



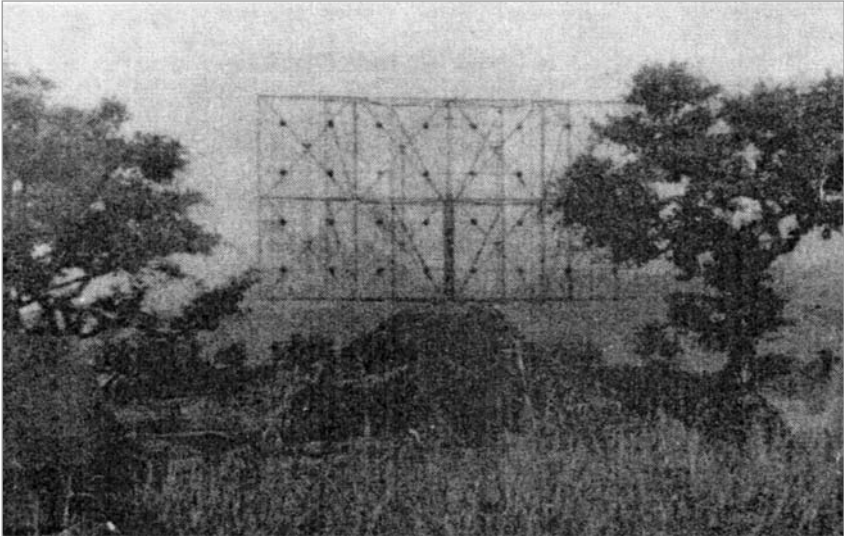
# **OVER THE HUMP AND ONWARDS**

**ROYAL AUSTRALIAN AIR FORCE  
RADAR STATION NO. 50 IN WWII**

**ALEX G. CULVENOR**

**FOREWORD BY WARREN MANN**

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**Doover 50RS Unit as operational at Tsili Tsili. Note the absence of the BL4 responder which was not installed at this stage (see chapter 2).**

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## FORWARD

When the RAAF was established in 1921, its purpose was solely to provide aerial services for the defence of Australia. Its hardware was exclusively directed toward this limited function, and it was staffed with men trained to fly, navigate, communicate with, operate the armaments of, and maintain and repair that hardware. Its senior officers were drawn almost exclusively from those equipped with the first of these skills, with a few having training in navigation and communication. When, with the advent of World War II, a massive and rapid development of the Service became necessary, this organisational pattern was applied to the fast-growing structure needed to cope with that growth and proved effective for as long as the function of the RAAF was confined to aircraft and their deployment.

On 7 November 1941, that changed, though the significance of the change was not realized by the RAAF hierarchy and bureaucracy of the time. On that day, just a month before Pearl Harbor, the War Cabinet, after consultations with the Joint Planning Committee, decided that the RAAF should be responsible for air-warning activities involving the newly developed British technology of 'radio location'. A middle-ranking RAAF signals officer with some familiarity with British developments in the technology (later to be known as 'radar'), W/Cdr A. George Pither, was appointed to give effect to the discharge of this responsibility. He set about what proved to be an immense task with urgency, energy and determination and scant regard for red tape or the sensibilities of his superior officers in the Service.

With the exception of some intermittent and sometimes reluctant help from the RAF, Pither had to make do with the resources available in Australia and, to a limited extent, from USA. He had to encourage, facilitate and cooperate with CSIR and the PMG's Department in the development and modification of equipment, recruit staff to install, operate and maintain it, arrange with educational institutions for the basic technical training of officers and mechanics, organise facilities within the Service for their advanced training on the equipment involved, and establish administrative structures within which they could provide effective air warning and, as soon became necessary, facilities for ground-controlled interception and technical service to airborne radar equipment. By the end of 1943, his Directorate of Radar was responsible for the activities of some 6000 personnel. Despite this substantial empire and its significance in the conduct of the war against Japan, George Pither still held only the rank of Wing Commander when the war ended in August 1945.

The effective use of air-warning equipment involved setting up and deploying, for each set of radar equipment, small, largely self-sufficient units each with the 30-40 technical and other staff needed to be able to operate it in the often remote locations dictated by the strategic and tactical vicissitudes of the war against the Japanese in the South-West Pacific region. The first of these to become operational in a combat zone was No 31 Radar Station near Darwin which brought about losses among Japanese raiding aircraft on 22 March 1942, just over four weeks after the first air raids on that city. In the weeks and months that followed, more units were deployed around Darwin and in southern Papua New Guinea, but, with successes in the naval/air operations in the Coral Sea and off Midway Island, the nature of the battle against the Japanese was changing and in our favour. Then first Milne Bay and then the Kokoda Trail showed that the Japanese could be defeated on the ground as well as at sea and in the air. By the end of the year, the Australian forces and their US allies were taking the initiative and moving on from Kokoda and up through New Guinea.

Meeting stiff resistance from Japanese forces, especially from their aerial forces, the allied command called for ground radar support from the RAAF. Pither's response was to equip two recently formed AW stations with the new light-weight 'Worledge' aerial systems and fly them to Port Moresby as the first of the subsequently highly regarded LW/AW units to go into action. From there, one of them, 50 Radar Station, was flown over the Owen Stanley Mountains to Dobadura to cover the American troops advancing up the coast toward Buna. It is the story of this unit that Alex Culvenor tells here, with help from several of his friends who also served on the unit. He tells it without frills and with great care to avoid the inaccuracies that are always a risk as memories fade and distort with time. I congratulate him on it.

Radar was, perhaps, the most fiercely guarded secret of the war of 1939-1945. It was, in effect, a hidden weapon. Though ground radar was a factor in successful campaigns, and acknowledged as such by US and Australian field commanders in the various South-West Pacific Area theatres of war, its significance was and to some extent still is denied by military historians of the war against Japan in 1941-1945, probably because many of the RAAF's senior officers of that time did not understand the part it played and did their best to ensure that Air-Force activities other than those undertaken by air crews were not recognised as militarily significant. That is why it is particularly important that stories such as that of 50 Radar Station should be recorded while there are 'primary sources' still living and able to tell them.

**Warren Mann**

## **ACKNOWLEDGEMENTS**

This history of Radar Station No 50 had its origin to discussions between John Fraser, Stan Middleton and myself at the WW11 RAAF Radar Reunion held in Canberra in 1988. John was the first to put pen to paper and his memoirs deal with the forming up of No 50 Radar Station in Townsville in 1942 and its operation from November 1942 at Dobadura in Papua New Guinea.

As well as John, Stan, Ray Loveday, Gordon Ellis and Vic Eddy all made contributions. I am most grateful for them and also to each of these friends for their encouragement to continue with the research and recording when it became necessary to put aside the project for a long period of time. Sadly, during that time, Vic, Ray and Stan all passed away.

Most of the photographs have come from the same sources, though the origins of several of them are not known to me. I acknowledge the photographers of these and would have sought their permission to use them had I been able.

My grateful thanks to Warren Mann, the late Len Ralph, Roger Dadd and my brother, Claude, for their advice and editing of draft material.

I also acknowledge the assistance provided by the staff of the RAAF Historical Records Section that made it possible to research in detail the Operational Record Book (monthly reports recorded on RAAF Form A50) relating to RAAF Radar Station No 50.

Finally, I am indebted to my wife, Joan, for her patience and support as I toiled over the computer keyboard, until she, too, passed away in July 2009.

**Alex Culvenor**

## INTRODUCTION

The assault on the Papua-New Guinea area commenced when Japanese bombers attacked Rabaul on 4 January 1942. The heavy air bombardment was followed up by troop landings and the town capitulated on 23 January. Soon after came the news the Australian Government had been dreading. On 15 February, the 130,000 defenders of Singapore were surrendered to the Japanese Army.

Japanese seaborne troops landed at Lae, Salamaua, and Oro Bay in March. Their obvious objective was Port Moresby. The small Australian force at Oro Bay was pushed back and the Japanese advanced rapidly along the Kokoda Track towards Port Moresby, against stiff resistance from Australian troops. On 26 August 1942 Japanese troops supported by tanks landed on the north shore of Milne Bay. Heavy fighting followed as the enemy pushed towards the airfield. However attacks by Australian fighter and bomber aircraft helped Allied ground forces slowly to turn the tide. For the first time the Japanese suffered a defeat at the hands of Allied troops. On 4 September, they abandoned their plan to capture Milne Bay.

Meanwhile fighting raged along the Kokoda Track. By 1 September, signs appeared that the Japanese were having difficulty maintaining their momentum against tenacious Australian opposition, and in keeping up supplies to their troops over the difficult terrain. Before the end of September the enemy abandoned the attempt to reach Port Moresby and retreated from advanced positions at Ioribaiwa Ridge, over the Kododa Track, back to the Dobodura/Buna/Oro Bay region. The Australian force harrassed the retreating enemy and fierce fighting commenced against heavily fortified Japanese positions in the coastal region.

Responding to the urgent need in advanced areas for early warning of approaching enemy aircraft, the Royal Australian Air Force began forming up several early-warning radar stations at Townsville for service in Papua-New Guinea. The first of these to arrive in the battle zone was No 50 Radar Station, equipped with the first LW/AW Australian-developed radar to be used in a battle zone; this is its story.

## CHAPTER 1

### PAPUA-NEW GUINEA

*The first Worledge array was sent to the Radar School at Richmond and shortly afterwards two stations were formed complete with operating personnel and equipment and flown to New Guinea. Here, after a short pause at Moresby, one, under the command of F/O Griffiths, was flown over the Hump to Buna, erected overnight and next day succeeded in providing warning of the approach of some 60 Japanese aircraft which were intercepted, 20 of them being shot down by Allied fighters. This was a performance which had never been achieved before.*

Excerpt from *An Account of the Development and Use of Radar in the Royal Australian Air Force* by Wing Commander A G Pither, December 1946 p 30:

Formed at Townsville on 21 July 1942 as one of several destined for Papua-New Guinea and urgently needed there, with Pilot Officer O K Griffiths as Commanding Officer, No 50 Radar Station was expected to operate using the Australian-developed AW Air-Warning equipment with the transportable AW antenna tower to be erected by the Station personnel upon arrival at location. However the AW antenna was replaced by the lightweight (LW) antenna array in September 1942 to allow for greater mobility. The transmitter and receiver remained the same AW units and 50RS was now designated a Lightweight Air Warning (LW/AW) station. Two air-cooled Howard petrol-engine-driven alternators of 2.5 KVA each provided electric power.

Personnel posted to the Station began arriving in August 1942 and by the end of September all technical staff were on site. By late October the Station was considered to be at operational strength, with the Commanding Officer, four radar mechanics, eight operators, one cook, one nursing orderly, one clerk, one general hand, one messman, one fitter/DMT, one W/T operator and eight guards.

The Station moved to Kissing Point in Townsville, close by 104 Radar Station, where the radar antenna was erected and the equipment installed and brought up to operational level for training purposes. 104RS also assisted by providing operational experience for operators. In addition all personnel received basic weapons training from Army and RAAF instructors.

John Fraser, one of the original radar mechanics, writes:

*The four-month period of assembling and preparation in Townsville was a pleasant task. We spent time getting to know new personnel and obtaining as much in the way of creature comforts as our scrounging skills would allow. Our*



*Commanding Officer, O K Griffiths, recently promoted to Flying Officer, was much our senior in years and a person we admired and respected . . .*

*The period in Townsville, during the dry and mainly sunny days July to November, was regarded as good times in comparison with what lay ahead. Our camps [billets] were mostly in buildings around the city area. There was not a great deal of discipline. Our CO, affectionately known as OK, was behind us in our collection or 'scrounging' of creature comforts. He repeatedly said, "You will appreciate what you can get now, as there won't be many comforts where you are going".*

*The battle for PNG was raging during our months in Townsville, which was also the staging place for thousands of US troops and airmen. Garbutt airfield, approximately 10 kms from the city, became one of the largest Allied air bases in Northern Australia. . .*

*There was a shortage of consumer goods. I tried to build up a supply of Kodak Box-Brownie film and printing materials for developing and processing my own photos. Being sworn to secrecy, taking photos or processing film on a radar unit was strictly forbidden. Like typical Aussie youth, many of us took cameras to New Guinea. I was able to develop and print many photos, sometimes between air raids. Although some are yellow they still bring back memories of days at 50RS.*

The Station went on short embarkation notice on 26 November 1942 and instructed to load all equipment on to C47 (Douglas) aircraft. These aircraft, carrying the equipment and a few personnel, departed Garbutt 7am on 27 November. The remaining 27 personnel made the journey in a Flying Fortress aircraft. All aircraft arrived at around 11am on the same day. The Station equipment and personnel were transported to barracks to wait for a suitable day for transport to the proposed operational site at Dobadura.

John Fraser continues the story:

*Orders were received on 30 November 1942 for the Station's departure from Port Moresby, and equipment was loaded on to six C47 transport aircraft. Work commenced in the evening and it was 4 am on 1 December before we returned to camp. After an early breakfast and very little sleep, we went to Ward Strip and boarded the C47s, taking off at approximately 8am. We had a fighter escort of Kittyhawks. The flight climbed to 9000 feet, and passed through the Gap of the Owen Stanleys. Morning departures were the norm, as the cloud cover would blanket out the 'gap' most days about midday. The flight time was approximately one hour. Native gardens were sighted as our aircraft, 'Hells Bells', descended towards the northern swampy areas of Buna. The instruction from the U S pilots of our unarmed Douglas transports was that the aircraft would be on the ground for 2*

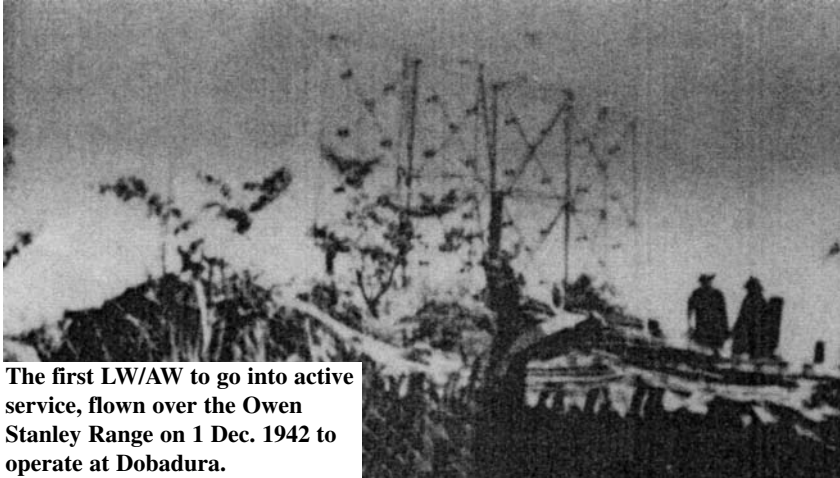
minutes only. All personnel and gear had to be off the aircraft in that time. Hells Bells did not stop, but slowly taxied along the airstrip - just a clearing in a coconut plantation on which hundreds of steel cleats were laid on the soggy, black-mud, jungle clearing, near the village of Dobadura. As the aircraft came in to land it was easy to understand why these reliable unarmed machines would have been sitting targets for the Japanese Zeros which had already shot up 4 or 5 Lockheed Hudsons and Kittyhawks . . . on either side of the strip. As we landed, the doors were flung open and we pushed off our gear and jumped clear. The aircraft spun around as the crew closed doors and took off. The Kittyhawks escort was flying above to keep off any Japanese aircraft waiting to pounce.

We did not think it prudent to hang around so made off under cover of the coconut tree plantation, from which the airstrip had been constructed. We felt reasonably safe away from the airstrip. The thought of an air raid and the continual gunfire from the front line just a few kms away at Buna, made us realise we were in the war zone. Some comfort was gained with the appearance of a Salvation Army Lieutenant who served biscuits and hard chocolate block. A few words of spiritual comfort were also appreciated..

