AIR ACTION
IN THE
PAPUAN CAMPAIGN
21 JULY 1942 TO 23 JANUARY 1943
AIR FORCE HISTORICAL STUDIES: NO. 17

AIR ACTION IN THE ATOMIC AGE

22 JULY 1945 to 23 JANUARY 1946

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August 1946

THIS PAGE Declassified IAW EO12958
FOREWORD

In the previous edition of this volume, we have endeavored to present the history of our struggle with the enemy in the most accurate and complete manner possible. We have included all available information, and we believe that this edition will be of great value to students of military history.

The American people have always been proud of the sacrifices made by our armed forces, and we hope that this edition will help to strengthen our national pride and our resolve to continue our struggle for freedom.

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Major General, U.S. Army
Chief of Staff of the Army, 1944-1945

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Air Action in the Java Campaign

21 July 1942 to 28 January 1943
Chapter I
INTRODUCTION

The Papuan Campaign marked the climax of Japanese ground force advances in the Pacific and, together with the equally decisive campaign on Guadalcanal, called a sudden halt to a previously uninterrupted drive through the South and Southwest Pacific. Following the Japanese landing at Buna on 21 July 1942, the Allied Air Forces repeatedly attacked enemy shipping and bases, successfully defended their own bases, transported troops, equipment, and supplies, provided direct support for ground troops, and established in time a superiority in the air over Papua which contributed substantially to the successful termination of the campaign in January 1943. These operations, carried out with limited resources and in an unfamiliar area, were necessarily of an experimental nature, but subsequent developments in the Southwest Pacific Theater were to bear out General Douglas MacArthur's observation on 24 January 1943 that "The outstanding military lesson of this campaign was the continuous calculated application of air power, inherent in the potentialities of every component of the air forces, employed in the most intimate tactical and logistical union with ground troops."¹

The enemy's advance through the South and Southwest Pacific had first been shielded by a movement into the Central Pacific, which won its initial successes with the occupation of Tarawa and Makin in the Gilbert Islands on 20 November 1941. This had been followed by Japanese penetration of the Bismarck Archipelago, of which Rabaul on New Britain was...
was the hub. A small Australian garrison at Kavieng on New Ireland withdrew in the face of a large amphibious force on 23 January 1942, and on the same day Rabaul, possessing twin airfields and a harbor large enough to provide shelter for a sizable naval force, fell to some 17,000 to 20,000 Japanese troops supported by an estimated 140 bombers and fighters. With the control of New Ireland and New Britain established, the enemy was in position to undertake a two-pronged move into the Solomon Islands and against New Guinea. By 4 April, Buka, Bougainville, Sohna, and Faisi in the Solomons had been occupied. A month later Allied planes were vainly attempting to beat off a Japanese fleet headed for Tulagi, which fell to the enemy during the first week of May. This southeastward thrust threatened to cut the sea and air lanes between Australia and the United States and at the same time to expose the northeastern coast of Australia. Meanwhile the possession of New Britain had brought the Japanese within easy bombing distance of New Guinea. Lae and Salamaua, both located on the Huon Gulf of the northeastern New Guinea coast, had experienced air raids as early as mid-January. The Australians could spare few troops as garrisons and were able to offer little opposition to the occupation of these two points on 8 March, and of Finschhafen two days later.

This relentless advance brought the Japanese by May 1942 to a point within 200 air miles of Port Moresby, chief Allied outpost in New Guinea. The possession of this port was vital to both contestants. A Japanese naval thrust around the peninsula into the Coral Sea had been turned back in the carrier task force battle running from 4 to 8 May 1942, and as the summer came on it was apparent that New Guinea
itself was destined to become an early battleground in the rapidly
developing Pacific war. Once this happened, strategy dictated that
the Allies should control the narrow overland track leading from Port
Hornby northward and secure Buna, site of potential airstrips, at
the terminus of the road.

Many obstacles, however, stood in the way of offensive action on
the part of the Allied command. Few areas in the world offer physical
barriers to military operations so marked as those of New Guinea. Over-
shadowing the whole of Papua in southeastern New Guinea are the lofty
Cwen-Stanley mountains, their several ranges connected by forbidding
foothills and "razorback" ridges. The area is honeycombed with rivers
and creeks which drain the upper regions into the swampy lowlands
of the coast. A mass of lush and often impenetrable vegetation further
complicates the surface of this rugged land. The "beach forest" ex-
tending inland from the coast is broken frequently by tropical grass
lands, where grow the broad-bladed kunai and the smaller kangaroo
grasses. The most extensive vegetation is found along the lower slopes
of the central ranges and their connecting ridges. Here a "tropical
rain forest" up to about 5,000 feet forms "canopies of foliage festooned
with thorny vines." Above the 5,000-foot line lies a belt of heavy
rainfall producing the "mountain forest" of bamboo and pine. Here as
elsewhere the footing is usually treacherous.

Thus, topographical features conspired against rapid movement,
and transportation facilities were generally lacking. There were no
railroads; no motor roads connected the principal towns and administra-
tive centers. Where possible, travelers went by boat, but for an overland
trek they were dependent upon a network of native tracks. Some of these were 12 feet wide at points and could be used by bicycles, but they usually became little more than muddy ruts after a storm. Along the way some of the many streams had been bridged, but more often a slippery log slung from bank to bank served the purpose. It was a land peculiarly dependent upon sea-borne or air-borne transport. Patches of the kauai grass lands were easily converted into temporary landing strips, and the coming of the airplane had brought a marked improvement in transportation. The more important towns and government stations at Kokoda and Buna in Papua, and at Lae, Salamaua, and Lae possessed all-weather strips.

The focal point of Allied effort in the summer of 1942 was Port Moresby, normally a sleepy tropical town of "flimsily built white houses" roofed with corrugated iron. Situated on a narrow coastal plain protected from most approaches by dangerous coral reefs, it possessed the only harbor in eastern New Guinea large enough to shelter a real fleet and had already been turned into a war outpost of bustling activity. Hard-working soldiers were improving the roads leading to nearby airfields. New airfields were under construction and old ones were being improved. By November no less than seven were in regular use by the Allied bombers, fighters, and transports.

Port Moresby itself was outside the jungle, but roads leading from the town ran only a few miles along the coast before they were interrupted by mangrove, sago, and nipa swamps. The barren, brown hills immediately behind the town gave way to the densest "rain forest" leading into the Owen-Stanley Range over which several tracks carried to other portions of New Guinea. Of chief importance was the track
winding up from Port Moresby through rain and mountain forest to "the Gap," a pass cutting across the Owen-Stanleys at from five to eight thousand feet above sea level and emerging at the villages of Isurava and Deniki just short of Kokoda. There a government station 1,200 feet above sea level marked the halfway point between Port Moresby and Buna, to which the remainder of the track carried for a relatively easy 63 miles over undulating country.  

General Douglas MacArthur, who had assumed the Allied command in the Southwest Pacific Theater on 18 April 1942, had only the most limited resources. His command consisted of the Allied Naval Forces under U. S. Vice-Admiral Herbert F. Leary; the U. S. Army Forces in Australia under Brig. Gen. Richard J. Marshall after its reorganization as the U. S. Services of Suppl. in the Southwest Pacific on 20 July; the Allied Land Forces commanded by Gen. Sir Thomas Blamey, popular Australian leader in earlier campaigns in the Middle East; and the Allied Air Forces under Lt. Gen. George H. Brett. To the poorly armed and inadequately trained Australian militia, traditionally limited in its activity to operations within Australia, were added almost two divisions of desert-toughened fighters recently returned from the Middle East. Two American divisions, the 32d and 41st, rounded out Blamey's command. The forces were small, but plans were already laid for the seizure of Buna, and these were coordinated with a larger plan which looked forward to a reconquest of Rabaul.

Preparations for the move were made more difficult by the complicated nature of the Allied command. The Pacific had been recognized as the primary responsibility of the United States, and according to
the original directive governing the Southwest Pacific Theater the Joint Chiefs of Staff were given "jurisdiction over all matters pertaining to operational strategy" as distinguished from strategic policy. Authority over the latter, of course, resided with the Combined Chiefs of Staff, with whom the desires of Australia and New Zealand found a hearing through the agency of the Pacific War Council. The chain of command appeared thus to be well and clearly established, but in actual fact bothersome questions remained. MacArthur's command included an Australian army, navy, and air force. He had to deal with an Australian War Cabinet and to consider the effect of his policies on Australian politics. Not until July was the question of requisitions for the Australian forces satisfactorily settled. For it had taken time to secure the formal concurrence of the Combined and Joint Chiefs of Staff, the Munitions Assignment Board, the Land-Lease Administration, and the government of Australia to a directive of 10 July specifying that requisitions submitted through either London or Washington should have first the approval of the Supreme Commander of the Southwest Pacific.

The organization of the Allied Air Forces presented further difficulties. Though the most experienced of American units in Australia had been drawn from the surviving remnants of the earlier Far East Air Force of the Philippines, and although this organization had been redesignated the Fifth Air Force on 5 February 1942, it is important to note that this redesignation did not authorize a change of assignment. Through the spring and summer of 1942, the Fifth Air Force as such existed only on paper, and technically it had not been moved from
the Philippine Islands. Not until September 1942 were the American air units in Australia organized into a separate air force.8

Meanwhile they continued as a part of the Allied Air Forces, commanded by General Brett from 18 April to 4 August when Maj. Gen. George C. Kenney assumed command. When the organization of air units in the Southwest Pacific had been first considered, the Australians were in a position to supply the communications and headquarters personnel which the Americans lacked, and an Allied command incorporating American and Australian units had seemed the logical answer. As a result, Australians continued until the fall of 1942 to exert a dominant influence over air organization and operations. In the spring and early summer, control of air operations fell largely under two of the five Australian defense area commands. Air Commodore Bladin of the Northwestern Area and Air Commodore Lucas, with headquarters at Townsville and advanced headquarters at Port Moresby, directed the operations in these two areas. Subordinate to these Australians were Brig. Gen. Albert L. Snead at Darwin and Brig. Gen. Martin F. Scanlon at Townsville in command respectively of Air Commands Number 1 and Number 2 which had been established by Brett for further control over operations in two widely separated areas. But operations were dependent upon Australian communications, and American intelligence officers kept their records on Australian forms and studied Australian methods under Australian teachers. There were conflicting areas of authority. Questions arose which were complicated by uncertainty as to the final right of decision. Contradictory orders were issued, and of necessity wide discretion was often assumed by squadron commanders.9
The solution of these problems of command depended somewhat upon a final decision regarding the upbuilding of the Allied Air Forces. Was it to be comprised primarily of American or Australian units? In the strategy of the United States, the Southwest Pacific held no better than a secondary priority. The Australians, faced with the threat of actual invasion of their homeland and assured by the British that in such an event Great Britain would come to their aid at a sacrifice of "every interest except only the defense and feeding of the Island of Britain on which all depends," had gone ahead with an ambitious program which gave them the organizations for at least 30 squadrons by 24 August. It was expected that they would be able to man as many as 45 squadrons by the end of 1942, and at some unspecified later date it was planned to bring this number up to a total of more than 70. The plan existed largely, however, on paper. By August only three Australian squadrons were equipped with P-40's, and the majority of the RAAF pilots still flew Hudsons, Birmas, Halleys, PBY's, and an assortment of old transports. Both the replacement of these outmoded types and the implementation of the expansion program depended largely upon the aid of the United States.

American air units in Australia, "pitifully inadequate," consisted on 31 June 1942 of 1,602 officers and 18,116 enlisted men. On paper there were two heavy, two medium, and one light bombardment groups, three fighter groups, two transport squadrons, and one photographic squadron. Of the heavy groups, the 43d was not ready to carry its share of the burden until fall. Meanwhile the 19th Group and its veterans of the Philippine and Java campaigns continued as the mainstay for heavy bomber operations. The 19th Group (1), which was to be
equipped with B-25's, did not have planes in commission until mid-September, and even then two of its squadrons, the 69th and 70th, were actually assigned to the South Pacific. The 22d Group (L), with its B-26's, had been in operation since April. The 3d Group (L) which had incorporated what remained of the 27th Group after the Philippine and Java campaigns, fought in July under the experienced leadership of Col. John Davies with an assortment of planes including 22 A-24's, 38 A-20's, and 17 B-25's. All bomber groups were based within Australia. Three fighter groups were reported on 1 May to be 100 per cent complete with a 50 per cent reserve, and by July two squadrons of the 35th Group, equipped with P-400's, had moved up to Port Moresby. The 8th Group had withdrawn its P-39's to Australia, while the P-40's of the 49th continued to be active chiefly in the defense of Darwin.\(^{12}\)

As the campaign for Papua got underway, it was decided in effect to preserve, for the time being at least, the existing balance between American and Australian air units. MacArthur was informed late in August that American production could supply no more than the number of American units already in Australia plus 27 KAAF squadrons. If the KAAF wished equipment for more than 27 squadrons, American units would have to be transferred to another theater and equipment previously destined for them turned over to the KAAF. The decision rested with the Combined Chiefs of Staff, but a choice was first given to MacArthur. Reaffirming his view that the "Australians may carry the ball in some of the opening plays, but the Americans will have to drive through for the touchdown," he supported a decision in which the United States would equip 27 Australian squadrons, and three more would be equipped with
the British Spitfire, this limited program to be completed by 1 April 1943.\footnote{13}

Operational problems were equally difficult. Because it was unsafe to use Port Moresby as a regular base for bomber units, it was necessary for them to fly up from bases in northeastern Australia with a stopover at Port Moresby for refueling. Thus, as General Brett reported on 13 July, "Heavy bombardment missions require thirty-six to forty-eight hours away from home base with approximately eighteen hours actual flight covering distances of twenty-two hundred miles. Medium and light missions," he added, "cover approximately eighteen hundred miles and require forty-eight hour absence from home base."\footnote{14}

Such conditions gave special acuteness to problems of personnel and maintenance. Combat loss, sickness, and war weariness were seriously felt in such veteran outfits as the 19th and 3d Groups. To normal attrition was added the desire in the United States to bring back experienced pilots for training purposes or as a nucleus for new units.\footnote{15} The question of replacements involved the problem of adequate training. The dilemma of the high command at home in 1942 was to balance the urgent demands for crews in combat theaters with the requirement that those sent be sufficiently trained.\footnote{16} Shortly after assuming command in August, General Kenney found that in one group 29 fighter-pilot replacements received, only four had flown P-35's or P-36's and the remaining 25 had not progressed beyond the AT-6, while of 35 bomber pilots, 16 had not graduated from the AT-6. It was estimated that two months would be required to prepare them for combat.\footnote{17} In addition to training in flying, gunnery, and other techniques, there was the necessity of learning the peculiarities of a strange climate and topography,
special problems of reconnaissance, and the Australian system of communications.18

As for maintenance, overwhelming tasks confronted the U. S. Army Air Services under Maj. Gen. Rush B. Lincoln. The Southwest Pacific Theater was over 7,000 miles from its major source of supply in the United States. The supply line was subject to submarine and other forms of enemy attack. Shipping space was at a premium, and vessels for convoy were limited in number. Moreover, the demands of other theaters often took precedence, and even the planes sent by ferrying routes required special precautions against "filching." Planes which had left the states complete in every detail arrived lacking navigation and bombadier kits, bombing charts, binoculars, and other incidental equipment.19 The industrial facilities of Australia were already overburdened, and the inadequate transportation system further complicated the problem. A shortage of spare parts and trained mechanics, imperfect landing fields, contrary weather, distance, and unceasing combat made it difficult to keep even as many as 50 per cent of available aircraft in commission. A wastage factor of 20 per cent had been set, but there were reasons for regarding this as conservative.20

Chief among these reasons was the lack of trained maintenance organizations. In July 1942 the air forces had six air base and two air depot groups to maintain widely scattered American units. It was felt that the dispersion of combat units required a larger number of maintenance organizations, and on 15 July three additional air base groups and three additional air depot groups were requested. At this time, however, the demands from other theaters were too great, and additional service units were refused.21
The presence of such units in Australia could not alone guarantee their adequate functioning, for in the summer of 1942 proper tools and repair shops could hardly be found. Representatives of American and Australian commercial companies still did much of the work. The Australian National Airways, for example, overhauled most of the planes for the 19th Group, several of whose members expressed the belief that Australian mechanics lacked an understanding of American engines. Capt. Vincent L. Snyder, engineering officer of the 19th Group, complained that "the Aussie" did mostly "top overhaul," and that the engines frequently "went out" within 25 hours.  

Although facilities for maintenance and repair improved during the summer and fall of 1942, the lack of parts continued to hamper combat activities. Insufficient bearings for Allison engines, for example, grounded many American fighters. Although requisitioned in August, no bearings were available for shipment until 11 October. By that time Kenney claimed that all 14 main bearings needed changing in 5 out of 6 engines, and that nearly 200 engines were waiting overhaul. Improper tools for Pratt and Whitney engines, furthermore, delayed the repair of grounded B-26's and transports. Kenney asserted on 10 October that he could not find a complete set of Pratt and Whitney overhaul tools in Australia, and urgently requested the immediate dispatch of a sufficient number to meet his needs. On 6 November, he was assured that they had been shipped on the Richard Henry Dana. When that ship arrived about two weeks later, however, it was found that of the 10,000 pounds of tools aboard, only 500 pounds were of the type needed, whereas the remaining 9,500 pounds were tools of a
type already available in Australia.\textsuperscript{24}

Another difficulty was the lack of reliable information regarding an area familiar to few white men and for which only inadequate maps existed.\textsuperscript{25} An effective intelligence organization had been established at Brisbane which carefully digested information obtained from reconnaissance and scouting activities by all ground, sea, and air forces. Intelligence evaluation suffered, however, from poor communication.\textsuperscript{26} Among the more important sources of information on the direction and strength of enemy movements were the so-called coast watchers. Australians for the most part and men of great daring and ingenuity, some of them had remained behind at the evacuation of such strategic points as New Britain, and others had landed under cover of darkness by small boat or submarine. They rendered outstanding service. According to one officer, "those Coast Watchers with Walkie Talkie sets are literally able to walk up to an enemy airbase at night, lift the covers off the bomb cases, take down the number of bombs, and send this information back to Intelligence headquarters."\textsuperscript{27} One RAAF officer stationed himself in the vicinity of Lae. Painting his body to resemble a native and living among natives, he broadcast via "walkie-talkie" information concerning enemy strength and activities. Suffering from frequent attacks of malaria, risking his life daily, he remained in the hills around Lae for more than a year.\textsuperscript{28}

Another vital source of intelligence was aerial reconnaissance, a function which imposed a heavy burden on the limited resources of the Allied Air Forces. A typical daily operational report for the period preceding the Papuan Campaign shows air units searching 500 miles off the coast of Australia for submarines, patrolling the southern
East Indies and New Guinea, and even covering New Britain, New Ireland, and the northern Solomons. Although all bombardment squadrons performed reconnaissance missions, the 435th Squadron of the 19th Bombardment Group flew the majority of them in the New Guinea-New Britain area through the summer and early fall of 1942. Few of these experienced airman had had training in methods of reconnaissance. Their background, according to one member of the squadron, consisted of a few lectures by Royal Australian Navy officers plus a thorough perusal of Jane's Fighting Ships, 1940 edition. They began their reconnaissance work in April. At that time, though based at Townsville, they worked out of Port Moresby, keeping two B-17s there and four crews. By this means they were able to rotate the crews in flying two missions a day. In August they moved four planes and eight crews to Port Moresby, increasing their duties to four missions daily.

Reconnaissance was not easy flying. Flown always by single planes, the flights were lonely and long, lasting nine to ten hours. The danger of Jap attack was great. Routine flights came to be expected by the enemy and were often attacked, particularly over Rabaul and Kavieng. Sometimes an enemy attack would be fought off, but it was not the job of a reconnaissance plane to fight. Major Frank Bostrum, second in command of the squadron, declared, "An American is an aggressive fellow... and he doesn't get much chance to kill the other fellow flying out there on reconnaissance flights."

Major Karl Poliika, known to the natives as the "flying lakatoi," was the leading authority in the Southwest Pacific on aerial reconnaissance and photography. As commander of the 8th Photo Squadron,
he had performed almost a one-man feat of mapping a large portion of the Southwest Pacific area after Flight A of his squadron had reached Australia in March. In June, flights B and C arrived, and a month later the squadron began to operate in conjunction with the 435th Bombardment Squadron. Both these units were based at Townsville, but operated out of Port Moresby which necessitated an initial hop of 620 nautical miles. In the early days the "trolley run" was from Port Moresby to Rabaul and back via Lae and Salamaua. Later the trip was cut down, with Newak and Madang the most distant objectives.33

This unit found that the two principal factors handicapping operations were the weather and lack of adequate maintenance facilities; but maintenance was perhaps the greatest problem. The squadron was equipped with P-4's, which were actually P-33's stripped of all guns but carrying special cameras for aerial mapping. Trained P-33 mechanics at first were unavailable. Mechanics sent with the original shipment frequently worked 18 to 20 hours a day attempting to keep the ships in the air, but numerous "bugs" would baffle them, sometimes grounding the planes for days at a time. Not until July did the first trained P-33 mechanics arrive in Australia.34

The weather, of course, could completely sabotage any mapping project. The equatorial front, crossed on the way to Rabaul, was always "pretty sloppy." The relatively light P-4 received a tremendous battering when the front was "kicking up," and cumulus clouds ranged anywhere from 28,000 feet "up to heaven on the tops." The normal top was usually from 9,000 to 12,000 feet. Only novices made the mistake of trying to fly through such clouds. A veteran of the New Guinea fighting recorded the experiences of one member of the 8th Squadron.
who took off for a three-hour reconnaissance mission and tried to fly through a cloud: "For five hours he was battered, bruised and beaten without once catching sight of the earth. When he finally got back, his CO met him on the field, ready to 'chew him out.' The dazed pilot could only mumble, 'I've become a Christian.'"35

In July, replacements for the 3-4 pilots arrived in the Southwest Pacific, but final training and selection had to be accomplished in Australia. A group of 17 potential pilots, more than were needed, received thorough training and careful grading. Of the 17, three were finally selected. It was impossible, as Polifka stated, to choose a certain number from a graduating class and assign them as photo pilots, for "a photographic pilot is a peculiar breed of person... has to be stubborn as a mule—has to be kind of stupid—and has to be considerably crazy."36

By making a thorough photographic survey of potential bases the 8th Photo Squadron played an important part in preparing for MacArthur's initial move for the occupation of the northern New Guinea coast. This survey, studied in conjunction with the known distribution of enemy troops, indicated that the most suitable location for an air base was near Buna, a former government station at the mouth of the Giruwa River. Here it would be necessary only to cut the tall kunei grass and dig drainage ditches. Early in July, engineers set out to establish the base, pushing across the Owen-Stanley range, across the river gorges, and through jungle swamps. By the end of the month, they would have reached their destination.37 But on 21 July, the Japs upset the timetable by landing just north of Buna, and the Fuzzy Wuzzy Campaign was under way.
Chapter II
DEFENSIVE OPERATIONS

Buna-Kokoda, 21 July to 25 August

The Jap landing at Buna did not completely surprise the Allied command. Observers had reported an enemy float plane loitering over Buna on 12 July. On the same day captured enemy documents revealed that a special landing force had sailed from Truk on 10 July with eastern New Guinea as its destination.\(^1\) On 19 July a B-17 piloted by Lt. Don Tower of the 435th Squadron reported a convoy in the neighborhood of Rabaul. The daily operations report for the following day reported 2 medium transports, 2 light cruisers, and 3 destroyers off Cape St. George; and on the same day, enemy aircraft struck Port Moresby with 26 bombers protected by 15 fighters.\(^2\) On 21 July, the convoy now reported to be comprised of one cruiser, four destroyers, one 10,000-ton transport, and assorted smaller vessels, appeared to be heading for the Buna area. In the afternoon, an enemy float plane machine-gunned the shore, and later the cruisers and destroyers moved in to shell the same area. This softening-up process was merely precautionary since the Allies had virtually no land defenses at Buna. The engineers pushing over the Kokoda track were still three days' march from the area, and only a few patrols from a Papuan infantry battalion, commanded by Australian officers, were within striking distance.\(^3\)
Meanwhile, warned by reconnaissance, units of the Allied Air Forces were planning to oppose the landing. Although only two American fighter squadrons, the 39th and 40th of the 35th Group, plus certain Australian units were based at Port Moresby, bomber squadrons were brought up in preparation for the attack. Late in the afternoon of 21 July, one B-17 and five B-26's succeeded in finding the targets. The B-26's met with some success. Dropping their 500-pound bombs from 6,000 to 7,000 feet, they observed one direct hit on the transport.\(^4\) Five B-25's, sent out to continue the attack, failed to locate the convoy because of darkness. A subsequent intelligence summary indicated that a preliminary landing was made during the night on the beaches of Gona, 12 miles north of Buna, where antiaircraft guns had been set up by morning.\(^5\)

During the morning of 22 July, the air forces carried out their real attack. A series of 3 heavy bomber, 5 medium bomber, and 5 fighter strikes was made on the convoy, and on landing barges, supplies, and personnel already on the beaches. They met almost no air opposition, but heavy antiaircraft and machine guns kept the bombers high. Ten B-17's dropping 500-pound bombs from 22,500 feet made no hits. Five B-25's and 6 B-26's met with equal success, but another B-26 made a direct hit on a transport. Lt. Robert J. Debord of the 435th Bombardment Squadron, noting the failure of his bombing, dropped through the clouds to a much lower altitude. His bombardier, Sgt. Richard H. Olson, then managed to score two direct hits on a transport. For three hours Debord remained in the vicinity, guiding later strikes to the convoy. Meanwhile, NAAF P-40's dive bombed barges and supply concentrations with 500-pound bombs, and P-39's and P-400's poured thousands of rounds of machine-gun and light-cannon ammunition into suspected
enemy positions. 6

By the afternoon of the 22d, however, the enemy had accomplished their mission. They had landed between four and five thousand men. They had established a base protected by antiaircraft which had shot down one navy P-40 and one P-400 in addition to inflicting damage both on Allied heavy and medium bombers. They had suffered, in return, undetermined losses from strafing; one destroyer was damaged; and one barge and an 8,000- to 10,000-ton transport were definitely sunk. 7

Having thwarted Allied occupation of Buna, the Japanese could now use it as a base for stronger air attacks against the Allies and were in a position to undertake the difficult overland drive against Port Moresby.

With well-trained shock troops the enemy pressed forward immediately toward Kokoda. To this thrust the Allies were able to offer practically no resistance. By the afternoon of 22 July, Japanese patrols had established a line running through Awala, 12 to 15 miles inland from Gona. Four days later, an Australian militia unit, which had worked its way up from Port Moresby, was attempting to hold the enemy at Kokoda. The Australians were still in possession of the Kokoda airstrip on 9 August, but gradually fell back toward the villages of Beniki and Isurava at the gateway to the "gap" through the Owen-Stanleys. 8

Through the month that followed the Japanese landing at Buna, the Allied Air Forces struck at Japanese bases and convoys, defended its own areas of support, joined issue with Japanese planes for control of the air over New Guinea, and wherever possible gave direct aid to
adversary. The P-40 also had its drawbacks. A July quarterly report showed 12 instances where this type of fighter had failed to intercept, usually because of engine failure at high altitudes.11

Among the more serious results of such weaknesses in aircraft was the effect produced on the morale of the crews. General Kenney, who assumed command on 4 August, tried to restore faith in the available fighters by emphasizing their good points. He admitted that the Zero had superior maneuverability, and that the P-39 engine located behind the pilot provided a good target, but he insisted that the P-39 had been successful against bombers, and that the P-40 "could slug it out, absorb gun fire and fly home, while the Zero burns or falls apart as soon as it is touched." Furthermore, he reminded his flyers that their planes could outdive the Zero, and that they could thus break off combat almost at will.12

The difficulty is well illustrated by two raids of July and August. Following a light night raid, 27 heavy bombers escorted by 15 to 20 Zeros, attacked Darwin on 30 July, its 26th bombing attack of the war. They damaged power and telephone lines, water mains, and destroyed fuel dumps. Given ample warning, 27 P-40's gained sufficient altitude to intercept the formation, shooting down six Zeros and two heavy bombers at the cost of one P-40.13 American fighters had less success on another occasion at Port Moresby, the most frequently bombed Southwest Pacific base. It had had a brief respite since a heavy raid of 20 July, but on 17 August, the Japs struck in force again for Moresby's 78th raid of the war. Twenty-four heavy bombers with unusual accuracy
troops on the ground by dropping supplies and by bombing and strafing the forward areas.

Their primary task was the defense of Allied bases, a responsibility falling chiefly on fighter units based at Port Moresby and Darwin. Throughout the period, Allied intelligence showed that the Japanese had deployed their air units in such a way as to maintain a constant threat to Allied positions. A summary of 4 August, for example, placed at New Britain 50 fighters, 38 heavy bombers, 11 float bombers, and 9 other aircraft described as float planes. In New Guinea, according to the same report, were 23 fighters, 2 heavy bombers, and 3 float planes. Moreover, bombers based in the Netherlands West Indies were within range of the northwest coast of Australia.9 During the Buna–Ikeda phase of the campaign, few Japanese air raids were heavy, but they were frequent. Small nuisance raids were directed against Horn Island, Darwin, and Port Moresby. Usually the bombers were protected by fighters which came in at 30,000 feet, too high for interception by P-40's, P-39's, and the out-dated P-400.10

These were the only fighters available for the Southwest Pacific, and their limitations seriously affected Allied operations. In July, the P-39, though usually enjoying a half-hour's warning, had made contact with Japanese bombers only four times out of a series of nine bombing raids, and even then less than half of the fighters involved had reached a sufficient altitude for effective interception. In 16 actual contacts with the enemy, the P-39 never enjoyed an altitude advantage, and when combat with a Zero began on the same level, the latter's superior climbing ability soon enabled it to out-maneuver its
hit both sides of the runway and the dispersal area of Seven-Mile Airdrome. Unlike previous raids, delayed-action bombs were dropped, four of 250 kilos with 5- to 35-minute delay fuses, and one 500-kilo bomb which exploded eight hours after the raid. P-39's and P-400's had sufficient warning to take the air prior to the attack, but were still unable to intercept.

