-	3,000 tons
- (8) N.B. On 28/2 stocks of petrol main reserve petrol installations were:-

	<u>Mandalay</u>	<u>Magwe</u>	<u>Lashio</u>	<u>Akyab</u>	(Heho and Namsang as shown in table on page 1)
100 Oct.	125,000	165,000	105,000	88,000	
90 Oct.	232,000	27,000	150,000	34,500	
87 Oct.	51,000	-	-	12,000	
472 C.	29,500	5,300	-	2,800	
472 B.	16,800	4,500	4,500	2,600	

APPENDIX C



A.O.C.'S APPRECIATION OF AIR SITUATION

JANUARY 1942

REVIEW

1. Relative to forces available in the S.W. Pacific, Japan is initially strong by sea, land and air. Her strategy so far has been a well thought out air-cum-maritime strategy with the object of seizing with troops focal points in the Pacific on the American line of sea and air communication, and of seizing the Phillipine Archipelago, Malaya, Netherland East Indies, and our base at Singapore.
2. Japan has been enabled to carry her plan successfully through the first stage. Hong Kong has fallen and the fall of the Phillipines is a matter of time. Troops have been landed in Borneo, apart from vigorous action against the American Fleet at Pearl Harbour and the seizure of the Pacific bases, Thailand with its widespread air bases has been occupied, and the assault is now in progress on the southern portion of Malaya and Singapore.
3. Without Sumatra and Java, Japanese occupation of the Malayan Peninsular and the base would be uncertain and risky. Indeed, allied air action based in these two islands would deny to Japan sea communication with Singapore. We must therefore assume that if she succeeds in capturing Singapore her next thrust will be in the direction of Sumatra, Java and the Celebes, though this may be attempted before it falls.
4. The war in China is by no means settled. This is a direct threat to Japanese political and military aims. The best course that Japan could pursue in order to close the Chinese incident would be to cut China's life-line by seizure of Burma and its port at Rangoon. Thus the essential aid in Lease and Lend materials for China could be cut off.
5. As regards Russia, we cannot hope that with the great battle now in progress on her western front she would lend military aid against Japan at present.
6. Japan is weak in natural resources and industrial potential. Therefore on a longish term policy, of war material and munitions. For this reason she must attempt to conclude her campaign with the greatest possible speed in the hope that having seized the S.W. Archipelago in the Pacific and Burma she will be enabled thereby to secure her line of sea communication. Thus, by the ability freely to move her land and air forces and to concentrate at the points of danger, she would hope to meet our likely scale of attack. This achieved, she would be in a strong position and hope to "sit pretty" until the "game is not worth the candle"; emerging from war with her aim accomplished.
7. There is one unfavourable factor in the Japanese strategy. She wages maritime war at the end of a 2,000-mile line of sea communication. The bomber dominates sea communications within range. As long as we hold Burma and are able to operate with land, sea and air forces from this base we threaten her forces in Malaya and are able to attack her maritime shipping and air and military bases in the Gulf of Siam, in Thailand, and in the Western Cambodia. Thereafter operations against the N.E.I. would be practicable under our umbrella of air action based in Malaya. Moreover, as long as we hold Burma by using Chinese air bases we can threaten Japan itself and attack her sea communications and bases in the vicinity of Formosa. Since our line of sea and air communication lies through India and over seas remote from Japanese air action, it is clear that if Japan hopes for success she must -
 - (a) Occupy Burma at all costs;
 - (b) Carry this operation out before the monsoon season, which commences in May, when it would be impracticable to operate the necessary scale of land and air attack. After that it would be too late.

8. From the above review it is clear that our "Heel of Achilles" in the Japanese campaign is the defence of Burma. Moreover, if we assume the worst case as regards Singapore and the N.E.I., there is little doubt that any success we are to gain in the campaign will rest upon our ability to build up our offensive stroke base on Burma.

9. If the above is true, it is clear that even at the cost of action at home or in the Middle East theatre -

- (a) Sufficient air and land forces must be made available for the defence of Burma, and
- (b) Resources for an offensive stroke must be built up in Burma.

DEFENCE OF BURMA - Geographical.

10. From Fort Hertz in the North to Rangoon is a distance of 900 miles. In breadth it is 575 miles. Two great features run North to South - the Arakan Yomas and the Shan Hills, divided by the Irrawaddy and the Salween respectively. River, road, rail and signals communications at present run roughly North and South and terminate in Rangoon. Two roads are under construction between India and Burma. Until they are completed Burma is cut off from India except by air and sea. Generally speaking, except for the plain country between the mountain ranges, it is jungle. Air bases are run-way'd, isolated and plainly discernible from the air. They can generally be found easily by day and by night. As regards weather, flying conditions are satisfactory except during the monsoon period of five months - from May to October. At this time air operations are practicable but difficult; they favour the offence and restrict the defence. During the monsoon flying operations could, however, be carried out in China satisfactorily.

11. A successful attack by land and air forces, directed against Rangoon from the East or South-East, would therefore deny our ability to withdraw the garrison from the country.

DEFENCE OF BURMA - Military.

12. Air. Assuming the worst case, i.e. with Japan in the Malayan Peninsular and Sumatra, Burma would be open to attack by air, sea and land. Judging from the strategical and tactical plan employed against the Phillipines and Singapore, it would be reasonable to assume that broadly speaking the attack on Burma would take the form of a knockout blow by air on the base at Rangoon, with air forces operating at close range from carriers, Thailand, and the Malayan Peninsular, to provide long range fighter cover and direct bombing support for her land and sea thrust. The air defence system of bombers, fighters, and torpedo bombers must be strong enough to defeat this attempt.

13. Land: Her railway system in Thailand enables her to concentrate a useful force on the avenue of approach to Moulmein, which runs from Nagron Sawarn and Bhisnulok, but the country on this avenue of approach is difficult - hill country covered with jungle. Based on the railway which runs down the Peninsular from Bangkok, she is able to provide forces to infiltrate through the jungle country on our South-eastern Thai border with the object of nipping off places like Mergui and Tavoy. Additionally, she could provide forces to infiltrate up the coast in small boats to aid in the general rolling up of the Southern tongue of Burma. The seizure of these two air bases would be a serious matter for the defence of Burma, since with fighters and bombers based there the scale of attack would be brought to close range from a direction that is unsatisfactory for the warning system. A stern defence is therefore necessary at both these places, particularly at Tavoy. An attack can also be launched towards the Shan States. Here again, communications through jungle country are difficult, but the Japanese soldier is showing considerable ability in jungle fighting. Looking at the picture broadly, therefore, it would be wise to assume that although these three land operations might well take place, a determined sea-borne expedition against Burma provides their best chance. A hostile landing in the delta, or indeed anywhere in the Gulf of Martaban, outflanks the land defence and threatens the base.

