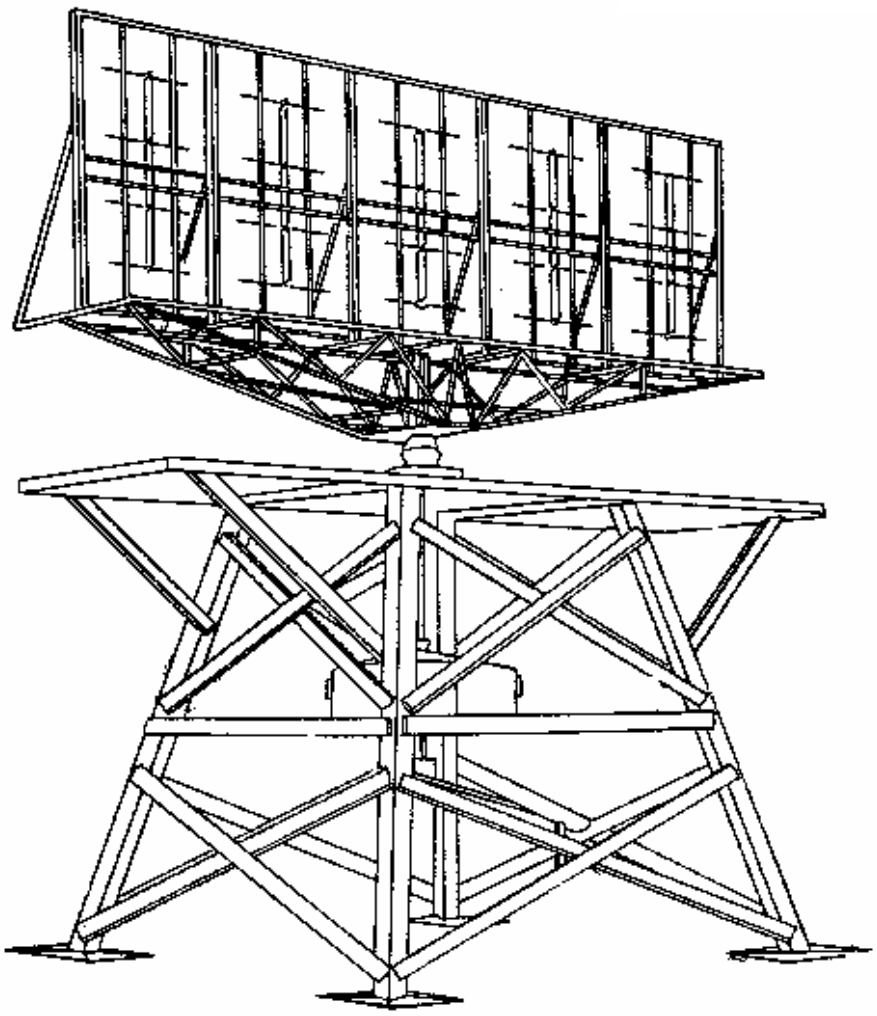
More Radar Yarns

Edited by Ed Simmonds



Front Cover: Drawing of the Mk V COL antenna

MORE RADAR YARNS

being more memories and stories collected from personnel who served in RAAF ground based radar in World War II.

Edited by Ed Simmonds

Limited Print Edition of 600 Copies - November 1992

Internet Edition - 2007

Published by Radar Returns
39 Crisp Street
Hampton Vic 3188

National Library of Australia

ISBN No 0 646 11358 5

DEDICATION

This book is dedicated to:

Those who died during World War II while serving in RAAF radar.

and

Those who have subsequently died because of their service in radar.

and

All those members of both RAAF and WAAAF who served on radar establishments.

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FOREWORD

In February 1987 the RAAF completed an organisational cycle when No 41 Wing was re-established to coordinate and direct the activities of the RAAF's air defence radar units. Shortly after this date, as Officer Commanding of the recreated No 41 Wing, I began to look into the history of the RAAF's air defence radar units with the view to establishing links between the old and the new generations. At this stage I, along with many of my colleagues in the RAAF, was generally uninformed of the scope of operations, events and personalities of the wartime radar units. A factor which compounded this situation was the lack of published stories, photographs and books on which to build an understanding of how the RAAF built, trained, operated and maintained a very large radar organisation during the war.