The second responsibility of the air forces was to attack Japanese convoys, particularly in their movements along the New Guinea coast. While enemy infiltration and flanking tactics were forcing the Australian Diggers back along the Kokoda track, the Japanese frequently reinforced their troops in Papua. With inadequate naval forces, MacArthur had only his air force to offer opposition. The reliable 435th Bombardment Squadron did excellent work in spotting the movement of enemy shipping, but the Japanese took advantage of darkness and the weather to render bombing attacks only partially successful. On 23 and 26 July, approximately 1,500 additional troops were landed near Buna. On 28 July, reconnaissance flyers warned of two medium transports and two protecting warships heading south through St. George's Channel. On the next day, they spotted another convoy of at least two more transports and two destroyers. WAAF Hudsons and FEY's, American B-17's and A-24's flew out of Port Moresby through broken clouds to oppose the landing. They ran into Zero fighter protection, destroyed one Zero, and sustained serious damage to one B-17. A formation of eight B-17's flying lower than usual dropped 500-pound 1/10th-second delay-action bombs from about 2,000 feet, scoring direct hits on a transport. In spite of persistent attacks, however, the Japanese again fulfilled their mission. They lost at least one and probably two transports,
but their launches landed supplies and over 2,000 troops. Again on 13 August, 2 formations of 3 B-17's and 1 of 4 B-26's bombed shipping lying off Buna-Gona, but both weather conditions and fighter protection permitted 4 transports and 2 destroyers to land approximately 3,000 troops. The bombers claimed "nil hits."¹⁵

The American invasion of Guadalcanal and Tulagi on 7 August presented a third claim on the limited resources of the Allied Air Forces. On 9 August, Marshall urged MacArthur to concentrate his bombing operations on the neutralization of bases, such as Rabaul in New Britain and Kista and Buka in the Solomons, which the Japs could use to support their Guadalcanal garrison. Marshall also cabled the South Pacific Command a rather sweeping authorization to hold aircraft destined for Australia when necessary. Although General Halsey rarely had more than 20 B-17's in commission at any one time, the 19th Group, with some assistance from NAAF PBY's and Hudsons, provided indirect support for the Solomons campaign by reconnaissance and heavy bomber missions. Indeed, as early as 3 June, the 435th Bombardment Squadron, fitted out with special cameras, had undertaken a photo reconnaissance mission over Tulagi and three weeks later another over Guadalcanal. The resulting aerial photos provided one of the few sources of intelligence for the Navy in planning the Solomons invasion.¹⁶

On the very day that the Marines landed at Guadalcanal, 16 B-17's refueled at Port Moresby, and personally led by Colonel Carmichael, commander of the 19th Group, took off for Rabaul. One crashed on the take-off; two turned back because of engine trouble; but navigators guided the remainder through the equatorial front to Vunakanau airfield.
Here enemy fighters were waiting for them, and attacked head-on in an attempt to break up the expertly led formation. One B-17 was destroyed while seven enemy planes were shot down.\textsuperscript{17} It was impossible at the time to estimate the results of the bombing, but Allied intelligence subsequently produced an encouraging report. A prisoner taken in the Guadalcanal fighting on 7 August, who was "graed high," stated that between 150 and 160 Japanese bombers were at Vunakanau on 6 August.

Other intelligence officers had intercepted and decoded Japanese radio messages, which on 7 August stated that only 30 bombers could be provided to aid the Guadalcanal defenders, and which on the following day admitted that the Vunakanau attack had curtailed the air power available at Rabaul. From these reports Kenney concluded that the mission had destroyed at least 50 Jap planes on the ground.\textsuperscript{18}

Heavy bombers on such dangerous, long-range flights were never protected by fighter escort. Major Felix Hardison, commander of the 93d Squadron of the 19th Bombardment Group, later declared: "In my experience, since the war started, I haven't been escorted with my squadron, or in any squadron I have been in, once by pursuit."\textsuperscript{19}

The subject received much attention during the formative period of Allied operations in the Southwest Pacific. War correspondents directed criticism against the high command for not providing planes suitable for long-range, high-altitude missions and against General Brett for improper employment of such fighters as he had. The situation had not improved by July and August 1942 so far as distant flights were concerned. The more desirable fighters had not been, or could not be sent in sufficient numbers to the Southwest Pacific. Shorter missions,
however, did have escort, and B-25's and B-26's, usually in formations of from three to twelve, frequently had a top cover of P-37's or P-400's. 20

The necessity of maintaining fighter to defend strategic centers of supply, and on occasion as escorts, and the use of bombers for strikes against enemy lines of supply, reduced the direct support which could be afforded the ground troops. Nevertheless, the Buna-Kokoda phase of the campaign witnessed experiments of considerable importance to later and more successful cooperation between air and ground forces. Two phases of air support directly affected the troops fighting in the forward areas: low-level strafing and dive bombing and the use of transport planes to bring in supplies.

The unusually difficult terrain in Papua made any normal supply system impossible. All supplies brought overland from Port Moresby to Kokoda had to pass across the treacherous Owen-Stanleys. On the northern side, the average valley slope is 60° from the horizontal, and heavy rainfall frequently made the main track almost impassable. As Allied troops became more familiar with the area, they discovered additional native paths running along the crests of spurs and ridges where the going was sometimes easier, and came to measure distances in terms of time rather than by yards or miles. 21 Papuan natives, "as valuable as a railroad and somewhat surer," were the principal reliance in maintaining supply lines, but the slowness and the lack at first of effective organization of this supply system encouraged those who favored the use of air transport. Its possibilities already had been demonstrated in the supply by air of a small Australian force
still fighting in the neighborhood of Lae inland from Lae and Salamaua. General MacArthur in an earlier proposal for an offensive against Rabaul had envisaged an extensive use of transport planes, while a remark attributed to Kenney is characteristic of his belief in the potentialities of air power: "Give me the planes and a few days to make arrangements and I'll fly in the whole goddamn U. S. Army." \(^{22}\)

The drawback to the plan was that General Kenney did not have the planes. Transport strength on 21 July consisted of a total of 32 Lockheed and Douglas cargo planes, a few old B-17's, and a couple of L-30's. This assortment was the equipment of the 21st and 22d Troop Carrier Squadrons, but their personnel for the most part lacked both training and experience except in the case of a few former B-17 pilots who had left the United States shortly before Pearl Harbor. \(^{23}\)

Another handicap was the absence of suitable landing strips in the interior. The early loss of the Kokoda strip prevented extensive use of its limited facilities. The Australians there had in the first days of fighting been reinforced in small numbers by air transport. Rations and other supplies were landed at Kyola, approximately 15 miles south of Kokoda, but regular operations there, too, were interrupted by enemy activity after 17 August. \(^{24}\)

The bulk of the supplies carried by plane were dropped from the air, and in these attempts the air force was further limited by the lack of suitable equipment. There was a great need for parachutes for this purpose, but a tangle of red tape and other difficulties postponed their acquisition. Although a request for 5,000 supply-dropping parachutes with containers was made on 21 July, not until 22 September was it finally decided to send 1,000 parachutes without containers by air.
The remaining 4,000 were to go by boat. 25 It was thus necessary in New Guinea to rely on ordinary bags as containers. Dropped without parachutes, these bags displayed a natural tendency to split open on contact with the ground, and not until three thicknesses were used was a measure of success attained. 26

Another problem was that of dropping the supplies at the right spot. From relatively safe altitudes this proved almost impossible, and the transport was accordingly forced to fly through hazardous mountain passes at tree-top height. Since the weather was notoriously "sticky" in the afternoon, most of the supplies were dropped in the morning hours. The fact that four of the 32 precious transports were lost during August suggests the extent and nature of the operations. 27

Further support of ground troops was supplied by strafing and bombing operations directed against enemy positions. These missions frequently consisted of experiments with new techniques. On 7 August, 32 P-400's from the stores-based 35th Fighter Group swept through the gap in the Owen-Stanleys on a mission directed against enemy supply dumps in the Kokoda area. Not only did they expend 25,000 rounds of ammunition, but 16 of the fighters, outfitted with bomb racks, dropped 500-pound bombs in dive bombing attacks while the remainder hovered overhead to provide top cover. On 3 August, four P-400's, proving that they were not yet ready for the scrap heap, roared over Kokoda and near-by Civi "ten feet above the trees." In addition to strafing ground positions thoroughly, one of the planes dropped a full belly tank and then ignited it with incendiary bullets. 23

Of the two types of light bombardment planes in the Southwest Pacific, the L-20 and the L-24, only the latter was used actively.
during the Buna-Glória operations, because at the time the L-24's in Australia were being radically modified. The L-24, a dive bomber, frequently dropped its 500-pound bombs from about 2,500 feet. It was so poorly armed, however, that pilots dreaded flying without fighter protection, and at the same time it was so slow that fighters lacked sufficient fuel capacity to provide continuous protection even on the standard missions from Port Moresby to the northeastern coast of New Guinea. The Japs had so whittled down the two squadrons in Col. John Davies' 3d Bombardment Group that in August only 11 officers of the 8th Squadron were flying the remaining L-24's out of Port Moresby. A mission of 29 July had given convincing proof of Kenney's contention that if "even an occasional hostile fighter" should elude friendly cover, the L-24 could not survive. Of seven L-24's sent out on that day from Port Moresby with a P-39 escort, six failed to return. Following this catastrophe, General Kenney decided to use the L-24 only for non-contact missions, and he soon dropped it altogether from the status reports.29

It is difficult to assess the contributions of the Allied Air Forces during the first month of the Papuan Campaign. Any attempted assessment must first consider the probable situation had the enemy's air force been wholly unopposed. Fighter squadrons, aided by improved warning facilities, contributed to the declining number of damaging raids on Port Moresby and northern Australia. The heavy bombers, in turn, by their notably successful strikes on Rabaul strengthened the Allies in the air over both New Guinea and the Solomons. Valuable experience in supply and troop transport was gained. Fighter planes were increasing the scope of their strafing sweeps, and were learning the technique of escort for bomber missions, but insufficient evidence
exists to support glowing claims as to the damage done the enemy along the Kokoda track. Over much of it jungle foliage made possible effective concealment of troop positions. Even the bombing and strafing of villages did not necessarily result in wholesale destruction of stores, since it is doubtful that trained soldiers would have conveniently concentrated their supplies in such obvious targets. In spite of losses, the Japanese Navy was able to reinforce the New Guinea invaders almost at will. At all points the limited resources available to the Allied command must be borne in mind. Since heavy bombers were employed chiefly on distant missions, the burden of bombing attacks on Lae, Salamaua, Buna, and the Kokoda track fell upon the B-25's of the 22d Group and the B-26's of the 3d Group. Yet, during the month of August there were never more than 12 B-25's and 27 B-26's in commission.\(^{30}\)

In spite of Allied efforts during this first phase of the campaign, the Japanese had had almost complete success. They had kept the Allies on the defensive. They had firmly established themselves at Buna. They had advanced more than half the distance to Port Moresby, although they now faced the most difficult part of the Kokoda track. Japanese successes in New Guinea coincided with an increasing tempo in the battle for Guadalcanal. The Allied command was faced, therefore, with the question of whether the Japanese would persist in their invasion of New Guinea or concentrate their forces for a counter-attack in the Solomons.

**Milne Bay, 25 August to 10 September 1942**

Allied intelligence in mid-August 1942 indicated that the Japanese intended to abandon neither the Solomon Islands campaign nor their advance
toward Fort Hobery. Reports showed that during the first three weeks in August, they had flown some 300 aircraft of all types into the New Britain-New Guinea-Solomon Islands area, that they had completed an air strip at Buna, and were apparently preparing others at Dobodura near Buna, at Buka in the Solomons, and Kavieng in New Ireland. By 21 August, Allied officials had concluded, therefore, that a major effort would be directed against Port Hobery with possible parachute landings there or in the neighborhood of Milne Bay.31

Milne Bay, situated in the southeastern tip of New Guinea, guarded the sea approaches from the Solomon Sea to southern New Guinea. So far the Japanese had moved along the coast little if any below Buna, but it was logical to expect that for the protection of the left flank of their forces an attempt to occupy Milne Bay would be made. The Allies also had good reason for seeking to control a point offering protection for shipping and a base for future infiltration along the coast. In July the possession of Buna had similarly figured in Allied and Japanese plans. The enemy had reached Buna first, but in a like race for Milne Bay, the Allied ground and air forces won their first notable victory of the Papuan Campaign.

MacArthur, of course, clearly saw the importance of this strategic position and had laid his plans for the development of a base there. By August, American and Australian service units with some infantry and antiaircraft support had moved into this land of malarial swamps and coconut plantations to begin at once the construction of air strips. On 7 August, after a three-day voyage from Townsville, the 8th Fighter Control Squadron arrived in the Hanang, an old British
"tub," to provide aircraft warning facilities. Within two weeks, this squadron had established itself near a newly-completed air strip at Fall River, somewhat inland from the north shore of the Bay, and had sent detachments out to its sea flanks on Goodenough and Normandy islands.

By 11 August, the 75 and 76 RAAF P-40 squadrons, some of whose members had participated in the defense of Port Moresby in the spring, and a few RAAF Hudders, were based at Fall River, where the new air strip was satisfactory for fighters but, as yet, was inadequate for heavy bombers. The coconut plantations offered splendid possibilities for concealment, but rain had superheated the normally swampy ground and made dispersal difficult. By 19 August, however, MacArthur could report a fairly satisfactory situation: one strip would be ready for bombers by 25 August; two others already under construction would be completed respectively by 5 and 25 September. The expected arrival the next day of a brigade of the reliable 7th Australian Division would swell the total garrison to some 10,000 men.

Japanese aerial activity had already been stepped up in such a way as to suggest an impending move into Milne Bay. Port Moresby had had its 73rd raid on 17 August; Daruin experienced raid number 27 on 23 August. Meanwhile Jap flyers were showing unusual interest in Milne Bay itself. For several days, fighters appeared over Fall River, where on 24 August experienced Australian pilots intercepted about a dozen Zeros, shooting down two and severely damaging others. Ominous reports now began to come in from the 435th Bombardment Squadron. On 24 August an unknown number of Japs landed near Tufi on Cape Nelson, some distance below Sula. On 25 August, 7 barges were reported to have landed on Goodenough Island. On the same day, alert reconnaissance
shaded a convoy of three cruisers (or destroyers), two transports, and an assortment of small craft until there seemed little doubt that its destination was Milne Bay. 35

The approach of this convoy coincided with unseasonable weather. For two weeks frequent downpours had kept dispersal areas and landing fields under water and mud. Continued rains and visibility of from zero to half a mile now protected the approaching vessels. A formation of nine B-17's from the 93d Squadron of the 19th Group failed to locate the convoy on 25 August and returned to Port Moresby. Australian units flying from Fall River had more success. One Hudson was delegated to lead 24 P-40's to the convoy, and succeeded in spotting the rapidly moving ships 60 miles east of Milne Bay. Using six fighters for top cover, the remainder of the P-40's, each of them armed with one 300-pound demolition bomb, executed dive-bombing attacks. The destruction of one of the smaller, armed vessels was claimed at a cost of one P-40. 36

The Japs had probably expected to use fighters based at the improved Buna air strip as cover for their landing, but this the Allies were able to prevent them from doing. So long as the Allies held the crest of the Owen-Stanleys, Buna could not receive adequate warning of an approaching attack. For in a speedy fighter it was only a matter of minutes from Kokoda to Buna. Air tacticians took advantage of this fact. On 25 August, 17 P-400's set out for Buna. Storms buffeted the light fighters as they tried to find their way through the treacherous gap in the Owen-Stanleys. The weather drove 13 planes back, but the remaining four dove low over the airstrip strafing many dispersed enemy planes. Shortly thereafter seven more P-400's, swept through the mist and antiaircraft fire in five separate runs. On their final
run, pilots counted 10 Zeros burning on the ground. The P-400's followed up this successful attack by another on 26 August. This time as they approached the target, 10 Zeros were rolling across the landing strip in an attempt to intercept the attack. Twenty-mm cannon and machine-gun fire once more raked the field, destroying six of the Zeros. These Allied successes prevented the development of ambitious plans for fighter cover of the Japanese landing at Milne Bay.

Though by 25 August the Allied garrison under Maj. Gen. C. B. Clowes had been warned of an imminent attack, there was no clue until the following day as to the point along the swamp-protected shoreline at which to expect an attempted landing. At about 0100 on 26 August, two Australian patrol boats moving through steaming rain and mist along the northern shore of the Bay sighted the Jap landing force. They quickly radioed Australian ground force headquarters, directing the troops there to a point several miles from the airfield.

The Japanese apparently were surprised by the Allied strength. They obviously knew the base was being developed, for their planes had devoted considerable attention to the area prior to the invasion. It is possible, however, that they had not learned of recent reinforcements. One account asserts that as the enemy soldiers advanced into the "morass of flowing mud and . . . tangled wilderness of coconut plantations," they were laughing and singing. Since they landed only an estimated 2,000 men, they must have miscalculated Allied strength. Nevertheless, though few in number, they were jungle-trained and well equipped for the job. They had light tanks equipped with tracks 10 feet wide and with blinding searchlights. They attacked mostly at night, supported by shell fire from destroyers and cruisers which concealed themselves
by day from Allied bombers, but seemed ever-present at night.40

During the day, the opposing air forces provided support for their ground troops. Allied heavy and medium bombers patrolled the Bay in search of suitable targets, but, in general, they had little success on these missions. On 26 August, B-17's from the 19th Group, with a few attached planes from the 43d Group, carried out 11 sorties. Five-inch AA shells from the cruisers tore through one of the heavy bombers, completely destroying it, but the remainder pressed their attacks below a 2,000-foot ceiling, and two planes from the 93d Squadron claimed to have damaged two cruisers. Beginning at dawn, the USAF squadrons based at Fall River struck repeatedly at all signs of enemy activity. They strafed landing barges, 15 of which were drawn up on the beach. They poured machine-gun bullets into gas drums which were floating in the surf near shore. One pilot spotted a truck upon which he concentrated his tracers until it exploded.41

Although outnumbered, the Japs at first pushed forward toward the airfield. They hindered daytime counterattacks by leaving small groups of snipers in concealed positions to harass the diggers from the rear. The famous Australian 75 and 76 Squadrons attempted to wipe out these pockets of resistance by strafing suspicious points of concealment, including the tops of palm trees. On one of these raids, Peter Turnbull, leader of the 75 Squadron, winner of the DFC in Libya, and veteran of the early defense of Port Moresby, caught his wing on the top of a coconut palm and crashed in flames.42

The Japanese advanced rapidly to the airfield, but here well-trained defenders, made up of Australian infantry and American engineers, rolled them back. The P-40's persistently attacked the tanks, now
partly bogged down in four to six feet of mud, while the Dyers moved forward. By 29 August, infiltration and encirclement were gradually making the Jap position hopeless, and that night a large number were evacuated by the ubiquitous Japanese destroyers. 43

On 1 September 1942, MacArthur's communiqué announced that Allied forces were mopping up. An editorial in the New York Times commented: "Yesterday the Tokyo radio broadcast some pleasant items about an art exhibit at the capital, a new Japanese swimming record, and a big-hearted Japanese general who feels sorry for the Filipinos because we mistreated them. But there has been no mention of Milne Bay."

The fighting was not entirely over although the battle had been decided. 44 A summarizing communiqué on 31 August 1942 claimed that the Japanese had fallen "into the trap with disastrous consequences to him." Actually it does not seem to have been so much a trap as a savage battle for a strategic area which the Allies had reached first. Both sides sustained heavy casualties. Of the estimated 2,000 troops landed by the Japanese, from 700 to 1,000 were killed, and 9 were taken prisoner. Of the 3,000 Australian veterans who fought in a no-quarter struggle, more than 2,000 were lost, and this does not count the militia. Of most importance, perhaps, was the fact that the Allies had cut off the left prong of the pincers grasping for Port Moresby. Although the Jap right flank along the Kokoda track still was advancing, the Milne Bay victory removed a part at least of the threat. Allied air units, handicapped by the pre-rainy season storms had not been able to prevent either the landing or the evacuation, but they had eliminated much of the fighter cover for Japanese activities, by constant attacks had probably hindered reinforcement, had destroyed supplies, and had
encouraged the ground forces by low-flying support.45

Kokoda-Iorabaiwa Ridge, 25 August to 2 November 1942

While Allied air-ground forces of the Southwest Pacific for the first time were inflicting a severe defeat on enemy forces at Milne Bay, the right flank of the Japanese offensive in New Guinea was meeting with greater success. On 31 August their troops, continuing a diversionary effort toward Wau, defeated the small Australian force in that remote area.46 Along the Kokoda track, Japanese units were preparing for a further thrust toward their immediate goal, Port Moresby.

After being forced out of Kokoda by enemy assaults the Australians, reinforced by an additional battalion, had established positions running through the villages of Isurava and Deniki. Their plan was to maintain a defense in depth, holding positions designed to cover strategic areas. Limited forces, however, prevented the maintenance of sufficient strength at any one point. The Japs, moving along high ground, consistently outflanked them or infiltrated through weak points. Battalions newly arrived in the forward areas found the usual difficulties adjusting to the terrain. Patrols, forced to explore territory even in the rear of their own lines, found numerous passable tracks whose existence had previously been unknown. Communication presented almost insurmountable difficulties. Control areas had to rely on a single telephone line which was supplemented to some extent by radio, but the latter often proved undependable where mountains and stormy weather presented effective interference.47
The 53d Australian Battalion held the flank at Isurava Ridge.
This militia unit had received some jungle training; but weighed down
by unduly heavy equipment, commanded by inferior non-coms, and harassed
by an almost invisible enemy, its morale steadily deteriorated. On
29 August after preliminary infiltration, the Japs launched a frontal
attack. Veterans of the Kokoda fighting held, but the 53d Battalion
gave way, and the Japs on 30 August had accomplished a major break-
through. Reinforcements from the 7th Australian Division, after an
exhausting march over the Owen-Stanleys, arrived too late to stem the
Japanese advance, and the Allied force, suffering heavy losses, was
forced back through the gap.  

The withdrawal continued to Iorabaiv Ridge. The Japanese had
accomplished another of the "impossibles": a comparatively small force
had fought its way over the Owen-Stanleys, and on 15 September 1942 was
within 30 miles of Port Moresby. At that Australian outpost could be
heard occasionally the boom of the Australian 25-pounder or the Jap
75-mm. But there were signs of hope for the Allies. On 15 September,
three fresh Australian battalions reached Iorabaiva Ridge to reinforce
the exhausted troops falling back from Kokoda. On the same day the
first American infantrymen to arrive in New Guinea, members of the
32d Division, were landed by transport planes at Seven-mile Airdrome
near Port Moresby. Moreover, Japanese supply lines were now dangerously
extended, and the enemy faced the same problem of supply that heretofore
had seriously hampered the Allied effort. Upon this weakness, the
Allied Air Forces were to maintain a continual attack.  

The contribution of the Allied Air Forces continued much as before,
although experience and careful planning produced improvements in
technique. Medium and heavy units struck against distant bases, harassed convoys, and bombed prominent supply points in New Guinea. Fighters provided "top cover" for bombers and transports when missions were within the limited range of P-40's, P-39's, and P-400's. Fighters and light bombers maintained a bombing and strafing patrol over the track as continuously as weather and the availability of planes permitted.

Rabaul and Buka continued to serve as key supply points and air bases for Japanese operations both in New Guinea and the Solomons. During September and October General Kenney's heavy bombers carried out at least 12 missions against the airstrip at Suin, 8 against Buka, and 15 against ground targets at Rabaul. Earlier attacks had concentrated on shipping and the important airfields. The new series of missions, some of which were in direct response to requests from naval commanders in the South Pacific, included Rabaul town as well. 51

The attacks were carefully planned. In some instances, RAIF PBY's would fly slowly over the town at 5,000 to 7,000 feet, dropping a few demolition or fragmentation bombs and a shower of incendiaries. The beacons thus provided guided B-17's in their bombing runs, sometimes to precision-bomb the airstrip or other identifiable targets from 4,000 to 10,000 feet, sometimes to bomb zones in the general target area, usually to sweep down low enough to fire .50-caliber bullets at searchlights and personnel. The size and frequency of these attacks demonstrate the growing striking power of "the air" in the Southwest Pacific. 52

The first raid against Rabaul town was scheduled for 1 October. It was planned to use the entire 19th Group, and the squadron commanders
made every effort to put all their B-17's in commission. At the last minute, however, the attack was called off as "someone talked too much," and "everybody" knew about it. On 5 October, however, eight bombers of the 23rd and 30th Squadrons left Port Moresby for Vunakanau and Lakanai airfields. They completed their bombing runs but met fierce resistance from enemy fighters. In fact, the 30th Squadron, commanded by Maj. John A. House, was shot up so badly that it could not participate in even heavier missions scheduled for the 9th and 10th.  

These two operations, the largest to date against Rabaul, combined the resources of the two heavy groups, the 63d Squadron of the 43d Group, commanded by Maj. William G. Benn, receiving orders to join with the 23rd and 93d Squadrons of the 19th Group. After the initial hop to Port Moresby, all crews were carefully briefed. Thirty heavy bombers then took off for Rabaul, led by selected planes of the 19th Group under the personal command of Maj. John A. Dougherty, group operations officer. These leading planes illuminated the target area with flares, the first to be used "in a black night attack." Though one engine of Dougherty's plane burst into flames, he remained over Rabaul for 45 minutes while B-17's of the three squadrons dropped 500-pound bombs. Back at Port Moresby, the day was spent in preparation for a return mission the following night. Since the ground personnel of the 63d were many hundreds of miles away at Mareeba, there was little rest for bomber crews during that day. With the aid of Maj. Bernard A. Schriever, engineer officer of the 19th Group, Maj. John Benn of the 63d Squadron and Maj. Felix Hardison of the 93d were able to put all their planes into the air for the second mission, and once more accompanied by some planes of the 23rd Squadron returned to Rabaul to
finish what they might "have missed the first night." In the second mission, 21 B-17's participated. Two such missions across the equatorial front and over a heavily defended enemy base completely exhausted the crews. As the historian of the 63d Squadron reported, the "whole gang" wanted to touch Port Moresby only long enough to gas up before continuing to Varee for "a lot of sleep, rest . . . some maintenance," and a 48-hour pass. 54

A follow-up attack was made on 13 October by the 19th Group. The planes as usual had flown from their Australian bases to Seven-Mile Airdrome at Port Moresby on the preceding day. After a briefing at 2000 hours and a short rest in grass huts near the field, the crews prepared to take off at 2200. Crossing the Owen-Stanleys at about 14,000 feet, they gradually decreased altitude until at 0200 hours they had fixed their location over the New Britain coast near Gazuma. Leading planes dropped flares to light up the target area, but in some cases the precise timing required on such missions was lacking. For example, one plane was two miles away when the flares were dropped, and they had burnt out before it had completed its run; moreover the bombardier was not ready on the second run; and not until the fourth run did he pick up the runway and lay his stick of bombs in the assigned area. During this dawn assault, 30 tons of bombs were dropped. 55

In addition to distant bombing missions, the Allied Air Forces continued to patrol the New Guinea coast line in search of Japanese activity. During this period, the Japs were obtaining supplies at Buna largely by small-boat transportation rather than by large convoys. They loaded supplies on motor launches, canoes, luggers, and landing barges, which, under cover of darkness or stormy weather, would creep
along the shore from Lae or Salamaaua to Buna and Sanananda. To prevent such traffic proved almost impossible. Small boats offered an even more illusive target than had the July and August convoys. Persistent attempts, however, were made to interfere by the bombing and strafing of barges beached in the Buna-Sanananda area.\(^{56}\)

Although there were several false alarms, few large convoys appeared off the New Guinea Coast during September and October. Intelligence officers suspected that submarines were bringing supplies to the garrisons of Lae and Salamaaua, and for the supply line over the Owen-Stanleys.\(^{57}\) One fairly substantial landing, however, did occur at Buna. Reconnaissance early on 5 October 1942 warned of the approach of a light cruiser and 1 destroyer (or 2 destroyers) and one 10,000-ton transport. Two B-29's investigating the convoy found themselves attacked by a strong formation of Zeros. The B-29's cropped their bombs from 4,000 feet without success, but shot down two Zeros; one B-29 was lost. Another formation of six B-25's, flying at 10,000 feet, missed their target with 500- and 100-lb. bombs before the Zeros drove them off. 3-17's escorted by R.A.F. Beaufighters attained even less success when they failed to locate the convoy. The Japs landed an estimated 1,000 men.\(^{58}\)

The troops and supplies which the Japanese landed either by convoy or small boat in the vicinity of Buna had to move over the track almost 100 miles to the front at Irohakana Ridge. From the main supply dumps at Buna natives, pressed into service by the enemy, carried ammunition and food to subsidiary supply points along the track. The first part of the journey was relatively easy except when rains flooded the rivers and soaked the normally passable track. After leaving Kokoda,
however, Japanese supplies had to be carried over the same mountains and the same gorges that had so discouraged the Australians in their operations of August and early September. A first-hand knowledge of the vulnerability of this supply line encouraged the Allies to think that persistent air attacks might cut off the Jap troops at Iorabaiwa.

General Kenney, therefore, threw all available planes against supply points along the Kokoda track. Fighters based at Port Moresby and medium and heavy bombers based in northern Australia, but using Port Moresby as a refueling station, were joined in September by modified L-20's, planes which soon were almost to monopolize low-level attack operations. Although these light bombers had been carried on the status reports for several months, they had serious weaknesses for combat operations. Their fuel capacity was insufficient for the tough haul over the Owen-Stanleys, and their four .30-caliber machine guns provided inadequate fire power for low-level attack. But with addition of four .50-caliber machine guns and two 450-gallon bomb bay tanks, the L-20's were now converted into a useful weapon. Two American squadrons, the 8th and 89th of the 3d Bombardment Group, and at least one RAAF squadron were thus equipped and attached for operations to the Northeastern Area. Through July and August, these modified aircraft were engaged in training missions, working in conjunction with Australian Beaufighters or diving at B-25's to give the latter training in defensive tactics. Finally on 29 August, the 89th Squadron moved to Kila Kila Field at Port Moresby. The plan was to maintain two squadrons of L-20's here and the others in Australia, thus making possible periodic rotation for both planes and crews.
Although the Japs were well trained in making full use of the terrain for concealment, they could not camouflage certain obvious targets. Among them was the much-bombed Wairope bridge across the Kumusi River, slightly over half way between Buna and Kokoda. This bridge originally had been suspended on wires across a chasm of the Kumusi. Although the river was fordable at certain points along the track, it was a treacherous stream; consequently, the bridge provided a safer means of maintaining the supply line. For greater permanence the Japs had replaced the original make-shift structure by another set on pilings driven into the river bed.

After intelligence had reported in the middle of September the construction of this new bridge, it became a tantalizing target for every kind of air attack. Between 21 September and 3 October, 13 separate bombing attacks were made on the bridge. After a dive-bomber attack with P-40's using 500-pound bombs, on 25 September, the pilots reported the bridge completely destroyed. Flyers attacking again on the 28th stated that the bridge appeared to be 10 feet wide, was constructed with five supports between the banks of the river, and had a floor consisting of timbers five inches thick. On 30 September, B-17's bombed from 3,000 to 4,000 feet, and the next day four attacks by B-17's and P-400's, which dropped belly tanks and then strafed them, were said to have destroyed 18 feet of the flooring.