14. Sea: We can assume that, as in the case of Malaya and the Phillipines, an expedition into the Gulf of Martaban would be part of the knockout blow on Burma, and therefore our bombing force and long range fighter force must be sufficiently strong to defeat an expedition of this kind. Our naval forces at sea in an engagement of this kind during the next four months may not be great, and therefore we must rely on the bomber as our main means for defeating such an attempt. The expedition against the Phillipines comprised a convoy of some 80 vessels. It is impossible to say whether such a convoy would be available, but with Singapore as a Japanese base and the other ports in Malaya at her disposal, we must expect that a sea-borne expedition would be big enough for a good chance of success. The air strength necessary to deal with the above likely action in co-operation with the Army and Navy are remarked on elsewhere in this Appreciation. Additionally, we must remember her powerful carrier force. With this it would be practicable to attack our convoys in the Bay of Bengal and in the East Coast of India. Thus by the attack of convoys she may attempt to cut off Burma. A naval force with carriers and bombing action from Ceylon, Calcutta, Burma, and the Andaman Islands will be necessary to prevent this.

SCALE OF AIR ATTACK ON BURMA.

15. Air bases in range. Turning now to the air situation, Japan has seized Thailand, where landing grounds are numerous. Free use is also made of air bases in Cambodia. Her line of air communication from Japan and Manchukuo, which runs down the coast of China to Thailand, is therefore secure and adequate. Indeed, existing facilities and her ability to increase these hereabouts is such that a scale of air attack on Burma will only be conditioned by the air forces Japan is able to allocate to the theatre.

16. First Line strength and employment. Her first line strength is approximately 2,000 aircraft of all types. Production is at the rate of 200 a month for the first 15 months of the war, and then it may drop by 30 per cent. on account of lack of raw materials. At present there are 700 aircraft based in Thailand, Cambodia and Malaya. Her air effort against Burma is at present slight, 50 aircraft per day being the probable maximum scale of attack. She is at present using some 240 aircraft against the Phillipines. Russia faces her in the North and contains a sizeable air force.

17. We must not disregard the possibility - however remote it may be - of the fall, not only of the Phillipines, but of Singapore also. It is impossible to say when this may happen but it is inevitable that if and when they fall Burma must bear the full weight of attack from the Japanese air force. She is able to make what preparations are desirable in Thailand and Cambodia against her assault on Burma.

18. There are 33 aerodromes and landing grounds in Thailand and Cambodia within 800 miles of Rangoon. Moreover, the 240 Heavy Bombers now operating against Singapore from Cambodia could operate effectively against Rangoon, since it lies at the same range from Cambodia.

19. Scale of Attack: It would be practicable, it is considered, to provide operational facilities for a first line strength of about 1,000 aircraft within range of Rangoon.* It may well be that transportation and other difficulties may make this impracticable, but it would be unwise to say that it is impossible since the Japanese have long experience in air warfare in countries similar to Thailand and, moreover, have already shown some ability to improvise.

20. At intensive effort it would be reasonable to expect, therefore, that in the knockout blow on Rangoon as many as 600 aircraft a day may be expected for a limited period.

21. Likely Objectives: This scale of attack would be turned by day and night against the city, its port and shipping, and its facilities as a base for the force in Burma. In addition, an attempt would be made to destroy our air organisation and support would be given to convoys and troops thrown against the country.

(* including carrier aircraft)

AIR DEFENCE OF BURMA.

22. A list of the vital points in Burma at Appendix "A" is attached. Additionally, there is the Air, Army and Naval organisation in process of being built up. The problem is therefore to provide adequate day and night fighter defence at the greatest possible speed -

- (a) For Rangoon;
- (b) For our aerodrome organisation between Toungee and Lashio, where our bomber forces will be based;
- (c) For our ocean convoys coming in round the Bassein Peninsular, where fighter support will be necessary on a limited basis for convoys during daylight.
- (d) For Moulmein through which the enemy land scale of attack will probably be developed;
- (e) Outlying strong points like Tavoy and Mergui.

23. Fighter Defence: The Sector layout to provide protection for the above requirements is shown on Map I attached to this Appreciation. It will be noted that this sector organisation provides not only for the protection from bomber attack of the above vital points, but also the additional points in the country which require security - since they lie behind fighter sector organisation.

24. Fighter Strength: As regards strength of the fighter defence in terms of first line aircraft. The fighter defence must be prepared for the worst case, i.e. to meet a scale of attack of 600 aircraft a day - fighters and bombers - which, if successful, must inevitably mean the fall of Burma.

25. The Battle of Britain was won on a basis of one fighter to every four battle aircraft - fighter and bomber - that could be brought against the air defence. 1,000 aircraft can be brought against the defences and therefore on this calculation we would require first line strength of 250 aircraft. But the air defence system in the U.K. is probably the strongest and most highly organised in the world. Full R.D.F. and Observer Corps facilities, reinforcing and ground facilities of all kinds are available for defence, and the warning system properly co-ordinated and effective. Overmore, the U.K. is like a bastion, and on account of time and space considerable fighter forces may be deployed at almost any point and in almost any direction to meet and to match the scale of attack. In Burma, however, there are great distances to contend with and warning system will, at best, be inadequate.

26. Outlying points like Moulmein, Lashio, and isolated bomber stations like Heho and Namsang also require protection: while frontier posts such as Tavoy and Mergui will require fighter support in accordance with the situation.

27. Furthermore, the country is such, and the nature of air war such, that fighter action will prove the most valuable contribution we can make to the advance of our ground forces - or alternatively, to aid the Army in bringing the enemy scale of land attack to rest by the attack of the enemy first line aircraft lines of communication, and troops.

28. We can accept, however, a reduction in fighter strength for two reasons:-

- (a) We can probably keep ahead of Japan in fighter performance and fire power. We are superior to them at present in both with the Hurricane IIB and the P.40, but not with the Buffalo.
- (b) There is only one London in Burma - Rangoon.

It is calculated, therefore, that to provide against these requirements a minimum force of 224 first line fighters will be necessary, i.e. 14 Fighter Squadrons at 16 I.E.

29. Initial Deployment: This force would provide on initial deployment:-

- (a) One Squadron in Sector "O"- Bassein - for the protection of shipping coming round the Bassein Peninsular, so situated that it can reinforce the air battle over Rangoon if necessary.