In March 1987 the fledgling staff of No 41 Wing (myself plus one) had the very good fortune to meet Walter Fielder-Gill (President Radar Air Defence Branch) and Bert Israel (original Officer Commanding No 41 Wing). At this historic meeting we discussed how to go about establishing links with the original members of the RAAF's air defence radar units. It would be an understatement to say that the progress achieved since then has been beyond our most optimistic vision. I am very pleased to have been invited to write this foreword for *More Radar Yarns* and so continue my association with the air defence radar world, its history and the people to whom we owe so much.

In More Radar Yarns, Ed Simmonds, with the assistance of Norm Smith, the other researchers and production team has amplified, expanded and added to the earlier work by both Ed and Norm. This latest book fills in some of the many gaps in our understanding of this remarkable history. It is a history which was almost lost because the post war environment did not favour (either deliberately because of security concerns or possibly through oversight) such publications. The necessity of capturing history must never be forgotten.

It is a never ending challenge for each generation to recognise that its struggles and achievements will in time be viewed from an historical perspective. While the official documents like the A50 provide an outline of what happened, they unfortunately do not record the rich colourful scenes which are the real history of units, people and events. It requires the ancient art of story telling to embed the images in our minds. The books and articles now being published provide us with those much needed stories and images.

As in most organisations operating under stress, human failings play a part in events and shape outcomes; the results may not always be in the best interests of the organisation. *More Radar Yarns* captures several such situations which highlight the challenge between satisfying personal needs and meeting operational requirements.

People who are thrust into situations which become turning points in the development of our history and culture, are prime candidates for special treatment. That those early radar personnel were placed in such situations and played their roles to the full, is not in any doubt. However it is useful to observe that once again we have to rely on the vision, initiative and tenacity of those very same people who created this history, to pull these events into focus by publishing these stories for the present generation.

More Radar Yarns provides a graphic reminder, for both old and new, of personal circumstances, events and views of a wide range of Australians who faced an incredible assortment of challenges. Present and future generations of Australians would be wise to study and appreciate the inventiveness, productivity, loyalty and humour recorded in these pages. In so doing, we at least have a colourful and down-to-earth vision to guide us should our generation be called upon to play our part in similar chaotic and dangerous circumstances.

D T Bowden
Air Commodore
Director General Communications
and Information Systems

9 September 1992

PREFACE

This is a companion volume to *Radar Yarns* which was published late last year. Herein, some of the stations not represented in *Radar Yarns* 'get a guernsey' and so a more complete picture is portrayed in the two books. Once again this is a mixture of stories and they are not necessarily grouped by station or importance.

An updated Historic Background is included and the new bits are in italics so that those who have read *Radar Yarns* can concentrate on the additional information.

A somewhat disturbing fact has arisen, namely that 44 Radar Wing has admitted (page A-9 in Appendix A) that some A50 Unit History Sheets were retyped before submission to NWA Headquarters. The extent to which those alterations were made is not known but it does cast some doubt on the authenticity of those A50's which still exist.

Many variations in the spelling of place names occur in both records and stories written by individuals, so the spelling found in recent atlases has been adopted in case people want to locate them more accurately than in the maps at the end of the book.

Norm Smith has found a nice quotation from the CO of an American radar unit which expresses similar sentiments to those felt by many who served on RAAF radar stations :-

> "The position of Army [US] radar in this war is one of ambiguity as to responsibility for tactical employment, supply and administration. It occupies a place similar to an illegitimate son, being organised in the Signal Corps, and attached to the Air Corps but dependent on Navy, Marines, Signal Corps and in some instances, our Allies for supply.
>
> Harold G Smartwood.
> Cpt, Signal Corps.
> Commanding Company B.
> 578 SAW [Signals Air Warning] Battalion."