'OK' had sought a Jeep and trailer from the Americans and, with some assistance, we loaded the crates of gear and took them to the site which had been selected. This was not far from the airstrip, most of which was flat swampy ground covered by tall 'kunai' grass or coconut plantation, and only a few kilometres from Buna beach. Not long after we had moved from our hide-out and the area had been cleared of our camping gear and equipment etc, two Zeros strafed the strip and the area around.

Those of us responsible for installing the radar unit got to work putting things together as soon as possible. Some guards and operators commenced filling sandbags to build up a shelter approx. 10ft high to protect the operators and the gear from the raids. Others of the party went looking for a suitable camp site. The best that could be found was some deserted native huts. It rained all night and not many had sleep, our groundsheets giving more protection than the thatched roofs. Hundreds of mosquitos attacked all night. We were pleased when daylight arrived. We found a big bunch of bananas, which we shared. We all agreed that there must be better camp sites.

Day two, 2 December: work on a permanent camp site was commenced under cover of trees, right on the bank of the swift-flowing Samboga River. This provided a good supply of fresh water, plus bathing facilities. The site, possibly not ideal, was the best available near the doover [the radar unit] and provided excellent camouflage. With improved drainage it was not too bad. Six to a big American -type tent, was to be my cover and camp for 7 months at Dobadura. A track was cut through the 8 ft high kunai grass leading to the doover, about 7 minutes walk.



**The first LW/AW to go into active service, flown over the Owen Stanley Range on 1 Dec. 1942 to operate at Dobadura.**

Within 3 or 4 weeks, illness began to take a toll on the working capabilities of Station personnel. The swampy environment was a perfect breeding ground for mosquitoes and the primitive living conditions and monsoon season did not help. The majority of the staff had been off duty for various periods suffering from dysentery, dengue and later from malaria. The CO, F/O Griffiths, reported in December 1942:

*. . . at one time more than one-third of the personnel were indisposed, especially guards, and it is felt that additional guards could be used by this Unit.*

The Dobadura war zone being under the control of the American 41st Division, the RAAF guard complement was already reinforced by a detachment of 12 American soldiers to provide effective boundary protection for the Station and equipment.

Bombing and strafing were common disruptions and it was only luck that the Station avoided casualties or damage to equipment. The American field hospital nearby suffered a direct hit and strafing during a raid, causing serious damage and casualties.

The story continues in John Fraser's words:

*It was approximately 4pm; our radar had tracked them [the Zeros] earlier. There was nothing our aircraft could do. The damage inflicted by the Zeros on a clearly marked hospital was horrific. There were over 400 wounded and sick patients in*

*this big front-line hospital. Twenty were killed and many wounded including some Japanese and Koreans who had been taken prisoner. A call came to our unit for assistance in shifting many of the wounded. Those of us not on duty spent most of the night helping the staff in a large hospital tent with a huge red cross on each side. A happy sequel to this event occurred in July 1995 whilst I was visiting this area on a pilgrimage cruise. Our ship spent a day at Oro Bay, about 15 km from Dobadura. I met on board the cruise ship an Aussie soldier who was wounded in the hospital during the raid. We agreed that he might have been one of the wounded we assisted, like others with severe injuries due to this event. He was evacuated to Port Moresby.*

*One day, there was news from an American crew of a B25 bomber that had been shot down not far from the big Dobadura airstrip. This was approximately a two-hour walk from our camp through the thick kunai grass. On December 16, Jack Scadden and I went in search of this aircraft which we eventually found. The gun turret was just visible above the kunai grass. The aircraft, a light-weight bomber recently introduced to PNG, had made a belly landing. It was full of machine-gun bullet holes from the attacking Zeros. With its undercarriage being damaged it was necessary for the pilot to crash land. This he had done in ideal terrain with some cushioning by the thick kunai grass. The pilot and air-gunner were not hurt. Like hundreds of aircraft that crashed or had been shot down away from an airstrip in PNG, it would be impossible to recover them and in most cases impossible to find as the quickly growing jungle would soon cover. The only interest to us was the communications receiver which we located in a hatch between the cockpit and gun turret. The receiver, a Westinghouse with 15 valves, looked a prize possession for the taking. We had armed ourselves with some tools and a kit bag. The receiver was tuned remotely from the cockpit with Selsyn motor drive and generator power-supply - 12 volt to 240 volt DC. The job of removal took about 30 minutes. In the oppressive conditions this was hard to take, especially with any extra physical exertion being required. The receiver measured about 24 inches long and 10 inches wide by 10 inches high and weighed about 30 pounds and just fitted in my issue kit bag. . . [It] had the potential for listening to short-wave programmes, but required a power supply. a speaker and some frequency changes, particularly for picking up Radio Australia.*

*A trip to the front line and an area recently evacuated by the Japanese proved a windfall. We came across a tent full of Japanese radio spares which included a suitable power transformer and an 8 inch speaker.*

*Back at the camp with these goodies and some rectifier valves and condensers from the radio spares, I was able to build up a DC power supply of approximately 300 volts. This applied to valves operating off 240 volts DC from a generator motor in an aircraft made a very sensitive receiver. This fed to an 8 inch speaker, per courtesy of the enemy, gave us a short-wave receiver capable of hearing news etc*

*from all over the world. It was necessary to remove some turns of the aerial coils to pick up Radio Australia. Our tent became a popular meeting place for those wanting news from home. We also got to know the sarcastic voice of Tokyo Rose.*

*When I was posted from 50RS in July 43 to 315RS at Cape Ward Hunt approximately 300 kms north, a very lonely spot, the radio was greatly appreciated by all. A request session on Radio Australia broadcast from Sydney every Thursday evening was appreciated by the CO, F/Lt Gill, a senior man and ex-AWA engineer. His wife, whose stage name was Wilma Hagan, would sing request numbers for the troops up north. CO Gill would come to our tent and listen to requests, some sent for us. . . After my time in PNG, this radio was housed in a tool box and eventually got to Birchip, my home town in Victoria.*

*The number of plottings of both enemy and allied aircraft increased daily. Only bad weather and nightfall gave relief to the operators. Repairs and modifications were often carried out by the mechanics during the quieter times. The modifications were mostly new components more suited to the near-100% humidity existing inside the doover.*

*Our generating supply units, two Howard air-cooled 5 hp motors coupled to 2 1/2 KV 240 volt alternators, chosen for their light weight and ease of transport, soon proved troublesome. Air-cooled motors require good ventilation for satisfactory operation over long periods; the motors could be operated for short periods only as they quickly overheated. One unit failed completely and with the shortage of spares we advised fighter control that we may have to go off the air due to these unreliable units – the response was that they delivered to us two camp lighting units. These were 10 hp 4 cylinder water-cooled Onan motors coupled to 110 volt 60-cycle alternators. Step up transformers were also supplied to give us the required 230 volt. The other problem was the 60-cycle supply: our equipment required 50-cycle.*

*A test using the American equipment was a dream for the DMT mechanic. For the mechanics and myself in particular was the job of modifying the time-base circuits. The 60 cycle altered the range by up to 15 miles, making plotting difficult. A trial-and-error combination of resistors and capacitors and we were able to get back within a few miles of the original plotting accuracy. This was of course a temporary fix pending a supply of new Howard units.*

*The increased power available from the Onans allowed us more liberal use of light and power in our camp. Further problems were encountered with the little 2-stroke Briggs and Stratton 12-volt battery chargers used to power the W/T equipment. The Americans came to the party again; they had plenty of new ones and delivered them with instructions to “just fill them up with fuel and keep them running. Start up a new one if necessary. . .”*

*The 50RS camp provided temporary accommodation for many RAAF airmen forced down in the vicinity. On 8 December a Beaufighter from No 30 Squadron was shot down close to the camp and F/Sgt Campbell and crew were given accommodation and meals for two days. Due to shift work there was always about 6 beds available at night for visitors.*

*Christmas Day 1942 was another time I remember, particularly the generosity of our American friends. They shared some of the frozen turkey flown in especially for their Christmas Dinner. Our Christmas Dinner was to have been bully beef, rice and biscuits.*

*A visit to the old Buna airstrip originally occupied by the Japanese revealed a number of damaged aircraft. Close inspection of a Zero showed how little equipment this simple little fighter carried. It became one of the most successful fighters in the area. Its light weight with fanatical pilots made it very manoeuvrable but if it got a direct hit, it would crash beyond repair due to the small amount of protection for the pilot and motor. We took some souvenirs and the stainless steel from the gun carrier was of interest to me. I made watch bands out of this and sold them to the Americans for \$US10 each. We took photos of most of the Japanese equipment. These included aircraft, tanks trucks and gun carriers which lay about the strip and in the coconut plantation. It looked like a cyclone had hit it. There was not a leaf on a tree or a tree without a bullet scar. The photos we took are a reminder to this day how fierce the action was in the battle for this small airstrip.*

On 23 January 1943, after months of heavy fighting, organised Japanese resistance ceased in the Buna area and Oro Bay harbour was opened up to Allied shipping. Total Allied casualties in the area were 2870, including 913 Australians. Of the 20,000 Japanese engaged there, 13,000 died in the battles, from wounds or disease.

The first significant change to the personnel list occurred in January 1943. Several experienced 50RS staff were posted to other stations and replacements posted in [see Appendix 1]. CO, O K Griffiths, was replaced by P/O A M Clark, who would remain with the station until April 1944. In addition to routine postings, several changes took place because of illness. Promotions also occurred as senior staff was moved out.

John Fraser continues:

*Commanding Officer, P/O Alex Clark, took particular interest in the phenomenon that often gave operators longer-range warnings of up to 150 miles; the blip appearing on screen at approximately 50 miles. It was then tracked into zero range but not showing up with the naked eye. It appeared again on the screen at 100*

miles. On certain days with tropical storms approaching this would be more prevalent. It became known as second and third-trace reading. P/O Clark made a study of these events. As we are now aware, the moist storm clouds were acting as reflectors for the UHF. Pulse transmissions of radar signals, bouncing them off to give a 'skip' signal. With the location of 50RS at sea level, using some second-trace signals provided a good average range of around 90 miles.



**Jap radio gear - John Fraser, Vince Gertzel and Herb Dearthcott.**

*A much more elevated station such as 315RS, approximately 750 feet above sea level, provided up to 300 miles air warnings - on occasion, almost to the big Japanese base at Gasmata, New Britain. I was posted to 315RS in July 1943 and was able witness this for myself.*

*The information gathered by P/O Clark was submitted to Headquarters for evaluation. My last contact with P/O Clark was at 15RS, Metung in late 1944 when he requested some input to support his findings.*

With the defeat of the Japanese Army in the Buna and Oro Bay area, plotting ratio between Allied and enemy aircraft changed. In December 1942 the operators had over 3,000 plots, an estimated 50% being enemy aircraft. In January and February 1943, plots were 4,000 per month with 75% being Allied aircraft. There was also a very significant decrease in the number of enemy raids, partly due to the improved interception but also due to the bombing of enemy airfields in New Britain and Lae. In addition to the huge build-up of Allied aircraft numbers, Allied shipping was now using Oro Bay as a harbour.

John Fraser:

*A visit to Oro Bay one day was an experience. We heard there was a plentiful supply of tinned food on the beach approximately 10 miles away from our camp. On approach to the beach huge piles of tinned*



**Herb Dearthcott on the wing of a Jap Betty, Feb 1943.**

*food glittered in the sun. One of the ships in the Bay, some of which had been sunk, was half a ship with the name Rufus King. The name rang a bell with me, it was the floating section of a Liberty ship that we had tracked at 104 on Stradbroke Island. It broke in half trying to enter Moreton Bay in Brisbane. Its rusting hulk can still be seen today. The floating half was towed to Brisbane and repaired and towed to Oro Bay approximately 12 months later. We filled our kitbags with tinned fruit. A day I will always remember.*

The ground fighting had shifted north of Gona by March 1943. However, the American 41st Division, being responsible for the defence of the area, gave instructions for the kunai grass surrounding the equipment to be cut. This was done and barbed wire entanglements were also erected. The Japanese bomber raids were now less frequent, with shipping in Oro Bay the main target. With the removal of the Kunai grass the doover and the sandbags surrounding the tent would now be clearly visible from a low-flying aircraft. It was decided to reinforce the sandbagging and build a traverse to improve safety in the event of strafing by Zeros.

Oro Bay suffered a very heavy raid on May 14th. 50RS had first sighted the approaching enemy aircraft at 40-50 miles with altitude being estimated at 11,000 ft and the formation at least 20 aircraft. This was a low estimate as the true number was nearer 30 aircraft. Fighter Sector instructed the Station to concentrate on the raiders and they were tracked in to their objective and out again. Several ships and shore installations suffered damage.

The health standard of the Station continued to be reasonable. In May there were seven personnel treated at the American hospital for malaria or dengue and in June six required treatment. Ear infections were common ailments causing much discomfort.

In July the radar receiver was plagued by interference that was traced to the anti-aircraft and searchlight [SL] sets. The latter was found to be largely responsible, being situated towards the range from the unit. Fighter Sector investigated and reported back that the SL was off-frequency and had been adjusted. Tests showed improvement had been made and interference was now minimal. Fortunately this type of interference was not common.

It was about this time that the Australian Army took over control of the area from the American 41st Division and a small Australian contingent replaced the Americans guarding the Station. However it was evident that interference from enemy ground forces was now minimal. Japanese air activity was intermittent and appeared to be mostly reconnaissance.



## CHAPTER 2

### TSILI TSILI

#### **Military Situation - Papua-New Guinea, August 1943**

The defeat of the Japanese Army in the Buna, Sanananda and Gona region was achieved by mid-January 1943. The Allies were now able to concentrate on dislodging the Japanese from the area north of Bulolo and Salamaua. The planning also provided for an assault on the large enemy base at Lae.

The Japanese were isolated in and around Salamaua by mid-August 1943, with the final assault scheduled for the same time as an attack on the heavily fortified town of Lae. Plans for the latter required a seaborne landing east of Lae and an airborne assault on the Nadzab area in the Markham Valley, approximately 23 miles west of Lae. The proposed airborne assault would require the establishment of a fighter aircraft base within tactical range of the Markham Valley and early-warning radar coverage of the area. Tsili Tsili (46 miles south-west of Lae) was selected for the Fighter base, and No 50 Radar Station, located at Dobadura, would be moved to take up the radar role.

#### **Tsili Tsili**

The move of 50RS from Dobadura commenced on 16 August. S/Ldr B F M (Bert) Israel, CO, No 41 Radar Wing, Port Moresby, wrote:

*The Allies' objective was to take Lae which was a major base for the Japs at this time. And to do that the intention was to land troops in the Markham Valley and approach from the land instead of the sea which the Japs had prepared for. To get a large number of troops into the Markham Valley was going to be a very large parachute drop with equipment as well. Again General Whitehead refused to move into this area without radar cover having been established in advance. The only Station available was the one at Dobadura, No 50. The Station had to be dismantled, transported and erected at Tsili Tsili where it would give reasonable coverage of the Markham Valley in the shortest possible time.*

*From the time it ceased operation at Dobadura until it was operational at Tsili Tsili was three and a half working days for which we received a congratulatory signal from the Fifth Airforce.*

This achievement was the more remarkable because of the operational difficulties the air transports had in delivering the Station to Tsili Tsili.

Two experienced officers, F/Lt Keith Bishop, who had assisted in numerous Station installations, and F/O Les Bell, who had valuable knowledge of the locality, were detailed to supervise the move. F/Lt Bishop recorded the following:

*Together with some members of the installation party we left Port Moresby in a C47 and flew to Dobadura with authority to arrange for the movement of Radar Station No. 50 from its existing site to a new location at Tsili Tsili with as little delay as possible. After a short discussion with the commanding officer F/O Clark, a start was made to dismantle all technical equipment and have it transported to Dobadura airstrip by jeep and trailer and have it loaded into aircraft dispersed on the outskirts of the airstrip."*

**The flight of C47s transporting the unit from Dobadurs to Tsili Tsili, 17 August 1943.**



Technical personnel commenced dismantling and packing the radar unit at 0940 hrs on 16 August 1943. All equipment, spares, rations and camp gear were transported to the airstrip in vehicles loaned by Fighter Sector. In spite of heavy rain, the loading of the C47 transports was complete by 0230 hrs next day.