The purpose of the bridge, meanwhile, was causing some speculation. Occasional reports mentioned other bridges in the neighborhood, but no one seemed to know exactly how many there were. One summary stated that it might have been merely a decoy to draw attention from the use of fords or camouflaged bridges in less obvious parts of the river.
If such were the case, it certainly served its purpose. Nevertheless, the Japs seemed unduly eager to keep the main span repaired. On 1 October, for example, when a large portion of the bridge was reported destroyed at 0300, the Japs had repaired and were using it again by 1530.65

Particular missions sometimes required more careful preparation. Discovering that the Japs were using mules as well as natives to carry their supplies over the difficult track, the 8th Photo Squadron assumed the responsibility of locating their corrals and supply dumps. Late one afternoon, the camera-equipped F-4's photographed the track from 7,000 feet. That evening Major Polifka, squadron commander, completed a mosaic by which 47 supply dumps and three mule corrals were located. Armed with small prints of the mosaic, Colonel Davies' A-20's took off from Port Moresby on the following day and methodically bombed and strafed each of these targets.66

A study of operational reports indicates that high-level bombings of such targets as "airopi bridge, supply dumps, and grounded planes frequently failed in their objectives. Just as the ground forces were hampered by inexperience, so the air forces were confronted by new problems which could be solved only by experiments and on-the-spot modifications. Many complications arose to hinder accurate bombing. Poor visibility interfered with numerous missions. The use of certain bombs was still in the experimental stage. Kenney's flyers, for example, could not use stabilized fragmentation bombs because of lack of tables for high-altitude bombing, and because of the safety factor for low-level attack. One hundred-pound bombs with instantaneous nose fuses also were unsafe for use at low altitudes, while from high altitudes
they would drive into the ground and form a crater which would throw fragments vertically rather than horizontally toward the targets.67

An experiment using parachute bombs was tried in a carefully coordinated attack on Buna. On 12 September 1942, seven B-17’s swept in through rain squalls and heavy antiaircraft fire to drop 360-pound demolition bombs from 3,000 feet on the airstrip. These were followed by additional demolition bombs dropped by five B-25’s from 5,000 feet. Finally, and under a cover provided by P-40’s, A-20’s roared over the target area at 70 feet pouring .30- and .50-caliber bullets into parked enemy planes and loosing over 300 x 23-pound parachute bombs. In spite of poor visibility, all antiaircraft fire was silenced, and the A-20 group commander claimed 17 Zeros destroyed on the ground. One B-17 was shot down. This was the first reported use of parachute bombs in the Southwest Pacific. Although the supply was insufficient for an immediate renewal of the attack, it proved a highly significant preliminary test in the light of similar blows directed against airfields in the middle of November.68

An even more difficult phase of air operations was the direct support given the troops along the track. Here fighting occurred beneath a canopy of thick foliage which greatly increased the danger of mistaking Australian troops or friendly natives for the enemy, a difficulty persisting throughout the campaign and never completely overcome. Principal reliance of the air units was placed upon air liaison officers posted with the infantry, who undertook to identify targets for attacking planes, usually American or RAAF A-20’s, by the use of smoke or panel signals. Sweeping low across mountain ridges and treetops, the A-20 crews watched for the signal, and having located their own
ground forces would strafe either indicated points or the length of the track held by the enemy. The attack was usually made under cover provided by P-39’s or P-400’s. After the A-20’s had completed their attack and turned for the 60- to 90-mile trip back to Port Moresby, the fighters would drop down to tree-top level and add for good measure their own machine-gun and light-cannon fire.

In the forward areas, meanwhile, the outlook was getting brighter. The reinforced Diggers were now besting the Japs at their own game. Camouflaged patrols infiltrated the Jap lines. The Australian 25-pounders hammered at prepared positions and destroyed barricades. Finally on 28 September 1942, the Diggers launched a main attack out-flanking Japanese positions and forcing strong defenses with the bayonet. Thus began the Japanese retreat. This time the Australians found that the jungle had taken its toll of the enemy. To the characteristic jungle odors had been added the stench of decomposing Japs, dead from starvation, typhus, dysentery, or the poisons of jungle fruits.

In contrast to the lack of Allied preparation apparent before 15 September, this success demonstrated careful planning. The advancing Australians moved cautiously, bringing up food and medical supplies, paying careful attention to sanitation, eliminating Jap resistance before pushing too far along the track. The Japs still offered tenacious resistance, but between 12–21 October 1942 a further flanking attack in the neighborhood of Templeton’s Crossing forced them from “the wide spot in the road” where the mountain trails join for the descent to Sura.” Just three months after the Japs had captured Kokoda, the
Australians on 2 November forced them out of that village in the northern foothills of the Owen-Stanleys and placed the small airfield, 1,200 feet above sea level, once again in Allied hands. Now transport planes could carry in supplies and reinforcements; they could evacuate sick and wounded in a few minutes from the combat areas to Port 'evesby whereas before 10 men had been required as litter-bearers for each wounded man carried back along the precipitous track.74

Again it is difficult to evaluate the role of the air forces during this period of changing fortunes. Operational reports frequently admitted that an estimate of results was impossible.75 Several indications, however, point to a more effective use of air power. Australian ground troops commented on the results of strafing, stating that enemy supplies and personnel had been destroyed by fragmentation bombs and .50-caliber bullets, and Australian liaison officers praised particularly the work of the modified A-20. Furthermore, the starved condition of Japanese dead indicated that the air force had at least helped to prevent sufficient supplies from reaching the forward areas.76 A Japanese document falling into Allied hands describes the results of an attack on the Buna air strip by B-17's escorted by Beaufighters.77

On the 5th October, 1942, 1330 hours 8 enemy fighters and 5 Boeing B29's attacked the machine gunners' waiting place at the Buna airfield's machine-gun position. Ammunition nearby was hit. Gasoline cans in the vicinity were destroyed totally, along with the ammunition. Machine gunners took their position and took up the battle. After the enemy planes withdrew, we tried to extinguish the flames, but the rifle ammunition and the pistol ammunition in the tents, and the gasoline cans in the vicinity, exploded. We could not get near and the above items were destroyed by fire.

Although the Jeps continued to reinforce and supply their troops by sea, Allied air power attained some access in harassing the sea lanes.
Frequent strafing destroyed numerous barges and supplies on the beaches.

Although the convoy of 5 October succeeded in reaching Buna, another convoy spotted off southern New Britain on 1 November was driven back by continued bombing and strafing assaults including virtually every type of plane in General Kenney's command: B-17's, B-26's, B-25's, Beauforts, Beaufighters, A-20's, and dive-bombing P-40's. The continued attacks on airfields at Lae, Salamaus, and Buna in conjunction with air bombardment of Rabaul served the purpose not only of supporting land campaigns in Papua and Guadalcanal but also of wearing down Jap air power. This policy Kenney himself had outlined succinctly shortly after his assumption of the Allied air command in August:

Operating from advanced bases is a horrible handicap, but with the Japs out-numbering us in the air about three to one and with a long-range fighter for escorting their bombers I do not dare to base any bombardment in New Guinea until I weed Mr. Noto down to my size. That is what we are trying to do at the present time. . . . He built his whole strategy on fighter cover. If we take out his fighters, his bombers won't go. They are poorly defended and a P-40 or P-39 is good for about three or four of them before the ammunition gives out. If his fighters and his bombers don't go, his troops and boats don't go either, so I am going to continue working on the Jap air force as hard as I can.

With the battle of Iorabaiwa Ridge, purely defensive operations in the Papuan Campaign ended. The prongs of the Jap pincers clutching at Port Moresby had been broken off. Milne Bay and Iorabaiwa Ridge marked the turning point in the campaign. Undoubtedly Australian pressure and the failure of supply forced the Japanese to retreat, but it does not entirely account for the speed with which they retraced their steps along the track. Probably their scouts or the jungle grapevine had brought them word of an entirely new element in the operations, the ferrying by transport plane of large numbers of American
troops from Port Moresby to a point dangerously close to their main base at Buna. Only a quick withdrawal could save the Japanese from the possibility of being trapped between advancing Australians and the air-borne Americans landing at their rear.
Chapter III
BUNA

Background: Plans and Organization

The Buna phase of the Papuan Campaign marks the change from a defensive to offensive operation on the part of the Allies. During the preceding months, Allied strategy had been simply to repel the Japanese Army along the Kokoda track and to forestall its occupation of other Papuan bases. MacArthur's ultimate aim in Papua, however, was far more than a purely defensive one. He planned to annihilate the enemy forces and to secure bases on the northeastern coast of New Guinea as a prelude for further offensives. He would accomplish this by an enveloping movement in which fresh American troops would move around the Japanese left flank by a northeasterly route across the Owen-Stanleys to cut off the enemy in the neighborhood of Fairope. Cargo planes were to supply the troops moving overland by dropping rations and equipment at specified points until they had reached a point near enough to the coast to be supplied by small boats from Milne Bay.\(^1\)

Chief among the ground forces available for the operation were the American 32d Division, which had been receiving combat training in Australia, and the Australian 7th Division, most of which was already engaged in the Kokoda fighting.\(^2\)

The Allied Air Forces were being completely reorganized during the fall of 1942. There had been criticism by those who felt that American units were too much under Australian domination, and with
competent American headquarters personnel now available, it was considered that a separate American air force could be established. Maj. Gen. George C. Kenney's selection in the summer to succeed Brett had given promise of an effective reorganization and of vigorous air operations in the Southwest Pacific. Kenney, who had jumped from the rank of lieutenant colonel to brigadier general in January 1941 and to major general in February 1942, reached Australia in July with a brilliant record as commander of the Fourth Air Force and previous to that as commandant of the Air Corps Engineering School at Wright Field.³

On 4 August 1942, Kenney assumed command of the Allied Air Forces. Within three days, General MacArthur requested authorization from the War Department for the formation of a typically American organization of AAF units and suggested the designation of Fifth Air Force in honor of his former air command in the Philippines. Authorization was received on 9 August, and the Fifth Air Force was officially constituted on 3 September. Kenney immediately assumed command, but retained in addition his command of the Allied Air Forces.⁴

Several months passed before the organization was fully complete. The Fifth Air Force was to include the V Fighter, the V Bomber, and the V Air Base Commands. But the headquarters and headquarters squadrons of the air force and the bomber and air base commands were not officially transferred from the Philippines to Australia until 2 November. Only the V Fighter Command was transferred directly from the United States, and, although many of its personnel were already in the Southwest Pacific, the headquarters and headquarters squadron did not officially arrive until 24 November.⁵

During the formative period of the new organization, between
August and December 1942, staffs were being chosen and operational methods discussed and tested. By September, Kenney had established an advanced echelon at Port Moresby under his Deputy Commander, Maj. Gen. Emsis G. Whitehead, and had selected Brig. Gen. Kenneth N. Walker, who had already distinguished himself by accompanying numerous bombing missions to obtain first-hand information, for the V Bomber Command. Whitehead also temporarily filled in as fighter commander until he succeeded on 11 November by Col. Paul B. Wurthsmith, who had so ably led the 49th Group in the defense of Darwin during the spring and summer months.

As Commanding General of the Allied Air Forces, General Kenney held operational control over both the Fifth Air Force and the RAAF with the latter retaining its administrative autonomy. Moreover, it was decided to establish a fairly clear line of demarcation between the operational responsibilities of the RAAF and the Fifth Air Force. Except for the Northeastern Area, the RAAF assumed the responsibility for defense of the Australian continent, and in addition full responsibility for the Northwestern Area from which reconnaissance and bomber operations against the Netherlands East Indies were usually flown. The Fifth Air Force was entrusted with the Northeastern Area from which the planned offensive was to be launched. The arrangement was by no means inflexible. RAAF squadrons were attached to the Fifth Air Force and repeatedly participated in its operations, while the Fifth frequently furnished units to its ally on request. American heavies, for example, were often based near Darwin as insurance against a possible Japanese offensive thrust from the East Indies.
Operations against Convoys and Distant Bases

The reorganization of the air forces did not profoundly change the operational routine which had been established during the opening months of the Papuan Campaign. However, the success of the MacArthur plan for the destruction of the Japanese Papuan Army depended to some extent upon the increased effectiveness of Kenney's air units. It was becoming obvious that this proposed annihilation would not take place unless the flow of Jap reinforcements and supplies could be cut off. The anti-convoy operations of the air force, therefore, assumed more and more significant proportions. Such operations included strikes against shipping along the New Guinea coast and long-range bombing missions against supply points which served as reservoirs for enemy forces both in the Solomons and in New Guinea. To carry out heavy bomber raids against such objectives in October and November, Kenney had two bomber groups equipped with B-17's, the veteran 19th Group and the 43d. By dint of many extra hours of work by ground crews, these two groups usually were able to maintain a daily strength of approximately 40 heavy bombers in commission.9

This strength was insufficient to conduct a general air offensive in the Southwest Pacific, and Kenney constantly pressed his needs for reinforcements. In a letter to General Arnold on 21 October he wrote: "I wish you would believe that I have been awfully lucky so far out here; I have gambled with weather forecasts, time of Jap takeoffs, movements of shipping, troops and everything else—you may call it estimating the situation correctly but actually it is guesswork. . . . The Jap is two days from the factory to the combat zone and he may
swarm all over me. If I am knocked out, believe me, the ground troops are all through in this theater. New Guinea, including Aoresby, will go back to the Japs if the air gets chased out.\textsuperscript{10}

This letter caused General Arnold "considerable apprehension." He felt strongly that the "number 1 theater in this war is Europe and the number 2 is Australia," and he requested that a reassessment of the requirements of the Southwest Pacific be made. A study made as a result of this request led to the conclusion that the air forces in the Southwest Pacific had been built up as much as was consistent with the over-all policy. On 6 December, therefore, Arnold replied to Kenney that he planned to keep the Fifth Air Force strong enough to defend the area "and to carry out a limited offensive..." This policy was, of course, consistent with his views that "Hitler is the more powerful opponent, both presently and potentially, and it would be far more dangerous to maintain a defense in his case until such time as he could gather his forces for a combined effort."\textsuperscript{11}

Nevertheless, General Arnold had already emphasized on 1 December that the Fifth Air Force should be kept up to strength. He felt that the two heavy bombardment groups particularly should receive regular replacements so that Kenney could count at all times on a strength of 70 heavies.\textsuperscript{12} Such a program, however, was complicated by a plan drawn up at Washington in July 1942 to replace all B-17's in the Pacific areas with B-24's. On 10 September, Arnold warned Kenney of the impending change in a personal letter, including a tentative schedule of replacement, and within a month, a War Department cable officially stated that future allocations of heavy bombers to the Pacific areas were to be exclusively B-24's.\textsuperscript{13}
This change in heavy bomber type led to considerable controversy as to the relative merits of the B-17 and the B-24. The absence of the ball turret on the B-24 apparently caused a feeling among some of the crews that this ship had inadequate defenses. General Kenney in part shared this feeling. He believed that "with extra gas, bigger bomb load, and new blood, we will pay bigger dividends." Nevertheless, he planned to use the B-24 at first only at night. He also considered the 73 B-24's promised for the next nine months not enough "to make up for combat losses, accidents, and general wear and tear." Furthermore, he stated that the B-24 did not have the B-17's high speed at altitudes above 20,000 feet, and that it was "harder to fly in defensive formations at high altitudes." I-3 countered with the statement that in the Middle East when opposed by both anti-aircraft and fighters, B-24 attrition without fighter escort had averaged only 7 per cent, and that experience in England indicated that the Liberator performed satisfactorily in formations with B-17's.

The first step in the change from B-17's to B-24's was to be accomplished by exchanging the 90th Group, which would be awaiting transfer in Hawaii, for the 19th. At first some confusion resulted from this proposed transfer. By a mix-up in orders, five B-24's instead of remaining in Hawaii according to plan took off for Australia early in October. It was difficult to keep track of stray planes over the wide Pacific, and a later cable indicated that others might have been involved in this flight. Actually five did arrive in Australia on 12 October, but preparations were immediately made to send them back to Hawaii. By 1 November, however, a squadron of
B-24's had arrived in Australia, and a month later, 43 bombers of the 90th Group had joined the V Bomber Command. Meanwhile, the 19th Group, many of whose members had spent 11 months in a combat theater, had started home. The 93d Squadron left Australia on 23 October, and the 435th flew its last mission on 13 November. The 28th was attached to the 43d Group between 2 and 13 November, but before the end of the month along with the 30th Squadron began the flight back to the United States.\(^{18}\) Thus in the midst of the trying days of the Buna operation, the presence of a new group and a new plane added seriously to the perennial problems of maintenance and training in the Southwest Pacific.

On 24 October, Kenney expressed his distrust of the 90th Group's training for night flying, formation flying, and gunnery, explaining that "This job here calls for night take-offs with maximum loads and often with crosswinds, climbing through overcast to fifteen and sometimes twenty thousand feet to get on top in order to navigate. It is then normally necessary to come on down to see the target under a ceiling which may range from two thousand to ten thousand feet, pulling back on up after the attack to navigate home and on arrival back at Lorenty . . . breaking through again to land."\(^{19}\) Disasters in the early flights of the 90th Group gave support to Kenney's fears. On one occasion in November, 12 B-24's took off from Iron Range in compliance with urgent requests from the Navy "to get our stuff over in the Shortland base." Only two reached the target; two never came back; one landed in Milne Bay out of fuel, although, according to Kenney, "he had enough gas to almost make India." The others landed at Fort Lorenty, Townsville, and Mareeba, with "two or three" returning to their original
station. On the same night, B-17 pilots who bombed Rabaul reported normal flying conditions. 20

Toward the end of November, Kenney put the 90th Group back on a training status. Since the group commander, Col. Arthur W. Meehan, had been lost on its first major mission, Col. Ralph E. Ioon, former K-4 of the V Bomber Command, now led the group. Its planes were flown first on antisubmarine patrols over the Coral Sea, returning to their bases in daylight; later they began to return at dusk, and gradually worked up to night landings. They next progressed into more active regions, flying armed reconnaissance, carrying cameras and four bombs. Finally, late in December they were taking over the combat tasks left then by the 19th Group. 21

Maintenance problems also interfered with B-24 operations. In the first place, the ground echelon of the group did not arrive until 24 November. 22 Consequently, ground crews of the 43d Group, already working overtime to keep their B-17's in commission, had to wrestle with the completely unfamiliar B-24. To make the problem doubly complicated, the mechanics discovered that all the nose-wheel shimmy collars were cracked. Without spare parts, all B-24's had to be grounded after 24 November. By the end of the month, however, they found that they could hog the collars out of solid steel billets and equip all planes. 23 The 90th Group was thus brought only gradually into active operations. With the 19th Group off to a well-earned rest from combat, the 43d was left to carry out a majority of the missions requiring heavy bombers.

A survey of the attacks against shipping and distant supply points during the final phase of the campaign, however, demonstrates that the
the V Bomber Command was willing to throw everything it had against these top-priority targets. Heavy bombers would attack as soon as reconnaissance reported the position of a convoy. B-26's and B-25's would join the fray if the enemy ships came within range, and finally if a serious landing developed, all types of bombers and fighters would converge upon the barges and landing parties.

The November rains offered new opportunities for the Japanese Navy to slip reinforcements into the beleaguered Buna-Gona-Salamandra area. During the last ten days of November, the Japs made at least four such efforts, using cruisers, destroyers, and transports. Although they met with some success in landing troops, the Allied air attack also showed an improved technique. Ignoring antiaircraft fire, B-17's sometimes dropped their bombs from as low as 1,000 feet or even carried out mast-high attacks. Moreover, they succeeded in inflicting damage upon convoys attempting to slip into the Buna area at night. On 13 November, for example, six B-17's in a night attack claimed the sinking of a destroyer and the probable sinking of a cruiser. On 24 November, two destroyers were sunk also at night, and before the end of the month, two more were severely damaged.

The attack of 24 November particularly illustrates the new methods employed by the bombers of the Fifth Air Force. Just before midnight, 7 B-17's from the 63d Squadron, five of which had already participated in two missions during the day against supply dumps near Salamandra, took off from Port Moresby to attack five enemy destroyers in the Hnum Gulf. After spotting the convoy, they climbed to about 13,500 feet, then dropped to 200 feet to make their first run at 255 miles an hour. At this point, AA shells bursting around the planes penetrated the tail
gunner's post of the B-17 piloted by Capt. Kenneth D. McCullar explod-
ing "about 70 shells and starting quite a fire." Sergeant Reser, at
the post, succeeded in smothering the flames with winter flying equip-
ment. McCullar made a second run. This time the radio operator and
two other members of the crew were scratched by flying shrapnel. On
the third run, "the number 1 motor was hit and all controls shot away."
The fourth run brought only minor damage to the plane, but as the bomber
sought out a target the fifth time at 4,000 feet, number 3 engine
sputtered and finally "cut out." By now, one destroyer was burning
fiercely, and another was seriously disabled; so with the bombardier
and the navigator in the back compartment of the ship "in case the prop
flew off or we had to set it down," McCullar fought for sufficient al-
titude to clear the Owen-Stanleys. Fortunately number 3 engine began
to function again, and after two and a half hours, according to the
pilot, the crew "found a pass to sneak though, landed o.k. and forgot
about it."26

During the month of December, in addition to its efforts in the
Solomons, the Japanese Navy continued to bring relief to the increasingly
hard-pressed Buna defenders. Allied reconnaissance reported lights
along the coast from Salamaua southward as well as a Jap air patrol of
that area at three-hour intervals, indications which seemed to point
to a movement of barges and light craft along the coast.27 Furthermore,
four convoys attempted to land reinforcements and supplies in December.
In each case, enemy fighter escort harassed the Allied bombers in their
attempt to interfere with the convoys' movements. At night, rocket
flares were used both by Japanese destroyers and aircraft to silhouette
the attacking planes for fighter and antiaircraft fire. American pilots reported that the enemy fighters seemed to be concentrating on single bombers. In one case, 8 to 10 fighters attacked 1 B-17; in another, 10 Zeros tried to isolate the leading element of 6 B-25's, 4 Zeros attacking from the rear, 3 from the left, and 3 from the front. 23

The bombing of these convoys had varied success. Four enemy warships landed some 1,000 troops during the night of 1 and 2 December with no loss except to their fighter escort, approximately 20 of which were shot down. On 9 December, bombing drove off six destroyers apparently headed for Buna, but another convoy renewed the attempt within a week. This time a B-24 on armed reconnaissance spotted two cruisers and three destroyers in the early morning of 13 December heading for Vitiang Straight. B-17's attacked in the afternoon through heavy clouds and thunder storms. The Zero escort varied its usual attack by bombing the B-17's, each fighter carrying two bombs. Under cover of stormy weather and darkness, the convoy anchored near the mouths of the Lembare and Kumisi rivers, and motor landing craft began to land troops from the ships. The Japs also floated crates of supplies ashore in net fastened to oil drums. At dawn, with the landing still incomplete, Allied planes roared across the mountains through a drizzling rain. P-39's, Beaufighters, I-20's, B-25's, and B-26's made what was described variously as "26 bombing and strafing attacks" and "96 sorties." Flights of the 37th Squadron alone carried out at least seven strikes. Landing barges were sunk and personnel killed. Meanwhile, Catalinas, B-17's, B-24's, and B-25's were harressing the retreating convoy. The bombing
however was not particularly successful. Visibility was poor. Anti-aircraft and fighters were protecting the convoy and severely damaged six B-24's. Certainly the air attacks had not yet forced the abandonment of reinforcing attempts, for about 4 days later, another convoy of 1 cruiser, 4 destroyers, and 2 transports ventured into the New Guinea area, and B-17's and B-24's, although facing unusually persistent Japanese fighters, sank at least 1 cruiser.  

During the last days of the campaign, no large convoys approached the Buna area. It is possible that the Japanese command had decided on a withdrawal from the area, or at the most to supply the remaining troops only by small boat. Nevertheless the enemy had definitely not decided to relinquish their hold upon New Guinea, and convoys continued to come to Lae and Salamaua. One of the most decisive Allied air attacks of the campaign, for example, occurred between 6 and 10 January 1943 against a convoy approaching Lae. Headquarters at Port Moresby considered these attacks so important that no aircraft were spared for direct support missions. Although the Japs as usual succeeded in landing troops, their losses were heavy—approximately 50 planes shot down to an Allied loss of less than 10—while from a convoy of 2 cruisers, 4 destroyers, and 4 transports, at least 3 transports were sunk.  

In conjunction with their primary mission against convoys, heavy bombers from the Southwest Pacific continued to make the long flight to Rabaul. On 25 December, however, the Thirteenth Air Force joined them in their attacks on this stronghold, thus removing a part of the Fifth Air Force's bombing responsibilities. Shipping in the harbor, the twin airfields, and Rabaul town itself were favorite targets of
this two-way attack. On 5 January, two squadrons of Fifth Air Force heavies carried out one of their most successful attacks making the bomb run through heavy antiaircraft and fighter defenses. B-17's and B-24's in a coordinated attack dropped 500- and 1,000-pound bombs from 8,500 feet. They sank or left burning nine vessels estimated at over 50,000 tons and shot down three enemy fighters. Two B-17's failed to return; one crew was saved, but unfortunately among the missing was General Walker, who had commanded the V Bomber Command from its activation in the Southwest Pacific.33

The growing success of the heavy bombers not only prevented large scale reinforcement but in so doing seemed to lower Japanese morale. Although their troops still resisted fanatically, captured diaries indicate that by the middle of December many Japanese had given up hope of victory. In an entry of 14 December one Jap soldier stated: "Various unfounded rumors that reinforcements have landed and supply of rations has come. Battle line becoming narrower day by day." Another entry of 20 December 1942 was translated: "At dawn, enemy bombed the hell out of us. Observe only the sky with bitter regrettable tears rolling down. . . . Filled my stomach with dried bread and waited for my end to come. Oh! remaining comrades, I shall depend upon you for my revenge."34

The increased effectiveness of anti-convoy attacks and long-range bombing missions was in part due to improved bombing techniques. Air units in the Southwest Pacific had conducted experiments in the use of both bombs and aerial torpedoes since the summer. In July, Brett had planned a rather elaborate program for aerial torpedo training, but Kenney did not favor this since most enemy shipping concentrations were
out of range of torpedo-carrying planes. He reserved those torpedoes on hand for RCAF Beauforts, but by 26 December 1942 Beauforts had made only three torpedo attacks—all without success.35

Heavy bombers attacked shipping during the Papuan Campaign chiefly from altitudes between 7,000 and 9,000 feet. The relatively few hits made for the number of bombs dropped led to an investigation. Kenney pointed out that bombing of fast, maneuvering vessels was difficult under any circumstances, and that in his theater, he rarely had sufficient planes to carry out "the standard army practice" of pattern-bombing maneuvering ships; moreover, he stated that weather conditions generally made such a technique impossible.36

As early as June 1942, tests were being conducted to discover the proper delay-fuze for low-level attack on shipping. General Arnold had noted in July that British attacks with 4-engine Stirlings from less than 100 feet had been successful. Kenney determined in August that 3- to 11-second delay and 3- to 5-second delay fuses were essential for low-level and skip-bombing assaults, while by the following month, tests in the United States had convinced the authorities "that bombing from minimum altitude might be preferable to torpedo attack."37

In the Southwest Pacific, Kenney began a thorough study of the practice. He encouraged the modification of existing fuses to provide a five-second delay. Under the direction of Maj. "Bill" Sloan, judged by Kenney to be one of the most brilliant officers in the Fifth Air Force, the whole bomber command began training for low-altitude attack. From less than 200 feet, medium and heavy bombers saturated an old wreck which had been a navigation mark off Port Moresby for years. Benn's
63d Squadron of B-17's made one of the first successful combat tests. Sweeping in over Rabaul on a moonlit November night, they "skipped" their bombs against the closely packed shipping in the harbor. In hour after the attack, it was reported that at least six ships had been sunk.38

In spite of this success with the B-17, the chief experiments were with the B-25. Pilots wanted a plane with tremendous fire power that could sweep the decks as they come in ast-high to drop their bombs. Fifth Air Force mechanics, accordingly, installed in the nose of the B-25 eight .50-caliber machine guns. In the first trial "most of the skin came off the nose." Finally, as Kenney reported, a layer of felt was placed between the "original skin and some of the other stuff we were putting on to keep the airplane from breaking up. I put about a half inch of felt in there—packed it down, riveted it—and it did the job." MacArthur and Kenney planned to use this modified B-25 without escort at night, and in coordination with fighters by day.39 On 13 January, Kenney reported that skip bombing was unquestionably superior to torpedo attack. Out of 30 x 500-pound bombs skipped, 26 had hit their targets sinking 3 vessels. In 4 missions, on the other hand, Beauforts had released 26 torpedoes with a score of 1 possible hit.40

The success of these bombing missions must be assessed in the light of the limited resources of the bomber command. On 1 January 1943 there were two bomb groups with 120 heavy bombers.41 But with the crack Japanese 5th Division in the Netherlands Indies, Kenney was forced to hold 18 bombers in Darwin to forestall any enemy movement from that
direction. Normally, about 12 B-17's and 24 B-24's were in depots undergoing repair. Subtracting those in Darwin and in repair depots, approximately 60 were available for combat, but no more than 60 percent of the planes available, or about 40, could be risked at any one time on missions. Of these, 12 to 18 were used for reconnaissance covering all seaplane lanes to Rabaul, Kavieng, and Truk. Thus out of 120 bombers, only 20 or 30 could be counted on for daily combat.42

Transport and Supply

While the V Bomber Command concentrated on preventing the flow of reinforcements to enemy forces in New Guinea, Allied ground forces were engaged in carrying out the plan to annihilate the Japanese Papuan Army. After the successful counterattack at Torabaiwa Ridge on 25 September 1942, the Australians began an advance designed to push Maj. Gen. Tomitaro Horii's forces back along the Kokoda-Buna track to their beachhead. At strategic points, such as Templeton's Crossing, Oivi, and Kokoda, the Japs resisted fiercely until forced from their positions. In general, however, Digger patrols reconnoitred long stretches of track to find only dead Japs. An extended supply line, constantly hammered by Allied air units, the weakening effects of malnutrition and tropical disease, and of chief importance apparently, a knowledge of Allied plans to cut off Japanese forces in the Owen-Stanleys had led to a rapid scramble back over the track.43

In the fighting along the Kokoda track and at Milne Bay, the ground troops were predominantly Australian. But the American 32d Division had been training in eastern Queensland for jungle fighting,
and on 14 September received a warning that they would break camp in 24 hours. Company I of the 126th Regiment was directed to prepare for air transport. The men passed the time chiefly in burning letters and returning extra clothing to the supply sergeant, while troops were assigned to the transports so that the first four planes would land a complete combat platoon.44

The transport planes had been relieved of every possible encumbrance. The crew consisted of three men, the pilot, the radio operator, and an unidentified extra. Seats were removed. Parachutes and uninfated rubber life boats were piled on the floor. Rifles were carried unloaded. Probably some of Company I felt a bit let down when about 10 hours after the take-off, the transport rolled in on Seven-Mile airstrip at Port Moresby, with the Japs still some 30 miles away. At that time, Sergeant Paul R. Lutjens recorded in his notebook that it was 5:30 p. m., 15 September, and that with the thermometer at 115°, New Guinea weather was "hotter than the lower story of hell." Not until 27 September did the main body of the 126th Regiment arrive after a 10-day sea voyage from Brisbane. Meanwhile the 126th Regiment was being prepared for its move, and between 21 and 23 September, the entire regiment was flown from Townsville to Port Moresby.45

Apparently the original plan was to move the two infantry regiments from Lalikodobo, 40 miles southeast of Port Moresby, northward by way of Larumi and Jauri to Biakopi and Buna. The proposed route was generally unfamiliar to white men, and advance patrols were promptly sent out. Shortly thereafter, the 2d Battalion of the 126th Regiment received its orders to begin the overland trek.46 Leaving the camp
area outside Port Moresby, it moved to Kalikodobu and started a push through the mountains on 5 October. There followed a 49-day struggle over exhaustingly difficult terrain which has been feelingly described by Sergeant Lutjens:

It would take five or six hours to go a mile, edging along cliff walls, hanging on to vines, up and down, up and down. It would rain from three in the afternoon on, soaking through everything. The rivers we crossed were so swift that if you slipped it was just too bad. . . .