This book has benefited from the Bendigo Reunion as many of the participants have forwarded additional material. Once again readers are reminded that all material collected will ultimately be placed in archives for future researchers. So it is not too late to send more stories and information.

Researching official records has continued and the team has been joined by John Reen who is looking into the Melbourne Archives. He very aptly described the exercise as being, "Rather like assembling a jig-saw that's been dropped on the floor with some of the pieces lost under the sofa".

One of the best 'quotable quotes' to come from Bendigo was from an ex-operator who said, "You know I endured almost every hardship during the war; prolonged isolation, headhunters, crocodiles, venomous snakes and spiders, tropical ulcers, dengue fever, malaria, lack of mail and very poor and inadequate food supplies. In fact the only terror I did not experience during the war was meeting a nymphomaniac."

Another comes from Len Ralph who said that one of our radar confreres remarked on how we used to be worried about the possible consequence of exposure to radar radiation on impotency and sterility.

"Well, it's true you know," he continued, "I have just started to notice the effects".

ACKNOWLEDGEMENTS

The continuing encouragement and support of the Committee of the NSW Radar Air Defence Branch of the RAAF Association, G/Cpt R Treloar, Officer Commanding 41 Wing, W/Cdr M Rowland, S/Ldr M Pryor and other members of the RAAF and Mr R Piper of the RAAF Historical Section is greatly appreciated.

Of course this book would not have been possible without the support and efforts of my close friends Norm Smith and Morrie Fenton. Both are also involved in other aspects of radar history; Norm in researching for another book and Morrie as the custodian etc of the photographic collection.

The number of people who have contributed to both *Radar Yarns* and *More Radar Yarns* is indeed very gratifying. The individual names have been quoted where their material has been used.

Last but not least my thanks goes to my wife Elizabeth for reading and correcting the text as it came off the word processor as well as doing all the paste-ups for the illustrations and maps in addition to enduring almost endless conversations on RAAF radar. Her attitude is apparently the more she helps, the sooner it will be finished.

HISTORIC BACKGROUND

The two main sources of information for this Historic Background were:

> An Account of the Development and Use of Radar in the Royal Australian Air Force written by W/Cdr A G Pither in December 1946. Circulation of this document was restricted at the time and it still has not been published. It provides an excellent insight into the development and growth of the RAAF Air Warning Network in World War II.
>
> and
>
> The History of Radiophysics Advisory Board 1939-45 written by W F Evans and published in 1970 by the Commonwealth Scientific and Industrial Research Organisation, Australia, covers the development of equipment in this country and is also excellent.

Other sources were:

> The Australian Archives in Canberra and Melbourne.
> The Australian War Memorial in Canberra, ACT.
> RAAF Historical Section, Russell Offices, Canberra, ACT.
> Interviews with T B Alexander, E Bullock, B F N Israel and many others too numerous to mention.

The above was supplemented by references to the following books.

> *A Saga of Achievement* by G/Cpt(Retd) E R Hall;
> *The Role of Science and Industry* by D P Mellor;
> *Shaping Science and Industry* by C B Schedvin;
> *Adventures In Radar* by F/Lt F H Porter. Limited publication;
> *Radar Defence and The Darwin Disaster, 1942* by Michael Moran (Unpublished thesis for BA (Hons) ANU, 1980

Introduction

"History is seldom what it seems or even less likely to be written up as it was." - a quotation from Guiy de Montfort's book *All The Queen's Men*.

This is an updated version of the Historic Background in Radar Yarns (published 1991). Text in italics, other than sub-headings and titles of books, is the additional information. This has been done so that those who have read *Radar Yarns* can readily identify the changes from the earlier version.

To separate tables from the text, Appendix A has been prepared and this also contains lists of W/Cdr Pither's original sites selected in the radar defence of Australia, operational locations, maps and other information.

There is no doubt that the full history of RAAF Ground Radar can never be written because:

- the events occurred nearly 50 years ago
- so many of the A50 Unit History Sheets have been lost or were not completed by the CO's of the early stations.
- many of our confreres have passed on to the Great Doover in the Sky and much valuable information has been lost.