The flight of C47 transports departed Dobadura at 0700 hrs on 17 August for Port Moresby to rendezvous with a fighter aircraft escort. Two attempts were made that day to reach Tsili Tsili. The first, at 1015 hrs was aborted because of heavy enemy airforce action in the Tsili Tsili area. The fighters were unable to stay airborne long enough for a safe period at the destination. The second attempt at 1215 hrs was also unsuccessful because of bad weather that settled on the Owen Stanley Range.

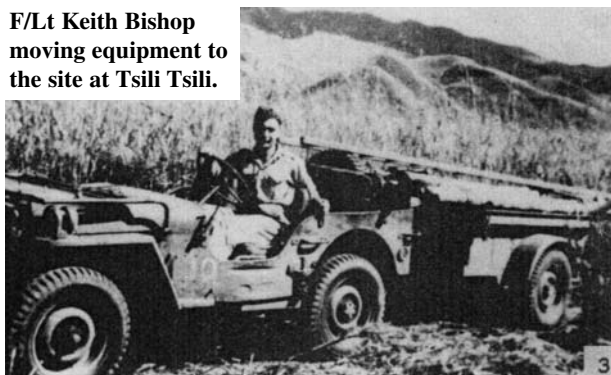
A dishevelled, hungry and sleepy bunch of 50RS personnel were transported to 41 Wing for an overnight stay. They had been without sleep for over 30 hours and had not had a meal since the previous night. Dress was a mixture of RAAF issue, Aust Army and American items. The group, and probably the Commanding Officer also, received a 'dressing down' by 41 Wing hierarchy before sitting down to a welcome meal followed by a good night's rest.

It should be noted here that the memories of surviving personnel have differed when recalling the events surrounding the move from Dobadura to Tsili Tsili. There are also significant differences in some of the recorded reviews of the move. Therefore only brief verified detail has been added to the limited information contained in CO F/O A Clark's A50 Monthly Reports.

The Station personnel reboarded the C47s next morning and with fighter escort left Port Moresby at 0750 hrs 18 August. The 41 Wing group comprising F/Lt Willis, F/O Moss, F/O Bishop and party accompanied the Station. The flight arrived at Tsili Tsili at 0915 hrs without incident, and was met by F/O Bell who had been sent up three days earlier to select a site for the equipment and camp.

The jeep and trailers transported the technical components to the site as quickly as possible to enable a start to be made on erecting the radar. The site was approximately 2 miles from the airstrip over a very rough track. Tents and a rough kitchen were erected before dark. F/O Bell had earlier selected the site. The following is quoted from his notes:

**F/Lt Keith Bishop  
moving equipment to  
the site at Tsili Tsili.**



*The site of the Station was at the headwaters of the Marilan River, a small, fast-flowing tributary of the Watit River, which in turn flows into the Markham River. I met an ANGAU chap there whom I had known prewar and he transported me everywhere in his jeep. The Station jeep and trailer were used to transport the gear to the site. At one point the track went along a siding, down a bank and then around a curve. On one occasion the trailer tipped over while rounding the curve and F/Lt Bishop and passenger had lucky escapes. After crossing the river there was about half a mile of dense sago swamp, then higher ground where we put the barracks. About another thousand yards away from the jungle, on the edge of the kunai grass, we put the doover.*

*Just after the radar was operational there was an air raid. A Zero was shot down and went into a power dive heading it seemed straight for the doover. It went straight into the swamp no more than a hundred yards away. We went over and there were a few broken branches and a pool of muddy water. “*

The Tsilli Tsilli airstrip was 50 miles west from Salamaua and 30 miles south-west of Nadzab, close to the deserted Tsili Tsili village (there seemed no good reason for the spelling change to ‘Tsilli-Tsilli’ adopted by the Allies). The components of a small bulldozer were dropped by parachute, reassembled and used to enlarge the clearing to form a strip large enough for C47 transport planes. The C47’s brought in all the equipment needed to operate an advanced fighter base; including steel matting to cover the bare ground strip.

An American portable SCR602 radar had operated nearby during construction. However, because of a low-power, low-gain antenna and the surrounding hills, the results had been unsatisfactory. It was a very difficult site from all aspects of radar. The only sector free of large permanent echoes (P E’s) was to the north; from 350° through to 035° and then only for 30-35 miles. Mountains to the south ascended rapidly to 8000 ft. Mt Table Top was 22 miles to west and reached up to 12,100 ft.

The campsite selected was on the edge of a gentle slope down to a small stream of good clear water. The old original Australian tents (the American tents had been left behind) were quickly erected on level ground by personnel not engaged on the doover installation. All radar gear had been transported and the antenna array and operating tent erected by the evening of the second day (19 August). The Howard generators were put on line and the first tests commenced at 2300 hrs. The Howards, with noise like motorbike engines, worried everyone as the sound could be heard for several hundred yards. The

Australian and American army personnel did not seem to care, as aircraft engines make a much louder roar. However, on a still night, a Japanese patrol might have investigated.

By 1306 hrs on 20 August the Station was on the air and more or less operational, communicating with the US Army Fighter Sector using an extension connected to the telephone left behind by the SCR602 crew. The operators even used American field telephones that were a parting gift.

Laying of a new direct telephone line commenced that day. Stan Middleton and Nick Zinnzeralla with a backup crew carried heavy reels of field-telephone cable following F/O Les Bell who pushed his way through the undergrowth with the aid of a machete. Progress was slow and took most of the daylight hours to cover less than 2 miles. The cable was laid on the ground or attached to trees where considered advisable. Next day, connections were made, with part of the old line laid by the SCR602 crew, which took a much longer route, being retained as a backup. F/O Bell remarked that night that the men had worked like horses.

Construction of a mess and kitchen commenced on 23 August. Priority was low and progress slow. The sandbag protection and camouflage of the doover was completed on 24 August. The next day flight tests, with Fighter Sector now on-line permanently, were commenced. Several P39 fighters manoeuvred around the valley to the north and low over the nearby mountains. Results appeared reasonable. However, late on that day the HT transformer for the indicator unit broke down and no spare was available on the Station. A replacement unit was available at 41 Wing in Port Moresby but transport difficulties would delay dispatch. The American Commanding Officer at Tsili Tsili came to the rescue, sending a P38 recon plane to collect the all-important spare. By 26 August the Station was operational again.

The installation party departed on 26 August and the Station settled into a daily routine of operating shifts and camp life. Construction of the first sleeping huts began on 28 August, but was not considered a high priority and the tents continued to protect the troops from the frequent heavy rain.

Major Bolton and Mr Billson arrived on 28 August to inspect camouflage arrangements and to site Bren-gun pits. One pit was already in place, having been excavated by Stan Middleton and Ray Loveday. Stan, just off morning shift, was in such haste to join the regular morning parade after cleaning his

rifle that he forgot to take along the rifle bolt. After 'working' the imaginary bolt, Stan and Ray, who was next in line, were unable to restrain their mirth. This was noticed by F/Lt Moss who was taking the parade. The result: "LAC Middleton and LAC Loveday have just volunteered to dig a Bren-gun pit."

Additional flight tests began on 2 September with flights up to 20,000 ft using 5 P39 fighters. On 3 September, Fighter Sector allocated the Station a sweep of 120° - 300° through north. This gave the radar very large permanent echoes to the north-west and east. Further tests were conducted at 15,000 ft and the Station was confirmed as fully operational.

Air activity was particularly heavy in the Lae area, a distance of 40 miles from Tsili Tsili, as Allied aircraft stepped up the air assault on the large Japanese air base. Tsili-Tsili airfield fighters seemed to be in the air continually in spite of the attention given their base by the Japanese bombers.

One of the Howard generators caught fire in the early hours of 5 September, and was badly damaged. The adjacent Howard was saved with only minor damage to external alternator wiring. Repairs were quickly carried out and the Station put back into operation.

Officially, the cause of the fire was never established beyond just suspicion. However it was known by a few that an attempt had been made to refuel the Howard while it was running. A small quantity of petrol splashed down on the brushes of the alternator. The sparks between the brushes and the commutator and the sliprings would have ignited the petrol. If this was the cause, then the person responsible was very lucky to escape severe burns. The medical orderly, Vic Eady, cannot recall treating burns and no mention is made of injuries of this type in the Monthly Reports.

As it transpired the fire could have had serious operational consequences and it was indeed fortunate that the second Howard escaped with only minor damage. The reason for 50RS being sited at Tsili Tsili was soon to become obvious, because from 1000 hrs to 1200 hrs on that day, 5 September 1943, the paratroop assault on Nadzab took place. Fighter Sector was no doubt aware of the timing of the assault, but 50 RS had not been informed.

The air fleet comprised 87 Douglas C47 transports and a host of escort fighter planes. The transports passed directly over the Station with the radar operators reporting the largest echoes they had ever seen. The paratroops included Australian Army gunners with their artillery pieces. Many of the

Australians were making their first parachute jump. No Japanese fighters were encountered, and there was little resistance on the ground. Nadzab was later to become a very large Allied air base.

Rain was always a problem at the doover. The rough hut over the Howards and the doover tent both leaked when the rain was heavy. Several attempts were made to mend the leaks without success. The damp atmosphere gave problems with the telephones also. The operators used a head-and-breast set connected to the field phones with the microphone supported by a base sitting on the operator's chest. Corrosion and moisture combined to give problems when the operator at the other end turned the ringing generator. The radar operators received occasional electrical shocks and they were not amused by the failure of the mechanics to fix the problem.

Meanwhile the camp at 5ORS was taking shape. The native gardens and the small village were deserted and no native labour was available to assist with native-style huts. The mess hut was roofed in part by tarpaulin instead of palm fronds. The kitchen and ration store was moved from tent accommodation to one end of the mess hut, which pleased the cook.

A number of 'New Guinea roses' grew close to the camp (at least that is the name Australians knew them by); the flowers were large and bright in colour and gave off a foul smell when disturbed. The petals close and the plant devours any insect that touches the centre of the flower. Perhaps the smell attracts the insects?

On 11 September, 11 bombers with fighter escort attacked the airstrip causing no significant damage. The Station did not detect the incoming raid as the enemy aircraft appeared from a bearing of 230° approximately; over the hills and outside the Station's allocated sweep.

Red alerts were daily occurrences but not all were attacks on Tsili Tsili, as by now the growing Nadzab base was attracting attention. In addition to telephoning plots to the local Fighter Sector, the Station was instructed to advise plots to the US No 18 Fighter Sector at Nadzab by radio. This was later amended to test schedules every 15 minutes.

Although the Station was plotting many enemy aircraft and large numbers of Allied aircraft, a single Japanese aircraft was able, in early hours of 20 September, to bomb and strafe the airstrip area, without early warning from the Station. The aircraft had approached from the south over the hills and

outside the official sweep, causing damage to parked aircraft. The conclusion was that the Japanese suspected, or knew, that their aircraft were being detected if they approach from the open terrain to the north. Maybe it was just common sense to fly in low over the high hills.

Then again on the next day at 1115 hrs, a large enemy bomber force with fighter support attacked the airstrip and surrounding area. The approach was from the south east and outside the sweep sector. Several 'daisy cutter' bombs fell in the 50RS campsite. Medical orderly, Vic Eady, recalls vividly treating the injured and arranging transport to the 22nd Portable Field Hospital. The hospital had a busy time that day because of numerous American casualties in addition to the Australians. The mess hut at 50RS was badly damaged and the tents all suffered shrapnel holes. The doover and the Howard generators escaped damage and the Station continued to operate. Stan Middleton and Vic Eady, when discussing the incident in 1998, were of the opinion that the Station was very fortunate to escape with just a few casualties. Gordon Ellis noted:

*The fighter sector treated the approaching aircraft as friendly. We found out otherwise, the 'daisy cutters' ripped through our site in the native garden. The raid stripped us of all covering and fresh food; leaving us very much exposed. However the toll on personnel was much worse, particularly the cook who was attending his ovens and got hit in the back. It was a day when the slit trenches were not deep enough.*

The seriously injured were: LAC J J Sutton, LAC J R McCarry, LAC R G Larman and Cpl R W Kemp who had arrived three days earlier to inspect the generators and other electrical equipment. LAC Walsh, CPL Woodruffe, LAC Sykes and AC1 Clancy sustained minor shrapnel wounds.

All were sent off to hospital. The seriously wounded were evacuated to Port Moresby as soon as they were fit to travel. The personnel with minor wounds were back on duty by 23 September.

There was intense air activity over Lae and Nadzab between 0700 and 1300 hrs on 25 September. The Station reported over 200 plots to Fighter Sector. Many of the aircraft were Japanese as the operators were plotting tracks from the north-west in the direction of Wewak. Echoes were merging into solid blocks in the Nadzab area. No official feedback was provided, although the local Americans indicated that both sides suffered losses.



The success of the September 1943 assault on Nadzab and the construction of the huge air base there soon brought relative calm to the Tsili Tsili area. Red alerts were no longer the daily occurrence. The Australian Army moved out most of the 27-60th Battalion, with one company retained at Pisen about half way up the Watit River towards Nadzab to warn of any Japanese patrols infiltrating the valley.

The Station was visited by Lt Wilson and Lt Richmond of the US Air Force Command to collect data for the preparation of a revised coverage chart for 50RS's location. The revised sweep covered the sector 350° through north to 076° and was clear of permanent echoes (PEs) for 25 miles average. From there the mountains rose steeply to the Saruwaged Range up to 13,500 ft. (see Map Appendix 1). The operators became very skilled at picking out aircraft from other than the worst background clutter; and could recognise an echo when it was just a 'wobble' on the crest of a PE.

September 1943 passed leaving many lasting memories with the Station's personnel. Red alerts, camp construction, injuries and intense radar activity left little time for leisure. The Monthly Report records the following:

*Hours Operational 684 hrs 47 min.*

*Hours off air 35 hrs 13 min.*

*Several enemy targets were plotted during the month over the Nadzab and Lae areas of which some were effectively intercepted but no confirmation has been received that this unit can be credited with the successful intercepts.*

Most feedback came from unofficial discussions with American personnel during off duty visits to the local fighter sector and airfield. Several of 50RS staff made friends with a few of the pilots and ground crews and learned of the difficulties they were experiencing from the Japanese bombing.

The American base was made up of two fighter squadrons, the 40th Squadron and 41st Squadrons, of the 35th Fighter Group of the Fifth Airforce, equipped with P39 Airacobra aircraft. The P39 was never a match for the Japanese Zero and were used as escorts for the C47 'biscuit bombers' - the only supply route to Tsili Tsili. Aircraft fuel was the major supply requirement of the base.

There were several other aircraft on the airfield including 3 or 4 P38 Lightnings. However, the runway was considered too short for these heavier aircraft, though many P38's refueled at Tsili Tsili after escorting bombers to

Wewak; Port Moresby was their home base and the mountains would be a hazard if fuel was low.

There seemed to be a large number of medium-calibre multiple-barrel anti-aircraft guns around the extended area of the Base, but not one larger-calibre high-altitude ack-ack – probably too cumbersome to transport in a C47.

The American pilots told of hearing ‘Tokyo Rose’ say one night, more than a week before leaving Port Moresby for Tsili Tsili, that a “fine reception awaited the 35th Fighter Group at Marilinan”. That was the general PNG area where Tsili Tsili was located - so much for secrecy! However, the bombing of Tsili Tsili started as soon as the Japanese became aware that an airfield was under construction.