- (b) Six squadrons for the immediate defence of Rangoon, one in Sector "A", one in Sector "B" and two in Sectors "C" and "D".
- (c) Two squadrons for Sector "Z" as a general reserve and for night fighting.
- (d) For the defence of Moulmein, one squadron which can also take part in the air battle on account of its position on the avenue of approach.
- (e) For the defence of Toungoo, two squadrons will be required in Sector "F" and for the defence of the remaining bomber stations to the North, one in Sector "H" and one in Sector "J".

30. The force would be mobile and capable of mutual reinforcement between sectors. Thus, if the scale of attack developed towards the North to knockout our bombers, Sectors F, G, and H could be reinforced at will; if on Rangoon, 12 squadrons could be concentrated.

31. As noted above, the 14 Fighter Squadron basis would provide two squadrons trained for night flying, based in Rangoon area. The enemy have already started night bombing. On account of the restricted area of the base at Rangoon and the necessity to provide reasonable security from night bombing attack, it is considered that a provision of two squadrons for this area is by no means an over-insurance.

32. It is therefore recommended that the present programme of six fighter squadrons should be increased to 14 Fighter Squadrons on the highest priority, and that the lash-up fighter sector organisation shown on Map I should be proceeded with at once.

33. Fighter Types: There are in view -

- (a) 3 Hurricane IIB Squadrons.
- (b) 1 Buffalo Squadron already here. *
- (c) 1 A.V.G. Squadron P.40

* To remain superior in equipment to Japan in the immediate future, nothing with a lower performance than the P.40 should be employed, and No.67 Squadron should therefore be rearmed.

34. Requirement: The 14 Fighter Squadrons required should, it is recommended, comprise -

Already for or in Burma	- 5 Squadrons
For day combat	- 1 additional A.V.G. Squadron 6 additional Hurricane or P.40 Squadrons.
For day-cum-night combat	- 2 Hurricane or Beaufighter Squadrons.
Total:	<u>14</u> Squadrons

ANTI-AIRCRAFT GUN DEFENCE.

35. The number of long range Anti-Aircraft guns and Bofors necessary for the defence of vital points, both Service and Civil, is at present under review. As regards the defence of air bases, since they are exposed and since fighter protection must inevitably be slight particularly towards the North, they must be well defended from low flying attack. Dispersion in pens, though useful, does not provide adequate security because the enemy have adopted a policy of low flying attack by fighter aircraft against our first line fighters and bombers wherever they can be found within range. The enemy fighters have an effective range of some 900 miles (with long range tanks), and therefore A.A. defence on aerodromes must be prepared at all times to deal with enemy fighter attacks which may slip through the air defence system. Two 3.7's, eight Bofors, and 32 Light Automatics will be necessary on each occupied aerodrome.

36. A list of aerodromes on long term policy is attached, marked Appendix C,

and from this it will be noted we shall eventually require protection on this scale for 18 aerodromes. This allows for expansion beyond the present programme on a 15-squadron basis.

37. G.C.I. SETS. The situation regarding the provision of R.D.F. cover for the air defence system will require careful study. In the meantime it may be taken that at least six G.C.I. sets will be necessary, together with a number of C.H. and C.H.L. Stations to provide adequate warning for the fighter organisation.

38. OBSERVER CORPS. The Observer Corps system in the country runs along the lines of telephone communication. A review has been made of our immediate telephone requirements: a copy of this is attached (Appendix B). Immediate requirements under this head are 1,060 miles of telephone communication, 103 instruments, and 100 Observer Corps personnel who speak English. Additionally, at least 15 W/T. sets will be required for covering gaps in the system.

39. NIGHT DEFENCE. The atmosphere in Burma is exceptionally clear during the moonlight period. There is no industrial haze over the vital points in Rangoon. Fog is sometimes prevalent but the incidence of this is slight, except in February when visibility on some six nights might interfere with operations. During the monsoon period of June-October night operations, both bomber and fighter, will be much restricted on both sides. As regards Night Defence there are two problems of immediate importance:-

(a) The Night Defence of Rangoon: Rangoon is situated on a broad estuary where the Pegu River and Rangoon River bifurcate. To the West there is a large marsh and to the North a lake. These show up clearly on moonlight nights and from their position Rangoon can be found with great ease. The city is comparatively small and includes the vital dock area, through which the majority of reinforcements and supplies must pass to maintain the forces based in Burma. Additionally, the Oil Refineries and Installations at Syriam and Thilawa lie to the South close to the river. Rangoon is therefore a first-class bottle neck. From the night bombing point of view it is a most favourable target. If we continue to deny the enemy the ability to bomb by day, a heavy scale of night bombing on Rangoon must inevitably develop. The effect of this in so restricted an area cannot be exaggerated. Urgent steps to meet this situation are therefore necessary.

From paragraph 31 it will be noted that 2 Night Fighter Squadrons are recommended for the night defence of Rangoon and vicinity. It is recommended that these are Beaufighter A.I. Squadrons and that G.C.I. control should be established for them in the Rangoon area as quickly as possible. If it is impracticable to fulfil this recommendation for policy reasons, the two Night Fighter Squadrons should be Hurricane type "Cats-eye" and will require illumination to enable them to be effective. In this event a searchlight layout would be necessary in Sectors A, B, and C. Requirements under this head are in process of being worked out and recommendations will be made in the immediate future. A strong A.A. defence is therefore, for the reasons set out above, essential.

(b) Defence of Shipping from moonlight torpedo and bombing attack. The possibility of a moonlight torpedo and bombing attack on our convoys rounding the Bassein Peninsular cannot be disregarded. No fighter action that we can take at night will prevent this. The convoy must therefore be well protected by escort vessels and A.A. weapons, while a number of balloons should be flown from ships convoy.

BALLOONS.

40. Balloon protection for the base of Rangoon and two Oil Refineries noted above, and for ships lying in the Rangoon estuary, is an essential requirement - particularly for the monsoon period. A review of the requirements has been made and two squadrons of 45 balloons are necessary. These should be manned eventually by local enlistment.

41. COUNTER OFFENSIVE - Bomber Action. For the same reason that it would pay Japan to seize Burma, it is to our advantage to hang on at all costs. Assuming the worst case, it is only in this way that the offensive action against Japan, with the aim of crushing her, can be achieved. If, for example, Japan were able with her air force and naval action to seize and sustain a considerable

force in the Malaya Peninsular, the Dutch East Indies, Borneo, the Celebes, and the Phillipine Group, she would be in a strong position to deny us serious interference with her sea communications and bases between Japan and her new island Empire. To do this she would rely on the bomber and the torpedo bomber.