You can hardly realize how wild and ghostlike this mountain country is. Almost perpetual rain and steam. For three weeks now we have been passing over an almost impassable trail. Our strength is about gone. Most of us have dysentery. Boys are falling out and dropping out with fever. Continuous downpours of rain. It's hard to cook our rice and tea. Bully beef makes us sick. We seem to climb straight up for hours, then down again. God will it never end?

The problem of supply was especially difficult. Native carriers and peeps could carry supplies to relatively nearby points, but such service could not reach scouting parties pushing inland or the 2d Battalion as it worked its way across the Owen-Stanleys. Attempts which were made to drop supplies to these forces had limited success. Since no accurate records were kept of this activity, however, a complete appraisal of the results is impossible. Elements of the Allied ground forces as they worked their way over the difficult trail were almost completely dependent upon supply-dropping. Most of these troops got through. To that extent, therefore, air-borne supply succeeded. On the other hand, trial and error experiments particularly in the early stages of the operation made it a costly enterprise.

Without proper equipment and without quartermaster detachments trained for the purpose, losses in equipment dropped ran high. Since
only a few trained service personnel from the 107th Quartermaster Battalion were available, members of the regimental bands and other service companies wrapped bundles and accompanied the transport in order to push supplies out of the plane at the designated moment. The supply of cargo parachutes and containers was insufficient; consequently only the more fragile supplies such as .30-caliber ammunition, 30-mm mortar shells, medical supplies, and bottled liquids were dropped by chute. Rations, clothing, and individual equipment were usually dropped without chutes. These more hardy supplies would be placed in sacks or wrapped in blankets and securely wired before being loaded on the transport.

Patrols found the dependence upon air-dropping to be a morale-corroding experience. Frequent radio messages complained about the failure of their supply. Patrols did not always know the radio frequency of the transports. Chutes broke loose from the packages. Planes would drop all the bundles in one approach thus spreading them for miles along the inaccessible mountain side. One critical message asserts that "At 0600 a plane dropped supplies down valley about half a day march from dropping point. Plane flew too far west and on wrong approach. With a day's search using 40 natives we may find 20."

As transport crews gained experience, the dropping technique improved. After experimentation, pilots flew at an altitude of between 400 and 500 feet since greater altitude led to inaccuracy, and a lower altitude imparted so much velocity to the bundles that they usually broke. It became customary for intelligence officers to accompany the transport in order to direct the pilot in his approach to the assigned area. Although panels were the customary means of
marking this area, smoke signals were frequently used to attract the attention of pilots, and white streamers attached to the packages aided those on the ground to find their needed supplies in thick jungle country. Considering the dangers of low flying over peak-studded country, casualties were comparatively few. Perhaps the most disastrous accident occurred on 5 November 1942 when Col. Lawrence A. Quinn, popular commanding officer of the 126th Regiment, accompanied a transport on a dropping expedition. As one package was pushed overboard, the chute caught in the tail assembly of the plane, and it crashed killing all eight occupants.

This method of supply continued with mixed success throughout the Papuan Campaign. Approximately 117,000 pounds of rations were dropped between Kukum and Cape Indaiadere during the period 13 November 1942 to 20 January 1943. But packages sometimes missed the proper area and fell within enemy lines, and reports of the ground force units indicate that of the packages dropped without parachutes, 50 per cent either were lost or were destroyed in landing.

For 49 days the 2d Battalion of the 126th Regiment forced its way through the jungle. On 14 November, advance elements reached Kukum, some 15 miles inland from Cro Bay. By this date, the remainder of the 126th, together with the 123th Regiment and a few Australian units, had been flown into the Buna area by air transport. Original plans had called for the use of air transport wherever possible, and the experience of the 2d Battalion evidently emphasized the necessity or relying upon this means. The 21st and 22d Troop Carrier Squadrons began extensive ferrying activities for the Buna operation on 6 October 1942. This first movement included an Australian infantry battalion with
some air-borne antiaircraft which landed on an air strip at Wanigela mission, on the northwestern shore of Collingwood Bay.\textsuperscript{59} Here Australian officers assisted by native laborers had burnt the kunai grass and hacked off the remaining tussocks for the prospective landing field. A small detachment of Australian engineers had then carved out a runway using "machetes, cane knives, and even bayonets."\textsuperscript{60} This accomplished, the Allies had an air strip within 65 air miles of Buna and connected with that village by a jungle trail.

Other strips were soon projected. A local resident of New Guinea, Cecil Abels, with native laborers, braved malarial swamps to press inland from Wanigela. Soon joined by a party of American engineers under Col. L. J. Sverdrup, the party cleared a series of strips, first in the upper valley of the Musa River near Sepia, and moving down toward the coast, finally completed on 4 November a more important strip at Pongani on Dyke Ackland Bay.\textsuperscript{61} It took almost a month to ferry the 126th and 128th Regiments to the Buna area. Transports began to carry the 6th Australian Independent Company and the 128th Regiment from Schwimmer (Lalaki) airdrome to Wanigela on 14 October. For two days flights continued. Then the rains came. Not until 3 November could the muddy strip at Wanigela again be used, and the movement completed. Meanwhile the 6th Independent Company set out overland for Pongani, a straight line distance of just over 50 miles. The rains made the track impassable, but the Australians finally reached their destination by keeping to high ground. By that time only 20 men out of 90 were fit for duty. On 17 October small American detachments unable to make the overland trek started out along the coast for Pongani in two 20-ton luggers, the \textit{King John} and the \textit{Timeshenko}, which had been brought to
Manigela from Milne Bay. Just before attempting the landing, these
craft were bombed and strafed by an Allied plane, which severely
damaged one of the valuable luggers and inflicted casualties resulting
in the death of Byron Darnton, able New York Times war correspondent.\textsuperscript{62}

With a garrison at Pongani to provide antiaircraft defense, the
Fifth Air Force prepared to ferry that part of the 126th Regiment which
was not already marching overland. At first transport pilots dis-
trusted the newly prepared Pongani strip, and landed their cargoes on
8 November at Ablissfield near Sapia, some 40 miles from Pongani. They
learned, however, on the same day that the Pongani strip was serviceable,
and by 10 November, the remainder of the regiment had landed there.\textsuperscript{63}

Considering the primitive facilities and the hostile weather,
this first large-scale troop-ferrying movement in the Southwest Pacific
was an outstanding success. To some of the troops involved, the ex-
perience proved exciting. They boarded the transports, characteris-
tically labeled \textit{Dirty Dirty, Foible Foible}, and the like at either
Schwimmer or wards at Port Moresby. They tried to make themselves
comfortable on metal benches which had not been designed, "it was pain-
fully obvious, to accommodate a soldier's anatomy." Even though the
planes flew at 10,000 feet, their passengers could occasionally see
peaks looming up on both sides. As they approached their destination,
they could look down and see what appeared to be a small fire-break.
The pilots would circle this landmark a few times, then head directly
for it down a path cut through solid, green forest, and bounce to a
halt on "bumpy, narrow, grassy lanes."\textsuperscript{64}
The accomplishment had gone far toward justifying General Kenney's confident statement in October: "[T]anks and heavy artillery have no place in jungle warfare. The artillery in this theater flies. The light mortar and machine gun, the rifle, tommy-gun, grenade and knife are the weapons carried by men who fly to war, jump in parachutes, are carried in gliders and who land from air transports on ground which air engineers have prepared. These engineers have landed also by parachute and by glider, with airborne bulldozers, jeeps, and light engineer tools, on the heels of the assault troops, the whole operation preceded and accompanied by bombers and fighters."  

The achievement was especially notable in view of the limited transport planes available. In September the 40-odd planes of the 21st and 22d Troop Carrier Squadrons, plus those flown by RGF and Dutch flyers, barely satisfied the demands of traffic within Australia and between there and Port Moresby. In Washington, JCS Headquarters, concerned over the supply crisis in New Guinea, concluded that two additional squadrons should move to Australia even though it meant decreasing the allocation to European theaters.

On 4 October 1942 MacArthur received assurances that the 6th and 33d Troop Carrier Squadrons would soon arrive in his theater. The 21st and 32d Squadrons had been carrying on their activities without a group designation up to this time. But by 31 October American transport components possessed 62 aircraft, and with the imminent arrival of two additional squadrons, the activation of a group headquarters seemed advisable. Following a directive from Washington, the 374th Troop Carrier Group was activated on 1 November as a component of the
Fifth Air Force."  

As the Allies converged on the Buna area, the ground forces were organized as follows: General Blamey, with headquarters at Port Moresby, was in command of the New Guinea Force which had administrative control over all Allied land forces in New Guinea. The Allied troops north of the Owen-Stanleys, known as the Advanced New Guinea Force, were under Lt. Gen. A. F. Herring; but the responsibility for operations rested directly upon the division commanders, Maj. Gen. Edwin F. Harding of the 32d Division and Maj. Gen. C. H. Vasey of the 7th Australian.  

These leaders could look with confidence at the victorious Australians moving along the Kokoda track and the growing effectiveness of the Fifth Air Force. Optimism seemed justified. Shortly before his death, Colonel Quinn radioed Capt. William Boice who was probing through the mountainous jungle on a reconnoitering expedition: "... my birthday on 9 November would like very much to have tea with you in Buna that day. Good luck." An Operational Instruction from the New Guinea Force announced on 15 November that "in anticipation of Buna's capture ships carrying additional units and equipment for the development and defense" of the area would move from Milne Bay on 18 November. In addition the Instruction contained detailed information as to the defense and administration of the "port" of Bune.

This belief in a short campaign probably shaped the plans for supplying the advancing troops. On 26 October 1942 the New Guinea Force issued its directive as to supply. The forces were to be maintained by sea from Milne Bay and Port Moresby; supply dumps would be
established at Manigela or Porlock Harbor; and from there small boats would run a shuttle service to points nearer the forward area. In these plans air transport held a secondary position in that advance headquarters was not to demand air transport if the movement could be made by sea. Small boat transport was particularly vulnerable to air attack, and it was hoped that the air force could provide protection against marauding enemy bombers and fighters. Although General Whitehead recognized the danger, he insisted that fighter cover over the entire coastal area was impracticable. He believed that ships could move from Manigela around Cape Nelson to Porlock Harbor in comparative safety, but recommended that ships take cover during daylight, particularly if they were engaged in the shuttle between Porlock Harbor and Pongani which was recognized as being especially open to enemy attack.

Events proved that every precaution would have been justified. On 16 November 1942 small boats and a landing barge, carrying among the personnel Maj. Gen. Edwin F. Harding, 22d Division commander, and Brig. Gen. A. W. Talman, and loaded with supplies, two 25-pounders, and ammunition moved up the coast toward Cape Sudest. No air protection had been provided. In the early evening Zeros and dive bombers attacked the flotilla, burning all four boats. The two generals and other personnel reached shore with surprisingly few casualties, but the entire cargo was lost, including the equipment and records of the 22d Portable Hospital. The following day another bombing sank two more cargo craft and severely damaged a third.

The destruction of this portion of the small boat fleet necessitated heavier reliance upon air transport than had hitherto been
planned. Infantry men aiding a detachment of the 114th Engineer Battalion had already begun the construction of strips at Dobodura within 15 miles of Buna. With available tools consisting of 4 brush hooks, 2 axes, 1 machete, and bayonets, they cleared off the grass and scrub trees and by 21 November had completed a strip 40 by 1,300 yards. The next day additional elements of the 114th Engineer Battalion arrived and began widening the first strip. By 12 December they had completed three more strips, the last with a 4,200-foot runway and with good drainage. They had also prepared strips at nearby Popondetta. These landing fields at once became the principal air-supply points of the Buna operation.

The availability of air transport relieved a critical situation, but the unexpected burden on the air forces demanded a system for rapid requisition at the Port Moresby end of the supply line. The procedure followed required close coordination between the Advanced New Guinea Force, the New Guinea Force, and the Fifth Air Force. Advanced 32d Division headquarters would radio the G-4 of its rear echelon at Port Moresby requesting certain supplies. G-4 then passed these requests to supply officers who delivered the goods to a work pool. Since New Guinea Force headquarters determined plane assignments, G-4 visited that office every day at 1400 hours to submit a list of supplies for shipment on the following day. This list had to be carefully prepared to prevent overloading of the assigned planes. The loading officer, therefore, needed to know the weight of all supplies; a soldier with equipment was considered to weigh 250 pounds. Before 1600 hours the New Guinea Force submitted the request for air transport in writing.
to the Fifth Air Force through an air transport liaison officer. About 2200 hours, plane assignments for the following day would be ready. The loading officer packed trucks which carried supplies to the airstrip. By providing a dispersal area here for parking loaded trucks awaiting specific plane assignments, a constant supply of shipping was kept on the field. The availability of planes even then was uncertain. Passengers constantly were seeking transportation, and thus interfered with the supply routine. Assignments might be changed or cancelled, sometimes without explanation. Planes might be laid up for repairs. Occasionally they could not take off after loading, and supplies had to be shifted.

Transports faced numerous hazards in addition to problems of loading. Leather, high mountains, and rough landing fields provided natural dangers. Without fighter escort, moreover, these unarmed and slow air freighters were at the mercy of the Japanese Zero. In keeping with the offensive spirit of the Buna operation, therefore, fighter squadrons were being pushed forward to take possible zero effective top-cover for bomber and transport missions. By the 1st of November the 35th and 36th Squadrons of the 3rd Group were flying their P-39's and P-400's from Jackson and Gurney air strips at Milne Bay. Within two weeks the 80th Squadron of the same group had joined them. During November and December the 49th Group continued to base all its P-40's at Port Moresby along with two squadrons of the 35th Group. Of all American fighter squadrons, only the 40th Squadron of the 35th Group was based in Australia by 1 November. The fighter command received welcome reinforcement during the fall of 1942 when the 39th Squadron of the 35th Group replaced its worn-out P-400's by high-flying P-38's.
These much-needed planes were first allocated to the Southwest Pacific in the summer of 1942, when General Brett was informed that he would receive 25 P-32's per month from July through October and 10 a month thereafter. By 1 September 21 P-33's had arrived and about a month later the number had tripled. 80

Kenney planned to have a squadron of P-33's in active operation by the middle of September, but problems of maintenance interfered. Leaking gas tanks, for example, caused continual grounding during the fall. At first both Firestone and Goodrich tanks failed to give satisfaction, but the Firestone seemed preferable. Though the improved Goodrich tank was tested, it proved unsatisfactory after 1 to 25 hours of flying; so Firestone tanks alone were requested as replacements. On 5 November, the Air Service Command shipped 40 sets of Firestone tanks by emergency water shipment. 81

A variety of other "bugs" further postponed the use of the P-33, except for occasional patrol flights. On 23 October 1942, Kenney reported nine P-33's grounded for lack of inverters. On 22 November, 4 were on a patrol mission over Buna; 2 returned to their base because of oxygen failure; and in a brush with 20 Zeros the 20-mm guns on the other 2 jammed. On 3 December Kenney reported that faulty superchargers, intercoolers, inverter, and armament were keeping the P-33's out of commission and explained that mechanics completely unfamiliar with the planes had improperly assembled them in Australia, but that leaks in the riveted joints in the wings could be blamed on Lockheed. To try to repair the damage, all were being disassembled, and the best Kenney
and possibly another by 1 January 1943.  

Nevertheless, before the end of the Papuan Campaign transports on flights of over 200 miles were provided with continuous fighter escort from a rendezvous point 20 to 50 miles from the take-off. Since the air-line distance to Buna was less than 120 miles, it was considered more efficient to provide area cover rather than continuous protection. Consequently when the transports, sometimes as many as 30 in number, headed for the combat zones, they would hope to find fighter protection over Buna. Toward the end of the campaign, the plan was for full squadrons of fighters to replace one another over the area in short shifts.  

Even then the Japs occasionally tried to lure the transports away from their protection. One pilot reported that the enemy was using the fighter radio frequency, and that while his transport was circling the Dobodura strip he heard a voice in English saying: "Don't land, boys, go down the river." On another occasion two Hudsons being used to ferry supplies from Milne Bay demonstrated that skillful flying could thwart a fighter attack. Attacked over Dobodura by 12 fighters on 26 December the Hudson pilots kept at tree-top height and made for the hills. Both transports were damaged, but only one of the personnel was injured.  

Another hazard facing the transports was the condition of the strips. Fortunately the heaviest rains had occurred before the more bitter phases of the campaign had begun. During December it frequently rained at night, but not enough to make the strips unserviceable for more than two days. In order to plan the following day's transport operations, the Fifth Air Force required information regarding the
serviceability of all strips by 0200 each morning.  

The lack of service personnel at first created a bottleneck at the front-line supply dumps. When a transport from a large formation landed, it was desirable to complete the unloading in approximately 3½ minutes, but since combat troops could not be spared for the work, this operation was sometimes dangerously delayed. However, service at Dobodura improved in December. On the 10th, a detachment from the 107th Quartermaster Company relieved members of the overworked 114th Engineer Battalion who had been engaged in unloading in addition to other duties. The new detachment supervised the activities on the strips. They employed service personnel which could be spared from other tasks as well as some 300 natives. They saw that the transports were unloaded, and that jeeps and trailers were on hand to move cargo to the supply dumps or to specified points in the combat area.

The importance of air transport in the Buna operation was revealed in General MacArthur's cable of 1 December. He declared: "My campaign in northern Papua is being supported and supplied entirely by air."

Two weeks later General Kerney asserted that "since the movement of United States troops to northeastern New Guinea, their sole source of supply for all food, ordnance, and other materiel has been Fifth Air Force transport aircraft." In spite of these allegations it should be remembered that the Allied right flank, known as the Warren Force, was largely supplied by sea, and it has been estimated that approximately half of the supplies brought in during the Buna phase of the campaign was seaborne.

In addition to troops and supplies, the air force transported a part of the artillery used. Four B-17's, used as transports, had
carried four 105-mm howitzers with tractors, ammunition, and accompanying gun crews from Brisbane to Port Moresby; and on 26 November, one of these howitzers with a tractor, howitzer squad, and 100 rounds of ammunition was transferred in three 33-3's to Dobodura. Four 25-pounders had already arrived by air, and toward the end of December, four Australian 4.5 howitzers were flown in. On the other hand, boats brought in four 25-pounders and two 3.7-inch howitzers. While transports landed 2,000 tons of equipment at the Dobodura strips after their completion, small boats were transporting 7,000 tons, exclusive of vehicles, along the coast from Oro Bay between 20 December 1942 and 23 January 1943. Specifically, air units landed or dropped 4,900,571 pounds of rations and supplies including vehicles in the Buna area between 13 November 1942 and 23 January 1943.

Perhaps as important as the ferrying of supplies and personnel was the use of transports to evacuate sick and wounded. Of the transports in the Southwest Pacific at least 10 00-2's and 10 0-60's were equipped for this purpose. Before the engineers had completed the Dobodura strips, small boats carried patients to Fergusson from whence they were flown to Port Moresby. After transport planes could land at Dobodura, natives would carry litter patients there. Evacuation occurred at an average rate of over 100 daily during December and early January, reaching a peak of 250 on 5 December. During those days every possible plane was being used to fly the patients to Port Moresby. The records show that for the 32d Division and attached troops, ambulance planes evacuated 2,520 sick and 991 battle casualties.
Air-Ground Cooperation

Although considerable success rewarded the efforts of troop carrier squadrons during the Papuan Campaign, air transport was still in an experimental stage, and their activities were only a prelude to the far-reaching operations of 1943 and 1944. This was equally true of another function of the Fifth Air Force during the Papuan Campaign: the employment of air units in support of ground troops. For direct support, that is, for a bombing-strafing attack employed as an immediate prelude to an infantry advance, Kenney continued to rely primarily on his A-20's. By the first of November, the 84th Squadron of the 3d Group had moved to a permanent base at Port Moresby and with the Australian squadrons, the 22 Squadron equipped with A-20's and the 50 Squadron with Beau-fighters, carried out most of the direct-support missions. For missions against specified strategic points behind the enemy lines and for attacks on near-by enemy shipping, the bomber command employed chiefly its medium groups. The experienced but almost exhausted 22d Group, which was still based in northern Australia, rarely had more than 25 B-26's in commission. The 13th and 90th Squadrons of the 3d Group, based at Charters Towers, and the 71st and 405th Squadrons of the 39th Group, now at Port Moresby, usually had between 30 and 40 B-25's ready for combat.95

The ground forces realized from earlier experiences with support missions that to assure their effectiveness the closest possible coordination should exist between the air-support units and the ground units at the front. A series of instructions from ground force head- quarters illustrates the importance attached to proper liaison with
the air branch. On 1 November for example, the 32d Division issued its instructions on the subject. It announced that A-20 units would provide the direct air support for the forthcoming operation. Individual battalions were to submit requests for air support to the division command post, using code over the command network. The instruction warned the battalion commanders that such requests should "be predicated on the availability of not more than two flights of three planes each daily," and that each flight could operate over the target area for only 45 minutes. "Demolitive targets" which ground forces could not handle were to be chosen, such as troop concentrations, supply dumps, gun emplacements, and bridges. Only those targets easily identifiable from the air should be requested for "pin-point" bombing. The request should include the target location in the most exact terms possible, the position of friendly troops, and, if necessary, time limits for the requested support. The A-20s would attack one target at a time, and not more than two or three targets during a flight. Division headquarters, therefore, would evaluate requests and announce to the battalions the order in which they would receive support. 96

Targets were to be originally designated by coordinates. During the operation, however, the battalion supported was to use panel signals or ground-to-air radio communication to attract the attention of the pilots, although it was suggested that smoke might sometimes be necessary to guide the planes to the proper panel. Two-way voice communication could be used on only one radio frequency. The aircraft would initiate the conversation; the ground force would reply as briefly as possible. Only in case of extreme emergency would such conversations be "in the clear." In the event of the frequency's being jammed, a switch to another
could be made, but the plane would not be able to transmit; in such a
case, the pilot would rock his wings if he had received and understood
the message.97

On 7 November 1942 a radio message further amplified this general
instruction. By then the Fifth Air Force had accepted a definite program
whereby its units would engage targets daily from 0600 to 1500 commencing 8 November. This message stated that the New Guinea Force would
select the target and would notify the air force of the bomb line within
which no Allied troops were located. This, of course, necessitated a
frequent check-up of deep patrols and infiltrating advances.98

New Guinea Force did not issue its instruction for air-ground
coordination until 9 December 1942. At that time it warned that if
requests were to be granted they should reach New Guinea Force Head-
quarters by 1700 on the day prior to the attack. It reiterated the
importance of identifying the target, and of specifying the bomb line
and time of attack, or added that mortar smoke bombs fired into the
target area by ground troops had proved a most satisfactory way of locating the target. It further pointed out that time was not so vital a
factor in requests which were not for direct air support. If other
support were desired, therefore, a period of hours should be specified
to allow for unavoidable delays. For direct support on the other hand,
if the air units were delayed, they would not attack after the time
specified lest they interfere with the infantry's timetable.99

In order to coordinate the activities of branches interested in
support missions, the New Guinea Force on 13 December 1942 defined the
duties of its liaison officers. In the first place, the senior Army
liaison officer at Fifth Air Force headquarters performed the liaison duties between the New Guinea Force staff of Gen. Sir Thomas Blamey and the Fifth Air Force staff of Generals Kenney and Whitehead. He furnished information to the air force regarding the general situation and immediate future operations of the Army. He attended air force conferences and ground force conferences when concerned with air requirements. He was to insure the flow of all intelligence between New Guinea Force and the Fifth Air Force, and would be notified if tactical air support had been arranged directly through the air support officer of the Fifth Air Force at New Guinea Force headquarters.

The air support officer in turn received all requests for air support from the New Guinea Force. He was to implement these requests by serving as the channel to the Fifth Air Force, and was also to serve as an air advisor to General Blamey. He would work in close cooperation with the Air Operations Section of the General Staff of New Guinea Force. This Air Operations Section would maintain air situation maps and regular records of all inward air messages. It would work not only with the air support officer but with all liaison officers, passing on pertinent information even to individual squadrons. Each squadron, furthermore, had an officer, generally Australian, attached as an air liaison officer. Carefully chosen and specially trained, the officer furnished the squadron commander and pilots the information required for combat missions. He cooperated with the squadron intelligence officer in briefing and interrogating pilots, immediately forwarding digested information to the New Guinea Force.

Although the peak of efficiency both in transporting troops and supplies across the mountains and in developing a system of air-ground...
support was not reached until after 1 December, by mid-November Allied troops were being deployed for what was hoped would be a crushing attack on Japanese positions. The Australians, many from Kokoda, had occupied Kairoi on 13 November and were pursuing the enemy down the truck toward Buna. A part of the 126th Regiment was moving to the west bank of the flooded Girwa River, while the 128th Regiment and the remainder of the 126th were preparing for an advance on the east bank.

Before the end of the month, it was realized that the Allied forces could destroy the enemy only at tremendous cost. The Japanese had organized their positions with an ingenuity that took every advantage of the difficult terrain. Their flanks were protected by the sea and flooded rivers; matted jungle and treacherous swamps guarded their front. They had located their positions on practically the only dry land in the area, covering with machine gun fire the few channels through which Allied infantry could advance. Moreover, they had partially obstructed Kenney's plans for the support role of air power. They had constructed bunkers of heavy palm logs reinforced by "sheets of iron, steel drums filled with sand, ammunition boxes filled with sand and additional piles of logs," topped with earth, rocks, and coconuts. In such shelters, they were relatively safe from anything but a direct bomb hit.