On 4 October 1943, Jack Clancy, who had received shrapnel damage to his knees during the bombing incident, was relieved by Alex Culvenor. After several false starts, Alex and Joe Haynes a replacement guard, finally got away from Port Moresby. Alex’s daily diary recorded:

*Joe and I were called at 5am for a 6 am departure. We waited at the airfield for daylight then loaded our gear and boxes of spares for No 50 on to a C47 and took off for the climb over the Owen Stanleys. We landed at Nadzab to unload most of the aircraft’s cargo and then headed for Tsili Tsili. The pilots told us that they do not like this trip, because many aircraft have been jumped by patrolling Japanese fighters at low level. Anyhow they kept down to the tree tops all the way. We landed at Tsili Tsili and unloaded, but no one knew where No 50 was located. It took one and a half hours driving and talking before we found it. The driver was about to give up and take us back to his unit. An excellent meal that evening of roast potatoes meat and beans followed by rice pudding. I was told that Harry Sykes is an ex-pastrycook and the best cook 50RS had ever had. We are also on American aircrew rations. Found a comfortable stretcher bed and I am ready for a good night’s sleep. I will be replacing Jack Clancy.*

The radar sweep was again amended based on the information gathered by Lt Wilson and Lt Richmond to 090° through north to 310°. The latter bearing included Goroka, which was 75 miles north-west and over hills rising to 8000ft. Operators moved outside official sweeps occasionally and had advised the Americans that they had detected targets in the clutter coming from that direction.

A signal was received which alerted the Station to be prepared to move in the near future to Guruf; this was later amended to Amami, 3 miles south of

Guruf. The Tsili Tsili area had been reasonably quiet for several weeks so the proposed move came as no surprise. The Station jeep had been involved in an accident and the front differential and radiator were damaged. No parts could be found so transport would be borrowed for moving day. The CO, F/L Clark, arranged for the US Engineers to grade the track to the site, hoping to avoid any more accidents when moving time arrived.

Some personnel movements took place on 25 October. Ray Loveday departed for 306RS and LAC Smith to Port Moresby. F/O Harkin, Sgt Couper and LAC Cavanagh arrived to install MkIII IFF. The flight-testing could not be undertaken as the Station was instructed to cease operation on 27 October. Urgent dismantling and packing commenced immediately. By late evening on 28 October all was in readiness for transport to the airstrip. But nothing could be done until next morning; personnel spent the night camped around the piles of gear in the open, some sleeping four heads to a mosquito net. No rain fortunately. The evening meal was 'bully and biscuits' and a few US field ration packs.

The move commenced on 29 October using two borrowed jeeps and trailers. As equipment reached the C47 transports, it was loaded and they departed immediately for the ten-minute flight to Amami. Only two aircraft were allocated for the ferrying, so it was 1535 hrs by the time the last load left Tsili Tsili. Amami had a serviceable grass strip built by the Americans and within a ten-minute walk to the proposed campsite. There was also a rough jeep track between the camp and the strip.



**50RS equipment stacked at Tsili Tsili airfield for loading on to C47 transports.**

## **Station Personnel**

There had been numerous postings in and out of 50RS during the three months the Station was at Tsili Tsili (see Appendix 3).

## **Rations**

50 Radar Station was very fortunate to have a competent cook in Harry Sykes who had been a pastrycook in civilian life. That was more than could be claimed by the amateurs who filled in for Harry on his day off each week.

Rations were drawn from US Army Airforce Fighter Squadrons based at Tsili Tsili and were therefore the same as aircrews. Rumours were that the Base Commanding Officer sent off a C47 transport to Townsville for supplies and liquor twice per week. The Station did not see any liquor, but the rations were very welcome. CO F/O Clark invited a small group from Australian Army soldiers camped down the river a few miles, one night each week to share our fare. They enjoyed the good food, but were very critical of the food situation they had to endure.

Fresh fruit, meat, eggs; bread and butter were common daily fare, as is highlighted in an extract from Alex Culvenor's diary:

*October 5 Breakfast at 7.30 am toast, tomatoes and bacon*

*October 6 Bacon and eggs for breakfast; steak and fruit salad for evening meal.*

*October 15 Braised steak followed by baked paw paw for tea.*

*October 27 Harry cooked a great breakfast of grapefruit, porridge, bacon and eggs.(real)*

A few bananas and paw paws were to be found in the deserted native gardens, but the natives visited the gardens occasionally and kept the picking low. The bananas were the small red variety and made a tasty vegetable when baked.

Sweets, cigarettes, soap, toothpaste, razor blades etc were on issue and collected with the rations. Most personnel smoked and those who did not, traded cigs for sweets and other commodities. The issue was one carton of Camel cigarettes per week - a lot of smoking!

## **Leisure**

There was very little opportunity for leisure at Tsili Tsili as there always seemed to be camp duties or construction of buildings, slit trenches and gun pits to take up the best part of daylight hours. Mostly it was walks down to

the aircraft dispersal bays and maintenance tents to discuss the latest rumours. Any other spare time was washing clothes in the stream or reading or writing letters. In the evenings it was card games and cribbage.

### **Health**

Because of the proximity of swamps and dense jungle there was a high risk of malaria. The taking of Atebrin tablets daily was mandatory. A few personnel were forgetful and suffered accordingly. Skin rashes were common, however, other than injuries caused by the bombing, the general health and morale was good.

## CHAPTER 3

### AMAMI

#### **Military situation, Papua New Guinea, October 1943**

**F**inschhafen was securely in Allied hands by the end of October 1943 and Nadzab had expanded rapidly to become a major Allied air base. The Australian 7th Division moved westward along the Markham Valley towards the headwaters of the Ramu River that flowed north-west (the Markham flowed east). The high ground on the northern side of the valley was strenuously contested by the Japanese. By early October the valleys were more or less secure and advance airfields were planned for Dumpu and Murawasa. The battle for Shaggy Ridge, a narrow spur controlling the approaches from Dumpu, was about to commence.

With a major air base for fighters and bombers at Nadzab, 25 miles west of Lae, there was now no tactical value in maintaining a fighter base and a radar station at Tsili Tsili.

#### **Amami October 1943**

The move to Amami from Tsili Tsili took place on 29 Oct 43. Two C47's provided the transport and the numerous ten-minute flights were completed by 1535 hrs. Essential camp gear and some radar equipment were moved to the site before dark. The small American radar unit that 50RS was due to replace had cleared a short but adequate grass airstrip and constructed several native-style huts for accommodation.

Amami was a small native village on the bank of the Amami River about 3 miles south of Guruf. The camp site was about a mile from the Markham River. The Amami River was a cool, small, clean, fast, mountain stream flowing into the Markham which was a dirty yellow raging torrent.

The site chosen for the doover was out on the kunai grass plain close to the Amami River and several hundred yards from the native village. The US camp was well camouflaged, being located in a cleared area of the jungle where it joined the kunai grasslands and about 5 minutes walk from the doover site. It was neatly set out with several native-style huts providing sleeping quarters, messing, cooking etc. However mosquitoes were there in plague numbers and hungry.

An Australian Army 'spotters' camp was located about 3 miles up the valley on a small hill. Apparently it had been in operation some time before Nadzab was captured, with one Army sergeant and two natives most of the time and a radio set. The sergeant conceded that his life depended on the loyalty of the natives.

At dawn on 30 October, a start was made on a temporary tent camp and on shifting the remainder of the equipment from the airstrip to the proposed doover site. However the 41 Wing Camouflage Officer insisted that the doover be mounted 3 ft above the ground on tree trunks as a precaution against flooding of the river. This was done, but it delayed the erection by a day. The natives were amused as they could not remember any flooding.

Another full day on 31 October and the array was erected and cabinets in place. The Howards were started and the equipment checked. However it was too late in the day to carry out any tests on aircraft. A landline was laid to the camp where the W/T tent was located. Radio contact was made with Nadzab Fighter Sector and signals exchanged. The distance was less than 25 miles.

Meanwhile the American SCR 602 continued to operate on a limited schedule. Its performance, as at Tsili Tsili, was not good and the Americans envied 50RS's large antenna

Function tests on 2 November disclosed that the equipment operation was not satisfactory. The mechanics worked on the racks and gained some improvement. However it was not until 4 November, when in desperation the array was examined in detail, that it was discovered that one bay was incorrectly connected. How this had happened no one could guess but, when it was corrected, plotting performance was excellent.

The Amami River had a convenient swimming hole about half the size of a tennis court close to the doover. This became very popular for swimming and



**Left to right: Eric Childs, Herb Dearricott and Alec Culvenor.**

for washing clothes. A small native hut near the hole was a great spot to doze off between swims.

Fuel for the unit's generators was delivered by C47's to the grass strip. Working parties rolled the drums to the river and dropped them into the water to float down to the swimming hole where they were retrieved. One of the Howards failed during a night shift; however it was unlikely that the water that had caused the problem had entered the drum during its 'swim'.

Already the Amami location was providing a leisurely life compared to the hectic activity at Tsili Tsili. There were numerous enemy aircraft about and the operators were kept busy. The occasional dogfight between fighters could be seen in the distance towards Nadzab. On 8 November a Zero fighter flew about 100 ft above the doover on its way up the valley, heading towards Wewak. Everyone was concerned that the pilot, who was clearly visible, may have spotted the antenna and the several white bodies around the swimming hole. However, he was probably too busy looking over his shoulder for P38's etc to take notice of any unusual ground features.

The incoming raid that day had been picked up by the Station and the Japanese aircraft were given a hot reception by waiting fighters.

The Nadzab base was certainly getting a lot of attention from the Japanese air force. Again on 9 November the Station was able to give a 65-mile warning that made all the difference. American fighters were circling in wait. Fighter Sector sent a congratulatory signal to 50RS and indicated that the enemy had lost 18 aircraft.

The American radar unit vacated the native huts and departed on 11 November. All personnel were very pleased to leave the leaking Aussie tents for the relative luxury of the huts. During the clean-up around their allocated hut the mechanics disturbed a large black snake that resembled a death-adder in appearance. The natives raked out and burnt the rubbish from under this particular hut and several bullets exploded in the fire, causing some excitement; they were probably dropped through the floor by the previous occupants. No one was hurt but the natives took several minutes to see the funny side.

The huts accommodated 6 or 8 people. The floor slats cut from 'black palm' were about two feet off the ground. There was a low wall all around and a gap of about 4 feet to the roof line. This allowed air to pass through



from any direction. There were 2 entrances, one at each end, with a log step up to floor level

It was about this time that two nasty faults developed in the radar gear. The mechanics worked in pairs on such problems. One fault proved to be a cracked ceramic insulator supporting a tuning capacitor. As there was no suitable glue available, a stick of chewing gum was chewed and a small piece packed around the crack and heated slowly with a soldering iron until it set hard. The equipment was put back on air and worked fine.

The No 1 Howard generator also suffered a major breakdown when the timing gear stripped its teeth. The No 2 Howard continued operating almost full-time with several short shut-downs each day for fuel and maintenance.

14 November and still no mail. According to 41 Wing there was a large quantity somewhere in Nadzab. The CO, F/O Clark, considered sending someone off to look for the shipment, but first, the man had to get there, and at that time aircraft were not very frequent. The first all-Australian ration issue arrived on 15 November; it included meat, bread and potatoes, but no mail. The shipment brought much-needed kerosene for the refrigerator and oil for the Howards. The stock of American rations was getting very low with the exception of tinned chili-con-carne that was not very popular.

Wild pigs were plentiful in the jungle and the cook promised a feast if a young porker could be shot and butchered. Stan Middleton and Alex Culvenor, two farm boys, volunteered to make the first safari. However they became lost in the sago palm swamps. There was no hope of sighting the sun because of the top creeper cover on the tall trees; they eventually heard the noise of the Markham River and made their way towards that. It was nearly dark when they reached camp by back-tracking up the river. No pigs, of course.

An electric supply line was run from the doover to the camp and a one-globe light fitted to each hut. The only wire available was Don 10 telephone wire which would not pass any city wiring regulations. On one wet night the camp was plunged into darkness when the line shorted where it brushed a tree. A bunch of ants around the frayed area, no doubt seeking warmth, helped the shorting process.

Rifle shooting practice was encouraged and everyone tried their hand at shooting wild pigeons and ducks, but pigs remained unharmed. Several American rifles were in the camp and these were used for hunting in

preference to facing up to the task of cleaning the .303's on issue. Herb Derricott had acquired an extra tommy gun at Dobadura and, although much ammunition was wasted, no one could boast accuracy with it. The station also had a Colt 45 automatic at the doover within easy reach of the operators.

The first mail arrived by Tiger Moth on 26 November. All letters, no parcels because of the small load capacity of the plane. The pilot, an Australian, had trouble finding the landing strip and aborted the first day. On the second day it was arranged that several men would stand out on the strip.

Next day, 27 November, a Piper Cub landed with Padre Dixon. He may have been embarrassed, but did not show it, when about ten men rushed down to the airstrip from the swimming hole, clad only in towels. The following day was Sunday and the 10 am Service made everyone think of home.

A C47 arrived on November with the first bulk mail comprising 10 bags of parcels and 6 of letters. The load totalled nearly 2000 pounds according to the pilot and included a much-needed new W/T set, an extra guard and a mess orderly. In the afternoon another C47 arrived to take off the Army 'spotters'. The Padre also departed that day in a Piper Cub. So on that day there had been more activity at the airstrip than had been seen since the Station arrived at Amami.

30 November was a memorable day for several of the staff. F/O Clark's rank was confirmed. Ellis, Eady and Coronas were promoted temporary sergeants and Simpson, Whitlock, Young, Derricott and Childs were promoted to corporals.

In December the Howards were replaced by two Ford 10, 5KVA alternators. One Howard was returned to the Wing, but the best unit was retained for several weeks as a back-up in case of breakdowns. The Fords were much quieter than the Howards. The motor-cycle type noise was always a worry at Tsili Tsili as the sound could have alerted a Japanese patrol if it had happened to be in the vicinity. There was not the same concern at Ammi however.

Lt Stafford of the US 565th AW Battalion visited the unit in an effort to correct the problem of deliveries of mail, rations and spares. Signals by F/O Clark had at last brought about a positive response from someone in Nadzab. Strangely, though, petrol had never been a problem; apparently Fighter Sector put pressure on the system as soon as they were alerted that stocks were getting low. Letter delivery had improved recently with the use of Piper Cubs,

small, low-horsepower machines that cruised at about 80 knots and landed almost anywhere.

The Station was engaged in rifle-shooting practice on the airstrip late in December when a Piper Cub came over and crashed when it stalled as it turned on the final leg of the circuit to land. Personnel raced the full length of the strip to remove the passenger and the pilot from the wreck. It was a miracle that it did not burn. The pilot, an American, was unconscious, cuts to face, nose and chin, but more worried about his teeth when he came to. The passenger, a YMCA man with Comforts Fund parcels for the camp, had crawled out beside the wreck. He suffered a bad knock on the lower back when the box of goodies on the shelf behind him came forward and hit him a nasty blow. The Cub's wings were broken, the undercarriage and propeller smashed and the instrument panel wrecked by the pilot's head. The pilot was a B25 pilot on rest duty. Nadzab was signalled immediately and in a short while a C47 circled low over the wreck. It returned later with a doctor and took both men to hospital. A Piper Cub came over at 2.30pm and landed quickly. It had been searching for about 2 hours in response to the message. The pilot was surprised to learn that a C47 had already been to the rescue.

The rifle shoot was completed next day, with Stan Middleton the winner on this occasion. Stan had some difficulty with the Bren gun; being left-handed, the hot empty shells coming out of the breech hit him in the face if he crouched too low over the gun. The shoot was followed by lectures and drill on what to do in an emergency, such as fusing the doover bomb and hand grenades etc. The rifle-shoot scores indicated that very few had any ability with a rifle. It was easy to pick the farm boys. The Boss admitted that he was no better than most. Regular shooting was scheduled, welcomed by the most of the staff, but not by those who most needed it.