42. Thus, by bomber action operating from air bases secured by fighters, and by the use of light naval forces and carriers, she would be in a strong position as regards isolating herself from interference - since interference must come by sea. In a situation of this kind, all we could hope to do would be to launch our offensive either from Northern Australia or from Burma. If we launch it from Northern Australia - a situation in terms of communications and provision of requirements that is formidable - we would have to push forward our air attack and thereunder attempt to roll up the Dutch East Indies by the reverse action that Japan, in her relatively strong position, was able to inflict on us. But we should be operating on exterior lines. A very different situation from the Japanese operations carried on interior lines of sea and air communications.

43. It is not unlikely, therefore, that the blow must be struck from Burma and that bomber counter offensive action will play an important role in the combined plan.

44. Bombers based in Burma are able to operate in the Gulf of Siam and on the Japanese lines of railway communication from Saigon running down through Bangkok into Malaya. Strong offensive action against railway transportation and enemy shipping plying between Bangkok and Malaya would favour our situation in Malaya. Apart from the material loss inflicted, it would force the enemy to provide short range fighter protection for some 400 miles. Like Rangoon, Bangkok is a main centre of distribution, and indeed the base for operations against Burma. Vigorous bombing action to "Coventry" Bangkok is therefore desirable as an immediate measure. Since fighter support for our bombers operating in the Gulf of Siam is necessary to allow effective bombing operations to take place, and because short range fighter action is the most effective form of action against enemy rail transport, it is clearly desirable that we should hold on to Mergui and Tavoy as long as possible, but particularly Tavoy.

45. AIR ATTACK AGAINST JAPAN & FORMOSA. Pressure against the Japanese lines of communication running southwards by sea and land through the Gulf of Siam pays a limited dividend only in the theatre of operations. Offensive action against Japan herself or her sea communications and bases in the Formosa area would have an immediate effect on the whole campaign. A harassing scale of attack, however slight, would tie down short range fighters so necessary for the successful conduct of her campaign in the Archipelago, and so weaken her at the periphery of her effort. A vital point in Formosa should be subjected, therefore to daylight air operations based in China as soon as ever this can be done.

46. Similarly, we should attempt at an early stage in the campaign to exert air pressure on Japan herself. We have no information regarding the value of air action on the Japanese. The Japanese workman may be more bomb-proof than our people at home, but it is very unlikely that this is so - especially as portions of her cities are self-destroying if attacked by incendiary bombs. It is more probable that air action taken against - for example - the Japanese aircraft factories at Lagoya, which provides half her total production, would cause an important and possibly immediate drop in production; while were it possible to continue a desultory and harassing scale of attack important results may be expected here and elsewhere in Japan. Japan is a comparatively small island and her opportunity for the dispersal of protection of industry of all kinds from air attack is obviously a difficult one.

47. On Map II, the spheres of counter offensive bombing action are marked. Area 1 shows the effective range of medium and heavy bombers towards the south, and Area 2 similar ranges towards Japan. It should be noted that arrangements

have already been made in the "Tulip" plan for maintaining bombers operating from Chinese air bases, and when bombers are available there would be nothing to prevent us from carrying out attacks on the Japanese shipping in the Formosa Straits and against Formosa. Until, however, it was possible to provide proper fighter protection for aerodromes in Tulip Area "B" sustained bomber operations would be unwise. Hence, sudden sporadic attacks against these objectives are inevitable until air bases in Tulip Area "B" are more secure from air attack.

48. COUNTER INVASION. As noted elsewhere, we must be prepared to defeat by bombing action (as a primary means) a sea-borne expedition against Burma. If the scale of attack were, say, 50-80 transports with a supporting naval force, a force of 7 bomber squadrons and 2 torpedo bomber squadrons would not be an over-insurance. Bomber action against the port of embarkation would be essential. Fighter support for air action would be provided from our 14 squadrons. One Hudson Squadron for overseas reconnaissance would also be necessary. The two Torpedo Bomber squadrons need not be based in Burma but should be available to arrive in Burma in seven days. Action against enemy convoys is also necessary.

49. DIRECT SUPPORT. Direct bombing support for the Army defence of Burma and to enable limited offensive operations to be taken by the Army, and fighter protection to cover such operations, is required. Both these tasks in the North and the South can be carried out from our bases in Burma, and with the air forces available in the country on a basis of 14 fighter squadrons and 7 bomber squadrons we can meet this. In the event of a major offensive action being necessary, additional squadrons would probably be required.

50. BOMBER STRENGTH. The present Burma programme for bombers is 7 squadrons, - two Wellington Squadrons and 4 Blenheim Squadrons from the Middle East, and No.60 Squadron. With this force bombing operations will be only limited by the scale of effort that can be developed by this force. Operating from a secure base in Burma, they should be able to carry out effective action, both by day and night, against the Japanese base at Thailand - Bangkok - and against the Japanese land and sea communications running down the Eastern side of the Malayan Peninsular. It would also be practicable, even with so small a force, to undertake occasionally harassing attacks on Formosa based on an aerodrome in Tulip Area "B".

51. As noted above, bombers based in Burma are in a strategically favourable position to operate to the S.E. against Japanese land and sea communications, and to the N.E. through China against Formosa and Japan. In consequence, the aerodrome facilities are being built up to enable us to operate such bomber squadrons as the Commander-in-Chief places at our disposal from British and American resources.

52. NAVIGATIONAL FACILITIES. Full navigational and night flying facilities will be necessary, especially in the monsoon. A review is in preparation.

53. ARMY CO-OPERATION. The two Army co-operation squadrons now arriving are considered adequate. They require to be rearmed with Tomahawks and cannot fight on their present equipment.

54. SIGNALS REQUIREMENT. A signals plan will be necessary. This is being prepared and recommendations will be made.

55. RECONNAISSANCE. A P.R.U. unit of 2 Mosquitoes, 2 Hurricane II's, will provide for requirements.

56. INTERCOMMUNICATION. A Communication flight of 3 twin heavy aircraft (D.C.2 and Lockheed) and 4 light aircraft is necessary for intercommunication work for the Army, Air and Navy services.

To summarize:-

57. Japanese strategy will probably result in the attempt to establish herself in the Phillipines, Malaya, and the island archipelago of the Dutch East Indies, and having seized these, attempt to secure by air action and limited naval action her lines of communication between Japan and her newly captured island empire. By offensive air action, based on these islands, to the south towards Australia, and towards the Indian Ocean, she will attempt to deny our ability

successfully to launch expeditions which would result in her collapse. To make this effective she must at all costs seize Burma, and so bring the Chinese incident to a close, thus denying us territory in China whereas our bombers might operate against her sea communications, and indeed Japan herself. Were she unable to do this, she must see her defeat as inevitable.