Nevertheless medium and light bombers, and occasionally heavies as well, provided air support interrupted only on particularly stormy days of the rainy season. During November the A-20's of the 89th Squadron carried out over 20 strikes in formations of from 3 to 12 planes; B-26's of the 22d Group, B-25's of the 3d and 35th Groups seconded by Australian Beaufighters and A-20's supplemented the 89th Squadron's
attack. One such coordinated assault occurred on 10 November when three A-20's from the 39th Squadron swooped low over enemy installations at Soruta, approximately 10 miles southwest of Buna, immediately following an attack by B-26's. They raked the area with machine guns and dropped over 100 x 23-pound parachute bombs. An example of the hazards involved in such missions, not to mention the skill and endurance of the flyers, is found in the experience of Capt. Edward L. Lerner. His A-20 was struck by an antiaircraft burst, and Lerner did not regain control until it had plowed through trees "six feet below top" for 50 to 100 feet. By that time the leading edge of the wing was cut in a dozen places, the cowling and the nose were damaged, the propellers nicked, the engines and the forward edges of the wings filled with wood. "Thereafter," reads the report, the "pilot flew one strafing run, then withdrew, saying plane was hard to fly." 106

Direct air support of the Allied ground troops in the Buna area was first tested on 21 November 1942. General Headquarters on 20 November had ordered an attack from the right flank designed to take Buna on the following day. 107 The A-20's and B-25's of the 3d Group provided the air support. Sweeping in at an altitude of 60 feet through rain and heavy flak, the A-20's showered the area with parachute bombs, while the B-25's bombed from 6,000 feet. Other than a few large explosions, the air crews observed no results. The ground forces, on the other hand, felt mixed reactions. They were pleased because several enemy machine guns were silenced; but they were upset because some of the bombing was inaccurate. One A-20, for example, dropped all its bombs in the water, and a bomb dropped by a B-25 fell within the bomb
line killing several Allied soldiers. According to the official report of the 32d Division on the entire Buna operation, the early air attacks were not very successful "because of the failure of direct air-ground communication and the ineffectiveness of area bombing of pin-point targets, such as the pill boxes which held up the advance."108

The air-ground campaign attained little success during November. While bitter fighting by small ground units continued, opinions as to the results of air attacks differed. On 24 November for example, MacArthur announced in his operations report "a coordinated series of nine strikes, involving 30 aircraft" against Sanananda plus strafing attacks by fighters in the Buna area. The Australians near Sanananda commented: "Artillery and Air Action this A.M. most successful." But the Americans nearer Buna reported: "Air show a dizzle. Our attack jumped off on time supported by 60 and 81 mm mortar fire."109

By the end of November, the advance had almost completely bogged down, and Lt. Gen. Robert L. Eichelberger, who along with Kenney had been promoted to lieutenant general on 21 October, was called upon to reorganize the American combat forces. Eichelberger was commander of the I Corps which included both the 41st Division, still training in Queensland, and the 32d Division. After a brief conference with MacArthur at Port Moresby, he flew to Dobodura, landing there in the morning of 1 December 1942. At 1200, he assumed command of the Allied forces east of the Giruma River.110

Reorganization began immediately and continued through 7 December. Eichelberger at once shook up the command, the principal change being the replacement of General Harding by Brig. Gen. Albert ... Waldron as
division commander. The revised command began to sort out the confused units and to systematize the flow of supplies. On 7 December, the I Corps headquarters was merged with the 32d Division headquarters to form the Headquarters Buna Force (U. S.) under General Michelberger's command with three elements: Barron in the area of Buna Village and Buna Mission, Urbana along Cape Mandaiadera, and Alma as the service of supply. 111

Concurrently with this reorganization there came an increased reliance on artillery, most of that available having been recently flown in by air transport. Certain difficulties in its employment, however, were immediately obvious. The ammunition supply was insufficient; maps were inadequate; and jungle foliage almost completely hindered ground observation. Some of these difficulties were removed before the end of the campaign but the supply of ammunition continued to present a problem. The crew of the one 105-mm howitzer had to ration its firing until the end of December, and one troop of three 3.7-inch howitzers exhausted its ammunition "about 26 December 1942 and took no further part in the battle." 112

Since few maps of this portion of Papua existed prior to the campaign, both the artillery and the ground forces were largely dependent upon aerial photographs for conducting artillery fire; but a failure in liaison between air and ground forces prevented their widespread use. A New Guinea Force Instruction of 18 December allotted the U. S. 4 Squadron to the New Guinea Force for the purpose of photographic reconnaissance. The Fifth Air Force also "agreed to supply as soon as possible to 127 four copies, with relevant interpretation reports, of all photos taken of the Buna-Gona area ... " Only limited reproduction...
facilities existed at Port Moresby, and delay resulted when photographs were reproduced in Australia.\textsuperscript{113} Several of the photos received proved useful, artillery and forward observers using an area fire control chart and a scale strip of the region from Cape#wbr심사와 to Buna Mission.\textsuperscript{114} After the campaign, General Mitchell learned that "excellent large-scale aerial photographs had been taken of the combat zone before the campaign was well started." But although they had been needed throughout the campaign, a sufficient number were never available in the forward areas.\textsuperscript{115}

Since jungle foliage usually obscured shell bursts from ground observers, the 4 Squadron was assigned to aid in adjusting fire for the artillery. This squadron of the Australian 9 Operational Group was equipped with slow, almost weaponless Wirraways and manned by skillful pilots and observers. At first the Wirraways would land at Dobodura for briefing prior to every mission; later a few remained at Dobodura and Popondetta for several days at a time subject to the demands of the artillery.\textsuperscript{116} The fear of Jap fighters, however, restricted the use of these vulnerable planes. New Guinea Force at first insisted that if the planes were permanently stationed at Dobodura or Popondetta they should not venture over the lines without fighter escort. This problem was ironed out to some extent by deciding that when fighter cover was not in the area, the observation plane would operate "at pilots discretion as covered by 9 Operational Group procedure."\textsuperscript{117} The Wirraway hovered continually over the Jap lines giving such coordinates of targets as "two tanks 100 yards 32 on road, American troops using Jap emplacement at 263-273. Fire west of Giropa Point." They spotted shell bursts, lured enemy AA into disclosing their positions,
reported Japs trying to escape; they were forced down and occasionally crashed in flames; and one during airway actually shot down a Zero. Their work, according to the official field artillery report was "superb."118

Following the reorganization by Generalichelberger, the Australians on the west bank of the Giruwa and the Americans on the east prepared for new offensives. All forces were ordered to attack on 5 December 1942. Intensive air, artillery, and mortar preparation was designed to soften Jap resistance. On the Jarren front, five Bren Gun Carriers led the infantry. Within 30 minutes the Japs had knocked them out and neutralized the attack. The Urbana force achieved more success. A picked force from G Company of the 126th Regiment led by German-born, 37-year-old S/Sgt. Hermann J. Bottcher drove through Japanese positions to the beach. By holding this salient against attacks from both sides, Bottcher's men isolated Buna village.119

During the first two weeks in December, not only the savage fighting, but also malaria and assorted tropical diseases were reducing the Allied forces. Australian battalions which had pursued the Japanese all the way from Torabika Ridge to Sanananda were much weakened, and on 6 December, fresh troops finally relieved the two Australian brigades on the Sanananda front.120 Disease had also decimated the 2d Battalion of the 126th Regiment. From 2 to 19 December 1942, Company A had decreased from 4 officers and 136 enlisted men to 1 officer and 40 enlisted men; Company F from 3 officers and 105 men to 1 officer and 35 men; Company G from 3 officers and 127 men to 2 officers and 64 men; Company H from 4 officers and 104 men to 1 officer and 61 men.121 Reinforcements
were badly needed, and the Fifth Air Force was again called upon to ferry a regiment of American troops into combat. The 127th Combat Team had sailed from Brisbane via Townsville to Port Moresby, arriving there on Thanksgiving Day. The now-efficient transport service then ferried them to Dobodura and Popondetta. Supply elements had arrived on 30 November. Groups of 10 officers with 121 men and 6 officers with 201 men arrived on 6 and 7 December. On 11 December, I and K Companies moved into the front lines, and produced an upsurge in the morale of the entire Buna Force.122

The fresh troops on both the Australian and the American flanks had almost immediate success. Australian infantry of the 21st Brigade completely overran Gona on 9 December.123 By the second week in December, the Urbana Force was also preparing for a final assault on Buna village. Sniping was continuous; night patrols were active; artillery and mortar fire with aerial strafing had become routine. On 14 December I and J Companies of the 127th Infantry followed their mortar and artillery fire into Buna village; they found resistance weak, and most of the enemy evacuated.124

Buna Mission, a few hundred yards to the east, now became the principal objective of Michelberger's forces. The Japanese, in spite of aerial attack, artillery bombardment, and mortar barrage, still threatened the Urbana right flank by holding strong points, on either side of entrance Creek. Not until 29 December did members of the 127th Infantry complete the isolation of the mission by cutting through to the sea just east of Buna Mission. This 500-yard advance consumed 14 days.125
The Warren Force, meanwhile, was planning to break the virtual stalemate on their front by wiping out the Japs in the Cape Endaiadere area. Between 15 and 17 December, small boats brought reinforcements: seven M-3 tanks of the 2/6 Australian Field Regiment and one battalion of the 18th Australian Brigade. The air force had hoped to provide "noise camouflage" for the tanks as they entered the forward area on 17 December, but uncooperative weather once more prevented selected air units from fulfilling the mission. Nevertheless on 18 December, the attack was launched. Tank reinforcements and another Australian battalion took over the advance on 31 December supported by elements of the 128th Infantry. By 2 January 1943, they had eliminated all organized resistance between Cape Endaiadere and the corridor east of Buna Mission.

The Urbana Force had had equal success between 29 December 1942 and 2 January 1943 in steadily expanding their corridor to the sea. On 31 December, the tired 2d Battalion of the 126th Regiment established contact with a patrol of the Warren Force along the coast, while the main Urbana attack spearheaded by G Company of the 127th finally overran Buna Mission on 2 January. With its capture, the Buna Forces concluded operations east of the Giruma River.

Although Allied aircraft continually bombed and strafed Japanese land positions throughout these operations, the liaison between air and ground forces was still far from perfect. An exchange over requested air support on 10 December illustrates the confusion sometimes existing. A message from the Buna Force asked:

Will you please clarify where our radio request for air support should be directed.
Yesterday we sent our request to you ASR MG. We sent photos and duplicate of msg to you via plane to MG. None the less this AM we received a radio from you that our request was not received.

In addition to all of the above, our Lt. Col. Howe spoke on the phone to your King (?) reference air support. We will send messages to you or wherever you direct—if you will please tell us where!! Yesterday at 1130Z we started our yell for today's support directly to your headquarters, but alas! alas!! no avail!

Thanks.

The New Guinea Force apologized for this failure, explaining that they had expected requests to be sent directly to them rather than to the Advanced New Guinea Force. When they received no request, therefore, they had radioed for information. The reply from the 32d Division referred to a photograph which they did not have; so they had selected a second priority target, but by the time the Advanced New Guinea Force had received the details "the weather had closed."131

Direct-support missions required the careful specification of target and bomb line as provided in 32d Division and New Guinea Force instructions. A request for support against installations along entrance Creek demonstrates the difficulties of careful definition and the details that a pilot had to memorize:132

Even target for tomorrow we would like the air to fire on Sana Mission and the bridge between the old and new strip. Would be preferred if the bombing on the bridge could be flown from South to North. Bomb line for the bridge target is the North side of new strip extended on to the West. The bomb line for Sana Mission is North of the line through bridge of entrance Creek. That bridge is the one right beside the coconut grove. There is a perpendicular line through that bridge. It will run on the map 111 and 32. We would like the bomb line to be perpendicular to that bridge so that it will protect troops to 3 of bridge. It is a line of line beginning at bridge and extended... to the South of Sana Creek. Anything H & E of line is acceptable.
In spite of difficulties, the ground and air forces developed a mutually supporting system. In one case, the air force requested that heavy antiaircraft positions be destroyed by artillery fire. The 105-mm. howitzer with the aid of airway observation registered on the antiaircraft guns. Allied gun crew then planned to fire "high burst adjustment on the IA to attempt to kill the Japs when they come out of their holes to shoot at our planes." On the other hand, Kenney, described as "straining at the leash to help," was repeatedly requested to knock out mortars by continuous strafing raids. The air force responded with medium and light bombers, A-20's scraping the trees before loosing parachute bombs, even B-25's and B-26's coming in at 100 feet to drop delayed-action bombs with fuses set at from 45 seconds to six six hours.133

By the last of December, aircraft performing support missions, air transport crews, and ground troops could depend upon an increasingly effective fighter patrol to protect them against the occasional attacks of Japanese aircraft. P-37's and P-40's usually patrolled in formations of 16 aircraft separated into 2 to 4 flights. They covered the area at different levels from 5,000 to 20,000 feet.134 Late in the month the patrol was greatly strengthened by the addition of P-33's.

On 27 December this versatile plane first demonstrated its superiority over enemy fighters in the Southwest Pacific when P-38's intercepted a Japanese strafing and bombing mission of over 20 fighters and 7 or 8 dive bombers in the neighborhood of Cape Diamonders. Twelve P-33's, covering the area at 10,000 feet, divided into three flights. The first dive on the Japs, scattering their formation which the following
P-38's completely riddled. American pilots left the scene only after shooting away all their ammunition. One flight leader exhausted his ammunition, flew back to Port Moresby, took another ship, and returned to the fray. One P-38 was forced down at Dobodura, but by that time the patrol had shot down at least 9 fighters and 2 dive bombers. This lopsided American victory, followed by another of equal proportions on 1 January, inspired General Whitehead to write that "we have the Jap air force whipped." 135

Although it was obvious by 1 January that the Papuan Campaign was nearing its close, 22 days of tough fighting still remained. Organized resistance had ended only east of the Giruwa River. The Japs were still doggedly holding an area west of the Giruwa in the vicinity of Banaananda, and the Allied force west of the river under General Vasey had made only limited advances since the fall of Gona on 9 December 1942. After the capture of Buna Mission on 2 January 1943, elements of the 127th Regiment forced their way along the coast into a position from which they could render aid to General Vasey's troops. These, moreover, had been reinforced by the transfer of the 18th Australian Brigade from the Buna front, and by the 163rd Regiment of the American 41st Division which beginning on 31 December was transported by air from Port Moresby. The fresh infantry and tanks pushed forward immediately, only to bog down on 12 January when the Japs destroyed three tanks. 136

On 13 January, General Michelberger assumed command of all Allied troops north of the Owen-Stanleys. He at once initiated vigorous patrolling activities in the Giruwa area, and the hand-to-hand fighting which resulted prevented any attempts at direct support by the air force.
arm. Since the first of January the routine mission of the Fifth Air
Force had been to bomb and strafe certain areas in the region of the
Giruwa and Sanananda Point. As a further and harassing mission it set
fire to the kunai grass in Jap-held territory. On 13 January,
however, Advanced New Guinea Force cancelled these routine missions,
substituting armed reconnaissance along the coast with an occasional
burning expedition when weather permitted, and instructing that there
should be no bombing or strafing unless it was specifically requested.
There was actually little further need for direct air support since the
heavy resistance encountered by the Australian tanks proved to be the
last serious effort of the Japanese in this sector. Allied patrols
discovered an enemy withdrawal, and immediate attacks by the reinforced
Allies destroyed all organized resistance in Papua on 22 January 1943.
Chapter IV

CONCLUSION

General MacArthur announced on 24 January 1943 that "the destruction of the remnants of the enemy forces in the Samana area concludes the Pauan Campaign. The Norei army has been annihilated." An exact evaluation of the role of air power in this Allied victory is, of course, impossible. What can be asserted, however, is that without the cooperation of the Fifth Air Force and the NAFP, the campaign would have dragged along through many more days of savage combat. On 1 January 1943, General Halsey put the preceding months of air combat in the proper perspective when he asserted that "we learned a lot and the next one will be better." As indicated by this statement, the outstanding lesson to be learned from a study of air operations in 1942 is that they were largely experimental. To meet unexpected conditions with limited resources, new weapons and new techniques had to be developed.

This was particularly true of the use of air power in support of ground troops. From 26 August 1942 until the end of the campaign, 110 requests for direct and other support were made by the ground forces. Of these the air forces refused 15 because the targets were unsuitable, 12 because of the lack of combat planes, and 11 because of unfavorable weather. The 72 completed missions employed 568 aircraft which dropped 474,000 pounds of bombs and expended 100,000 rounds of ammunition. Of these aircraft, however, only 121 carried out direct-support missions, dropping 80,000 pounds of bombs and firing 97,000
rounds. Support missions employing the newly-developed parachute bomb against area targets were highly successful. On the other hand, missions in direct support of ground troops occasionally failed. Although liaison officers attempted to direct the support mission, some of them ended in the bombing of friendly troops. On 3 December P-40's bombed and strafed points occupied by the 1st Battalion of the 128th Regiment. On 10 and 11 December separate bombing attacks by Allied planes resulted in the killing of two men and wounding of six from the 126th and 128th Regiments. Four days later Allied medium bombers attacked two Higgins landing barges, and on 20 December, 4 bombs from Allied planes wounded 2 men of the 127th Regiment within 50 yards of their assembly area. On 6 January, according to the records of the 32d Division, B-25's and A-20's strafed "all battalion areas." Only three men were wounded, but the strafing came within 25 yards of a high-explosive ammunition dump. These isolated examples demonstrate the difficulty of briefing pilots entrusted with strafing missions. Although the number wounded possibly seems insignificant, such action was not productive of confidence in the air force.

Air power was more successful in threatening the Japanese control of the Bismarck Sea. From the beginning of the campaign, anti-convoy attacks and long-range missions against shipping and supply concentrations had received high priority. Early efforts proved abortive, and the Japs landed troops almost at will. Some officers felt, for example, that all the ships which originally landed troops at Buna "should have been hit or sunk." But as airmen became more experienced and employed new techniques such as low-height bombing, attacks on
shipping, climaxd by the January assaults on the Lae convoy, met with
growing success. Allied headquarters began to feel that the Japanese
control of the seas was being successfully challenged.⁵

Kenney's air units chalked up their greatest victory in estab-
lishing an Allied control of the air. Fighters did their part in turning
back enemy raids on Allied bases and in providing successful cover for
transport and bomber operations. Bombers contributed to the victory
by destroying Japanese planes on the ground and in air combat. An entry
in a Japanese diary of 3 December 1942 significantly remarks: "they
fly above our position as if they owned the skies." The 6-2 report of
the Buna phase of the campaign refers to the almost total lack of air
support for the enemy.⁶ Furthermore, air raids on Darwin and Port
Moresby decreased in effectiveness even though intelligence continually
reported large numbers of enemy aircraft based within bomber range.
The Japs raided Port Moresby five times during September, using a
total of approximately 60 bombers, but from October through January
they used only some 40 bombers.⁷ Nevertheless, the Allied fighter
patrol could not cover the entire Buna area at all times. Sporadic
Japanese raids occurred. Their November attacks on the small boat
supply line had been costly to the American and Australian troops at
Buna. They had made frequent attempts to bomb artillery positions at
night. On 7 December, three Japanese Navy planes bombed the plainly
marked Second Field Hospital. Three direct hits caused fearful casual-
ties, including several deaths. A prisoner of war later claimed that
this was "in direct retaliation for our inadvertent bombing of the
enemy's hospital in Buna." Another serious raid occurred on 24 December
when six waves of bombers flew over Allied positions in full moonlight dropping at least 110 bombs. 3

The decreasing number of these Japanese attacks had an encouraging effect upon the morale of Allied ground forces and outweighed the annoyance caused by the occasional inaccuracy of their own air force. As one infantryman put it: "There had always been something fine back home about seeing a formation of bombers or fighters zooming overhead; there was something even finer about seeing them when you knew that within a few hours after their passing overhead they would probably have provided material for the latest American communiqué." 9

The growing confidence in the air force was strengthened by the part played by over-worked troop carrier planes and crews. Col. Frederick A. Smith, Deputy Chief of Staff of the Fifth Air Force, expressed an airman's opinion of the contribution of his command by saying that "in view of the bad weather and bad terrain, the handling of ground units was the key to the final outcome. It was in the transport of such units and their supplies that our air power was most useful." 10

Certainly the ferrying of the majority of the 32d Division over the Owen-Stanleys and the evacuation of thousands of sick and wounded stands out in a campaign where the terrain features conspired against rapid movement.

The Americans who had fought in the Papuan Campaign had undergone a strenuous initiation into global war. The 32d Division unquestionably was not sufficiently prepared for New Guinea fighting, and the jungle and the Japs had virtually decimated it. Casualties, including the sick, ran to over 10,000. That only 7 per cent of this figure were
deaths can be explained in part at least by the ability of the medical corps, and the speed with which the Fifth Air Force evacuated the sick and wounded to a more healthful region. Those who remained in the Buna area in January little resembled the group that had arrived at Port Moresby from Australia in September. One of their number describes them as follows:

They were gaunt and thin, with deep black circles under their sunken eyes. They were covered with tropical sores and had straggly beards. They were clothed in tattered, stained jackets and pants. Few of them had socks or underwear. Often the soles had been sucked off their shoes by the tenacious stinking mud. Many of them fought for days with fevers and didn't know it.

Lirmir, too, had seen strenuous service, a fact borne out by the 330 deaths and almost 200 missing suffered by officers and enlisted men from July 1942 through January 1943. They had flown their planes long hours over dangerous peaks and unfriendly seas as well as through clouds and storms which battered them mercilessly. They had attacked objectives through rain and haze. Unarmed transports had flown through the same stormy weather to make hazardous landings on busy strips cut out of the mountains or jungle. Ground crews with insufficient tools and parts worked ceaselessly to keep their planes in commission. Fighter crews based in feverridden areas such as Milne Bay one by one fell victim to malaria. Relaxation was difficult when most of the bases were in isolated portions of New Guinea and Australia, provided with no amusements and little in the way of fresh meat and vegetables. Promotions in some cases were slow, which in itself did not disturb officers or men until they heard of classmates in safer regions who had achieved higher ranks. General MacArthur paid tribute to the work of the
airmen in his summation of the campaign: "To the American Fifth Air Force and the Royal Australian Air Force no commendation could be too great. Their outstanding efforts in combat, supply, and transportation over both land and sea constituted the keystone upon which the arch of the campaign was erected. They have set up new horizons for air conduct of the war."14
Chapter I


2. The information on the Japanese advances has been taken from the G.O.I. Weekly, Navy Department Office of Naval Intelligence; World War II and the Chronology, Evaluation and Dissemination Branch, NDS; George H. Johnston, The Toughest Fighting in the World, 3-6, 22-33. G.O.I. Weekly, 11 (11 Apr. 1942) states the Japanese invaded Finschhafen on 10 March. However, a chart prepared by Historical Section, A-2, Fifth Air Force, shows the enemy landing there on 10 February 1942. Chart VII, in Appendix I, History of the Fifth Air Force (and its Predecessors), Part I.

3. New Guinea fell at the outbreak of World War II into three political subdivisions: Papua, the mandated Territory, and Netherlands New Guinea. The last mentioned, with an area of 152,000 square miles, was by far the largest, and was also among the least known regions of the world. The Australian Mandate of 1919 was comprised of the former German New Guinea colony and New Britain, New Ireland, the Admiralty Islands, Bula, and Bougainville. Administrative headquarters had been maintained first at Rabaul and more recently at Lae, Papua, or British New Guinea, as it had been known from 1884 to 1903, had become in the latter year a territory under an Australian governor-general. Covering an area of 91,000 square miles and with an estimated population of 260,000 natives, its administrative center was Port Moresby. The island's resources were largely undeveloped, and its dark-skinned people were primitive. The efforts of Australian authorities and the courageous ventures of Protestant and Catholic missionaries had brought among the inhabitants of Papua and the Mandate a general acceptance of the white man. Only in the more remote regions of Netherlands New Guinea were the tribesmen likely to be hostile. The most satisfactory source used for the description of New Guinea was Survey of North East New Guinea and Papua, 15 July 1943, NDS. A brief study is C. H. Stirling, The Native Peoples of New Guinea, Smithsonian Institution Far Eastern Studies. Good descriptions also exist in Johnston, Toughest Fighting in the World and E. J. Kahn, G. I. Jungle.

4. C.-I-I-542 (20 Apr. 42), MacArthur to AGO, 331, 20 Apr. 42; C.-I-I-7614 (22 July 42), CG US: 303 S.T. to AGS, 3341, 22 July 42. For the early organization in Australia see Army Air Forces Historical Studies: No. 9, The Air in Australia.

5. C.-I-I-918 (1 May 42), USAAHA to Marshall, 558, 1 May 42; C.-I-I-3264, (8 June 42), CGUS: 304 S.T. to USAAHA, 913, 8 June 42; C.-I-I-7976 (24 June 42), CGUS: 304 S.T. to AGS, 242, 24 June 42;
D Day - Simultaneous and sustained bombardment of Leq [sic], Salerno, Cape Tizzano and Finolghetto by all available aircraft from Port Lorigo, Horm Island, Cape and Torunville.

D/1 Day - Execute [sic] of the above air bases by parachute and airborn [sic] attack.

D/2 Day - Reinforcement of the first objectives by small surface craft . . . ., airborn [sic] anti-aircraft, automatic weapons units and airborn [sic] infantry.

D/3 Day - Movement of one medium bomb group and one fighter to the first objective bases.

D/4 Day - Neutralization by sustained bombardment attacks of the Joy airbase at Milia, Cali Posoage, Ponsacol, Lipto, Purgatorio, Udili, Carata, Falasia, and Cape Gloucester. Aerial reconnaissance must dictate the attack on individual fields, although Lipto and Purgatorio will require the greatest attention in all probability.

D/5 Day - The attack on Milia by the surface forces with continued neutralization of the fields mentioned above plus protection of the surface craft by carrier attack.


The Pacific War Council was established in London, the first meeting being held on 10 February 1943. New York Times, 10 Feb. 1943. But after repeated urging by Australia, another Pacific War Council was set up in Washington which met first on 31 March 1943. Both of these councils continued to exist, meeting weekly to consult on the Pacific War. New York Times, 31 Mar. 1943, 23 Oct. 1943. C. - 072-0453 (3 Apr. 43), March 11 to 03 USMA for Blanks, 1938, 3 Apr. 43.


10. This policy was clearly established by 7 July 1942.

11. CI-E-6311 (20 July 42), Brett to 08 AM, 1115, 10 July 42; CI-E-6011 (22 Aug. 42), Kairath to G/8, 19 Sep. 42; CI-E-6747 (22 July 42), Kairath to Marshall, 1136, 19 July 42.

12. CI-E-6747 (19 July 42), Kairath to Marshall, 1136, 19 July 42; CI-E-691 (6 Jul. 42), USAHA to 0267, 073, 6 July 42; U.S. Army Air Corps Units in Australia, HQ, U.S. Army Air Service, 6th AAF, 14 July 1945; CI-E-7038 (33 July 42), U.S. Air SVA to 08 AM, 1136, 21 July 42; 5th AAF files in Unit Record Br., 10/43; CI-E-7047 (12 July 42), Maj. WH SVA to 08 AM, 1136, 21 July 42; CI-E-10103 (12 May 42), Kairath to Marshall, 193, 1 May 42; History of the 97th Bombardment Group (B), The number of planes in commission at any one time can be found in the July and monthly status and strength reports as cable from air force headquarters in the SVA to 08 AM.


14. CI-E-6011 (13 July 42), 10 AM, 1115 to 08 AM, 1136, 13 July 42.

15. CI-E-6311 (18 July 42), 10 AM, 1115 to 08 AM, 1136, 18 July 42; CI-E-6747 (21 July 42), 1005 200 to 0123 E, 208, 20 July 42.

16. In exchange for experienced personnel, the SVA was to furnish fighter pilots with a minimum of 50 hours' transition training in the same type of equipment as would be found in the fighter prior to their departure from the United States. CI-E-7002 (14 June 42), 10 AM to USAHA, 1336, 14 June 42; Status of training of 7th Squadron of 17th Bombardment Group soon to leave the Southwest Pacific: radio operators—9 months' experience since completion technical school; gunners—60 trained; bombardiers—all graduates of bombardier school at trained; navigators—9 with 6 months' experience; 8 with 3 months' experience; 75, trained; pilots—
20 with 6 months' experience and 14 with 3 months' experience, 
average time in combat aircraft between 150 and 200 hours; 753 
trained. C.-OUT-273 (8 July 42), 10 OPD to USAF, for Brett, 
2691, 8 July 42.

Both Arnold and Marshall answered this by explaining that these 
men were recent training center graduates intended as co-
pilots, and that Brett had previously stated that co-pilots of 
replacement bombers after completing their trans-Pacific flight 
were sufficiently trained to use as first pilots, and that there 
was a need in Australia for trained co-pilots. C.-OUT-6792 
(22 Aug. 42), OPD to CINC S.PA., #1060, 21 Aug. 42; C.-OUT-6200 
(20 Aug. 42), 1 to CINC S.PA., #1003, 20 Aug. 42.

1943.

19. C1-OUT-7532 (29 June 42), HHA to CINC S.PA., 303, 29 June 42; 
C1-III-8678 (25 July 42), Brisbane to CG AAF, 1147, 24 July 42.

20. C1-OUT-7182 (23 June 42), Marshall to CG USAFA, 1110, 23 June 42; 
C1-III-8604 (25 June 42), HHA S.PA. to AG AFR, 974, 26 June 42; 
C1-III-5370 (13 Sep. 42), HHA AAF S.PA. to CG AAF, 5313, 13 Sep. 42; 
C1-OUT-7532 (29 June 42), HHA to CINC S.PA., #303, 29 June 42. For 
planes in commission see status reports in the cables.

21. C1-III-5223 (15 July 42), HHA S.PA. to O'S, 1110, 15 July 42; 
C1-OUT-7630 (26 July 42), 1D OPD to CINC S.PA., #217, 25 July 42.

22. Interview with Lt. Gerald J. Dix, 10 Dec. 1942; Interview with 
Capt. Vincent L. Snyder, in Carmichael Interview. In October the 
following maintenance facilities were available: Australian National 
Airways and the Ansett Airways at Melbourne, the Commonwealth Air-
craft Company and Australian National Airways at Sydney, the 
Quantas Airlines at Brisbane, and the Dixon Company; representatives 
of General Motors, Holdens Ltd., and Ford; RAAF facilities; and U. S 
Army facilities consisting of the 4th, 31st, and 27th Air Depot 
Groups and six service squadrons. It was expected that by 1 January 
1943, the overhaul facilities would be able to overhaul 350 engines 
for combat and cargo type airplanes, 25 airframe major overhauls, and 
75 airframe minor overhauls, per month. Ltr., 3rg. Gen. T. J. 
Hanley, Jr., LCG/L, 1-4 to CG LCG, 12 Sep. 1942; 1st Ind., ASC to 
CG AAF (AJL/5), 13 Oct. 1942, in LCG 452.1, Repair-Maintenance of 
Aircraft-Overseas.

23. C1-III-3169 (8 Oct. 42), R3 AAF S.PA. to CG AAF, #706, 8 Oct. 42; 
C1-OUT-04038 (13 Oct. 42), ASC to CINC S.PA. for Kenney, #2613, 
12 Oct. 42; C1-III-7049 (16 Nov. 42), Brisbane to AFR, #1099, 
16 Nov. 42.
24. C-IN-04199 (10 Oct. '42), Brisbane to CG AAF, 10 Oct. '42; C-IN-2104 (7 Nov. '42), H3 AS to CINC S.PA, 7 Nov. '42; C-IN-7828 (18 Nov. '42), Brisbane to Hq. AIL, 18 Nov. '42.


26. The Director of Intelligence for the Allied Air Forces was Air Commodore Joseph E. Hewitt, "perhaps the brightest mind in Australia today." Interview with Col. John K. Gowan, Jr. (Gowan Interview), 22 Oct. 1942. Cooperation between land, sea, and air forces steadily improved. In September, for example, an Allied Translator and Interpreter Section was established which pooled all resources into one center for all translations and for interrogation of Jap prisoners. C-IN-05352 (13 Oct. '42), Brisbane to Hq. AAF, 13 Oct. '42.

27. C-IN-1882 (6 Aug. '42), MacArthur to Hq. AAF, 6 Aug. '42; C-IN-6047 (17 July '42), MacArthur to Hq. AAF, 17 July '42; Interview with Capt. Carey L. O'Brien, in Carmichael Interview.

28. Interview with Capt. Charles L. Karburg, 3 Nov. 1942; unrecorded interview with Maj. J. J. Keane, March 1944.

29. C-IN-7060 (25 May '42), Hq. S.PA to Hq. 302, 25 May '42.

30. Interview with Maj. Frank P. Bostrum, in Carmichael Interview.

31. Interview with Maj. Karl L. Polifka (Polifka Interview), 15 Dec. 1942. Interview with Maj. Frank P. Bostrum and Capt. Fred C. Eaton, Jr., in Carmichael Interview. Polifka believed that heavy bombers could have made more of a contribution had they installed cameras suitable for mapping the areas which they covered rather than suitable simply for taking photographs.

32. An interesting article concerning Major Polifka's activities was condensed from the American Mercury in "Pacific White," "Fliers Who Fight Without Guns," Readers Digest, November 1943. The natives apparently considered that the P-38 resembled an outrigger canoe, and gave it that title, "Flying Lakatoi." Johnston, Toughest Fighting in the World, 72.

33. History of the 5th Photographic Reconnaissance Squadron. The Rabaul run was almost too far for the P-38, due in part to the difficulties of navigation. The compass varied with the load carried by the generator. Polifka, illustrating the difficulties of navigating his F-4, stated that in traveling from Townsville to Port Moresby he once arrived in the neighborhood of Tagula, 200 miles southeast of the eastern tip of New Guinea, and another time he overshot his destination and arrived at Gasmata, New Britain. Polifka Interview.

34. Ibid.
35. Ibid.; "Southwest Pacific reconnaissance," AMTR, Bulletin n°18
(Dec. 1945), 37-38.

36. Poližka Interview.

Chapter II

1. CL-Li-4425 (13 July 42), MacArthur to C/O, no. 295, 13 July 42. Some documents had also been captured on 29 June which had given some warning of a new Japan landing in New Guinea. CL-Li-3344 (24 July 42), U.S. to C/O, no. 3153, 23 July 42.