On Xmas Eve the all-important Palec multimeter failed. The diecasting supporting the pivot, coil and pointer had cracked. The mechanics made up a bearing support of brass from a rifle bullet case. It worked but was not accurate - at least it gave an indication.

Saturday 25 December: everyone joined in to decorate the mess for Xmas. An excellent dinner was prepared by Harry Sykes with the help of some extra rations flown in a few days earlier. Vic Eady and Con Coronas drafted out a special menu for the occasion (see Appendix 3) The natives also got into the spirit of the day and arrived at the camp about 4 pm to put on a 'sing-sing' for



**The pig arrives in style, Boxing-Day 1943.**

an hour, then again between 8.30 and 11.00 pm. By that time they were all very high on betel nut. Slowly they adjourned to the village and continued on all night. The Station's camp site was a mess but everyone enjoyed the celebrations.

Next day F/O Clark and several of the boys went up to village to show the Station's appreciation of their efforts. However, they were not in a fit state to receive visitors, being very drunk on the betel nut and thoroughly exhausted. Late in the day the Chief and several other natives brought a young pig into the camp slung on a pole. Much bartering by the Boss: he was reluctant to have it around but did not like to disappoint the natives who had caught it.

On 27 December another large mail delivery was received. Many of the bags of parcels had been in transit for more than 2 months. One bag contained Alex Culvenor's button accordion. The left-hand end was crushed and in pieces. It was a two-week repair job - including 2 springs for the base end made by Eric Childs from the twisted steel strands of Don 10 telephone line. Alex played it occasionally for singalongs in the mess after the evening meal. However, the bellows suffered from the climate and significant air leaks required regular repair. On one occasion a glue paste made from flour and water was tried, but it grew mould overnight.

The singalong sessions picked up when Ted Furlong arrived on posting with his guitar. Ted was a capable musician and a very good singer. Prior to



**Amami Chief Hara, his wife and children.**

enlisting Ted had worked at 3BA Ballarat radio station as an announcer. In addition to radar operating duties, Ted filled in at the wireless telegraphy set when the WT boys were hit by illness.

On 27 December, Harry Sykes, the Station's expert

cook, and several others left on postings. The aircraft brought a large quantity of letters and parcels, late for Xmas but very welcome. Also incoming postings including a cook, Bert Allister, (fresh from training), a messman and a general hand.

About this time the mosquito population seemed to be booming at both the doover and the camp site. The doover site had been reasonable to date but now the operators were made very uncomfortable by the attention.

New Year's Eve was a rowdy night even without the customary 'hard' liquid. Every one was very tired next day, but most managed to show up for a short cricket match. Several natives boys were pressed into participating and appeared to enjoy themselves without knowing what it was all about.

Jack Whitlock returned from Nadzab on 3 January 1944 after visiting the dentist, bringing with him a trailer for the jeep, Comforts Fund parcels and spares for the generators and doover. Jack had also acquired some X-Ray developer for the camera enthusiasts.

Nadzab continued to be receive attention from the Japanese air force and one large raid in January was not plotted by 50RS, nor was there the usual sighting from the ground. Fighter Sector was not amused. However it was later established that the enemy aircraft tracked in from the south side of the Stations search arc.

Operational hours for January: 701; off-hours were 42.

The distribution of fruit obtained by barter with the natives often caused argument as there was never enough to go round. The 'Boss' decided that all fruit obtained must go to the kitchen and be placed on the tables at meal time. Not many camp personnel were willing to make the long walks to the larger villages. However, fruit was not as plentiful as it had been when the Station first arrived at Amami (or maybe the natives were also tiring of bully beef?)

Maybe it stemmed from the fruit question but there had been some tension building up in the camp. Anyhow F/O Clark 'tightened' up by putting on regular parades and the occasional pep talk. Bill Glover fainted on one parade and it transpired that he had malaria.

Jack Whitlock and Harold Young were posted on 1 February 1944, but were unable to leave until suitable aircraft available. The next C47 brought Joe Lynam, who planned to record masking angles of the doover site; Jeep spares, rations, letters and parcels were also on board. Jack and Harold were again thwarted as the aircraft was not returning to Nadzab. They finally departed on 13 February.

About this time the air activity was mostly Allied and only occasionally Japanese. Every second day about 100 aircraft, made up of Liberators, Bostons and B25's, would head off up the valley. Fighters were also to be seen but much higher up. The Station plotted the returning aircraft as soon as they showed through the mountain clutter or their IFF appeared on the screen. Many of the damaged aircraft would crash land on the kunai grass plain before reaching Nadzab. The Piper Cub pilots were kept busy searching for these aircraft and the last known plot was very important.

Radio communication with Nadzab was difficult in February because of thunderstorm activity. Many hours were lost, but then very few aircraft could fly in those conditions. The Station continued to operate during these periods, and various alternatives were debated should an emergency arise. It was doubtful if any significant air raids would be attempted by the Japanese in such poor flying conditions. However a Signal arrived on 27 February warning of possible enemy action in the Amami area. F/O Clark requested more detail but the reply said "no further details; expect enemy action your area". A C47 arrived next afternoon and the crew said that a Japanese parachute raid on Nadzab had been expected last evening. Little wonder that scores of fighters and bombers had been heading up the valley that day. The message galvanised the whole Station staff into action, and was the sole topic of discussion for



**L-R: Alex Culvenor, Stan Middleton, Leigh Eltis, Eric Childs, Bill Sherriff, Amami, 1944.**

days. The visual sighting of a few Vultee Vengeance bombers attacking something across the valley added to the excitement. It was learnt much later that it was only practice on a small Jap landing field that was vacated a few weeks earlier. The Station was left in the dark. Again the facts were revealed by C47 transport pilots.

The Station lived from day to day believing that the doover was difficult to spot from the air but, on 6 March, 3 Kittyhawks buzzed the doover and the swimming hole. Maybe it was just the white bodies that attracted a closer look? A few days later a Liberator flew very low over the site heading towards Nadzab. It could not be called a 'buzz' as it was quite likely that the pilot was striving to reach home before it became necessary to crash land on the kunai plain. It was also possible that one or more of the pilots may have landed at Amami while on Piper Cub duty.

Several postings and promotions occurred in March 1944. Two guards arrived and two departed. Middleton and Childs were promoted to corporal. and Bushby was confirmed as sergeant. Herb Dearricott was posted home, but no aircraft for 8 days. The aircraft Dearicott departed on had difficulty taking off, and it's wheels were in the kunai grass at the end of the strip with the propellers throwing grass everywhere. However it climbed away safely after causing some anxious moments for the watchers on the ground. No doubt the pilots were worried also.

Whatever the reason for the aircraft's poor take-off the previous day, it was decided that the strip could do with a facelift and the natives were recruited to extend one end by about 100 yards and to cut the grass. The 'Marys' did all the work with machetes while the men watched, the excuse being that the men were there to guard the workers!

The jeep suffered a minor accident in March. Five people including the 'Boss' and Vic Eady, medical orderly, drove to one of the native villages north of Guruf where Vic was to treat cases of yaws. The track was terrible and the jeep became bogged many times. On the way back the party was finally halted when the jeep wheels went through the timbers of a narrow native bridge. It was past dark by the time the party trudged back into camp - without the jeep. By this time those left in the camp were thinking of sending off a search party with torches, lanterns and a native guide from Amami village. The jeep was retrieved and the bridge repaired a few days later.

During the last few weeks there had been some illness in the camp - several cases of jaundice, as well as malaria, dengue and leg ulcers (from walking on the swampy tracks to the villages). The operators were the main sufferers and the unit became shorthanded. The mechanics and fit operators often worked extra time to fill in the gaps. While this was not serious, everyone was getting tired. Excerpts from Alex Culvenor's diary give an idea of the problems:

*23 February - could not eat breakfast...Unable to eat tea this evening...*

*24 February - No breakfast - Vic Eady unwell and appears to have malaria...*

*29 February -Vic Eady still very unwell so did not bother him...*

*2 March - Vic says that I should go to hospital as he believes that I have jaundice... Vic also said that I should eat only dog biscuits and jam - no fatty foods. Sure does not leave much...*

*6 March - All dog biscuits and jam and any fruit I can scrounge. Even starting to feel hungry - hospital put off...*

*14 March - I am off the diet and putting on weight... Enjoyed baked beans for breakfast...*

In April, a C47 blew a tyre on landing and the crew were stranded overnight awaiting a wheel and a jack. They were billeted in the camp and were able to provide news of the outside world, as well as the current rumours. A B17 had blown up on one of the strips at Nadzab a few days earlier causing much damage. The C47 crew were somewhat 'miffed' when denied a look at the 50RS radar gear.





**Roy Walker and Amami carriers after bartering fruit.**

Lots of friendly aircraft activity in April and the operators were kept busy plotting. A P38 buzzed the swimming pool and the strip several times, followed by a P47 Thunderbolt. Maybe they just followed the river up the valley and put on a show when they came across the strip and some people, or maybe they had visited the strip when flying Piper Cubs on rest days. The flying demonstrations were enjoyed by all, including the natives.

Rifle practice again with the customary poor results: 16 out of a possible 50 was the average. Since several scores were in the high 30's, most were very low indeed. Some of the staff had no idea how to sight a rifle.

Roy Walker and Alex Culvenor walked to Naraween one day, several miles past Guruf, to bargain for fruit. They were accompanied by four natives and carried torches and a lantern as it would be dark by the time they got back to camp. Roy became very tired in the afternoon and just managed to make it home, aided by the rest of the party carrying his gear. Later that night he experienced a nightmare - believing that a snake was in his bed. The scuffle woke the rest of the hut and someone yelled "A Jap's got him". That really set up some excitement. The 'Boss' yelled out "No lights" and told everyone to be quiet. Poor Roy, he was most embarrassed but, to his credit, he later saw the funny side and joked about it.

Early in May a C47 arrived with two 'spotters', an American lieutenant. and an Australian Army sergeant. They stayed the night at the 50RS camp before going next day to set up their gear at the old spotters' site, a few miles up the valley. The Army sergeant told of 340RS's problems at Bat Island with scrub typhs and the many deaths of Australians and Americans on the island.

There was much speculation on the reason for re-establishing the spotters' camp - maybe the Station was due to move again? This was reinforced a few days later by Fighter Sector hints that 50RS may be required elsewhere.

With the prospect of an early move, it was decided that Jenny the pig should be slaughtered for fresh meat. Roy Walker, Alex Culvenor and Frank Madden volunteered for the task, having had some experience with butchering pigs. A petrol drum was cut down and made into a trough ready for dipping the carcass into hot water to aid in scraping the bristles from the hide. However the pig went missing and did not show for her feed of lunch time scraps. Finally the job got under way late in the afternoon and was concluded before dark. The pork was served for two delicious meals, but an attempt to pickle the rest of the meat was a dismal failure. After two or three days any uncooked meat had to be buried.

It was learned later that the natives were very disappointed that the pig, a female, had been slaughtered - females rear piglets!

On 15 May the order was received to break camp and make ready for a move to Tadjji. By late evening transport of gear to the airstrip was well under way. A Piper Cub came in in the afternoon to check that the strip was suitable for take-off with heavy loads. It was just as well that the length of the runway had been extended by 100 yards, although the American Station was lifted off several months earlier without mishap. The pilot indicated that aircraft could be expected on 18 May.

However only 2 aircraft were made available, and a change of plans saw 50RS staging at Nadzab and not moving direct to Tadjji. By 6 pm the move was completed and the unit was billeted at 48 OBU, with all gear being stacked in one of several loading bays scattered around Nadzab. This necessitated a guard being mounted 24 hours a day.

### **Amami - Station Personnel**

In general terms, morale and discipline were good, there being only two minor problems with the latter. Many changes of personnel occurred as long-

-serving staff were posted home. For a full listing of staff from records and CO'S Reports see Appendix 1.

## **Rations**

The Station brought with it a good stock of basic American rations when it moved from Tsili Tsili. At Amami all rations were supplied from the Australian store at Nadzab. Fresh bread, meat and vegetables arrived about once each 3 weeks after an initial delay of 5 weeks when nothing came through until the Boss sent off some very sharp signals.

The fresh supplies would last 4 to 6 days and then it was basic rations until the next shipment. However, with the help of a small supply of native fruit, sweet potato and red bananas, the quality of the meals was good by Australian Service standards. There had been no complaints of Harry Sykes' ability as a cook, but his replacement was fresh from trade school and suffered some harsh words until he gained experience. All agreed that he worked hard at his thankless task and rapidly improved.

Parcels from home were most welcome and the fruit cakes, biscuits, sweets and cocoa provided the fare for many a late-night supper before bedtime. The delivery of bags of parcels had a low priority and the shipments were often six weeks apart - feast then famine! Letter mail, after an initial delay, was much better and a mail bag came every 2 weeks.

Comforts Fund parcels were rare and arrived with a visit from the Padre or a representative of the Salvation Army or YMCA.

Other items such as clothing were only shipped in when a Station representative had reason to go to Nadzab, eg, medical, dental or chasing up spares. Then a combined order would be taken along to the Q Store, and brought back on the return journey.

## **Health**

Amami was a well-camouflaged camp as the site was in a cleared area of the jungle on the edge of a kunai grass plain. The jungle had its share of the usual swamp problems, and a large mosquito population. The taking of Atebrin tablets daily was compulsory. However there were cases of malaria during the six-month period.

During daylight hours it was popular to sunbake and swim in the cool, clear river. Night brought the torment of the malaria-carrying mosquitoes and

every other night-flying bug. Long trousers, long-sleeve shirts and even gaiters were worn as protection. American shirts and trousers were prized items as the material was closer-woven and was more effective in resisting the mosquito proboscis. The smoke from a fire helped, but was not considered effective enough to justify scrounging through the jungle for dry wood each day.

Full dress was considered too hot for the night shift in the doover and the operators used minimum dress. It was fortunate that the doover site had a much lower mosquito population than the camp area.

There were 3 or 4 cases believed to be dengue that were not severe enough to be evacuated to Nadzab. A fever locally known as the 'wog' was a common complaint for which the medical orderly, Vic Eady, prescribed aspirin and rest for a day or so. Maybe it was mild form of something else but no accurate diagnosis was ever made.

In February 1944 there were several cases of jaundice (hepatitis). Where this originated was never established, but suspicion was directed to the native garden produce and the river water where the natives also bathed. Vic Eady was sufficiently worried by two cases to arrange for evacuation to Nadzab on the first available aircraft. The symptoms were lack of energy, no appetite, yellow skin and eyes (not the atebirin colour) and darkened urine. The only treatment available was rest and stay off fatty foods. This was a difficult diet with Service rations: no bully, M&V or 'pregnant goldfish'. Dog biscuits and jam and the occasional piece of fruit were the only items of food the patients could manage to hold down for the first 5 or 6 days. This seemed to work, however, and the patients improved rapidly.

Dental problems required a visit to Nadzab and this was only permitted when severe pain was experienced. Consequently most people needed fillings or teeth removed when 50RS was staging at Nadzab later.

## **Leisure**

Swimming and sunbaking near the swimming hole was the activity most favoured to fill in the off-duty hours. A copper for boiling clothes was set up near the swimming hole and this chore was punctuated by cooling swims.

It has been mentioned earlier that many of the off-duty staff went on long walks to barter for handcraft goods, fruit and the small quantity of vegetables the natives could spare. These walks were arduous but they kept the participants fit and any fruit was welcome in the mess.



**The Amami swimming-hole**

The paths to the villages were often swampy and in some cases infested with leeches. Leech bites on the legs often developed into painful ulcers. The local Amami natives were very helpful and ready to assist as carriers and guides on such trips. The longer trips would not have been possible without their knowledge of the region.