58. In consequence, Burma, and the Nicobar and the Andaman Islands must be held at all costs, first as our bastion for the defence of India and for the defence of our sea communications to Burma and in the Indian Ocean, which carry so much trade for the war potential to the U.K. Secondly, as the only reasonably secure base from which major operations against Japan and newly seized territories can be directed.

59. Since effective air action heralds the success of combined operations in this wide theatre of operations, we must at all costs defend Rangoon and our air bases and Army and Naval organisation in the country from the destructive bombing attack that would paralyse our defences and destroy our ability to maintain fighting efficiency. Under this head the following air defence requirements are essential before attack in force on Burma develops.

AIR DEFENCE. The following requirements are urgently necessary:-

- (a) An additional 9 Fighter Squadrons - British or American. Two should be Beaufighter Squadrons.
- (b) Further 3.7's and Bofors.
- (c) If Beaufighters with A.I. are not available, a searchlight layout for the defence of Rangoon.
- (d) A P.R.U. unit of 2 Mosquitoes and 2 Hurricane II's.
- (e) More R.D.F., G.C.I. and Observer posts to strengthen the warning system. 15 W/T sets for gaps also required.
- (f) Two Balloon Squadrons for Rangoon.
- (g) Signals plan and requirements therefrom met urgently.

BOMBER FORCE.

- (a) An increase beyond 7 Bomber Squadrons if vigorous action against Japan from China bases is projected.
- (b) Two Torpedo Bomber Squadrons for anti-invasion to be at 7 days' call for Burma.
- (c) One Hudson Squadron for overseas reconnaissance.
- (d) Development of air facilities in Burma and China.
- (e) Navigational and night flying facilities will have to be provided.

INTERCOMMUNICATION.

A communication flight of one D.C.2 and two Lockheeds, and four light aircraft.

ARMY CO-OPERATION.

No.1 and 28 Squadrons to be rearmed with Tomahawks.

(Signed) D. F. Stevenson

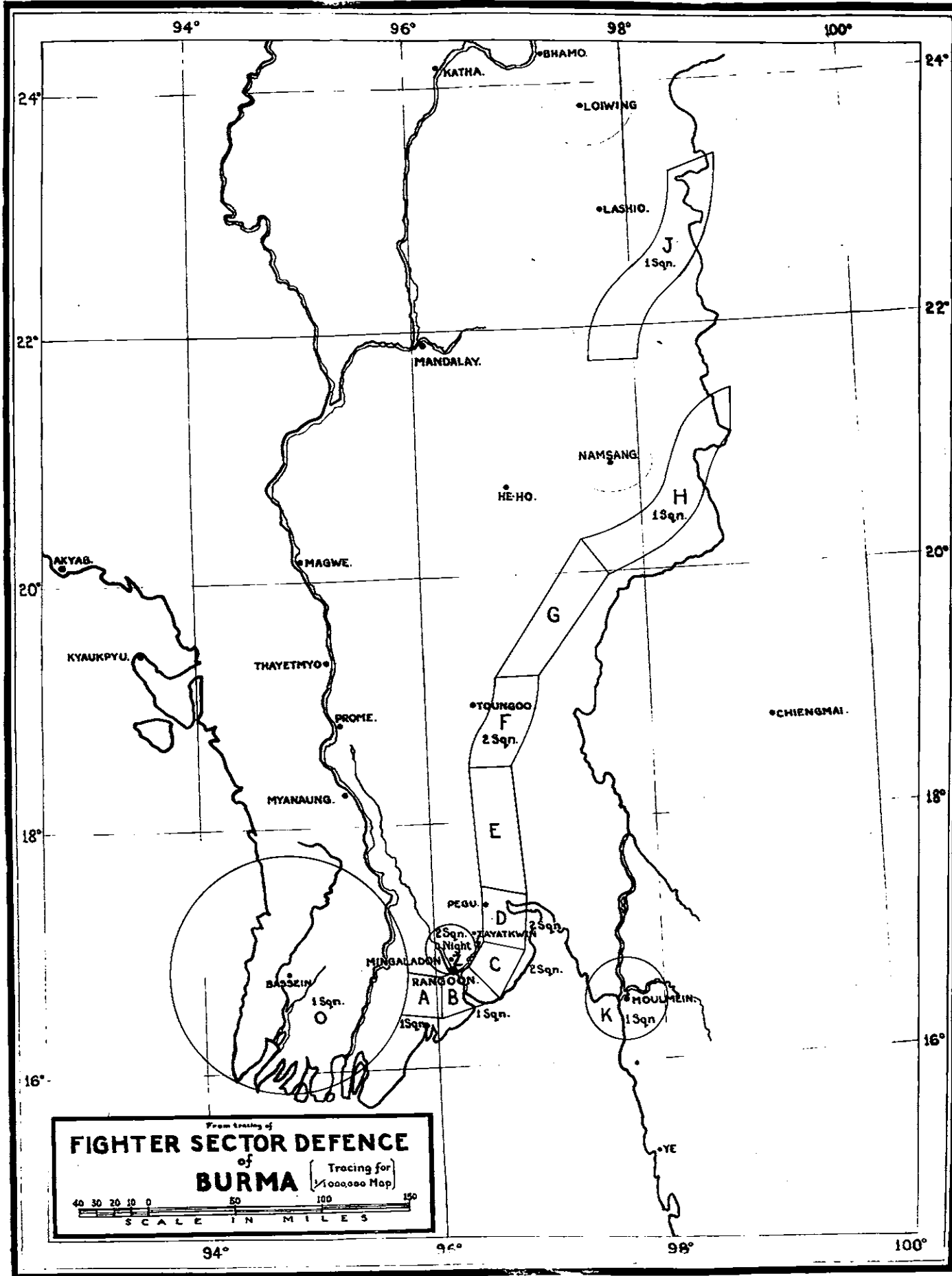
Air Vice-Marshal,
Air Officer Commanding,
ROYAL AIR FORCE, BURMA.

Rangoon, 14th January, 1942.