2. Byron Darnell, New York Times, 29 July 1942; CL-Li-7237 (21 July 42), MacArthur to C/O, no. 3149, 21 July 42.

3. S.P.A. Intelligence Summary, no. 21, 31 July 1942, 8-9; Polifka Interview; Johnston, Toughest Fighting in the World, 112.


5. CL-Li-7636 (22 July 42), MacArthur to C/O, no. 3149, 22 July 42; S.P.A. Intelligence Summary, no. 21, 31 July 1942, 8-9.

6. Ibid., no. 19, 21 July 1942, 11; CL-Li-3344 (23 July 42), Hq. S.P.A. to C/O, no. 3153, 23 July 42; 60th Ref, Hq. Allied Air Forces, 20 Aug. 1942.

7. Sources disagree as to the strength of the convoy. The operations report of 22 July says 2 cruisers, 4 destroyers, and 3 to 5 transports. CL-Li-3344 (24 July 42), Hq. S.P.A. to C/O, no. 3153, 24 July 42. Probably more accurate is the S.P.A. Intelligence Summary of 31 July 1942: "The total force appears to have consisted of 1 cruiser, 4 destroyers, 1 transport of about 10,000 tons, and other merchant vessels which could have carried some troops, but appeared to have carried material. In addition, one of these appeared to carry landing barges of which about 24 were used. One of them appeared to be a converted tanker. There were, also, mine sweepers and smaller motor vessels." Heavy bomber attacks were considered enough of a failure to cause a shake-up of some of the B-17 crew, and "Mr. John A. House of the 19th Group wrote of the strike at the Buna convoy: 'Found a perfect target and weather and no opposition but missed.'" Lt. Col. John A. House, Diary /House Diary/, 22 and 23 July 1942.


10. Ibid., 5-8. Ceiling on F-39D1 was 29,000 feet; on F-40K1, 25,000 feet, according to a longhand notation on cable CM-IN-0928 (3 July 42), Brett to CG AAF, #A10, 3 July 42; CM-IN-5594 (16 July 42), Brett to CG AAF, #A98, 16 July 42.

11. CM-IN-6849 (20 July 42), Brett to CG AAF, #A119, 19 July 42.


17. Interview with Maj. Felix Hardison, in Carmichael Interview; Hemenway interview; CM-IN-2937 (9 Aug. 42), CINC S/PA to CG/S, #0226, 8 Aug. 42. There seems to be some evidence that Jap fighters changed their method of attacking the B-17 following an article describing that plane in the 6 April issue of Life. Seventy-five per cent of the attacks, it was claimed, had been from the front since the article showed the lack of a nose gun. CM-OUT-5507 (18 Aug. 42), JAO GHT to CINC S/PA, #937, 17 Aug. 42; CM-IN-7704 (21 Aug. 42), MacArthur to AGWAR, #4311, 20 Aug. 42.


19. Ibid.


24. Osmar White, Secret Report; Interview with six members of TCC.


26. Interview with six members of TCC.

27. Ibid.; ltr., Kenney to Arnold, 14 Dec. 1942, in AG 370.2-A, Operations and Reports.


29. G-I-887-4263 (12 Aug. 42), Kenney to Arnold, "C-262, 12 Aug. 42; G-I-887-7967 (22 Aug. 42), Kenney to Arnold, 1546, 22 Aug. 42; G-I-887-1641 (31 July 42), CINC S.F.A. to C/S, "C-71, 30 July 42; G-I-887-9774 (1 Aug. 42), CINC S.F.A. to C/S, "C-178, 31 July 42. The feeling at Headquarters was that although the L-2s was not an ideal bomber, it should still be used until a better one came along, but that since Kenney did not want it, no more would be sent to his theater. FFR, AFNR to AOFR, 14 Aug. 1942 and AFNR to ALFR, 15 Aug. 1942, in AG 150.1 C, Bombers; R, AFNS/OP to AFNO, 17 Aug. 1942, in AG 140.1 Misc., Australia; History of the 27th Bombardment Group.

30. Gen. Sir Thomas Blamey did not believe that air attacks were effective when used as artillery in this area because of the low cloud base, jagged mountains, and thick jungle. Byron Sannto, New York Times, 16 Sep. 1942; cable strength and status reports for the month of August.

32. C.-EI-3795 (11 Aug. 42), CIC S.F.A to C/S, 3245, 11 Aug. 42; Vence Interview; Johnston, Toughest Fighting in the World, 121; Capt. Robert A. Taylor, "(We'll Remember, 435th Overseas,"

33. C.-EI-2037 (19 Aug. 42), CIC S.F.A to C/S, 3201, 19 Aug. 42. On 20 August three landing strips were in existence at Milne Bay.


40. Ibid.; S.F. Intelligence Summary, 29, 23 Aug. 1942, 1; Interview with Maj. Frank P. Stockton, in Carmichael Interview; C.-EI-12076 (28 Dec. 42), Australia to WAR, 3360, 23 Dec. 42; C.-EI-2470 (7 Sep. 42), CIC S.F.A to C/S, 3437, 6 Sep. 42. The Allied supply ship Ancam was sunk at a Milne Bay wharf on 6 September from cruiser shell fire. C.-EI-3224 (8 Sep. 42), Australia to WAR, 3451, 8 Sep. 42.

41. C.-EI-10793 (23 Aug. 42), CIC S.F.A to C/S, 3271, 23 Aug. 42; C.-EI-10432 (27 Aug. 42), CIC S.F.A to C/S, 3364, 27 Aug. 42; S.F. Intelligence Summary, 31, 1 Sep. 1942, 7-9; Combat Diary of 65th Bombardment Squadron. One statement claimed that the bombers of the 93d Squadron had sunk "a transport and probably a cruiser." Rose Diary, 26 Aug. 1942. The 22d Group also participated.

Lt. V. C. Adams' Diary.

43. Ibid.; Johnston, Toughest Fighting in the World, 122; C.II-12077 (21 Aug. 42), C.II-99 to 0/3, 0507, 31 Aug. 42; History of the 8th Fighter Control Squadron.

44. New York Times, 1 Sep. 1942, 2, 13; S.F. Intelligence Summary, 31, 4 Sep. 1942, 1; C.-Ii-99 to 0/3, C.II-3849 (2 Sep. 42); C.II 3.Fa to 0/3, 0507, 7 Sep. 42.

45. New York Times, 31 Aug. 1942, 3; C.-Ii-72526 (27 Sep. 42), Brisbane to 0/3, 0507, 27 Sep. 42, reports disagree as to Japanese casualties. The Commonwealth for 9 September gives the figure of 700. The operations report for 9 September states that there had been 600 enemy casualties since 1 September. Maj. Gen. C. C. Claxton claimed over 1,000. Col. John M. Gowan, 1-2 for 23 air units in the S.F., stated that 3,000 Australian fighters from the Middle East fought at Rangoon, and that they lost all but 300 of their men there. C.-Ii-1910 (5 Sep. 42), C.II-99 to 0/3, 0507, 5 Sep. 42; Gowan Interview; Maj. Gen. C. C. Claxton, report on line key operations, supporting document to History of the 8th Pursuit Group.

46. C.-Ii-5007 (2 Sep. 42), C.II-3.Fa to 0/3, 0507, 2 Sep. 42.

47. Caesar White, Secret Report.


49. Caesar White, Secret Report; Johnston, Toughest Fighting in the World, 123, 129; Report of the Commanding General of the Burma Forces on the Burma Campaign (Report of Commanding General Burma Forces), Dec. 1, 1942-Jan. 25, 1943, 1. Blomky is said to have stated that the Australian retreat was a withdrawal aimed at inviting the Japs to overextend their lines, so that the Australians could cut them off in the mountains. Interview with Col. L. H. Roddeke, 14 Dec. 1942.


54. 6045, HQ. Fifth Air Force, 2 Dec. 1942.


56. C.-III-8098 (19 Sep. 42), Australia to UK, 0517, 13 Sep. 42.

57. S.F.A. Intelligence Summary, 856, 22 Sep. 1942, 1.


59. C.-III-10630 (30 July 42), Brett to 03 IAF, 1163, 29 July 42; Interview with Col. John Davies [Davies Interview], 9 Dec. 1942; ltr. Senyon to Arnold, 28 Aug. 1942, in Air AG 320.2, Australia.

60. A caption on a Japanese map of New Guinea found in the Buna area warned that Allied aircraft would bomb semi-open land, plains, and villages. S.F.A. Intelligence Summary, 75, 5 Feb. 1943, 18.


62. S.F.A. Intelligence Summary, 36, 22 Sep. 1942, 12-13; C.-III-11630 (26 Sep. 42), Brisbane to UK, 0530, 26 Sep. 42; S.F.A. Intelligence Summary, 32, 29 Sep. 1942, 2-3; C.-III-1052 (3 Oct. 42), Brisbane to UK, 0618, 2 Oct. 42. For further instances of these activities, see the cable operations report, 21 Sep.-3 Oct. 1942.

63. S.F.A. Intelligence Summary, 40, 6 Oct. 1942, 2-3, mentions the destruction of Sirorita Bridge. This same action is reported in C.-III-1435 (4 Oct. 42), Brisbane to UK, 0622, 3 Oct. 42. A later report is that there is no evidence from photographs of the existence of such a bridge, and that more precise information is necessary. S.F.A. Intelligence Summary, 40, 6 Oct. 1942, 10-11.

64. S.F.A. Intelligence Summary, 39, 2 Oct. 1942, 1.


THIS PAGE Declassified IAW EO12958
66. Pollifax Interview.

67. CIC-31-516 (13 Sep. 42), Kerney to CG, S.A.P., 10 Sep. 42.

68. CIC-31-5557 (13 Sep. 42), CIC S.P. to S.P. 0/3, 15 Sep. 42; Davies Interview, 1r., Kerney to Arnold, 23 Aug. 1942, in AIR 320.2, Australia; CIC-31-6360 (15 Sep. 42), Kerney to war, 15 Sep. 42; S.P. Intelligence Summary, 134, 15 Sep. 1942, 1, 8.


71. Johnston, Toughest Fighting in the World, 142-143.


74. S.P. Intelligence Summary, 43, 4 Nov. 1942, 1; New York Times, 3 Nov. 1942, 1, 5.


77. Japanese Sources quoted in S.P. Intelligence Summary, 175, 8 Feb. 1943, 18.

78. CIC S.P. to C/G, CIC-31-385 (10 Sep. 42), 1459, 9 Sep. 42; CIC-31-3093 (19 Sep. 42), 0517, 13 Sep. 42; CIC-31-3620 (20 Sep. 42), 0528, 19 Sep. 42.

79. CIC-31-1394 (4 Nov. 42), Australia to CG, 0904, 3 Nov. 42; New York Times, 3 Nov. 42; according to S.P. Intelligence Summary, 143, 3 Nov. 42, 1, probably only one ship reached Lae. Rose's Diary shows the principal attack on 3 November.
80. Ltr., Kenney to Arnold, 23 Aug. 1942, in AIR 320.2, Australia. A Navy communiqué quoted in New York Times, 17 Nov. 1942, credited "General McArthur's aircraft" with their assistance during the Guadalcanal operations. The following are paraphrased messages received by General McArthur: "Appreciate the support which is continuing and effective you are giving South Pacific during present difficult operations," Admiral Nimitz. "Congratulations on air strike which was splendid. For your assistance and for your support my thanks. Please continue select target areas yourself," Admiral Halsey. OA-IN-10693 (25 Oct. 42), Brisbane to "A", CS03, 25 Oct. 42.
Chapter III


2. Elements of the Australian 6th and American 41st Divisions also participated. Operational Survey No. 1.

3. George C. Kenney 301 File, in M.I.G.

4. C.III-1752 (4 Aug. 42), Brisbane to AG 201, 4 Aug. 42; C.III-2632 (3 Aug. 42), G3IC to AG M15, 2 Aug. 42; C.OUT-2785 (9 Aug. 42), G3IC to MG, 657, 9 Aug. 42; AG 23, Gen. Hq. 3 Ma, 3 Sep. 1942; AG 46 [Hq. Allied Air Forces?], 4 Sep. 1942, in AG 322.022 (3 Sep. 42).

5. Ltr., AG to CG 5 Ma, 2 Nov. 1942, in AG 370.5; C.III-OUT-5695 (18 Aug. 42), OEF to G3IC 5 Ma, 18 Aug. 42; 5th IG files, in Unit Record Branch, AG 15, G3IC; History of Headquarters and Headquarters Squadron, V Fighter Command.

6. The following officers were appointed to the staff of the Fifth Air Force:

   Assistant Chief of Staff, L-1, Lt. Col. Roscoe T. Nichols, Jr.;
   "   "   "   L-2, Maj. Benjamin E. Caine;
   "   "   "   L-4, Col. Donald H. Benner;
   Inspector General, Maj. Clinton J. Howard;
   Director of Public Relations, Col. John K. Cowan, Jr.;
   Weather Officer, Lt. Col. James L. Twaddell;
   Surgeon, Col. Bascom L. Wilson;
   Engineer Officer, Lt. Col. Ward T. Abbott;
   Ordnance Officer, Maj. Harry C. Porter;
   Chemical Warfare Officer, Maj. Walter C. Weber;
   Signal Officer, Capt. "Camer", Croxton, Jr.;
   Chaplain, Maj. John S. Kimney.

   CO 217, Hq. 5th AF, 9 Oct. 1942.


9. Daily strength reports from the cables.


14. Rik, AFMS to AFST, 8 Oct. 1942, in AAG 400.1usc., Australia.

15. Ltr., Kenney to Arnold, 24 Oct. 1942, in AAG 312.1-A, Operations Letters; C.-II-01310 (4 Nov. 42), Australia to AAG, 1939, 3 Nov. 42; C.-OUT-12410 (7 Nov. 1942), A/MST to C/C3 S.FA., 3442, 7 Nov. 42. It was intended in Washington to send Kenney more B-24s than he had expected. The following was a tentative schedule of 6 November 1942:

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<th>Month</th>
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<td>July</td>
<td>48</td>
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<tr>
<td>August</td>
<td>18</td>
</tr>
</tbody>
</table>

Memo for Col. Anderson by Col. R. H. Kelly, 6 Nov. 1942, George C. Kenney 201 file, in AAG.


18. Division Digest, 1 Nov. 1942, Hq. IAF, Plans Div., Air Staff; C.-II-1120 (3 Dec. 42), Australia to A/G, L333, 2 Dec. 42; histories of 93d, 935th, 28th, and 30th Squadrons, in History of the 19th Bomber Group.


20. Kenney Interview. A B-24 mission of 17 November described in a cable may be the same one referred to by General Kenney in his 18 March 1943 interview. The cable stated that 2 B-24's landed
in the water near the coast out of fuel, 1 crashed on the take-off, and 2 were missing. C.-III-11779 (23 Nov. 42), Brisbane to W.A., 27 Nov. 42. Iron Range was an air base half way up the Cape York Peninsula; Areeba served the same purpose near Cairns.


22. C.-III-1254 (3 Dec. 42), Brisbane to W.A., A1243, 3 Dec. 42.


24. Log., 3397 to 32d Div., 1 Dec. 1942, in 32d Division C-2 Journal, Buna Campaign. Captured diaries indicated that troops leaving Japa in the middle of October had proceeded to New Guinea, via Formosa and Manila, and landed at Buna 16/19 and 20/21 November 1942. C.-III-9522 (21 Dec. 42), Brisbane to W.A., 5299, 21 Dec. 42; intelligence estimated that 300 troops were landed about 22 November and 1,000 about 1 December. Operational Survey No. 1, Part II, Appendix.


27. S.P.A Intelligence Summary, 57, 4 Dec. 1942, 1. Allied aircraft attempted to intercept these night movements. They had some help from PT boats, the first mention of this in the operations reports is on 23 December. C.-III-10074 (23 Dec. 42), Port Moresby to W.A., A1315, 23 Dec. 42.

28. S.P.A Intelligence Summary, 57, 4 Dec. 1942, 2-4, 10; C.-III-337 (2 Dec. 42), Brisbane to W.A., 01119, 2 Dec. 42; C.-III-3237 (9 Dec. 42), Brisbane to W.A., 0113, 9 Dec. 42.


31. The statistics here are difficult to determine. S-P-S Intelligence Summary, 68, 12 Jan. 1943 lists 69 destroyed, 23 probables, and 40 damaged on 6 to 8 January inclusive. The cable operations reports seem to indicate only 49 destroyed, although the method of announcing losses in these reports makes it difficult to obtain the final results.

32. New York Times, 27 Dec. 1942. During December, 12 B-17's of the South Pacific Command were temporarily operating out of Port Moresby under General Kenney. Harvard to Arnold, 31 Dec. 1942, in S-P-S Summary. Operations Letters. Although the Thirteenth Air Force was not officially activated until 13 January 1943, it was constituted on 14 December 1942. For an official account of the Christmas raid see C.-L-11511 (27 Dec. 42), HU.1 to AR, 435, 23 Dec. 42.

33. S-P-S Intelligence Summary, 67, 8 Jan. 1943, 9; Brisbane to AR, C.-L-2554 (5 Jan. 43), C50, 6 Jan. 43; C.-L-6262 (14 Jan. 43), U224, 14 Jan. 43.

34. S-P-S Intelligence Summary, 78, 16 Feb. 1943, 15.

35. C.-L-0743 (3 July 42), Brett to CD, 7, 2 July 42; C.-L-1-5100 (15 July 42), Brett to C.S., 90, 15 July 42; C.-OUT-6052 (23 Dec. 42), C.S. to C.L.U. S. R., 4735, 23 Dec. 42; C.-L-1-11254 (26 Dec. 42), Brisbane to AR, C.LR.37, 26 Dec. 42.

36. C.-OUT-5031 (10 Nov. 42), Brett to C.S., 3705, 10 Nov. 42; C.-L-11997 (23 Nov. 42), Brisbane to AR, H1193, 27 Nov. 42.

37. C.-OUT-5590 (23 June 42), HU.1, AR, to AR, 2404, 22 June 42; C.-OUT-1-3316-0323 (3 July 42), Brett to C.S., 337, 3 July 42; C.-LT-5652 (15 Aug. 42), Kenney to Arnold, 223, 15 Aug. 42; [Provisional draft of message, Stratemayer to Kenney /10 Sep. 1942, in S-IV-R-23, U.S. Services Div., C.S., Plans; C.-OUT-3626 (11 Sep. 42), Arnold to Kenney, 1670, 10 Sep. 42.


39. Kenney Interview: C.-L-11254 (26 Dec. 42), Brisbane to AR, 31337, 26 Dec. 42; Kenney and Fairchild were informed by cable on 23 December that it was planned to assign only B-26's to meet future medium bomber requirements for the Southwest Pacific. C.-OUT-7533 (23 Dec. 42), Dep. H/3 to AR, 4776, 23 Dec. 42.

40. C.-I-I-5859 (13 Jan. 43), Brisbane to AR, 13 Jan. 43.

41. C.-I-I-2796 (7 Jan. 43), Brisbane to AR, 2796, 7 Jan. 43.


44. Kehn, G. I. Jungle, 55-57; Kehn, Terrible Days, 2.


46. 32d Division C-2 Report; Report of 126th Regiment.

47. Kehn, Terrible Days, 43-44.


50. Report of Activities of C-4, near Aheon, 32d Division in Papuan Campaign, 10 Apr. 1943 (32d Division C-4 Report).


54. Transport Losses:

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<td>November</td>
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<td>6</td>
</tr>
<tr>
<td>December</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Ltr., Kenney to Arnold, 14 Dec. 1942, in Logs 312.21, Operations and Reports; G.-I.-2796 (7 Jun. 43); 1429, 6 Jan. 43.

55. Basic report of the 32d Division on the Papuan Campaign; Report of 126th Regiment; Kehn, Terrible Days, 44.
56. This is the figure given in the Basic Report of the 32d Division on the Papuan Campaign. The 32d Division G-4 report gives more details on the dropping of supplies in the general zone from Lursani to Buin, covering the period 13 Nov. 1942 to 23 Jan. 1943:
Naturae—10,000 lbs. rations; 
Bakers—3,000 lbs. rations; 
Burimbil—7,500 lbs. rations; 
Hakato—24,000 lbs. rations, 9,200 lbs. equipment and maintenance; 
Adjena—10,000 lbs. rations; 
Ibunda—10,000 lbs. rations; 
Cape Lendas—10,000 lbs. rations; 
Sinakai—20,000 lbs. rations, 14,000 lbs. rations; 
Bope—10,000 lbs. rations; 
Bepula—149,000 lbs. rations, 5,000 lbs. equipment and maintenance, 56,320 lbs. ammunition.

57. 32d Division G-4 report.

58. Keen, Terrible Days, 2; Basic Report of the 32d Division on the Papuan Campaign.

59. C.-II-2990 (8 Oct. 42), Australia to 711, 0652, 7 Oct. 42.

60. Johnston, Toughest Fighting in the world, 150; Report of Engineer Operations in the Papuan Campaign, 16 Apr. 1943, from Hq. 114th Engineers to G3 32d Division /Report of 114th Engineers/.

61. 32d Division G-2 Report.


64. Keen, G. I. Jungle, 73.


66. Ltr. for 374th Provisional by OIF. 10th and 17 Sep. 1942, filed under name, Hm.2 to 243, 19 Sep. 1943, in AD 400, lincs., Australia.

67. C.-OIF-1201 (4 Oct. 42), Hm.2 to CEB 3 243, 234, 3 Oct. 42; 
C.-I-2743 (7 Nov. 42), Australia to CEB 243, 102, 6 Nov. 42; 
C.-I-5702 (9 Nov. 42), Brisbane to CEB 337, 9 Nov. 42; 
Ltr. for the Adjutant General, 5 Nov. 42, in AD 320.2, Australia. 
The letter states that this action is in accordance with a directive from OIF. 300. C.-OIF-2256 (9 Nov. 42), Hm.3 Fregen Planning Unit to CEB 3 243, 309, 9 Nov. 42. Hm.3 Unit Records Branch gives the activation of the 374th Group as 1 November 1942, according to CO 32, Hq. Fifth Air Force, 1 Nov. 1942.
68. Report of CG, Buna Forces, 45.


70. Hq., NSF Operational Instruction 43, 15 Nov. 1942, in 32d Division G-2 and G-3 Journal, Buna Campaign.


73. Basic Report of the 32d Division on the Papuan Campaign; Maj. Parker, History of the 22d Portable Hospital, 9 Feb. 1943, in Records of the 32d Division, Buna Campaign. G-4 felt that movement of supplies could have been better accomplished during daylight taking advantage of the air cover usually present over Buna to protect the transport planes. Report of CG, Buna Forces, 79.

74. Basic Report of the 32d Division on the Papuan Campaign. Attacks on small boats continued: "Japs boated Helen Sam yesterday, and damaged her considerably, now beached at Cape Sudest. Wooden lighter bombed same years ago and now under water. Probably can be repaired when we can work on them without Jap interference." Msg., Harding to Lt. Loom, 1591, 27 Nov. 1942, in 32d Division G-2 and G-3 Journal.

75. Basic Report of the 32d Division on the Papuan Campaign; Report of 114th Engineers.


77. 32d Division G-4 Report; NSF Instruction 06, 13 Dec. 1942, in 32d Division G-3 Journal.

78. 32d Division G-4 Report.

79. Fifth Air Force Units in Southwest Pacific Area, Station List, 7th Edition, 3 Nov. 1942; Operational Survey No. 1; Weekly Status and Operations Reports (Form 34), in SFTHI Files.

80. C.-OUT-3533 (13 July 42), 1/23 (3/107) to CG Allied Air Forces, 207, 13 July 42; C.-T.-2246 (2 Sep. 42), Hq., NSF S.P. to CGaff, 1/107, 1 Sep. 42; C.-III-06529 (16 Oct. 42), Brisbane to III, 1/107, 15 Oct. 42. Statistical Control lists 30 P-33's as on hand on 31 August. See Appendix 4. The P-33 in the form of the F-4 had been used as a photo reconnaissance plane in the S.P. since March.

82. C.-I-II-10309 (24 Oct. 42), Brisbane to MA, 1372, 23 Oct. 42; C.-I-II-3236 (8 Dec. 42), Brisbane to MA, 1291, 8 Dec. 42; C.-I-II-9991 (23 Nov. 42), Brisbane to MA, 14357, 23 Nov. 42; C.-I-II-3327 (9 Dec. 42), Brisbane to MA, 11234, 9 Dec. 42; C.-I-II-373 (9 Dec. 42), Brisbane to MA, 1302, 9 Dec. 42.


84. Map, A0/13, C-2 to Adv, NSF etc., 17 or 19 Dec. 1942, 32d Division C-3 Journal.

85. C.-I-II-11672 (27 Dec. 42), Brisbane to MA, 13350, 27 Dec. 42.

86. Intelligence Summary, 1, Information to 1200, 7 Jan. 1943, from Office of C-2, MA, Buna Force, 32d Division; msg., NSF to Adv, NSF, 7 Dec. 1942, in 32d Division C-3 Journal.


89. Ltr., Kenya to Arnold, 14 Dec. 1942, in MA 370.21, Operations & Reports; C.-I-II-157 (1 Dec. 42), Australia to MA, 3110, 1 Dec. 42.

90. Basic Report of 32d Div. on the Buna Campaign; Buna Campaign, the Buna-Corainge Operation, 10 November 1942 to 23 January 1943, prepared by Military Intelligence Division (Washington, 1 Feb 1944), 22.


92. Basic Report of the 32d Division on the Buna Campaign; 32d Division 6144 near Ehelon, record of 6th Division, 13 Nov. 1942 to 23 Jan. 1943.
93. See Appendix 2 for number of planes daily. Memo for Gen. Anderson

94. Basic Report of the 324th Division on the Papuan Campaign; Report of
Action, Papuan Campaign, 30 Apr. 1943, from C-3, HQ, 324th Division.
Planes were used also to evacuate all prisoners of war and to
provide mail services. The latter was at first extremely poor since
trained postal men were lacking. Report of CG Buna Forces, 52.
General Kenney wrote on 1 Jan. 1943 that the air force had evacuated
"around 6,000 men from the north coast." This probably included
Australian troops in addition to those of the 324th Division. Lt. Col.
Kenney to Arnold, 1 Jan. 1943, in AAF 324-I-6, Operations Letters.

95. Fifth Air Force Units in Southwest Pacific Area, Station List, 7th
Edition, 3 Nov. 1942; Operational Survey No. 1; strength and status
reports as reported in the cables.

96. Instruction, HQ, 324 Div., 4 Nov. 1942, in 324th Division C-3
Journal, Buna Campaign.

97. Ibid.; Interview with Capt. George A. Hilbert, Jr.
324th Division

98. Msg. to 7th Australian Division, 324th U. S. Division, 5th AF, etc.,
7 Nov. 1942, in G-2 and C-3 Journal, Buna Campaign.

99. NAF G3 Instruction #3, 9 Dec. 1942, in 324th Division C-3 Journal,
Buna Campaign. Prior to this instruction, confusion resulted from
the fact that requests were directed to the wrong headquarters and
often contained insufficient information. E.g., NAF to 324th Division,
9 Dec. 1942; msg., Adv. NAF to 7th Australian Division, etc., GOL, 7;
6 Dec. 1942, in 324th Division C-3 Journal, Buna Campaign.

100. NAF G3 Instruction #6, 18 Dec. 1942, in 324th Division C-3 Journal,
Buna Campaign.

101. Ibid.

102. Papuan Campaign, the Buna-Salamanda Operation, 4-7.

103. CIC-IN-6021 (14 Nov. 42), Brisbane to NAF, #23911, 14 Nov. 42;

104. Report of CG Buna Forces, 14-17, 96-98.

105. Operational Survey No. 1.

106. CIC-IN-5239 (3 Nov. 42), Brisbane to AAF, #34753, 11 Nov. 42;
CIC-IN-3435 (9 Dec. 42), Brisbane to NAF, #31305, 9 Dec. 42.

108. C. I-I, 9460 (22 Nov. 42), Brisbane to HQ, 1241, 22 Nov. 42; msg., Harding to NCF, 1135, 22 Nov. 1942, in 32d Division G-2 and G-3 Journal; Basic Report of the 32d Division on the Papuan Campaign.


110. Report of CG Buna Forces, 17, 92-93. The morale of some of the men was breaking down: "Lt. Donnelly reports from Co. men are cracking. Four men then ordered to move and forward and three were wounded and one killed. Impossible to move forward or backward because it means death or wounded. Men have been under strain for so long that they are going to pieces. Human nature can stand so much and men are at end of physical and mental endurance. . . ." In the order to move and threatened with court martial if they didn't have moved and are now wounded and dead from Co. fire." Journal of 1st Battalion (either the 126th or 128th Regiment), 5 Dec. 1942, in Records of the 32d Division, Buna Campaign. G-OUT-66887 (21 Oct. 42), Uli to CG U.S. Army Forces in Australia, 2577, 21 Oct. 42. According to SO 235, 10 Dec. 42, CG, 21 Oct. 1942, these promotions took effect on 15 October.


111. Ibid., 20-21, 45.


120. C.-II-5106 (8 Dec. 42), Australia to MA, p.419, 7 Dec. 42.


123. C.-III-4120 (10 Dec. 42), Brisbane to MA, 61199, 10 Dec. 42; C.-III-4699 (11 Dec. 42), Brisbane to MA, 61199, 11 Dec. 42.


125. Ibid., 20-32.

126. Ibid., 27-33.


129. Ibid., 26-37.


134. "P-43's in New Guinea," AORB 11 (April-May 1943), 20. Some officers returning from the S.F. claimed that this was merely the ideal situation, that frequently the patrol consisted of only one or two riflemen.
135. "They were surprised from above by the sudden attack of 12 P-33's—a new type of fighter not previously employed on this front." Comms. 12th. 23 Dec. 1942; G-1, 11490 (23 Dec. 1942), Brisbane to G-1; 11361, 28 Dec. 42; J. R. Intelligence Survey, 65, 1 Jan. 1943, 8; Reports of P-33 pilots from the 39th Squadron attached to letter, Romley to Arnold, 1 Jan. 1943, in RG 333.1-8, Inspection of Military Aeronautics; ltr., Hitchcock to Stratmeyer, 23 Dec. 1942, in RG 312.1-, Operations Letters.


139. Focus Campaign, the Bomb-Raider Operation, 70-30.
Chapter IV


2. Ltr., Ramsey to Arnold, 1 Jan. 1943, in LIC 312.1...


5. Survey of Army Operations, 1 June 1942-1 Aug. 1943, in Operational Intelligence, Target Survey No. 1; interview with Capt. Charles L. Martin, 3 Nov. 1942.


7. J.P. Intelligence Summary, 61, 18 Dec. 1942, 1; Survey of Army Operations, 1 June 1942-1 Aug. 1943, in Operational Intelligence, Target Survey No. 1.