The camp leisure equipment included a basic cricket kit and all enjoyed an occasional game on a rough pitch. There were some good cricketers amongst the younger men but generally it was enthusiasm rather than skill. The local native boys were encouraged to participate and they enjoyed the experience without really understanding what it was all about.

In the evenings it was usually cards, reading, an occasional singalong, listening to a radio station if one could be received or letter writing. Poker was played at Tsili Tsili by a few enthusiasts but cash was in short supply and the card players shifted to bridge, 500, euchre or cribbage. The operators and mechanics each had a bridge school for off-duty personnel.

On a few occasions a Padre arrived by aircraft and gave an evening service or even less often, a Sunday service. These were always well attended and shifts would be swapped by the more devout.

The making of 'foreigners' was another way of spending off-duty hours. Materials were scarce and comprised mostly wood (black palm) or empty bullet cases (0.5 inch being the most popular). Black palm was a tall tree and the hard shell about 1 inch thick was very useful for making cribbage boards etc. The natives used the wood for spears, clubs, arrows and even knives.

Rifle shoots were compulsory; those with reasonable shooting ability also hunted wild pigs, without success. Several wild pigeons fell to .303 bullets and the mangled remains were taken to the kitchen to be cooked for the hunter.

Photography was also popular with those with cameras. Chemicals and film were very scarce and the only supplies came from home in parcels. On one occasion some X Ray developer was acquired in Nadzab and solved a major problem.

## CHAPTER 4

### NADZAB & TADJI

#### **Military Situation Papua - New Guinea – May 1944**

The Ramu River Valley and the territory north of the river had been cleared of enemy troops and, by 13 April 1944, a combined force of Australian and American troops had reached the coast and captured Bogadjim. This paved the way for an attack on Madang. However, on 24 April 1944 Madang was found to be deserted.

The next major objective would be Wewak. A large Japanese Army military presence and a rapidly dwindling number of Japanese aircraft defended the area.

General MacArthur decided to bypass Wewak with a sea borne landing at Aitape and Tadjji preceded by a heavy naval bombardment of the coastal area. An aerodrome was quickly established at Tadjji as a base for Allied aircraft, including two Squadrons of RAAF Beaufort Bombers. Four RAAF Radar Stations were also erected in the area by early June 44.

#### **No 50 Radar Station, Nadzab 18 May 1944**

The order to move from Amami advised that the Station would be transferred directly to Tadjji where the Allies had, a few days earlier, made a beach landing aimed at cutting off any escape by the Japanese from Wewak. Instructions were amended to allow the Station to stop over at Nadzab for one night. Obviously C47 transport aircraft were in great demand and strict priorities operated. The stop-over extended to June 8 (3 weeks) with accommodation provided at 48 OBU.

The formal changeover between F/O Clark, who had been CO of the Station for 17 months, and P/O Zahara took place soon after arrival at Nadzab. Almost all personnel were on hand to wish Alex Clark farewell and with the best intentions of meeting somewhere, some place after the War. In spite of extensive searching in the 1990's through Electoral Rolls etc, no address, or peacetime history of Alex Clark has been found.

Nadzab was a large Air Base at that time and all personnel took the opportunity to hitch hike about to see as much as possible. During one visit to a large American airfield the mechanics were permitted to inspect the radar-outfitted Black Widow night fighter. It was a heavily armed, ungainly looking



aircraft, but not very effective in the PNG sphere according to the young aircraft mechanic on duty. By that time there was very little Japanese night activity. The touring included Lae, to visit the Australian War Cemetery and the ex-Japanese airfield with a large number of wrecked aircraft bulldozed into a nearby gully. There was even an opportunity for a swim in the sea - not recommended, of course.

No 50RS staff were unaware that a formal parade was held at 48 OBU each morning and most of those absent on the first day or two caught fatigue duties. The 'rules' and the methods best suited to cope with these parades were quickly learnt. The mechanics were rostered to help out at the RAAF Wireless Station with equipment maintenance, in particular, the repair of AR7 Radio Receivers. These excellent radios seldom gave trouble, but 50RS mechanics had not seen an AR7 since leaving Radio School and some study of circuits was necessary before any repairs were achieved. It was certainly preferred over some other duties around 48 OBU. Time off was allowed for 'other' duties connected with 50RS.

The Station's battery charger was stolen from the loading bay where all the gear was stored. The guard on duty was not very diligent and as a result the guard was doubled to insure that none of the more important gear went missing. The Base was searched for a replacement generator without success. There would be difficulties at Tadjil unless the battery-charging problem could be solved. Some one acquired an aircraft generator, but there remained the lack of a motor to drive it. No 'gifts' this time like that received from the Americans at Dobadura.



## **No 50 Radar Station, Tadjj - 8 June 1944**

The move to Tadjj took place on 8 June in the very early and dark hours of the morning. What a mix-up it turned out to be! The truck drivers were unable to find most of the designated aircraft in the dark. Trucks arrived at the wrong aircraft and therefore manifests were incorrect. Hastily hand-written replacements were prepared, however some aircraft took off lightly loaded, and others were overloaded. In addition there were no ramps available for the jeep and again, as at Amami, the jeep had to be manhandled into the aircraft.

One piece of good fortune came the Station's way, however. The old leaking Aussie tents were 'exchanged' for new large American 'bell' tents that just happened to be near the 50RS gear on the loading ramp in one large pile. The 'boss' considered it was a fair exchange for one Battery Charger. Sgt. Bushby and Alex Culvenor stayed behind to clear up the loading bay, burn the trash, including the old tents, repack rations and collect mail.

The last load arrived at Tadjj on 9 June. A temporary camp site was set up on a very clean area of beach, with good surf. Across the water in clear view was Tumleo Is, where No 348 was sited. This Station had set up soon after the landing had taken place. Further off to the right, but still in view was Ali Is, the prewar site of a Lutheran Mission and now an ANGAU camp for local natives requiring medical attention. The sunrises were magnificent.



**Ruins of the Aitape gaol.**

F/O Propsting became temporary OIC, replacing P/O Zahara who was evacuated to hospital. It was a frustrating period. After a week or so, several of the staff made a visit to Aitape by truck to visit 340RS that had set up at nearby Aitape Hill as soon as they arrived at Tadj. Aitape Hill was the site of the local Administration, complete with gaol. The latter was a shell-battered wreck (see photograph). The Americans were worried about 340's safety as it was sited outside the defence perimeter.

The Tadj airfield was a very busy place and along with American aircraft there were two Australian Beaufort Squadrons on the field. The main target was Wewak and it received daily attention. Working parties were recruited from all units in the area to manhandle bombs from beaches and bunkers to the aircraft dispersal bays. It was hot heavy work.

In between these duties, many hours were spent refurbishing the equipment in readiness for getting back into operation. 340RS arrived at Tadj two weeks before 50RS and was already filling the role originally intended for No 50. This gave more strength to F/O Propsting's belief that No 50 would move on or disband. The mechanics and operators helped out at 340RS by rostering on operating shifts. The 340RS crew had been through a very rough time at Bat Is. Their gear was viewed with envy and appeared almost new compared to the 50RS cabinets with their chipped paint and rust spots.

The Americans again stated that they could not protect Aitape Hill, and therefore ordered 340RS to move back to the beach site urgently. The evacuation took place on 29 June. All 50RS staff helped and the move was made in one day.

The local United States Commanding Officer put everyone on alert next night as a Japanese counter attack was expected. However, it did not eventuate, though it was no doubt the reason for the hasty move of 340RS. Some Aussie troops were of the view, however, that the Japanese were starving and in no fit state to mount a counterattack.

Ali Island was several miles off-shore and directly opposite the 50 camp site. As mentioned earlier, a Lutheran Mission had been established there prior to the War. The Japanese occupied the Island and according to the Australian ANGAU officer, used the Island for rest and recreation. It was almost the 'south seas' paradise people dream about. White crushed coral paths bordered by frangipani criss-crossed the small Island. Soon after arrival,

50RS mechanics volunteered to maintain batteries, generators, radios and any other electrical equipment Transport was provided by the bi-weekly flat bottom barge. In return, the visitors were permitted to fish using hand grenades or 'gelly' and the haul split 50/50. It provided a welcome change to the camp diet.

On one journey, the sea had been roughed up by an under-water earthquake disturbance near Wewak. The barge returning to Tadjji was tossed around like a cork. The American coxswain was the only person not seasick. Alex Culvenor wrote in his diary:

*I was very seasick on the return journey along with everyone else. The natives were a queer shade of green. For awhile we thought that the bottom of the barge would split open as it banged into the troughs between waves.*

The order to disband was received 26 June 1944. It was followed by many postings. Eric Childs, Stan Middleton, Max Fendler, Nick Zinzerella, Joe Bell, Len Williams and Reg Paust, all long-serving PNG staff, were posted home. Others were posted to 340RS, 348RS and other nearby RAAF units.

The order to disband 50RS caused much sadness. The Station had experienced some exciting periods in critical operational sites such as Dobadura and TsiliTsili. The crew was also confident they could continue to provide a service at some distant location, if not at Tadjji. Neumfour was a location suggested by an American Colonel who visited the Station and talked to F/O Propsting and the mechanics soon after the Station arrived at Tadjji. However it was not to be.

Almost all the personnel received postings immediately after the disband order. The camp scene soon became disorganised. A group photograph session was arranged just prior to lunch on that day. Unfortunately not all the group can be identified; the faces are familiar, but many names can not now be remembered by ex No50 personnel -the passing years dim the memories.. Two mechanics and two operators were not in the group as they were on duty at 340RS.

About this time P/O Zahara returned from hospital and was also posted to 340RS, replacing F/O Colley. F/O Propsting remained acting CO of 50RS and, along with Sgt Warner from 41 Wing, Sgt Graeme Bushby (mech), Alex Culvenor (mech), Cpl Maddern (op.) and any ex-50RS staff now at nearby 340RS, began the task of finding crates and packing the gear for shipment to Madang.



**Last meal queue (left) before the camp at Tadji was disbanded. Final photo taken before being disbanded.**

By the end of the first week of August 1944, there were no 50RS staff remaining at Tadji. Many had departed for home and the remaining operational staff had full time duties at 340RS or 348RS

### **Leisure**

The Station personnel managed to play one cricket match against a Beaufort Squadron team and were beaten. Most leisure time was spent swimming at the excellent beach about 100 yards from the tents, or just resting between fatigues and other Station duties.

### **Health**

General health was good except for two or three cases of jaundice left over from Amami. The CO, P/O Zahara, was the only person who was hospitalised for a short time.

### **Rations**

The Australian rations on issue at Tadji were the best quality that the Station had experienced from that source. Adequate vegetables, meat and bread were fresh - mostly - probably provided from the host of ships off-shore. There was even the occasional bottle of beer for the troops.

Moonshine liquor was also readily available, at a price, for those with cast-iron constitutions.

## CHAPTER 5

### SOME POSTWAR HISTORIES

The No 50 Radar Station personnel list at Appendix 1 was prepared from data contained in the Station Form A50 Monthly Reports and No 41 Wing Personnel Occurrence Reports. The list is not complete in all detail because of omissions in the official documents. However, it would appear that the names of all personnel who were posted to the Station during its operational life are correct.

Following a search of Electoral Rolls and the Dept. of Veteran Affairs Nominal Roll, it has been possible to locate only eleven of the one hundred and nineteen officers and other ranks who manned the Station during two and a half years of operation. No doubt, many of the older staff are no longer with us. The youngest of the three Commanding Officers was born in 1916. The oldest of non-commissioned staff was born in 1910.

A brief account of the post-war life and achievements has been provided by several of the ex No 50 Radar Station veterans who assisted with the preparation of the Stations history. These reviews are included as Chapter 5 and probably represent a cross section of all staff who manned the Station.

#### **John Fraser**

John Fraser enlisted 6 August 1941 as a direct entry to No 1 ASV and No 2 Ground Radar Courses, Richmond. Fortunately, a dental problem cancelled a posting to Malaya from where several of his mates never returned.

Radar postings included No 15, 50, 315, 103, 4 RIMU and a short time with 41 Wing on IFF installations. In December 1943 John was posted home from PNG and married Hilda Henderson. After the war, they settled in Donald, Victoria and opened a Radio & Electrical Sales and Service business. John continues to operate the business today, aged 88, and proudly claims 68 years in radio and electronics.

A recent photograph of John and the shop in Donald is on page 56.

#### **Ray Loveday**

The Hon. Ray Francis Loveday AM QC began a law degree at Sydney University in 1939. Enlisting in the RAAF he served as a radar mechanic at 25RS, Fraser Is. and PNG, where postings included 50RS Dobadura and TsiliTsili, 306RS Bulolo, then back to Australia for discharge in October 1945.



**The Hon. Ray  
Loveday AM QC**

Ray commenced practicing as a barrister in 1947, and married Phyllis Henderson in January 1950. He was appointed Queens Counsel in 1967 and served as a judge in the NSW District Court (November 1971-1988) and member of the NSW Law Reform Commission (1973-1975) before being appointed to the NSW Supreme Court as Judge in the Court of Criminal Appeal 1988-1993. He was Acting Court Judge 1993-1995.

Alongside his legal career he served two terms as alderman in the Strathfield Council, was Chairman of the North-Eastern Sydney Health Service, North Ryde Psychiatric Centre. Chairman Asthma Foundation of NSW 1983-1995. Made Member of Order of Australia (AM) for services to asthmatics.

In later years, Ray and his wife Phyllis bought a farm in the NSW Murulan district and raised cattle and horses for several years before final retirement.

Ray passed away on 11 August 2005 aged 84.

### **Allen Hobson**

Allen was employed by Union Trustee Coy of Australia Ltd. before enlisting in the RAAF in 1942 as a radar operator. He served on numerous radar stations including RS50 at Dobadura, New Guinea.

Rejoining his former employer after the war, now the Trust Company of Australia Ltd, Allen studied accountancy and qualified in 1949. During 44 years with the Trust Coy, he served as Branch Manager, Townsville for 8 fi years, Brisbane Office for 7 years and Queensland Manager for 6 fi years until retirement.

Allen enjoyed good health though with restricted vision until his death in 2008 at the age of 93.

### **Gordon Ellis**

Gordon Ellis enlisted in the RAAF as a radar operator in June 1941 and joined 50RS in June 1943 at Dobadura. He was posted out to another Station in Feb 1944 when 50RS was at Amami.

Following discharge in June 1946 Gordon rejoined the company with whom he had started work in 1938. Gordon and Mavis were married in 1946 and



**Gordon Ellis photographed in 2004.**

commenced building a home in 1951, into which they moved in 1953.

Gordon was employed as assistant account/credit manager until he switched to Sales as a city and country representative. Following a company takeover he took retirement and, as Gordon said, “avoided the hassle of computers”. Now aged 87, he lives Adelaide.

### **Bill Glover**

William George Glover enlisted in the RAAF in Feb 1943 as a wireless telegraphist. He joined 50RS in October 1943 and remained with the Station until it disbanded at Tadjji in June 1944. By a strange coincidence, he was posted back to No109 MFCU at Dobadura.

After several months including a detachment to Milne Bay and some leave he was posted back to PNG for a short stay at Dobadura again and finally to 48 OBU at Finschhafen before returning home for discharge in March 1946.

Returning to civilian life, Bill rejoined the family business, manufacturing pressure gauges. This operation was closed down in 1970. He then joined Ansett Airlines where he worked for 18 years. With Ansett it was possible to enjoy several overseas trips on discounted fares.

Following retirement, Bill does volunteer work for Victorian Opera, National Gallery and Australian Ballet.

### **Athol McKenzie**

Athol enlisted in the RAAF in July 1942 as a telegraphist. The attachment to 50RS was quite brief, arriving on 18 May 1944 and departing as soon as the Station was ordered to disband. Athol and Betty were married in December 1944. He returned to the South-West Pacific in January 1945 and served on various Headquarters Units in Madang, Admiralty Is. and Biak until December 1945.