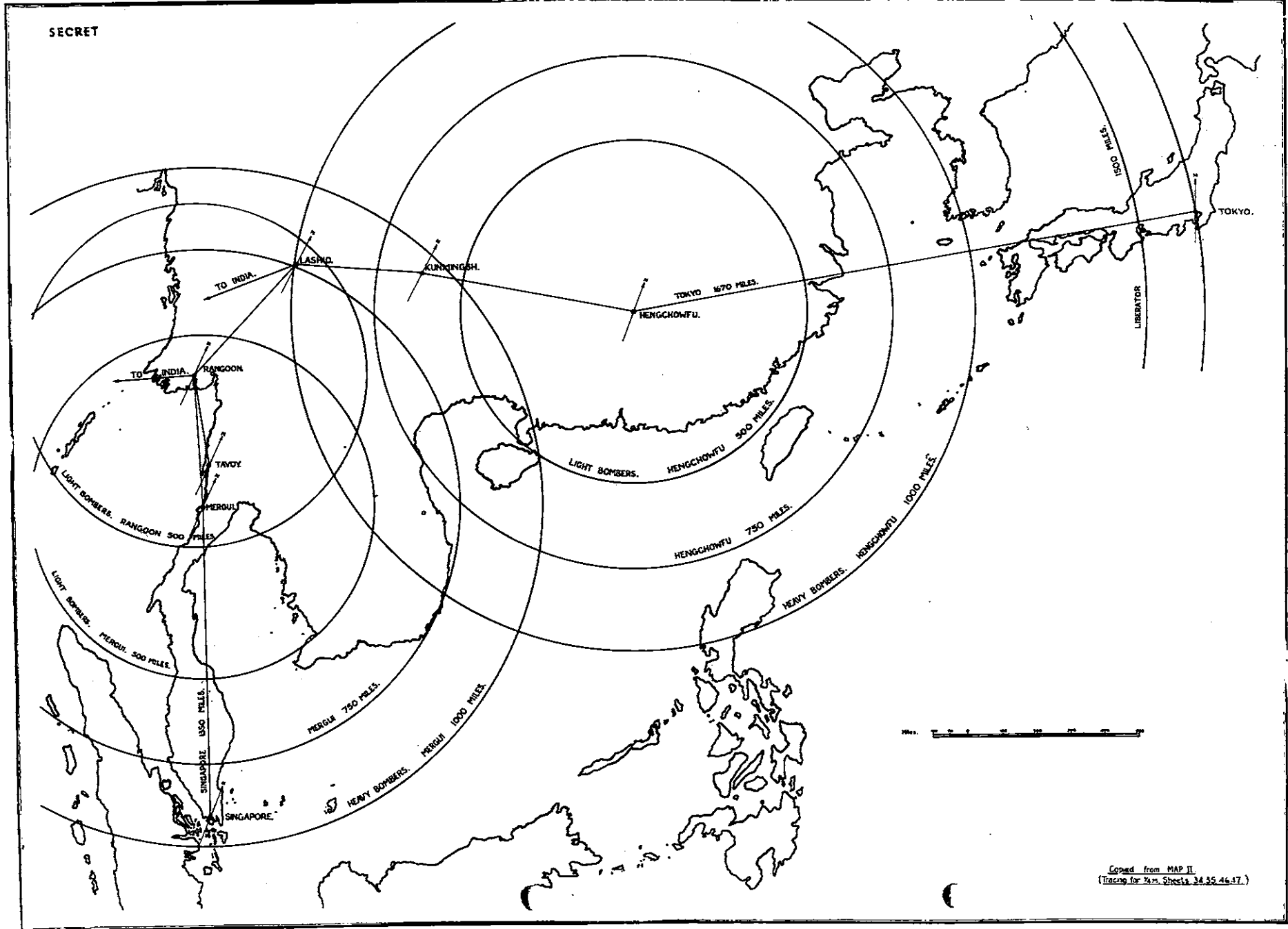
(N.B. Appendices not attached.)

SECRET.

APPENDIX 'E'. (ALSO MAP I REFERRED TO IN APPENDIX 'D' PAGE 4 PARA. 23)