8. Maj. Parker C. Martin, History of the 32d Portable Hospital, 9 Feb. 1943, in Records of the 32d Division, Suma Campaign, basic report of the 32d Division on the Papuan Campaign. In contrast to the attack on a hospital, it should be noted that Jap warships had carefully avoided shelling an Allied hospital ship at Milne Bay, Johnston, Toughest Fighting in the World, 126.


11. See Appendix C.


13. Ltr., Ramsey to Arnold, 23 Jan. 1943, in LIC 312.1-2, Operations Letters. Lack of promotions was a particular complaint of the 19th Group, in which there were some 17 second lieutenants who had served 3 to 12 months in combat without promotion. (Minutes of Interview, 5 Dec. 1942, How/Arthur received assurances of the promotions of 72 second lieutenants of this group on 21 November 1942. C. 003-7693 (21 Nov. 42), Adj. Ltr. Personal to G-3 W. 304, 21 Nov. 42, See Appendix 7.

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<tr>
<th>Abbreviation</th>
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<td>Air Personnel</td>
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<td>Air Training</td>
</tr>
<tr>
<td>A-4</td>
<td>Air Supply</td>
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<td>A-AG</td>
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</tr>
<tr>
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<td>Assistant Chief of Air Staff</td>
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<td>Advance Field Force</td>
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<td>AG/AS, C</td>
<td>Chief of Air Staff</td>
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<td>Director Military Requirements</td>
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<td>Adjutant General, Air Dep't</td>
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<td>Air Service Command</td>
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<td>Cochran Chiefs of Staff</td>
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<td>AG/CH</td>
<td>Command in Chief</td>
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<td>WD GSI</td>
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BIBLIOGRAPHY

War Department Files

AAF Classified Files (cited AAG with decimal)

These files contain a variety of primary materials: memos, R&R's, reports, and correspondence. Probably most important were the personal letters of air force officers usually filed under "Operations Letters."

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Office of the Air Adjutant General Classified Files (cited Air AG with decimal)

Most important was the information on movement of replacement aircraft and personnel.

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Message Files

Extensive use was made of cable and radio messages. Most important for the story of operations are the daily operations reports and the daily and monthly strength and status reports. The latter contain the number of planes in commission according to unit, the number of planes which arrived from the United States, etc. All messages cited are filed either in the AAF Message Center or in APIHI files.
Fifth Air Force Files, particularly valuable for activations, troop movements, and changes of designation.

Office Services Branch

Staff Officer of the

Training and Functions Branch

Personnel Statistics Branch

Records of the 32nd U. S. Division—Rommel Campaign

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126th Regiment, 11 April 1943
137th Regiment, 26 April 1943
133rd Regiment, 30 April 1943
AC/S, G-1, 27 April 1943
AC/S, G-2, 3 April 1943
AC/S, G-3, 27 April 1943
AC/S, G-4, 10 April 1943
32d Quartermaster Company, 15 April 1943
107th Medical Battalion, 20 April 1943
32d Division Chemical Section
32d Division Ordnance Services, 21 April 1943
114th Engineer Battalion, 16 April 1943

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G-2 and G-3 Journal
G-2 Journal
G-3 Journal
G-4 Journal
Battalion Journals

Special Reports and Documents

History of the Artillery
G-2 Prisoner of War Interrogations and Translations of Captured Documents
G-4, Record of Air Shipments, 13 November 1942 - 23 January 1943
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Osmar White, Courier Mail war correspondent, Secret Report, 15 September 1942, in 32d Division Patrol Reports.
Maj. Parker C. Hardin, History of the 22d Portable Hospital.

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History of the 8th Photo Reconnaissance Squadron
History of the 8th Pursuit Group
History of the Headquarters and Headquarters Squadron, V Fighter Command
History of the 19th Bombardment Group. This collection includes the following:

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- History of the 30th Bombardment Squadron
- History of the 93d Bombardment Squadron
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- 435th Overseas. A collection of essays
- Cool, Maj. Paul E. Excerpts from a diary kept in Java and Australia, 1 January - 10 December 1942.
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"Fifth Air Force Units in the Southwest Pacific Area," 16 February 1943

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10

GO #286, HQ ACC, 21 October 1942
GO #17, Hq. Fifth Air Force, 9 October 1942
GO #32, " " " " 1 November 1942
GO #42, " " " " 8 December 1942
GO #28, GHQ SFA, 3 September 1942
GO #34, " " 15 September 1942
GO #48, " " 6 November 1942
GO #57, " " 13 December 1942
GO #39, Hq. Allied Air Forces, 20 August 1942
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Hardison, Maj. Felix, commander of the 93d Squadron, 19th Bombardment Group, in Carmichael Interview.
Hilbert, Capt. George A., Jr., 41st Squadron, 35th Fighter Group.
Koon, Col. Ralph E., commander of the 90th Bombardment Group, 11 August 1943.
O'Brien, Capt. Carey L., intelligence officer of the 19th Bombardment Group, in Carmichael Interview.
Pulitka, Maj. Karl L., commander of the 8th Photo Squadron, 15 December 1942.
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Vance, Col. Reginald, assistant director of intelligence, Allied Air Forces, 13 October 1942 (in H. P. IV-E-3).

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This study contains tables of statistics regarding enemy landings and losses, a brief narrative on operations prior to the Buna phase of the campaign, and a detailed table of ground-air operations in the Buna area from 1 November 1942 to the conclusion of the campaign.

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## Appendix 1

**SUMMARY OF AIR OPERATIONS**

### August

**A. Bombs Dropped During Period August 1-31, 1942**

<table>
<thead>
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<th>Target</th>
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<th>250-</th>
<th>500-</th>
<th>1000-</th>
<th>2000-</th>
<th>25-1b.</th>
<th>Inc.</th>
<th>Ol.</th>
<th>Prog.</th>
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<tr>
<td></td>
<td>lb.</td>
<td>lb.</td>
<td>lb.</td>
<td>lb.</td>
<td>lb.</td>
<td>lb.</td>
<td>Inc.</td>
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<tr>
<td>Ground</td>
<td>876</td>
<td>183</td>
<td>102</td>
<td>413</td>
<td>33</td>
<td>20</td>
<td>49</td>
<td>31</td>
<td>16</td>
<td>14</td>
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</table>

**B. Results of Attacks Against Enemy Shipping:** A total of 19 hits on shipping was attained out of 434 bombs dropped, averaging 22.8 bombs per hit, or a 4.4 per cent probability of hitting.

<table>
<thead>
<tr>
<th>Cruisers</th>
<th>Submarines</th>
<th>Destroyers</th>
<th>Corvette</th>
<th>Transports</th>
<th>Cargo Ships</th>
<th>Unidentified</th>
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<tr>
<td>Sun's</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Probably sunk</td>
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<td>1</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Damage</td>
<td>2</td>
<td>1</td>
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* These figures were taken from Summary of Operations, Allied Air Forces, filed in the Records Branch, Collection Division, AO/43, Intelligence under the heading, "8th Air Force Evaluations."
3. **Results of Action Against Japanese Aircraft**

<table>
<thead>
<tr>
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<th>Fighters</th>
<th>Heavy and Medium Bombers</th>
<th>Dive Bombers</th>
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<tr>
<td>Destroyed</td>
<td>43</td>
<td>7</td>
<td>1</td>
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<tr>
<td>Downed</td>
<td>32</td>
<td>7</td>
<td>1</td>
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4. **Total Number of Patrol, Search, and Reconnaissance Missions:** 167

5. **Attacks Against Japanese Targets Included:** eight against Luzon, nine against Ieoo, five against Salinan, nine against the Mindanao airfields (Yuli and Langit), as well as missions along the Mindanao coast, and against enemy concentrations at Mindanao and the Netherlands East Indies.
September

A. Enemy Destroyed During Period: September 1-20, 1942:


Ships: 84 125 15 193 8

Ground: 973 135 445 125 3 72 14 13 1802

3. Results of Attacks Against Enemy Shipping: A total of nine hits on shipping was attained out of 428 bombs dropped, averaging 4.72 bombs per hit, or a 2.1 per cent probability of hitting.

Cruisers Submarines Destroyers Transports Cargo ships Unidentified

Sunk:

- Probably sunk: 1

- Damaged:
  - 1
  - 1

4. Results of Attack Against Enemy Aircraft: 1 fighter destroyed, 3 damaged.

5. Total Number of Patrol, Scout, and Reconnaissance Missions, 786

II. Attacks Against Ground Troops

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<th>30-cal.</th>
<th>40-cal.</th>
<th>Damage Inflicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buna airbases</td>
<td>16</td>
<td>Total of 135,000</td>
<td>Total of 11,800</td>
<td>At least 23 aircraft believed destroyed</td>
</tr>
<tr>
<td>Buna area</td>
<td></td>
<td>rounds</td>
<td>rounds</td>
<td>75 per cent of enemy barges sunk</td>
</tr>
<tr>
<td>Kokoda-Weiropi</td>
<td>36</td>
<td>156,000 rads</td>
<td>890 rads</td>
<td></td>
</tr>
<tr>
<td>Buna airbases</td>
<td>3</td>
<td></td>
<td></td>
<td>2 heavy bombers, 5-8 other planes destroyed</td>
</tr>
<tr>
<td>Rabaul airbases</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loe</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salamaua</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
October

A. Bombs Dropped During Period October 1-31, 1943

<table>
<thead>
<tr>
<th>Target</th>
<th>100-250</th>
<th>250-500</th>
<th>500-1000</th>
<th>100-1lb</th>
<th>4-1lb</th>
<th>10-1lb</th>
<th>25-1lb</th>
<th>30-1lb</th>
<th>20-10lb</th>
<th>60-10lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ships</td>
<td>12</td>
<td>11</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ground</td>
<td>123</td>
<td>209</td>
<td>766</td>
<td>424</td>
<td>6</td>
<td>93</td>
<td>115</td>
<td>254</td>
<td>174</td>
<td>262</td>
</tr>
</tbody>
</table>

In addition the air forces dropped four 100-lb. incendiary incendiaries, 898 bombs of unknown type, and eight torpedoes.

B. Results of Attack Against Enemy Shipping: A total of 95 hits (including 90 effective and misses) was attained out of 800 bombs dropped, averaging 8.77 bombs per hit, or an 11.9 per cent probability of hitting.

<table>
<thead>
<tr>
<th>Destroyers</th>
<th>Crusing</th>
<th>Aircraft</th>
<th>Submarines</th>
<th>Gunboats</th>
<th>Tankers</th>
<th>Transports</th>
<th>Merchant</th>
<th>Launches</th>
<th>Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunk</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Possibly Sunk</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Damaged</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Near Miss</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

In addition one heavy cruiser or battleship was probably hit, another damaged, a monitor-ship sunk, and two unidentified merchant ships damaged.

C. Results of Action Against Enemy Aircraft: 4 fighters destroyed, 11 damaged.

D. Total Number of Patrol, Search, and Reconnaissance Missions, 733.
2. Results of Attacks on Ground Targets

a. Kokoda-Hiriwae Area: 11 bombing attacks on Hiriwae Bridge; 23 raids against other enemy concentrations and supplies. Total of 91,380 rounds of 30- and 50-cal, and 880 rounds of 20-mm ammunition expended in strafing.

b. Salamaua Area: Eight bombing attacks at Bukua airstrip and four against Buin.

c. Bismarck Area: Six attacks against Lae and Vunakanu, six against Rabaul town, and one against Kavieng airstrip.

d. Salamaua: Three attacks expending 4,700 rounds of 30-cal and 1,190 rounds of 20-mm ammunition.

e. Lae Airstrip: Six attacks expending 6,300 rounds of machine gun and 1,450 rounds of 20-mm ammunition.
Nov 1942

A. No-Sea Dropped Airraib: Period November 1-20, 1942

<table>
<thead>
<tr>
<th>Target</th>
<th>50-100</th>
<th>100-200</th>
<th>200-300</th>
<th>300-500</th>
<th>500-1000</th>
<th>1000-2000</th>
<th>2000-3000</th>
<th>3000-5000</th>
<th>5000-10,000</th>
<th>10,000-15,000</th>
<th>15,000-20,000</th>
<th>20,000+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shells</td>
<td>155</td>
<td>33</td>
<td>69</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Ground</td>
<td>156</td>
<td>773</td>
<td>113</td>
<td>178</td>
<td>1</td>
<td>12</td>
<td>220</td>
<td>60</td>
<td>4333</td>
<td>1883</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Results of Airraib: Known Shipwreck: A total of 71 hits (including known effective near misses) were struck out of 1,291 bombs dropped, averaging 17.8% bombs per hit, or a 5.8% per cent probability of hitting.

<table>
<thead>
<tr>
<th>Cruisers</th>
<th>Destroyers</th>
<th>Transports</th>
<th>Cargo Vessels</th>
<th>Unidentified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sank:</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probably</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torpedo</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Torpedo</td>
<td>1</td>
<td>9</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Hit</td>
<td>1</td>
<td>13</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

C. Results of Action Against Airraib Aircraft: 23 fighters destroyed 10 and 11, 1 alive bomber damaged.

D. Total Number of Patrol, Scout, and Reconnaissance Missions: 964.
### Attractions Against Ground Forces

<table>
<thead>
<tr>
<th></th>
<th>Attacks</th>
<th>70-cal rounds</th>
<th>50-cal rounds</th>
<th>23-mm</th>
<th>308-cal</th>
<th>Damage to Enemy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn area</td>
<td>63</td>
<td>91,190 rounds</td>
<td>21,790 rounds</td>
<td>1,450</td>
<td>23,750</td>
<td></td>
</tr>
<tr>
<td>Ice airstrip</td>
<td>13</td>
<td>400 rounds</td>
<td>780 rounds</td>
<td>1,600</td>
<td>6,900</td>
<td>6 bombers, 13 fighters destroyed</td>
</tr>
<tr>
<td>Salerno</td>
<td>5</td>
<td>rounds</td>
<td>rounds</td>
<td>rounds</td>
<td>rounds</td>
<td></td>
</tr>
<tr>
<td>Ulm area</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irini</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
December

A. Bomb Bombs Fired During December 1-31, 1942

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ships</td>
<td>122</td>
<td>69</td>
<td>76</td>
<td>1036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Ground</td>
<td>707</td>
<td>234</td>
<td>246</td>
<td>623</td>
<td>8</td>
<td>23</td>
<td>203</td>
<td>16</td>
<td>2337</td>
<td>2784</td>
</tr>
</tbody>
</table>

B. Results of Attack Against Enemy Shipping: A total of 73 hits (including known effective near misses) obtained out of 1,220 bombs dropped, averaging 12.46 bombs per hit, or a 5.14 per cent probability of hitting.

<table>
<thead>
<tr>
<th>Class</th>
<th>Sunk</th>
<th>Probably sunk</th>
<th>Damaged</th>
<th>Hit</th>
<th>Near miss</th>
<th>Very near miss</th>
<th>Unidentified</th>
<th>Lancers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cruisers</td>
<td>2</td>
<td></td>
<td></td>
<td>7</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Destroyers</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>16</td>
<td>16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Transports</td>
<td>3</td>
<td></td>
<td></td>
<td>5</td>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Cargo Ships</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Unidentified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lancers</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
C. Results of Action Against Enemy Aircraft

<table>
<thead>
<tr>
<th></th>
<th>Deroged</th>
<th>Probably Damaged</th>
<th>Destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fighters</td>
<td>14</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>Heavy and Medium Bombers</td>
<td>6</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

D. Total Number of Patrol, Search, and Reconnaissance Missions: 1500.

E. Results of attacks on Ground Targets

<table>
<thead>
<tr>
<th></th>
<th>Attacks</th>
<th>Rounds Exchanged</th>
<th>30-cal</th>
<th>30-cal</th>
<th>20-mm</th>
<th>203-cal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buma area</td>
<td>76</td>
<td>89,610</td>
<td>73,297</td>
<td>17,099</td>
<td>122,245</td>
<td></td>
</tr>
<tr>
<td>Lec area</td>
<td>14</td>
<td>9,800</td>
<td>6,100</td>
<td>400</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Kevins</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timor area</td>
<td>12</td>
<td></td>
<td>4,410</td>
<td>43,071</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
January, 1943

A. Bombs Dropped During Period January 1-31, 1943

<table>
<thead>
<tr>
<th>Target 100-200-300-400-1000-2000-32-1b. 4-1b. 60-1b. 20-1b. 32-1b. Tor. 1b. 1b. 1b. 1b. Inc. 1b. Inc. Inc. Frg. Frg. Medes</th>
<th>Ships 2 52 83 413 210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground 365 178 903 624 49 54 58 10 236 74</td>
<td></td>
</tr>
</tbody>
</table>

B. Results of Attacks Against Enemy Shipping: A total of 120 hits (including very near misses and effective near misses) was attained out of 1,098 bombs dropped, averaging 9.15 bombs per hit, or a 10.01 per cent probability of hitting. 24 bombs were dropped in ship-bombing attacks, resulting in two hits which sank two ships and probably sank one other ship. Two torpedoes were dropped, resulting in two hits and one ship sunk.

<table>
<thead>
<tr>
<th>Cruisers</th>
<th>Destroyers</th>
<th>Transports</th>
<th>Cargo Ships</th>
<th>Unidentified</th>
<th>Vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sink 2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probably sink 1</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Damaged 1</td>
<td>15</td>
<td>9</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hit 3</td>
<td>1</td>
<td>31</td>
<td>13</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Near miss 3</td>
<td>2</td>
<td>26</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very near miss 2</td>
<td>3</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
G. Results of Action Against Enemy Aircraft: 118 fighters destroyed, 53 probably destroyed, and 33 damaged.

D. Total Number of Patrol, Scorch, and Reconnaissance Missions: 1164.

J. Results of Attacks on Ground Targets

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Attacks</th>
<th>Rounds Expended:</th>
<th>30-ccl</th>
<th>50-ccl</th>
<th>20-mm</th>
<th>203-ccl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summed area</td>
<td>10</td>
<td>5,900</td>
<td>8,048</td>
<td>3,050</td>
<td>15,190</td>
<td></td>
</tr>
<tr>
<td>Salerno area</td>
<td>24</td>
<td>11,975</td>
<td>18,088</td>
<td>5,820</td>
<td>50,150</td>
<td></td>
</tr>
<tr>
<td>Lee area</td>
<td>33</td>
<td>22,170</td>
<td>30,620</td>
<td>6,760</td>
<td>39,260</td>
<td></td>
</tr>
<tr>
<td>Canneto area</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tizor area</td>
<td>19</td>
<td></td>
<td>7,073</td>
<td>35,670</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other attacks made on airfields at Beaulé, Finschhafen, Beirut, and Haag.
## Appendix 2

**AIR TRANSPORT AND EVACUATION FROM DOBODURA**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number Flanes</th>
<th>Patients Evacuated</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 11 Dec. to</td>
<td>14</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>1200 12 Dec.</td>
<td>37</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>1200 13 Dec. to</td>
<td>39</td>
<td>493 troops and 38,250 lbs. organizational equipment ferried in</td>
<td></td>
</tr>
<tr>
<td>1200 14 Dec.</td>
<td>19</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>17 Dec. 1942</td>
<td>13</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>20 Dec. 1942</td>
<td>31</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>21 Dec. 1942</td>
<td>24</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>22 Dec. 1942</td>
<td>56</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>23 Dec. 1942</td>
<td>43</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>24 Dec. 1942</td>
<td>59</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>25 Dec. 1942</td>
<td>35</td>
<td>121 men ferried in</td>
<td></td>
</tr>
<tr>
<td>26 Dec. 1942</td>
<td>56</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>27 Dec. 1942</td>
<td>41</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>28 Dec. 1942</td>
<td>36</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>29 Dec. 1942</td>
<td>62</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>30 Dec. 1942</td>
<td>49</td>
<td>174</td>
<td>558 men of 163d Regiment ferried in with equipment</td>
</tr>
<tr>
<td>31 Dec. 1942</td>
<td>29</td>
<td>127</td>
<td>260 men of 163d Regiment ferried in</td>
</tr>
<tr>
<td>1 Jan. 1943</td>
<td>57</td>
<td>205</td>
<td>381 men of 163d Regiment ferried in</td>
</tr>
</tbody>
</table>

*This is a fragmentary tabulation of transport evacuation activities based upon figures in the 32d Division G-3 Journal. Figures for the 7th Australian Division and statistics before 11 Dec. 1942 and after 2 Jan. 1943 were not available.*
### Appendix A

**STATUS OF REPORT BY RANKING OFFICER**

**In Condition**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type</th>
<th>27 June</th>
<th>In Condition</th>
<th>Under Control</th>
<th>Total</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>15th Cp.</td>
<td>2-17</td>
<td>23</td>
<td>5</td>
<td>65</td>
<td></td>
<td>110</td>
</tr>
<tr>
<td>20th Cp.</td>
<td>1-26</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td>132</td>
</tr>
<tr>
<td>22d Cp.</td>
<td>5-26</td>
<td>22</td>
<td>66</td>
<td>53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35th Cp.</td>
<td>5-26</td>
<td>6</td>
<td>17</td>
<td>6</td>
<td>17</td>
<td>57</td>
</tr>
<tr>
<td>45th Cp.</td>
<td>1-10</td>
<td>40</td>
<td>89</td>
<td>120</td>
<td>107</td>
<td>120</td>
</tr>
<tr>
<td>50th Cp.</td>
<td>1-10</td>
<td>68</td>
<td>62</td>
<td>120</td>
<td>101</td>
<td>120</td>
</tr>
<tr>
<td>65th Cp.</td>
<td>1-10</td>
<td>55</td>
<td>57</td>
<td>72</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>1-2</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>C-68</td>
<td>Not reported</td>
<td>10 (36)</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-56</td>
<td></td>
<td></td>
<td></td>
<td></td>
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This table is an estimate based upon the daily reports of the RO for all ranks and the current status updates, compliments of the Operations Branch, Statistical Control, J-3. Figures in parenthesis have been taken only from source reports for 1 December and for all other entries are the best guesses which report only those planes in condition for combat and are not always daily, they serve only to give some idea of the strength of groups. These figures apparently refer to the number of planes in the unit rather than the number in each unit.
| Date       | Relative
<table>
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</tr>
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<td>B-17</td>
</tr>
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<td>B-30</td>
</tr>
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<td>22nd Cr.</td>
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| Date       | Relative
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<tr>
<td>31 August 1912</td>
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The L-22's according to the table should be added to the L-20.
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20 September 1942

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<td>?</td>
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<td>110</td>
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<td>(15)</td>
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<td>B-295</td>
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<td>B-295</td>
<td>(15)</td>
<td>81 (37)</td>
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<td>(2 sq.)</td>
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1 November 1944 (These figures are taken only from official status reports.)

1st Sq.   | O-17 | 31
50th Sq.  | O-17 | 10
50th Sq.  | O-20 | 0
50th Sq.  | O-26 | 27
50th Sq.  | O-26 | 6
1st Sq.   | O-25 | 25
      | O-20 | 17
6th Sq.   | O-25 | 20
      | O-26 | 20
50th Sq.  | O-25 | 25
      | O-26 | 24
50th Sq.  | O-26 | 24
164th Sq. | O-17 | 0
50th Hq.  | O-26 | 0

10 December 1944

50th Sq.  | O-57 | 24
50th Sq.  | O-17 | 20
22nd Sq.  | O-26 | 20
71st Sq.  | O-25 | 17
50th Sq.  | O-26 | 17
50th Sq.  | O-26 | 19

110

112

87
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<th>Repairable Under Description</th>
<th>Total on Hand</th>
<th>Committed</th>
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</thead>
<tbody>
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<td>49 A-360</td>
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<td>51</td>
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<tr>
<td></td>
<td></td>
<td>19 P-00</td>
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<td>19 P-350</td>
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31 December 1943 (These figures are taken only from oral status reports.)

<table>
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<tr>
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<tr>
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</tr>
<tr>
<td>6th Gp.</td>
<td>P-350</td>
<td>17</td>
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<tr>
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<td>Value 8</td>
<td>Value 9</td>
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Additional notes or comments can be included here.
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<th>1943</th>
<th>1944</th>
<th>1945</th>
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</tr>
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<td>45</td>
<td>16</td>
<td>(8)</td>
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<td>6</td>
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</tr>
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<td>6</td>
<td>75</td>
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</tr>
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<td>November</td>
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<td>5</td>
<td>37</td>
<td>30</td>
</tr>
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<td>6</td>
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<table>
<thead>
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<td>56</td>
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<td>20</td>
<td>57</td>
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</tr>
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<td>57</td>
<td></td>
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<td>October</td>
<td>4</td>
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<td>November</td>
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<td>December</td>
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<td>5</td>
<td>32</td>
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</table>

The following are the 1942-1945 projected for this cluster.

- September: No new arrivals are the future.
- October: No new arrivals are the future.
- November: No new arrivals are the future.
- December: No new arrivals are the future.


<table>
<thead>
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<th>Month</th>
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<th>Entrenched</th>
<th>Occurrence</th>
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<td></td>
<td>80</td>
<td>Resident</td>
</tr>
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<td>July</td>
<td>1</td>
<td>68</td>
<td>80</td>
<td>Bereavable</td>
</tr>
<tr>
<td>August</td>
<td>2</td>
<td>86</td>
<td>88</td>
<td>Bereavable</td>
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<tr>
<td>September</td>
<td>3</td>
<td>58</td>
<td>80</td>
<td>Bereavable</td>
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<td>October</td>
<td>1</td>
<td>75</td>
<td>88</td>
<td>Bereavable</td>
</tr>
<tr>
<td>November</td>
<td>2</td>
<td>80</td>
<td>80</td>
<td>All lost in accidents.</td>
</tr>
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<td>December</td>
<td>3</td>
<td>28</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>30</td>
<td>29</td>
<td>69</td>
<td>Arrived by boat.</td>
</tr>
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<td>20</td>
<td>42</td>
<td>57</td>
<td>All lost in accidents.</td>
</tr>
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<td>1</td>
<td>18</td>
<td>87</td>
<td>One lost in accident.</td>
</tr>
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<td>2</td>
<td>21</td>
<td>80</td>
<td>Four lost in accidents.</td>
</tr>
<tr>
<td>December</td>
<td>20</td>
<td>7</td>
<td>83</td>
<td>Of the seven losses, three went to the South Atlantic second and four were lost in accidents.</td>
</tr>
<tr>
<td>June</td>
<td>2</td>
<td>10</td>
<td>85</td>
<td></td>
</tr>
<tr>
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<td>3</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>30</td>
<td>31</td>
<td>82</td>
<td>Of the forty-one losses, twenty-one went to the South Atlantic.</td>
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<td>41</td>
<td>11</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>32</td>
<td>6</td>
<td>112 (55)</td>
<td></td>
</tr>
<tr>
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<td>2</td>
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<td>Residents</td>
</tr>
<tr>
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<td>1</td>
<td>8</td>
<td>105</td>
<td>One added from other.</td>
</tr>
<tr>
<td>Month</td>
<td>Arrivals</td>
<td>Issued</td>
<td>Balance</td>
<td>Comments</td>
</tr>
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<td>--------</td>
<td>----------</td>
<td>--------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>June</td>
<td>20</td>
<td>17</td>
<td>116</td>
<td>The twenty-eight arrivals were received from the NMF.</td>
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<td>Line previously dropped now required.</td>
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<td>13</td>
<td>37</td>
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<td>Of the eighteen issues, eleven in an accident, seven were returned to the Dutch and ten to the NFF.</td>
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<td>94</td>
<td>Line returned to the NFF.</td>
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<td>3</td>
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</tr>
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<td>November</td>
<td>17</td>
<td>150</td>
<td>100</td>
<td>Eight residents</td>
</tr>
<tr>
<td>December</td>
<td>5</td>
<td>101</td>
<td>0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Arrivals</th>
<th>Issued</th>
<th>Balance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
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<td>116</td>
<td>0</td>
<td>Six added from salvage.</td>
</tr>
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<td>July</td>
<td>0</td>
<td>8</td>
<td>112</td>
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</tr>
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<td>97</td>
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</tr>
<tr>
<td>October</td>
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<td>1</td>
<td>00</td>
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<td>November</td>
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<td>Five residents</td>
</tr>
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<td>3</td>
<td>1</td>
<td>73</td>
<td>Three residents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Arrivals</th>
<th>Issued</th>
<th>Balance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Residents</td>
</tr>
<tr>
<td>October</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**THIS PAGE Declassified IAW EO12958**
<table>
<thead>
<tr>
<th>Month</th>
<th>Arrived</th>
<th>Issued</th>
<th>Failed</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C-17</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>20</td>
<td>2</td>
<td>20</td>
<td>Resistive</td>
</tr>
</tbody>
</table>
| November | 5       | 5      | 22     | 3 of the losses were resistive; one was astrid on ground.
| December | 6       | 15     | 7      | On resistive. |
| **C-19** |         |        |        |         |
| September| 5       |        |        |         |
| **C-23** |         |        |        |         |
| August   | 5       | 5      |        |         |
| September| 1       | 5      |        |         |
| December | 1       | 5      | 6      | Resistive |
Appendix 5

EXTRACTS FROM A LETTER FROM GENERAL KENNEY
TO GENERAL ARNOLD, 23 JANUARY 1943 *

In looking over the records in this theatre I find some curious figures. Among others, in May last year there were in the U. S. Air Force in the Southwest Pacific Area:

362 fighters,
51 light bombers,
97 medium bombers,
108 heavy bombers,
559 Total combat aircraft.

Today the figures are:

321 fighters,
23 light bombers,
85 medium bombers,
103 heavy bombers,
537 Total combat aircraft.

On October 1st the total combat number was 536; on November 1st 606; on December 1st 589 and on January 1st 580.

Hence my alarm if this process keeps up.

Here is a rough analysis of how I stand today:

HEAVY BOMBARDMENT

<table>
<thead>
<tr>
<th>Group</th>
<th>On hand</th>
<th>In Sqdns</th>
<th>In depots</th>
<th>En route</th>
</tr>
</thead>
<tbody>
<tr>
<td>43rd</td>
<td>55</td>
<td>34</td>
<td>21</td>
<td>6</td>
</tr>
</tbody>
</table>

Due to the hard service the B.17's of this group have had over the past six months, we are maintaining about twenty constantly in depot overhaul to get all B.17's back in shape and reduce attrition through wear and tear to a minimum. The four squadrons of the 43rd Group will average at best nine planes each through February. Taking expected

attrition into account and assuming that the six reported on route for
the past two months do arrive, this Group will be reduced to about
twenty-four planes in the squadrons, with ten in depot overhaul, by
June 30th. At the present time, with fifty percent of the planes in
daily combat commission and twenty-five percent of these on reconna-
sance duty, this means a striking force from the 43rd Group of fourteen
heavy bombers. By June 30th, unless the group is brought up to strength,
the group striking force will be nine heavy bombers.