Following discharge Athol returned to his prewar employer, the State Electricity Commission Victoria until 1947 when he joined a firm of patent attorneys as office manager/accountant. Athol later joined the administration staff of the Melbourne Theatre Company in 1977 where he says he enjoyed

10 years before retirement. Now aged 89, Athol with his wife Betty live in Hampton, Melbourne.

### **Stan Middleton**

Stan enlisted in August 1941 and served as a radar mechanic on 306RS, 50RS and 60RS. He married Marge Harris on 24 November 1944 when on leave from service in PNG.

Discharged with the rank of sergeant in January 1946, he was employed as a technician with the PMG's Department for 2 years. In 1948 Stan joined Michaelis Hallenstein & Co and managed the fishing tackle department for 3 years. In 1951 he was offered a position with J C Day & Co, wholesale leather merchants. When the firm closed down, Stan acquired a part of the J C Day business, representing numerous 'tanneries' and supplying leather to footwear and other manufacturers of leather goods until retirement in 1984.

His hobbies included flying aeroplanes, golf and fishing and he was a keen supporter of the Hawthorn Football Club. He passed away in November 2008 aged 86.

### **Alex Culvenor**

Alex, a student in electrical engineering, enlisted in the RAAF in August 1942 and served as a radar mechanic on 50RS, 16RS, 38RS and the Loran Station on Sir Graham Moore Is.- Upon return from PNG, Alex and Joan Ashburn were married 13 January 1945 Following discharge in January 1946, Alex returned to studies and graduated in Electronic Engineering in 1947 at RMIT Melbourne.

He joined the Ordnance Factory Maribyrnong in 1948 as an engineer assisting with the manufacture of several armed forces projects, including radar-controlled gun mountings for the Navy.

Alex was seconded to the High Commissioner's Office London from 1954 to 1956 as liaison engineer to UK Government and industry. He held a similar appointment from 1967 to 1970 with the Australian Embassy in Washington DC USA.

In Australia Alex held a number of engineering positions in the Depts of Defence Production and Supply, before finally joining the Government Aircraft Factory in 1975 in a management role until retirement in 1980.



He is a committee member of the Air Force Association Radar Branch NSW and of the Bendigo Branch Victoria and President of the Victorian RAAF Radar Association

Hobbies were cricket and Sport Aviation. Retirement provided an opportunity for Alex and Joan to take up farming as a hobby at Sandon, Victoria and for Alex to follow actively his hobby of building and flying aeroplanes. Sadly, Joan died in 2009.

## POSTSCRIPT

The Australian-designed and built radars, like most WW11 Allied early-warning radars, operated with frequencies of around 200 megacycles per second (Mc/s) or 200 megahertz MHz, equivalent to wavelengths of around 1.5 metres. The RAAF continued with the tried-and-proven 200 MHz equipments throughout the war, resisting recommendations by Australian scientists that moves should be made to progress to the new (and also proven) systems operating in the millimetre wavelengths made possible by the British invention of the magnetron. In *Echoes over the Pacific* by Ed Simmonds and Norm Smith (p 16), the authors point out that the final result was that the RAAF was left with outdated equipment at the end of the war and a partial vacuum in the immediate postwar years.

It follows that the technical staff of RAAF early-warning stations were unaware of the rapid improvements in radar technology. The technical staff with RAAF bomber squadrons, however, as the end of the war approached would have been required to service the microwave radar equipment fitted to late-model B24 Liberators and Mosquito aircraft.

By good chance, however, there were exceptions. Three mechanics at No 50RS, Eric Childs, Stan Middleton and Alec Culvenor, when in transit at Nadzab, met a USAAC lieutenant who had visited 50RS at Amami. He arranged for them to visit one of the many USAF airfields to inspect the Black Widow night fighter – the only one at Nadzab at that time. It was a large twin-engine, twin-tail-boom aircraft with a big radar dome in the nose forward of the cockpit. The lieutenant explained that it operated on a wavelength of 10 cm.



**Left to right, John Fraser, Stan Middleton and Alec Culvenor with the aeroplane that Alec built around 1995.**



**John Fraser in his electronics shop in Donald, Victoria.**

The rectangular tubes, the ‘plumbing’, were wave guides, the new and difficult-to-comprehend method of conducting radar energy. In PNG the Black Widow was not considered to be a success, partly because the Japanese were not operating frequently at night in the Nadzab area. Postwar history of the Black Widow interceptor suggests that the radar inspected at Nadzab was either the American SCR720 radar or the prototype SCR570. The American SCR720 radar was also adopted as the standard RAF interception radar and many thousands were produced.



**The author, Alec Culvenor, in Tsili Tsili.**



**And later in Tadji.**

After the war a large number of radar staff studied electronics at universities or technical colleges under the Commonwealth Reconstruction Training Scheme (CRTS). During their studies they would have learned of the amazing progress made in radar development between 1942 and 1945. There are numerous publications that highlight the use of microwave radars in U-boat detection, improving bombing accuracy, navigation, aircraft interception, gunnery ranging and targeting. In recent years the high-power klystron has replaced the magnetron in the 25 cm weapons-systems radars fitted to many modern naval vessels.

After the war, also, the general public became aware of spin-offs from radar and the components needed for its development into every-day civilian life. Here are a few of the better-known examples:

- kitchen microwave ovens;
- police radar speed detectors;
- commercial-aircraft navigation aids and traffic-control aids at airports;
- satellite tracking;
- radio astronomy;
- meteorological aids for storm warning, rain detection and winds-aloft balloon tracking;
- mass spectrometry – a major breakthrough for chemical-structure analysis.

- computers; suitable components were available to allow rapid reductions in size and increases in power;
- distance measuring equipment for surveying, bringing reduced survey times and much improved accuracy.

All RAAF radar personnel can be proud of radar's WW11 achievements and its longer-term application to life in the modern world.

Readers of this history and those of numerous others of many of the 140 stations established by the RAAF in WWII, will have sensed the comradeship that existed on these remote establishments. There was a sensitive and justifiable pride in having belonged to a unique enterprise fundamentally different from other branches of the Service and, perhaps some disappointment that its role in the successful defence of Australia and outcome of the war is still little understood and appreciated.

## APPENDIX I

### PERSONNEL, 50 RADAR STATION, June 1942 - August 1944

NAME	RANK	SERVICE NO	MUSTERING	ARRIVAL	DEPARTURE	COMMENTS
ALLEN W S T	LAC	78273	Guard	13/03/1944	2/06/1944	
ALLISTER A	LAC	119130	Cook	27/12/1943	?/07/1944	
AMOS W T	LAC	67090	Guard	7/06/1944	27/06/1944	
AYLMER L	AC1	150218	Fitter/DMT	30/06/1944	5/08/1944	
BAETZ A E	LAC	76699	Guard	?	3/09/1943	
BAKER D N	LAC	43369	Guard	?	3/09/1943	
BARRAST A W	LAC	60199	Guard	?	3/09/1943	
BEGG C A	LAC	68900	Guard	8/11/1943	18/03/1944	
BELL F S	LAC	415546	Rad Op	?	23/07/1944	
BOWLES	LAC	64941	Guard	?	?	
BOYLAND O A	LAC	75095	Rad Op	11/09/1942	?	
BRADLEY E R	AC1/LAC	63475	Fitter/DMT	11/09/1942	24/03/1943	
BRENNAN E A	LAC	61843	Rad Mech	31/12/1942	31/12/1943	
BROADBENT M C	AC1	70417	Guard	8/11/1942	?	
BROWN W E	LAC	18307	Guard	9/04/1944	3/05/1944	
BULLOCK W	LAC	132883	Guard	27/05/1944	27/06/1944	
BUSHBY F G	Cpl/Sgt	31415	Rad Mech	31/03/1943	3/08/1944	
CALLAGAN W	LAC	44851	Guard	15/11/1942	?	
CAMPBELL A J	Cpl	58766	Rad Op	2/04/1944	12/08/1944	
CHILDS E	Cpl/ A.Sgt	404962	Rad Mech	22/01/1943	4/07/1944	
CLANCY J	LAC	67560	Rad Mech	5/08/1943	5/10/1943	Wounded
CLARK A M	P/O-F/O	42552	Officer (Tech)	21/01/1943	8/06/1944	CO 20/2/1943
COLLINS A H	LAC	3194	WOM	7/12/1942	?	
COLLINSON A J	LAC	119299	Guard	28/10/1943	18/03/1944	
CORONEOS V B	Cpl/Sgt	16485	Clerk	21/03/1943	29/12/1943	
COX G D	LAC	37325	Guard	6/02/1943	13/08/1943	
CRAIG FT	AC1	70297	Guard	8/11/1942	10/02/1943	
CULVENOR A G	LAC	120320	Rad Mech	2/01/1943	2/07/1944	
DAVENPORT J	LAC	55880	Guard	13/03/1944	3/06/1944	
DEARRICOTT H J	Cpl/A.Sgt	42956	Rad Mech	31/12/1942	25/05/1944	
DIXON M J V	LAC	78280	Guard	2/06/1944	27/06/1944	
DOOLAN H F	AC1	77734	Guard	8/11/1942	?	
DUNCAN M T	SGT	30403	Not known	?	1/04/1943	
EADY V	Sgt	39942	Med Ord'y	8/01/1943	14/05/1944	
ELLIOTT J P	AC1	?	Guard	24/10/1942	1/12/1943	
ELLIS G	Sgt	39620	Rad Op	20/06/1943	14/02/1944	
ELTIS L	AC1	142864	Messman	17/12/1943	23/07/1944	
FENDLER M F	LAC	417570	Rad Op	?	23/07/1944	
FETTES J A	Cpl/Sgt	13495	Clerk	11/09/1942	10/03/1943	
FLEMING R	SGT	24172	Not known	5/02/1943	?	
FRASER J	LAC/Cpl/Sgt	42122	Rad Mech	7/08/1942	?/07/1943	
FROELICH J A	LAC	41812	Gen Hand	11/09/1942	?	
FURLONG E	LAC	419306	Rad Op	?	12/07/1944	
GEARY J W	LAC	119300	Guard	4/06/1943	13/03/1944	
GERTZEL V L	LAC	46643	Rad Op	28/08/1942	14/04/1943	
GILL F L	AC1	144399	Gen Hand	20/03/1944	3/08/1944	
GLOVER W G	LAC	126706	Teleg	28/10/1943	?	
GROFFITHS O K	F/O.	3657	Officer (Tech)	13/06/1942	22/02/1943	CO
HANCOCK J W	AC1	70345	Guard	?	1/02/1943	
HAROLD D T	LAC/Sgt	75126	Teleg	2/10/1943	?/06/1944	
HAYNES R C	LAC	70279	Guard	2/10/1943	13/03/1944	
HENTY E	Cpl/Sgt	42839	Rad Mech	7/08/1942	4/12/1942	

HICKS S S	LAC	43505	Cook	9/02/1943	?	
HILLMAN J M	Cpl	62655	Rad Mech	10/07/1944	12/08/1944	
HOBSON A L	LAC	76001	Rad Op	11/09/1942	?	
HUMPHRIES W T	LAC/Cpl	42133	Rad Mech	7/08/1942	31/12/1942	
KENNY J R	LAC	25798	Messman	20/03/1943	22/05/1943	
KIRK I J	AC1	68238	Guard	8/11/1942	13/08/1943	
KNOX G E	LAC	128050	Guard	27/05/1944	19/08/1944	
LARMAN R G	LAC	78071	Not known	?	23/9/1943	Wounded
LEAVY C G	LAC	76002	Rad Op	11/09/1942	?	
LICKERMAN A H	Sgt	62066	Med Ord'y	11/05/1944	6/07/1944	
LIGHTFOOT M E	LAC	122573	Rad Op	2/04/1944	3/08/1944	
LOVEDAY R F	LAC	62675	Rad Mech	25/01/1943	25/10/1943	
MADDEN F	Cpl	68506	Rad Op	?	3/08/1944	
MARTIN C V	AC1	59876	Guard	24/10/1942	13/08/1943	
MARTIN S E	LAC	56391	Rad Op	?	?	In transit
MATHEWS J L	LAC	78802	Guard	12/08/1943	31/05/1944	
McCARRY J R	LAC	123086	Guard	2/09/1943	23/09/1943	Wounded
McCOY E C	LAC/Sgt	37058	WOM	7/12/1942	27/05/1944	
McNNES A N	AC1	115304	Guard	2/09/1943	?	
McKENZIE A M	LAC	58608	Teleg	18/05/1943	2/06/1944	
McMULLEN H T	LAC	128991	Rad Op	4/06/1943	11/07/1944	
McQUILLAN K L	Cpl	22803	Cook	9/02/1943	11/09/1943	
MIDDLETON S M	LAC/Cpl	49309	Rad Mech	22/03/1943	17/07/1944	
MILLEGATE R B	AC1	70346	Guard	8/11/1942	?	
MITCHELL L W	AC1	115265	Guard	24/10/1942	13/08/1943	
MITTAG P R	LAC	53057	Rad Mech	25/01/1943	?	
MORPHETT W C	AC1	636100	Guard	8/11/1942	13/08/1943	
MORRISON R S	AC1	44858	Guard	?	2/02/1943	
O'CONNELL E M	LAC	56863	Rad Op	9/08/1942	17/10/1942	Wounded
PATERSON D	LAC	128879	Guard	?	3/09/1943	
PAUST R C	LAC/Sgt	31038	Teleg	?	2/06/1944	
PEPPERELL E W	LAC	24677	Messman	11/09/1942	18/02/1943	
PERRY M V	LAC	76416	Rad Mech	22/11/1942	?	
PORTER W R	Cpl	18748	Med Ord'y	6/01/1943	4/02/1943	
PROPSTING J C	F/O	286175	Officer (Admin)	26/06/1944	14/09/1944	Acting CO
REED G F	LAC	78846	Fitter/DMT	7/12/1943	17/07/1944	
RITCHIE G	LAC	69506	Guard	18/11/1943	13/03/1944	
ROBERTSON J	AC1	147325	Messman	30/06/1944	5/08/1944	Cook's Asst
ROSE L C	LAC	24131	Fitter/DMT	29/08/1942	22/03/1943	Fitter IIE
SCADDEN J	LAC/ Sgt.	45540	Rad Mech	7/08/1942	31/12/1942	
SHERRIFF W	LAC	71141	Messman	30/11/1943	?	
SIGALL J	Sgt	207797	Clerk	27/12/1943	6/06/1944	
SIMPSON A C	CPL	76083	Rad Op	11/09/1942	?	
SMITH C E	LAC	60521	Guard	5/02/1943	25/10/1943	
SMITH C H	?	?	Gen Hand	29/12/1943	?	
SPERRING N	LAC/Cpl	60039	Rad Op	28/08/1942	?	
SUE J A C	LAC	46646	Rad Op	17/10/1942	?	
SUTTON J J	AC1	70306	Guard	2/09/1943	25/09/1943	Wounded
SYKES H	LAC	23750	Cook	8/09/1943	29/12/1943	Wounded
TAYLOR L A	Cpl	34546	WOM	?	?	
TRAEGER K T	Sgt	47012	Med Ord'y	29/08/1942	8/01/1943	
TURNER A W	LAC	25437	Not known	?	9/09/1943	
VALLEANCE J R	LAC/Sgt	33486	WOM	?	?	
VINE R L	LAC	62635	Guard	5/02/1943	3/09/1943	
WADELTON G R	CPL	41178	Not known	?	6/03/1943	
WAKEFIELD D	LAC	61619	Guard	?	?	
WALKER R P	AC1	131380	Guard	30/11/1943	31/05/1944	
WALSH M W	LAC	76065	Rad Op	11/09/1942	5/10/1943	
WESTLAKE J	AC1	58801	Teleg	25/01/1943	?	