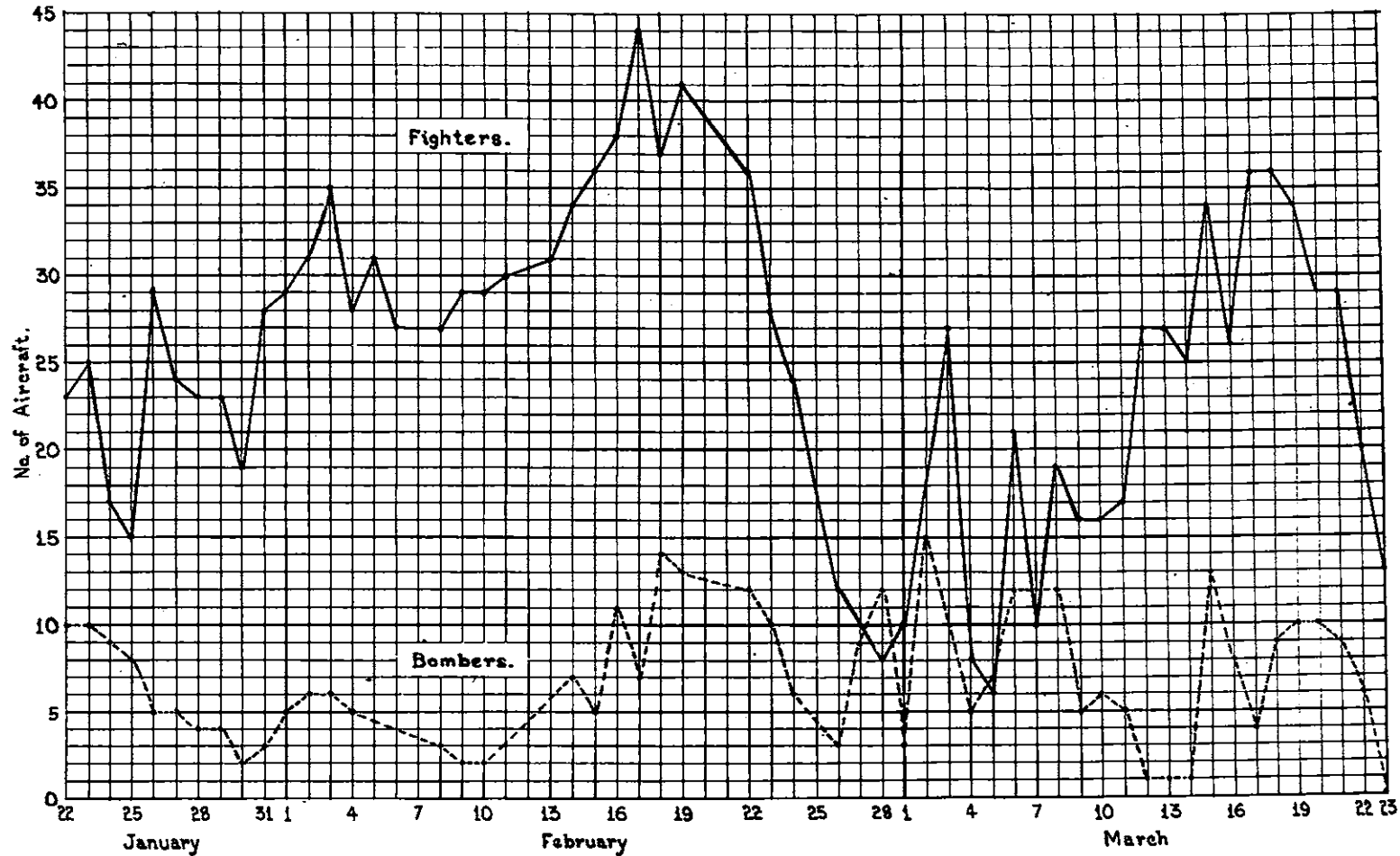


SECRET



Copied from MAP II
(Tracks for 24m. Sheets 34, 55, 46, 47.)

APPENDIX F



Average Fighter Effort Available - January 21st - March 23rd (Evacuation of MAGWE) = 23.

Average Bomber Effort - January 22nd - March 23rd = 6.

No Accurate details available before January 22nd

From:- Nongroup.

To :- Abdair (R) Air Ministry, Whitehall (R) A.H.Q. India.

A.787

18/2

- (1) You will have seen Hutton's O.749 of to-day's date in which he explains that if enemy has fresh troops behind Bilin thrust which appears probable he cannot be certain of holding situation River Sittang position might be penetrated and evacuation of Rangoon become an imminent possibility. In these circumstances my appreciation of air situation in Burma is as follows (.)
- (2) Squadrons (.) We have two Hurricane one A.V.G. fighter 1½ Blenheim ½ Buffalo two Lysander and one G.R. Flight (.) Reinforcements expected to arrive in immediate future are Hurricanes to complete up to four Squadrons (17, 67, 135 and 136) plus two reinforcing Hurricane Squadrons ex Middle East (30 and 261) Blenheims for remainder of 45 Squadron and to equip 60 Squadron giving total of three light bomber Squadrons (.) Pack ups and equipment of two Wellington Squadrons (.)
- (3) Warning system weak with loss of telephone line running down Tenasserim and East of River Sittang coupled with effect of situation on observer posts closer in denies reliance on Observer Corps warning to the East of Rangoon (.) One R.D.F. Station in action Rangoon (.) Range at night satisfactory but for technical reasons in day time 35 miles maximum (.) One R.D.F. now en route Akyab (.) North of Rangoon area there is no effective warning for airfields at Toungoo Heho Namsang or Lashio until arrival of W/T. screen ex Basra in say four weeks' time located in Valley of Salween from Takaw to Papun (.) Noted that this runs close to frontier in jungle territory across avenue of expected operations (.) Advised R.D.F. in Sittang Valley though Toungoo unsatisfactory on account of reflections of mountain ranges (.) In Irrawaddy Valley something can be done with R.D.F. and as long as Rangoon holds telegraph plots from Sittang Valley are received Magwe via Rangoon - northerly portion via Mandalay (.) In consequence one Rangoon area is evacuated there is no security for first line aircraft except at Magwe and Akyab (.) Toungoo Heho Namsang Lashio with their satellites are open to long range fighter attack without warning (.)
- (4) Whilst adequate stocks of petrol and oil exist at all airfields in North and at depot near Mandalay there are only sufficient bombs for ten days effort present force (.) Two months reserves ammunition (.) In view of Hutton's appreciation decision now required as regards employment and possible movements of air force in Burma (.) Main lesson from this theatre so far seems the elimination of American Air Force in Phillipines and loss of first line aircraft in Malayan campaign and in the Dutch East Indies due to fighters and bombers operating without adequate warning (.)
- (5) As regards security of sea communications with Singapore gone it is practicable for an expedition to approach Rangoon under fighter cover from bases at Mergui and Tavoy (.) There are no long range fighting tanks available for Hurricanes and therefore attacking light bombers must be unescorted (.) This would reduce effectiveness of attack on convoy if located by our weak G.R. force (.) Two T.B. Squadrons referred to in our A.418 18/1 are now a necessary reinforcement in view of armoured ship transport (.) Furthermore fighter defence of convoys for bomber attack based on Tenasserim coast would be serious drain in Hurricane defence of Rangoon (.)
- There are three courses in event of fall of Rangoon (.) Firstly to remain with Army during its move North towards China (.) In these circumstances it would be a wasting force since maintenance which can only be effective through Rangoon would be difficult if not impossible (.) In event of reasonable scale of enemy attack heavy wastage for small returns are inevitable (.) Secondly when Rangoon is closely threatened to commence moving personnel and units to India (.) There are 2,000 personnel in Rangoon area and 1,000 plus up country (.) These would be evacuated some by sea at last stage remainder by air via Magwe and Akyab to Calcutta (.)

Would fly out aircraft and support of Army could be maintained to the last moment from Magwe and Akyab (.). R.D.F. Station at Akyab could be withdrawn at an early stage for defence of Calcutta and fighter defence and bomber counter offensive based in the North East provinces or elsewhere for the defence of India (.). Reinforcements directed to Burma would then build up behind the force in India (.). Thirdly to withdraw bulk of force to India leaving a mixed Wing of one Hurricane Squadron and one Blenheim Flight and one A.C. Flight (.). Except for bombs which might be flown in later or foreign stocks adapted facilities exist to operate this force based eventually behind the Chinese warning system say Kunming (.). Effect would be satisfactory as regards China and some support though desultory would be available for our troops (.). Maintenance would have to be by air until northern road from Assam is completed (.). Request immediate instructions of course to be pursued and a free hand to move my units in accordance with my directif =====

EMERGENCY OPS.

T.O.O. 1710/18.