<table>
<thead>
<tr>
<th>90th Group Heavy Bombers (B.24)</th>
<th>On hand</th>
<th>In Sdns.</th>
<th>In depots</th>
<th>On route</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>37</td>
<td>23</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

This group is now progressively taking over the major proportion of
the heavy duty of bombardment and reconnaissance in this theatre.
Monthly losses through June, 1943, will probably average about eight,
which is about the number you have promised me to take care of attri-
tion. The maintenance of the B.24 is proving a greater problem than
the maintenance of the B.17 and the squadron strengths will probably
average throughout that period about ten. With fifty percent in daily
combat commission and twenty-five percent on reconnaissance, this
gives the 90th Group a striking force of fifteen heavy bombers. In
other words, as far as our heavy bomber strength is concerned, our
maximum effort on a single mission is around twenty-nine bombers.
A second mission could be performed about twelve hours later by six-
teen aircraft and an emergency third mission in another twelve hours
with about ten. By heavy bombardment punch would then be zero for
twenty-four hours until the planes were put back in operating condi-
tion. To be in a position to deliver even this small effort, I have found it necessary to omit day bombing except in an emergency,
due to the fact that daylight operations do put many more planes out
of commission than the night operations.

To maintain the 90th Group and replace the B.17's of the 43rd Group,
I recommend that there be sent this theatre thirty-five B.24's in
February and twenty-five per month thereafter through June, 1943.

MEDIUM BOMBARDMENT

38th Group (less two squadrons in Poppy) Medium Bombers (B.25)

<table>
<thead>
<tr>
<th>13th and 90th Squadrons of 3rd Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>On hand</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>27</td>
</tr>
</tbody>
</table>

Total 55 40 15 4

The 38th Group, less two squadrons, is short ten airplanes at present
and the two squadrons of the 3rd Group which are equipped with B.25's
modified to take 8 forward fixed caliber fifty guns and sixty para-
chute fragmentation bombs or heavy bombs for skip bombing are short
five planes. We are losing an average of eight B.25's a month, so
that the situation in regard to this type is serious.
To completely equip the 38th Group less two squadrons and the two squadrons of the 3rd Group now equipped with B.25's, and allowing twenty-five percent excess for depot overhaul, fourteen B.25's will be needed in February with a replacement rate of fourteen per month thereafter.

22nd Group Medium Bombers (B.26): On hand In sqdns. In depots En route

<table>
<thead>
<tr>
<th></th>
<th>On hand</th>
<th>In sqdns.</th>
<th>In depots</th>
<th>En route</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>28</td>
<td>22</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

All B.26's of this group have been withdrawn from combat and are being given complete overhaul, as they are in extremely bad shape after six to eight months' combat work. The striking force of this group is zero until some time in March at the very earliest.

Recommend that forty B.25's be sent out here immediately and that eight additional replacements per month be set up to equip the group less one squadron with B.25's, the remaining squadron to use the B.26's which should last until June 30th, 1943, when they will have to be replaced.

The total medium bombardment strength new available daily for a single mission is about twenty-four. This will be increased, when the B.26's come back from overhaul, to thirty-six - assuming that attrition rates on the B.25 have been met meanwhile.

**LIGHT BOMBARDMENT**

3rd Group less two sqdns. (A.20A): On hand In Sqdns. In depots En route

<table>
<thead>
<tr>
<th></th>
<th>On hand</th>
<th>In Sqdns.</th>
<th>In depots</th>
<th>En route</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>23</td>
<td>3</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Prepared for shipment.

The available A.20's have been reduced to the point where the 8th and 89th Squadrons of the 3rd Group have been combined to operate what amounts to one squadron. If the sixteen A.20A's now being prepared for shipment arrive in February it will be possible to maintain one squadron of A.20's until June 30th. In the meantime, my light bomber striking force is about fifteen planes.

Pending the re-equipment of the 3rd Group with A.25's, which will probably not be completed before September 1943, it is recommended that two squadrons of the 3rd Group be brought up to strength with A-20's. This will mean the shipment of a total of nineteen in February and ten per month through June.

**FIGHTERS**

8th, 35th and 49th Groups (P.39's, P.40's and P.38's):

<table>
<thead>
<tr>
<th></th>
<th>On hand</th>
<th>In Sqdns.</th>
<th>In depot</th>
<th>P.38's - 15 per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>334</td>
<td>222</td>
<td>112</td>
<td>P.38's</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 per month</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.39's</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 March, 15 May, 15 June</td>
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<td></td>
<td></td>
<td></td>
<td>P.40's</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 April, 15 May, 15 June</td>
<td></td>
</tr>
</tbody>
</table>
Present attrition rates indicate that the replacement schedule will result in the following numbers on hand each month until June, 1943:

<table>
<thead>
<tr>
<th>Month</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>315</td>
</tr>
<tr>
<td>March</td>
<td>315</td>
</tr>
<tr>
<td>April</td>
<td>330</td>
</tr>
<tr>
<td>May</td>
<td>345</td>
</tr>
<tr>
<td>June</td>
<td>360</td>
</tr>
</tbody>
</table>

The fighter picture from the standpoint of present allotted organizations is satisfactory. In this connection, however, beginning February 1st, the 8th Group has to be pulled back to the mainland from Milne Bay to get rid of malaria. The medics tell me that at least eighty percent of the Group and about the same percentage of the 403rd Heavy Bombardment B-17 Squadron (also at Milne Bay) have malaria and should be given treatment. Some of these men will be found to have the malignant type and cannot be safely returned to malarial country. Those I cannot absorb in the Air Service Command will have to be sent home. When the 8th Fighter Group is cured (which will take about six weeks) I will have to send the 5th Group back to the mainland and then follow them later with the 49th. In other words, I cannot depend on more than two-thirds of my fighters being available for combat. In a few weeks we are moving fighters over the range to Dobodura. What the malaria rate will be there I don't know but from all I can learn it is likely to be as high as in the rest of New Guinea. Five or six months is the limit of continuous field duty in this section of the world, regardless of the quantity of quinine you take. Quinine does not prevent malaria; all it does is prevent you from knowing you have it.

CARGO

Present figures are as follows:

374th Troop Carrier Group ... 52 C.47's
317th Troop Carrier Group ... 19 C.47's
7 C.49's
3 C.39's
10 C.60's
2 LB.30's
1 B.17 C
1 B.17 E

One DC.2, two C.50's, and three C.53's have been loaned to the R.A.A.F. Transport Command in order to utilize their trained crews. In addition, we have contracted with various Australian civil air lines to maintain and operate for the 5th Air Force one DC.3, one DC.5, five C.56's and two Lockheed 14's hauling our air freight and passengers. These two batches of equipment, like some of the miscellaneous planes of the 317th Group, are all pretty old and maintenance is extremely difficult on account of the number of non-standard parts, non-standard engines and equipment, much of which it is impossible to procure any longer.
Appendix 6

EXTRACT FROM THE REPORT OF THE COMMANDING GENERAL BUNA FORCES *

COMMUNICABLE DISEASES.

During December the first cases of malaria in the 32d Division began to make their appearance. Many patients were admitted to hospital with the diagnosis of "fever, undetermined origin." The majority of the cases later proved to be malaria. During the period December 8, 1942, to and including January 26, 1943, there were 637 cases of malaria and 3216 cases of fever, undetermined origin. There were approximately 18 cases of typhus fever with 7 deaths. In the Corps Surgeon's Annual Report to the Surgeon General, it was recommended that troops destined for Australia and the Far East be not given typhus inoculations as the typhus vaccine given in the United States is specifically for the European typhus.

CASUALTIES - 32d Division - BUNA CAMPAIGN, 26 September 1942 - 28 February 1943.

<table>
<thead>
<tr>
<th>Type of Casualty</th>
<th>126 Inf CT</th>
<th>127 Inf CT</th>
<th>128 Inf CT</th>
<th>Fwd &amp; Rear Ech</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Killed in Action</td>
<td>266</td>
<td>182</td>
<td>133</td>
<td>16</td>
<td>602</td>
</tr>
<tr>
<td>Died of Wounds</td>
<td>34</td>
<td>29</td>
<td>25</td>
<td>0</td>
<td>88</td>
</tr>
<tr>
<td>Died of Other Causes</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Total Deaths</td>
<td>305</td>
<td>214</td>
<td>167</td>
<td>21</td>
<td>707</td>
</tr>
<tr>
<td>Wounded in Action, Gunshot Wounds</td>
<td>475</td>
<td>308</td>
<td>279</td>
<td>6</td>
<td>1068</td>
</tr>
<tr>
<td>Wounded in Action, Shrapnel Wounds</td>
<td>253</td>
<td>196</td>
<td>155</td>
<td>8</td>
<td>612</td>
</tr>
<tr>
<td>Total Wounds</td>
<td>728</td>
<td>504</td>
<td>434</td>
<td>14</td>
<td>1680</td>
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<tr>
<td>Fevers, Including Malaria</td>
<td>1422</td>
<td>2011</td>
<td>1264</td>
<td>661</td>
<td>5358</td>
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<tr>
<td>Common Diarrheas</td>
<td>170</td>
<td>123</td>
<td>205</td>
<td>65</td>
<td>563</td>
</tr>
<tr>
<td>Shell Shock &amp; Concussion</td>
<td>35</td>
<td>89</td>
<td>87</td>
<td>0</td>
<td>211</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Casualty</th>
<th>126 Inf</th>
<th>127 Inf</th>
<th>128 Inf</th>
<th>Fwd &amp; Rear Ech</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misc Diseases</td>
<td>653</td>
<td>590</td>
<td>682</td>
<td>224</td>
<td>2154</td>
</tr>
<tr>
<td>Total Diseases</td>
<td>2285</td>
<td>5813</td>
<td>2238</td>
<td>950</td>
<td>8286</td>
</tr>
<tr>
<td>Total Injuries</td>
<td>88</td>
<td>57</td>
<td>123</td>
<td>19</td>
<td>287</td>
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<tr>
<td>GRAND TOTALS</td>
<td>3406</td>
<td>3588</td>
<td>2962</td>
<td>1004</td>
<td>10960</td>
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</tbody>
</table>

The above data was obtained from medical and personnel records of the 32d Division. There were, in addition to the above, sixty-two (62) missing in action, according to personnel records.  
* [sic].
<table>
<thead>
<tr>
<th>DATE</th>
<th>PERSONNEL</th>
<th>DEAD</th>
<th>MISSING</th>
<th>WOUND</th>
<th>CAPTURED</th>
<th>RETURNED</th>
<th>KILLED</th>
<th>DIED</th>
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<td>JULY</td>
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<td>SEPTEMBER</td>
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<td>OCTOBER</td>
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<tr>
<td>DECEMBER</td>
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<td>60</td>
<td>20</td>
<td>43</td>
<td>127</td>
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</table>
Appendix B

LOCATION OF AMERICAN AIR UNITS *

<table>
<thead>
<tr>
<th>3d Bomb Group (L)</th>
<th>July</th>
<th>November</th>
<th>February</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hq &amp; Hq Sq</td>
<td>Charters Towers</td>
<td>Charters Towers</td>
<td>Port Moreby</td>
</tr>
<tr>
<td>8th Bomb Sq</td>
<td>&quot;</td>
<td>&quot;</td>
<td>Kila</td>
</tr>
<tr>
<td>13th Bomb Sq</td>
<td>&quot;</td>
<td>&quot;</td>
<td>Schwimmer</td>
</tr>
<tr>
<td>89th Bomb Sq</td>
<td>&quot;</td>
<td>Port Moreby</td>
<td>Kila</td>
</tr>
<tr>
<td>90th Bomb Sq</td>
<td>&quot;</td>
<td>Charters Towers</td>
<td>Durand</td>
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<th>22nd Bomb Group (L)</th>
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<tr>
<td>Hq &amp; Hq Sq</td>
<td>Woodstock</td>
<td>Reid River</td>
<td>Reid River</td>
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<tr>
<td>2d Bomb Sq</td>
<td>Reid River</td>
<td>&quot;</td>
<td>&quot;</td>
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<tr>
<td>19th Bomb Sq</td>
<td>Woodstock</td>
<td>Iron Range</td>
<td>Woodstock</td>
</tr>
<tr>
<td>33d Bomb Sq</td>
<td>Antil Plains</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>408th Bomb Sq</td>
<td>Reid River</td>
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<td>Reid River</td>
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<table>
<thead>
<tr>
<th>** 38th Bomb Group (L)</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Hq &amp; Hq Sq</td>
<td>Eagle Farm</td>
<td>Port Moreby</td>
<td>Durand</td>
</tr>
<tr>
<td>69th Bomb Sq</td>
<td>New Caledonia</td>
<td>New Caledonia</td>
<td></td>
</tr>
<tr>
<td>70th Bomb Sq</td>
<td>Fiji</td>
<td>Fiji</td>
<td></td>
</tr>
<tr>
<td>71st Bomb Sq</td>
<td>Batchelor</td>
<td>Port Moreby</td>
<td>Durand</td>
</tr>
<tr>
<td>405th Bomb Sq</td>
<td>Ballarat</td>
<td>Port Moreby</td>
<td>Durand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19th Bomb Group (H)</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hq &amp; Hq Sq</td>
<td>Mareeba</td>
<td>Mareeba (Hoeyet)</td>
<td></td>
</tr>
<tr>
<td>28th Bomb Sq</td>
<td></td>
<td>Hoeyet</td>
<td></td>
</tr>
<tr>
<td>Flight A</td>
<td>Townsville</td>
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<td></td>
</tr>
<tr>
<td>Flight E</td>
<td>Longreach</td>
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<td></td>
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<td>30th Bomb Sq</td>
<td>Mareeba</td>
<td>Hoeyet</td>
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<tr>
<td>93rd Bomb Sq</td>
<td>Mareeba</td>
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<tr>
<td>435th Bomb Sq</td>
<td>Garbutt</td>
<td>Garbutt</td>
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</tr>
</tbody>
</table>

* This table has been made from Southwest Pacific station lists for 14 July 1942, 3 November 1942, and 16 February 1943. See note at end of this appendix for names of Port Moreby and Milne Bay airfields.

** The 38th and 43d Groups had not received their air echelons by 14 July. The 403d Squadron of the 43d Group had moved to a base at Milne Bay before the end of November. See Form 34.
**43d Bomb Group (H)  

<table>
<thead>
<tr>
<th>July</th>
<th>November</th>
<th>February</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hq &amp; Hq Sq</td>
<td>Williamstown</td>
<td>Iron Range</td>
</tr>
<tr>
<td>63d Bomb Sq</td>
<td>Charleville</td>
<td>Iron Range</td>
</tr>
<tr>
<td>64th Bomb Sq</td>
<td>Daly Waters</td>
<td>Iron Range</td>
</tr>
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<td>65th Bomb Sq</td>
<td>Williamstown</td>
<td>Iron Range</td>
</tr>
<tr>
<td>403d Bomb Sq</td>
<td>Laverton</td>
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90th Bomb Group (H) began to arrive in SWPA during October; in November attached to 19th Gp

<table>
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<tr>
<th>Hq</th>
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<tr>
<td>315th Bomb Sq</td>
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<td>Iron Range</td>
</tr>
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<td>320th Bomb Sq</td>
<td></td>
<td>Fort Moresby</td>
</tr>
<tr>
<td>321st Bomb Sq</td>
<td></td>
<td>Fort Moresby</td>
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<tr>
<td>400th Bomb Sq</td>
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<td>Iron Range</td>
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**8th Fighter Group**

<table>
<thead>
<tr>
<th>Hq &amp; Hq Sq</th>
<th>Archer</th>
<th>Fall River</th>
<th>Gurney</th>
</tr>
</thead>
<tbody>
<tr>
<td>35th Fi Sq</td>
<td>Woodstock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36th Fi Sq</td>
<td>Antil Plains</td>
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<td></td>
</tr>
<tr>
<td>80th Fi Sq</td>
<td>Petrie</td>
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<td>Turnbull</td>
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**35th Fighter Group**

<table>
<thead>
<tr>
<th>Hq &amp; Hq Sq</th>
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<th>Fort Moresby</th>
<th>John’s Gulley</th>
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</thead>
<tbody>
<tr>
<td>39th Fi Sq</td>
<td></td>
<td></td>
<td>Schwimmer</td>
</tr>
<tr>
<td>40th Fi Sq</td>
<td>Fort Moresby</td>
<td>Fort Moresby</td>
<td>Berry</td>
</tr>
<tr>
<td>41st Fi Sq</td>
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<td>Antil Plains</td>
<td>Jackson</td>
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**49th Fighter Group**

<table>
<thead>
<tr>
<th>Hq &amp; Hq Sq</th>
<th>Livingstone</th>
<th>Fort Moresby</th>
<th>Durand</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th Fi Sq</td>
<td>Batchelor</td>
<td>Fort Moresby</td>
<td>Durand</td>
</tr>
<tr>
<td>8th Fi Sq</td>
<td>Strauss</td>
<td>Fort Moresby</td>
<td>Kila</td>
</tr>
<tr>
<td>9th Fi Sq</td>
<td>Livingstone</td>
<td>Fort Moresby</td>
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374th Transport Group Not activated as a Group until 1 November 1942

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<th>6th Tr Car Sq</th>
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<th>Wards</th>
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<td>21st Tr Car Sq</td>
<td>Archer</td>
<td>Archer</td>
</tr>
<tr>
<td>224 Tr Car Sq</td>
<td>Garbutt</td>
<td>Fort Moresby</td>
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<tr>
<td>23d</td>
<td></td>
<td>Wards</td>
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</table>

**9th Photo Sq**

<table>
<thead>
<tr>
<th>Flight A</th>
<th>Garbutt</th>
<th>Attached to 19th Bomb Gp at Fort Moresby</th>
</tr>
</thead>
</table>

**Ibid.**
Note: During November, several of the air strips in New Guinea were renamed, most of them in honor of airmen killed in the defense of Port Moresby and Milne Bay.

**Port Moresby**

<table>
<thead>
<tr>
<th>Before November 1942</th>
<th>After November 1942</th>
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</thead>
<tbody>
<tr>
<td>Seven Mile</td>
<td>Jackson</td>
</tr>
<tr>
<td>Romano</td>
<td>Berry</td>
</tr>
<tr>
<td>Laloki</td>
<td>Schwimmer</td>
</tr>
<tr>
<td>Rorona</td>
<td>Rogers</td>
</tr>
<tr>
<td>Wards</td>
<td>Wards</td>
</tr>
<tr>
<td>Kila</td>
<td>Kila</td>
</tr>
<tr>
<td>Waigani</td>
<td>Durand</td>
</tr>
</tbody>
</table>

**Milne Bay**

| No. 1 Strip          | Gurney              |
| No. 2 Strip          | Eavori              |
| No. 3 Strip          | Turnbull            |
Appendix 9

REPORT ON SKIP BOMBING

HEADQUARTERS FIFTH AIR FORCE
Office of the Air Force Commander
A.P.O. #329

14 March 1943

SUBJECT: Skip Bombing.

TO: Commanding General, Hawaiian Department, Fort Shafter, T. H.

1. Through the excellent cooperation of Colonel Roger Ramey, Commanding Officer of the 43rd Bombardment Group, Fifth Air Force; and Major E. V. Scott, Commanding the 63rd Bombardment Squadron of Colonel Ramey's Group, this report on Skip Bombing is made possible.

I. EARLY EXPERIENCE AND TRAINING FOR SKIP BOMBING.

1. It is Major William Benn, now missing in action, who can be credited with bringing skip bombing into this area. Major Benn was then Commanding the 63rd Bomb Squadron in August 1942. He always had maintained that missions were flown to obtain results and that skip bombing tactics would pay big dividends. His squadron had experienced many missions wherein they used glide bombing and he was not sold on this method against enemy shipping. Experiments in this new type of attack were approved by the Commanding General of the Fifth Air Force and special fuses were ordered to be made by the Australians.

2. In the early part of October, the first trial run was made by a single B-17. It was already accepted that their first problem would be to find the correct altitude and air speed for the release of the bomb in order that it hit into the side of the target. The target chosen was a small sand bar surrounded by shallow water. This was selected for the initial runs instead of the wrecked ship at Fort Moresby in order that they could observe the skip of the bomb, and check the distance and height. Also they wished to be able to observe the explosion of the bomb on the sand bar. Choosing the sand bar was also a safety measure, in that pilots had the opportunity to estimate distances before taking a chance on the wrecked ship.
3. The first run was made on the target (sand bar) at 300 feet, and the bomb dropped so that it would hit the water approximately 100 feet from the target. This was a 100 pound bomb and was observed to torpedo into the water and disappear. The second trial run was made with a single B-17 carrying three 100 pound bombs. These were released from 250 feet and at an indicated air speed of 225 mph. These bombs hit the water and jumped into the air about 75 feet, passing completely over the target.

4. Three runs were then made, dropping one 500 pound bomb on each run. This time there was a man in the ball turret and the navigator observing through the drift sight, both holding stop watches. They timed the bombs from the first impact with the water to the second impact with either the water or the target. All bombs reacted the same, in that they skipped with an average time between impacts, of from three and one-quarter seconds to three and three-quarter seconds. All three bombs were released from 250 feet; the first bomb released while the plane was traveling at an indicated air speed of 225 mph; the second bomb while at 220 mph; and the third bomb at 215 mph. Skips of two bombs were sixty to ninety feet lateral distance and from twenty to thirty feet in height. The third bomb was observed to hit the water and change its course approximately forty degrees. After bombs hit the water, they tumble backward.

5. After this preparation, it was decided to make test runs on the wrecked ship near Port Lionsby. This wreck is an old steel hull sitting high on a reef. She is about 8000 ton class and has been sitting there for twenty-two years. The pilot used the figures compiled by the previous runs. He carried two 500 pound bombs with five-second delay fuses. His first bomb was dropped too soon, however, as it exploded within fifteen feet of the ship. The second bomb was a direct hit.

6. From this point on many practice runs have been made on the ship. The B-25s and A-20s began their practice and were dropping their bombs from deck level. The B-25 then modified to carry eight .50 caliber guns firing forward, and this was the beginning of practice for coordinated attacks on convoys, using B-17s, B-25s, A-20s and Beaufighters. Practice continued, employing all of theses planes, with the B-17's dropping from 5000 to 7000 feet; the Beaufighters strafing; and then the B-25s and A-20s coming in from a beam, strafing and skip bombing. It was indeed fortunate the Fifth Air Force had several tries at this type of attack for it was used practically word for word in the Bismarck Sea Battle. To date, however, B-17s have done their skip bombing only at night. B-24s have not tried this form of attack.

II. NOTES ON SKIPT BOMBING BY THE COMMANING OFFICER 43RD BOMB GROUP.

1. General.

2. Skip bombing is a low altitude bombing attack that has
been used successfully against naval targets. It consists of a string of from two to four bombs dropped from such an altitude and distance from the target that a complete miss is improbable. Unless the target is of such importance that heavy losses can be accepted, this method of bombing should be attempted with large heavy aircraft only at night, and under most favorable weather conditions. The attack should be delivered with the idea in mind of securing a maximum of surprise and should not be repeated against the same target too often.

b. Attacks of this nature should be made with the target outlined against light of either flares or the moon, and in such location that the pilot is able to accurately tie in his altitude with a visible beach or other well defined objects. The altitude of the attack should be from 200 to 300 feet, and the bomb-release line from 350 to 200 feet from the target.

2. Conditions.

(a) Skip bombing attacks have proven effective under the following conditions:

1. First light of dawn, with approach made from west to east. Then just enough light exists to silhouette the vessel.
2. On a clear night with the moon below forty degrees elevation; the attack being made into the moon.
3. Directly out of a very low setting sun.
4. From very low clouds or poor weather, where an element of surprise is completely possible.

3. Rules.

(a) The following rules have been found to apply:

1. Start bombing runs from the darkness into the light, keeping the attack plane against a dark background, and silhouetting the target against the light.
2. Deliver the attack from a fairly steep dive with throttles retarded at a speed of from 200 to 250 mph.
3. Withdrawal should be made in all cases directly over the target, and straight away at sea level. Any attempt to turn near the vessel presents an excellent target.
4. Bombs should be spaced in train equal to the width of the target.

4. Fuzing.

(a) Either the American four to five second delay fuse or the Australian eleven to twelve second delay fuse can be used. The shorter time fuse has greater effectiveness, since in deep water the longer
5. Action of Bombs.

a. Bombs dropped from this altitude will skip, hit the target direct, or go underneath the water. If the attacking plane drops its bombs from a slight dive, the bombs will usually go through the water and explode under the target. If bombs are dropped from level approach, they will usually skip, tumble, and explode against the side of the target. Some of the bombs of the train will probably hit direct on the target. Either of these events is effective and it is not believed important to attempt to obtain any one of these results to the exclusion of the others. In some instances a low order explosion has resulted from a bomb hitting the side of the vessel, but in general, the bomb cases hold up very well.

6. Advantages.

a. Skip bombing is effective when attempted under the above conditions and offers the following advantages:

(1) Very little training is required to achieve accurate results.
(2) No losses to date have been sustained by the group from skip bombing.
(3) A surprisingly high percentage of hits is obtained by this method.

7. Precautionary Measures.

a. Skip bombing with heavy bombardment aircraft must be considered an attack of opportunity. Any attempt to skip-bomb a war vessel in the daylight, unsupported, would be hazardous, because of lack of speed, maneuverability, and small amount of forward fire. Successful daylight attacks have been made on unescorted merchant vessels by heavy bombers. Repeated skip bombing attacks in the same area would result in some form of protection to defeat it; however, when the opportunity presents itself, this is an ideal, sure-fire method of hitting the target.

FRANK C. BROWN,
Major, Air Corps,
Liaison Officer in S.W.P.A.
Appendix 10

LEADING FIGHTER PILOTS AND BOMBER CREWS *

**Fighter Pilots**

<table>
<thead>
<tr>
<th>Name</th>
<th>Squadron</th>
<th>Group</th>
<th>Planes Destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Lt. George S. Welch</td>
<td>36th</td>
<td>8th</td>
<td>7</td>
</tr>
<tr>
<td>1st Lt. John D. Landers</td>
<td>9th</td>
<td>49th</td>
<td>4</td>
</tr>
<tr>
<td>Capt. Donald J. Green</td>
<td>Hq.</td>
<td>35th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. Earl R. Kingsley</td>
<td>8th</td>
<td>49th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. Donald C. McGee</td>
<td>36th</td>
<td>8th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. Donald H. Morse</td>
<td>8th</td>
<td>49th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. Richard H. Dennis</td>
<td>8th</td>
<td>49th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. Robert H. Vaught</td>
<td>9th</td>
<td>49th</td>
<td>3</td>
</tr>
<tr>
<td>1st Lt. A. T. House, Jr.</td>
<td>7th</td>
<td>49th</td>
<td>2</td>
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<tr>
<td>1st Lt. Donald H. Lee</td>
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<td>49th</td>
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<td>1st Lt. Ray Eelikian</td>
<td>7th</td>
<td>49th</td>
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<td>Maj. G. E. Greene, Jr.</td>
<td>Hq.</td>
<td>8th</td>
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<tr>
<td>1st Lt. Clyde L. Harvey</td>
<td>9th</td>
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<tr>
<td>Capt. William A. Brown</td>
<td>80th</td>
<td>8th</td>
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<tr>
<td>1st Lt. Daniel T. Roberts</td>
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<tr>
<td>Capt. John D. Mainwaring</td>
<td>36th</td>
<td>8th</td>
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<tr>
<td>1st Lt. Leonard P. Marks</td>
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<td>8th</td>
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<tr>
<td>1st Lt. James W. Eagan</td>
<td>35th</td>
<td>8th</td>
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* According to cable message CW-IN-111 (1 Jan. 43), Brisbane to WAR, #A 1501, 30 Dec. 42. Eelikian was credited with two planes in a 20 December cable but was omitted from that of 30 December.
### Bomber Crews

<table>
<thead>
<tr>
<th>Name</th>
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<th>Group</th>
<th>Planes Destroyed</th>
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<td>7th (H)***</td>
<td>7</td>
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<tr>
<td>1st lt. Richard V. Negley, Jr.</td>
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<tr>
<td>2d lt. Willis Waburney</td>
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<td>2d lt. Samuel S. Patillo</td>
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<td>S/Sgt. Jack W. Coleman</td>
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<tr>
<td>Sgt. Lewis H. Knightley</td>
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<tr>
<td>Corp. Russell F. Bordria</td>
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<td>1st r. Harry R. Parry</td>
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<tr>
<td>1st lt. De Witt C. Flint</td>
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<td>22d (M)</td>
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<td>1st lt. Vernon G. Ammons</td>
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<td>S/Sgt. Norman G. Culbertson</td>
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<td>Sgt. Isaac Kaplan</td>
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<tr>
<td>Sgt. Russell E. Tompkins</td>
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<tr>
<td>Capt. Charles I. Hitchcock</td>
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<tr>
<td>1st lt. John T. Watkins</td>
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<tr>
<td>1st lt. Albert J. Pilkington</td>
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*** According to CM-IN-7723 (17 Jan. 43), Brisbane to JAB, #A 82, 16 Jan. 43. It should be noted that the only criterion for this selection is the number of planes shot down.

**** The 7th Group was active in the Philippine and Java Campaigns from December 1941 through February 1942. Most of its members were then absorbed in the 19th Bombardment Group.
Appendix 11

WAR DEPARTMENT
Bureau of Public Relations
PRESS BRANCH

April 29, 1943

ALL ARMY UNITS IN PAPUA CITED
AFTER CRUSHING OF JAP INVASION

The War Department announced today the citation in General Orders * of all units of the Army Ground Forces, Air Forces, and Service Forces which took part in the fighting on the Papuan Peninsula of New Guinea from July 23, 1942 to January 23, 1943.

The citation follows:

"The Papuan Forces, United States Army, Southwest Pacific Area, are cited for outstanding performance of duty in action during the period July 23, 1942, to January 23, 1943. When a bold and aggressive enemy invaded Papua in strength, the combined action of ground and air units of these forces, in association with Allied units, checked the hostile advance, drove the enemy back to the sea coast and in a series of actions against a highly organized defensive zone utterly destroyed him. Ground combat forces, operating over roadless jungle-covered mountains and swamps, demonstrated their courage and resourcefulness in closing with an enemy who took every advantage of the nearly impassable terrain. Air forces, by repeatedly attacking the enemy ground forces and installations, by destroying his convoys attempting reinforcement and supply, and by transporting ground forces and supplies to areas for which land routes were non-existent and sea routes slow and hazardous, made possible the success of the ground operations. Service units, operating far forward of their normal positions and at times in advance of ground combat elements, built landing fields in the jungle, established and operated supply points and provided for the hospitalization and evacuation of the wounded and sick. The courage, spirit and devotion to duty of all elements of the command made possible the complete victory attained."

* GO #21, 6 May 1943.
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