WHITLOCK J R	Cpl	60041	Rad Op	2/09/1943	?	
WILLIAMS J L	LAC	54385	Guard	5/02/1943	22/03/1943	
WILLIAMS G W H	LAC	73873	Rad Op	?	23/07/1944	
WILSON C B	LAC/Cpl	37382	Fitter/DMT	27/03/1943	7/12/1943	
WOODRUFFE R W	LAC	75344	Guard	24/10/1942	5/10/1943	Wounded
YATES N	LAC	134820	Guard	2/06/1944	27/06/1944	
YOUNG H A	LAC/Cpl	76007	Rad Op	11/09/1942	?	
ZAHARA C C	P/O-F/O	53761	Officer (Tech)	13/06/1944	23/10/1944	CO
ZINZZERALLA N J	LAC	116505	Rad Op	?	23/07/1944	

## APPENDIX II

### Alex Culvenor's Diary – Extracts, October 1943

#### 4 Oct 1943 - Mon Tsili Tsili

Joe and I called 5 am for 6 am departure. We waited at the airfield for daylight then loaded our gear. It was a very rough trip and Joe was very upset in more ways than one. We landed at Nadzab to unload most of the aircraft's cargo and then took off for Tsili Tsili. The pilots told us that they do not like this trip, because they do get jumped by patrolling Jap fighters at low altitude. Anyhow they kept down to the tree tops all the way coming and going. We landed and unloaded, but no one knew where 50RS was located. It took one and a half hours of driving and talking before we found it. The driver, a Yank, was about to give up and take us back to his camp. After an excellent meal of roast potatoes, meat and beans followed by rice pudding, I was told that Harry Sykes is an ex-pastry cook and the best cook 50RS has ever had. We are also on American aircrew rations. Found a comfortable stretcher bed and I am ready for a good night's sleep. I will be replacing Jack Clancy who was injured in the bombing raid.

#### 5 Oct - Tues

Breakfast at 7.30 am. Toast, tomatoes and bacon. My first shift on duty for 50RS - 5pm. A bit of voltage regulation problem from the Howard alternator. I remember working on these units when I was employed at the SEC Labs at Green St, Richmond. They knew about the regulation problem then - especially at high temperatures. There were 3 red alerts during the evening, but aircraft no nearer than 10 miles, by the plots. It appeared that the Jap pilots were having trouble finding the airfield.

I learnt today that there were 7 casualties in the raid on: 21 Sept:

LAC Sutton	Serious injuries
LAC McCary	Serious injuries
Cpl Kemp	Serious injuries

All went to hospital and finally to Pt Moresby.

AC1 J Clancy, H Sykes, LAC M W Walsh, Cpl R W Woodruffe went to hospital, but later discharged back to camp for duty by 23rd Sept. All four had minor shrapnel wounds.



## **6 Oct Wed**

Bacon and eggs for breakfast. We pulled down a partly finished hut because of the bomb damage. The CO decided we would not need it. Steak and fruit salad for evening meal. After tea another chap and myself collected fruit from a deserted native garden – paw-paw and bananas. Gave two large bunches to the American hospital staff.

## **7 Oct - Thur**

On duty from 11 pm. Only one red alert during the night. Probably only one aircraft as only two bombs dropped near the airfield. No damage, we were told by Fighter Sector. About 8 am it started raining heavily, and this caused some problems at the doover. Leaks gave the operators an uncomfortable time.

## **8 Oct - Fri**

Bacon and eggs again. We are on US Airmen's rations. Duty 8 am to midday. Had a visit from the CO. F/O Clarke.

## **9 Oct - Sat**

My turn at guard duty 2.45 am to 6 am. When relieved by the next guard I had to light the cooking fire [for tea or coffee]. There is a range fuel stove for cooking meals [petrol]. Also carried water up to the doover. My wrist watch is gaining lots - it must be the effect of the doover transmitter

## **10 Oct - Sun**

Still bacon and eggs for breakfast, but no one complaining. More red alerts on my shift 5 pm to 11 pm - the aircraft down the valley towards Nadzab we think.

## **11 Oct - Mon**

We worked on repairing the hut protecting the generators from the weather in the morning. At 10.30 am there was a red alert which lasted for 2 hours. No close aircraft.

## **12 Oct - Tues**

Off air for maintenance 7 to 8 am. Later, I took time to repair and clean my tool kit. Lots of mail today.

## **13 Oct - Wed**

Another fault when I was on shift. These seem to occur after a maintenance shut down.

## **14 Oct - Thurs**

Guard duty 12 to 3 am. Pancakes for breakfast - Harry is certainly a great cook. Caught up on washing. We have sheets and pillow slips, which in this climate need to be washed often. The sheets and pillows and stretchers were acquired at Dobadura by the Station from a bombed out American field hospital.

On duty from midday. Had telephone trouble. The head and breast sets we use were shorting out electrically because of dampness and corrosion. Occasionally the operators get an electric shock when someone cranks the ringing generator. The breast set is sitting on their chest which is wet with perspiration. The mechanics get a blast for not being able to fix the problem. Hilarious!

Starting to play bridge in the evenings instead of poker. Very little cash left in the camp.

## **15 Oct - Fri**

Red alert 4.45 am but we believe it was a B25. Braised steak followed by baked pawpaw for tea. Duty 5 pm and another red alert. Japs trying to bomb the airstrip but too high for accuracy according to the Yanks. Interference high this evening and no plots recorded which is unusual.

## **16 Oct - Sat**

Rifle shooting practice. It is easy to pick the country boys. Stan Middleton and Eric Childs are good shots - both from farms. Raining hard. Tents leak badly. Ray Loveday posted to Bulolo.

## **17 Oct - Sun**

Quiet day. Still raining and some of the bunks are getting wet because of the leaks in the tents.

## **18 Oct - Mon**

8 am Parade then on to shift. Telephones giving more trouble, but this time it was a break in the telephone wire. About half a mile from the camp where the wire is strung between trees [when a tree is available] the wire had rubbed bare. After fixing the problem I made my way through the tall grass back to the doover and was confronted by a guard yelling, "Who's there?" My yell in reply was louder than his. We were all issued with 15 packets of Camel cigarettes, matches and sweets. Being a non-smoker I gave my issue away.

## **19 Oct - Tues**

Two more red alerts but no raid. My turn to help cook breakfast by lighting the fire under the copper for the tea or coffee. It was a failure because the water was tainted by the kero I used to get the wet wood burning. I copped a real blast from the boys.

## **20 Oct - Wed**

Rifle cleaning. This has to be done frequently to prevent rusting. Jack Whitlock and I on kitchen duty - at least I was Jack's helper as he is much more skilled at the job than I am. Mail still scarce.

## **21 Oct - Thurs**

Pancakes for breakfast. Helped the Fitter DMT with the Jeep. It was in an accident a few days ago and the front differential has been damaged. Camouflage expert arrived today, (seems a bit too late). Duty 10.30 pm. Red alert for half hour - an aircraft overhead but may be one of ours.

## **22 Oct - Fri**

Had two faults during the night. The second was the alternator with a frequency drift. Pancakes and lemon for breakfast, and we make the most of it while it lasts. There is an AIF unit a short way down the river and they are living on bully and biscuits. The Boss invites a few up for a meal occasionally. Ray Loveday departed today.

## **23 Oct - Sat**

Fault in the WT - Eric and I had it fixed in short time.

## **24 Oct - Sun**

Mail at last. Working on Jeep again.

## **25 Oct - Mon**

Still on Jeep. Duty 5 pm and more telephone trouble according to the Yanks. It was our microphones this time I believe.

## **26 Oct - Tues**

Had to switch off No 1 alternator at 12.30 am as it was overheating and running poorly. The fitter fixed the problem during the day. A few of the boys brought back some pigeons they shot, badly mauled by 303 bullets. Harry cooked them for the shooters. The rest of us had cold meat and roast potatoes - very good food. Stan M. and I tried for some ducks after tea but no success.

### **27 Oct - Wed**

It rained all last night. Harry cooked up a great breakfast of grapefruit, porridge, bacon and eggs (real). Move to Amami now a certainty - only a rumour to date. The Americans gave us half an hour to be ready to move. But of course that was impossible. However we all started packing our personal gear at 10 pm. Bed by 1 am.

### **28 Oct - Thurs**

All out at 5.30 am and maximum effort to pack. We worked all day on the doover, and were supposed to move everything to the airfield, but no transport. That night we slept on the ground around the gear with one mosquito net between 5 of us !

### **29 Oct - Fri**

On the job again at 5.30 am. Three of us had to stay with the gear whilst the rest of the boys loaded the Dougs. We left Tsilli Tsilli about 2.30 pm for a 10 minute flight to Amami. Very hot day. Good camp site. We are replacing a Yank unit as their portable set not effective in the mountainous area. Mountain range on two sides. Just a rough camp for the first night.

## APPENDIX III

### CHRISTMAS MENU - 1943

#### CHRISTMAS DAY 1943

#### 50 RADAR STATION ( CLARKS CANNIBALS)      CNR HARKHAM AND HAMU VALLEYS

This day will be celebrated in a formal, Christian spirit as behoves us as members of a respectable Air Force. Personnel will rise at the crack of dawn and take a bath. The Fatigues are expected to make an extra good job at cleaning the three seater.

Dinner will be at 1400 hours. Meal tickets are not required but members must dress becomingly. A towel round the waist is not sufficient unless worn with the pyjama top. Tommy guns will be left outside.

Owing to local manpower regulations the Marys are not available as hostesses. P/O Clark will therefore officiate as messman assisted by NARA.

#### KAI - KAI

TOMATO JUICE	TURKEY HICHT (WAPPA WATER)
ROAST TURKEY (GOOD BALOOSE)	FORK (GUINEA PIG)
CHIPPED POTATOES (COLD CHISEL PRODUCED)	
GREEN PEAS (ARMOUR PICKING MK II)	BEANS (NO 1) PUMPKIN (GOOD KAI)
FRUIT JUICE (LAST MAN KEEPS THE LEMON)	
JUNGLE JUICE (JUST OFF THE WOOD)	TROPICAL ALE (2 BLANKETS AND A GIN)
CIGARS (BOONG TWIST BRAND)	TOBACCO (BRING YOUR OWN NEWSPAPERS)

#### ETIQUETTE

Don't throw peas around - the operator might plot them  
Don't stab mosquitoes with your knife.  
Don't throw empty beer bottles around.  
Don't be boisterous - lie quietly under the table after the third drink.  
Don't spit on the walls, and don't swear in front of the natives.  
Don't souvenir empty bully tins.  
Don't spoil the decorations - the New Guinea roses are not intended as button holes.

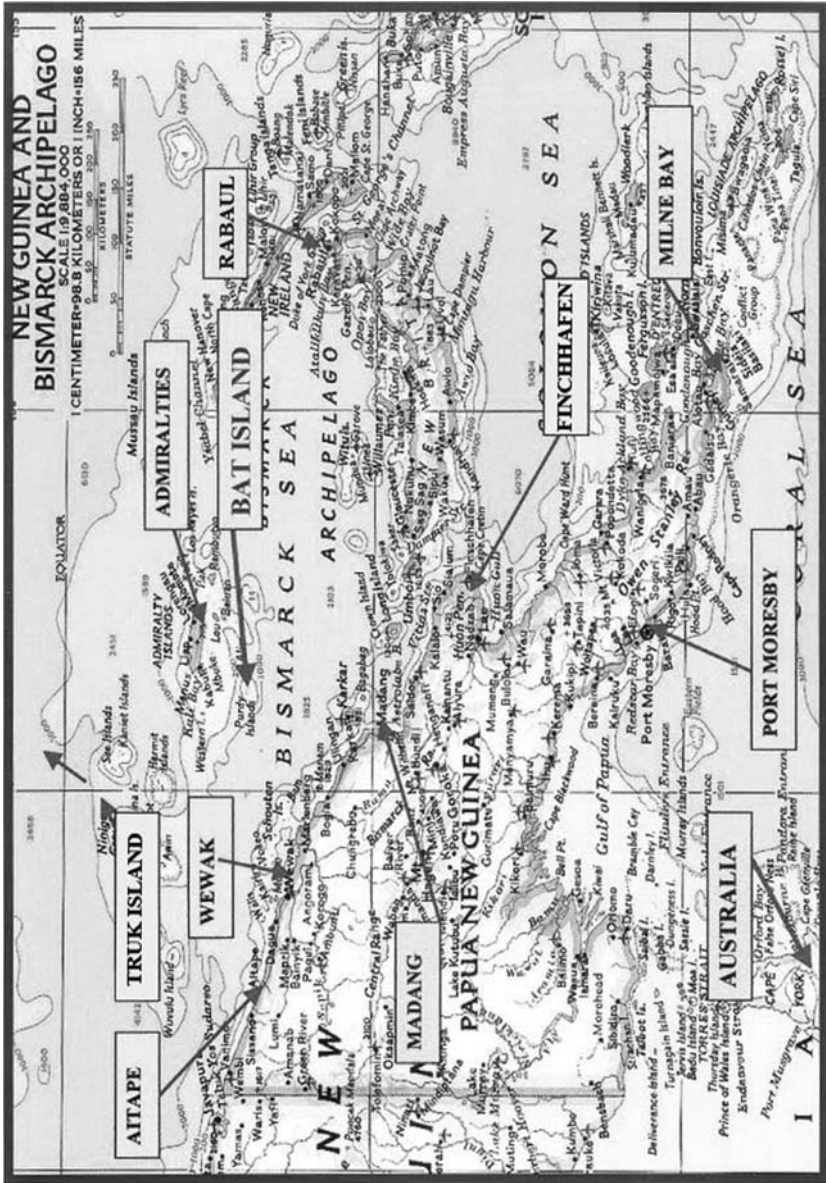
WARNING Thin down your J.J. to suit your constitution. To test -dangle three .303 bullets in your glass. If two go off your liquor's too strong.

#### ENTERTAINMENTS

Nobby McC. will sing "New Guinea Forever Thine".  
P/O Clark and his tame rat will perform.  
Chick Begg will give a talk on famous film stars, mainly Claudette Colbert  
The operators Choir will sing "There's an Old Spinning Wheel"  
Harry Sykes will recite "The Snake-charmer".  
Joe Haynes will give the war cry - Baloose she come down.  
Vic. Eady in a solo - "The dirty little pill went rolling down the hill  
Reg. Poust and Simmo. will render a duet "I'm tired an' I wanna go to bed".  
Opera Bill Glover will warble "Negra Cogwheelski's Banana Peel  
Squelch in "B" (buggered)  
The Hon. Peter Elliott will recite "I have a longin' for you".  
Frank Madden to sing "Little man you've had a busy night".  
A.B.C.Eushby will have a spell.  
Our 'Erb will do his tightrope act  
Childs and Sykes will harmonise "Shoot that tiger".  
Mac. Begg will sing "Chicka chicka boom chick".  
Gord. Ellis will render in "G" Major "The Changing of the Grid".  
Zinza. will discuss in detail beetles and their sex life.  
Roy Walker will no make a noise.  
'Alf a no. Kidd in a ditty "Stop that tickling Jock".  
Ringmaster Ritchie will play "The Red White and Blue Cockade".  
Debonair Coa.Williams will lecture on the merits of chocolate v tobacco  
The sandy pair,Faust and Coronocs to sing "Down by the Swan River".  
Rhapsody - Frank Bell in "There's a Gold Mine in the Sky".  
Arty Collinson will render "The Barber of Seville".  
Lisscoe Leonard Mathews in "There's something about a soldier".  
Jack Whitlock will dance on the bar table.  
Geo. Reed will tell us what makes our jeep go.  
Why don't we do it more often? ask Harold Young.  
Max Fendler will lecture on the extra ordinary uses of a yacht sail.  
Since compilation of this program, protest has been received from Nobby McC. as to who should render Item No. 10

# APPENDIX IV

## PAPUA NEW GUINEA & BISMARCK ARCHIPELAGO



APPENDIX V  
CENTRAL REGION, NEW GUINEA