APPENDIX "J"

From:- A.O.C. Norgroup

To :- ABDAIR (R) A.H.Q. India (R) Air Ministry Whitehall

A.801

20/2

At Government House meeting this morning between Governor Hutton and self G.O.C. stated first he had instructed G.O.C. 17 Div to fall back on Sittang with Div. H.Q. vicinity Pegu (.). Second, danger of complete collapse now present as frontier force and burif were not fighting well and armed police deserted without warning (.). Troops very tired (.). Third, that therefore if the enemy rush us they would probably be successful and our defence might break quickly (.). Therefore decided to accept Armoured Brigade and Cameronians with Pioneer Battalion and turn round remainder of convoy due to arrive to-morrow (.). But Hutton's advice was that without solid infantry backing the Armoured Brigade could not be expected to do more than temporarily stabilize the situation (.). Since air base in Burma now under direct threat with limited warning only at Rangoon and Magwe left H.E. and Hutton agreed that only course open to R.A.F. Burma is establish base landing grounds in India operation landing grounds Akyab and Magwe with advanced landing grounds in Rangoon area to provide what fighter and bomber support can be given (.). Failing immediate instructions am putting this plan into action commencing to-day (.). Am evacuating as much by sea as possible remainder by air via Magwe Akyab (.). Plan allows for switching from Magwe to Northern Burma and China a mixed Wing if necessary - my A.787 18/2 third course refers (.). Telegram India follows (.).

T.O.O. 0455/20.

EMERGENCY OPS.

To:- Norgroup

From:- A.H.Q. India

A.O.C.113

19/2

Your A.753 15/2 (.) For Stevenson from Playfair (.)
Pending decision ABDACOM about withdrawal of your force if
necessity arises have prepared plan to withdraw on India (.)
Vachell brings plan 23/2 from Dinjan via Lashio (.) Hopes
leave again 25/2 (.)

LIST OF RECOMMENDATIONS FOR HONOURS AND AWARDS- BURMA CAMPAIGN -

<u>Name</u>	<u>Rank</u>	<u>Recommendation</u>	<u>Unit</u>
American Volunteer Group -----			
1. Bond, C.R.	Junior Flt. Ldr.	D.F.C.	
2. Little, R. L.	Flight Leader	D.F.C.	
3. Fox, H.E.	Line Chief	O.B.E.	
4. Newkirk, J.V.	Squadron Leader	D.F.C.	
5. Neale, R.H.	Squadron Leader	D.F.C.	
6. Lawlor, F.L.	Wing Man	D.F.C.	
Royal Air Force -----			
1. Perry-Keene, A.L.A.	A/A/Cdre.	C.B.E.	H.Q. Norgroup
2. Singer, N.	A/G/Capt.	O.B.E.	"X" Wing, Akwing
3. Turl, C.	W/Cdr.	O.B.E.	H.Q. Norgroup
4. Barnes, J.H.	A/W/Cdr.	M.B.E.	R.A.F. Burma
5. Grey, J.F.	A/W/Cdr.	M.C.	113 Squadron
6. Spencer, L.D.	A/W/Cdr.	O.B.E.	H.Q. Norgroup, H.Q. Burwing
7. Stone, C.A.C.	S/Ldr.	Bar to D.F.C.	17 Squadron
8. Andrews, H.L.	A/S/Ldr.	M.B.E.	H.Q. Burwing
9. Storey, W.J.	A/S/Ldr.	D.F.C.	135 Squadron
10. Sutton, F.B.	A/S/Ldr.	D.F.C.	135 Squadron
11. Suddes	A/Sgt. (88956)	B.E.M.	H.Q. Burwing
12. Cotton, M.C.	A/F/Lt.	D.F.C. (since awarded)	17 Squadron
13. Croft, M.P.	A/F/Lt.	M.B.E.	517 A.M.E.S.
14. Bushell, A.H.	F/Lt.	M.B.E.	H.Q. Norgroup
15. Blunt, D.S.	Lt.-Col. R.E.	O.B.E.	H.Q. Norgroup
16. Hill, V.E.	Temp. W/O.	M.B.E.	60 Squadron
17. Cummins, W.	Sgt. (84728)	M.B.E.	135 Squadron
18. Barrick, J.F.	Sgt. (67788)	D.F.M. (since awarded)	
19. Outram	Cpl. (645150)	B.E.M.	H.Q. Burwing
20. Pain, F.W.	Cpl. (812196)	B.E.M.	H.Q. Norgroup
21. Hole, T.E.	Cpl. (567962)	B.E.M.	H.Q. Norgroup

LIST OF RECOMMENDATIONS FOR HONOURS AND AWARDS
(continued)

<u>Name</u>	<u>Rank</u>	<u>Recommendation</u>	<u>Unit</u>
1. Seton Broughall, H.	G/Capt.	Mention	O.C. 267 Wing & Burwing
2. Wallis, C.B.	W/Cdr.	Mention	45 Squadron
3. Milward, R.A.	W/Cdr.	Mention	67 Squadron
4. Pennington Legh	W/Cdr.	Mention	R.A.F. Station, Mingaladon
5. Manton, R.J.	A/W/Cdr.	Mention	H.Q. Norgroup
6. Hill, A.E.	W/Cdr.	Mention	H.Q. Norgroup
7. Brandt, J.	S/Ldr.	D.F.C.	67 Squadron
8. Majumdar	S/Ldr.	I.D.F.C.	No. 1 Squadron, I.A.F.
9. Wheen, E.R.	F/Lt.	Mention	H.Q. Burwing
10. Jenkins, L.R.	F/Lt.	Mention	H.Q. Norgroup & Burwing
11. Gill, L.W.G.	F/Lt.	Mention	H.Q. Burwing
12. Smith, N.A.	F/Lt.	Mention	H.Q. Burwing
13. Farrington, J.S.	F/O.	Mention	H.Q. Burwing
14. Wisdom, F.H.	F/O.	Mention	R.A.F. Station, Mingaladon
15. Cox, R.E.	F/O.	Mention	H.Q. Norgroup
16. Cole, R.D.	F/O.	Mention	O.C. R.A.F. Lashio
17. Davis, L.S.	F/O.	Mention	O.C. R.A.F. Tavoy
18. O'Malley, P.D.	Capt. I.A.	Mention	H.Q. Norgroup & Burwing
19. Toogood, T.C.	Sgt. (543540)	Mention	
20. Powell, A.A.	L.A.C. (959369)	Mention	H.Q. Norgroup
21. Wickham, H.	A.C. (1084381)	Mention	H.Q. Norgroup
22. Austin, F.J.	A.C. (912373)	Mention	H.Q. Norgroup
23. Scott, C.M.	Col.	Mention	P. & T.
24. Scott, C.W.	Mr.	Mention	Forests
25. Kane, B.F.	Major	Mention	P. & T.
26. Boldy, T.D.	Mr.	Mention	P.W.D.
27. Cherry (deceased)	Mr.	Mention	P.W.D.