However it is felt that in 1992 we are closer to recording our history than we were in 1988.

1939-41

Early Deliberations and Decisions

In 1939 Dr D F Martyn of the Council for Scientific and Industrial Research (CSIR), spent four months in the United Kingdom on a fact finding mission, returning to Australia in mid-August. Subsequently some equipment was ordered from the UK for study and research.

The Radiophysics Advisory Board was formed, having its first meeting on 29 November 1939. The term Radiophysics (RP) was adopted as it was considered to be 'an innocuous scientific nomenclature which masked the immediate wartime concentration on radio direction finding (RDF)'. The Radiophysics Laboratory (RPL) was established and staff recruited.

At the same meeting, the Board directed the newly formed Radiophysics Laboratory to concentrate on:

> "(I) The design and construction of equipment to be located on the coast near Sydney (CD or SHD) [CD was Coast Defence artillery range finding and SHD, Shore Defence]
>
> (II) The design and construction of sound location replacement equipment (GL). [Gun Laying]
>
> (III) The design and construction of ASV [Aircraft to Surface Vessel] equipment."

In retrospect this decision is not surprising since the Australian Government's appreciation of the situation at the time was "that Australia was not open to the threat of invasion and that we need only prepare for sporadic raids".

To achieve a closer contact and liaison with the UK, Sir John Madsen, Professor of Electrical Engineering at Sydney University and more importantly Chairman of the Ionosphere Research Board, was sent to that country to make more detailed arrangements. He made his report to the second meeting of the Board in March 1940. W/Cdr Pither's summary of the aspects of research and supply is:

> "As a result of discussions [by Sir John Madsen in the UK] with Sir Phillip Joubert, Sir Henry Tizard and Mr Watson-Watt, a memorandum was drawn up setting out arrangements for RDF [radar] work including Research in Australia and New Zealand. It was agreed that the RPL should act as a sub-centre to the main work in Great Britain and that the British would provide samples of equipment, stocks of components and detailed drawings of equipment. Arrangements were also made for liaison."

Then, at the third meeting of the Board on 16 May 1940, it was resolved that under the mantle of the Radiophysics Advisory Board:

- CSIR would be responsible for Research and Training.
- The PMG's Department would undertake construction, and
- The Services would be responsible for operations.

At the same meeting it was decided that arrangements should be made to train service officers overseas. However, nothing happened until September 1940 when the British Government requested each Australian Service to send two signals officers to the UK for training "in order to obviate the necessity of the UK sending experienced RDF personnel overseas at a later date."

W/Cdr Pither, apparently the only RAAF representative, left for the UK in September 1940. In addition to attending a two months course at Radio (Radar) School he was able to see all aspects of radar development in the British Army, Navy and Air Force. He returned to Australia through Canada and the USA where he also had the opportunity to study their respective achievements in the field.

In May 1941 W/Cdr Pither took over Section 7 of the Directorate of Signals from F/Lt J T Phillips. From that date Section 7 looked after all radar matters in the RAAF from airborne equipment to air warning and the logistics involved therein. Section 7 was finally formed into a Directorate in April 1942.

Recruitment of Personnel

In 1941, in England, it had become obvious that large numbers of personnel would be needed for training as the pool of suitably qualified people was being rapidly exhausted. The problem was handed over to a committee headed by Lord Hankey. UK Universities and Technical Training Centres formulated special short and intensive courses to satisfy the need.

At the same time requests were made to the member nations of the British Empire and to the USA for assistance in view of the depletion of suitable manpower - similar to requests for air crew under the Empire Air Training Scheme. In fact one aim was to secure 8,000 people from the USA alone.

During W/Cdr Pither's visit to the UK there were several discussions on this subject and after an exchange of signals between Pither and Air Board, Australia finally agreed to enlist and train 2,000 personnel for the RAF. *A memorandum relating to Radar School mentioned that:-*

> *"(1) The RAF may need to train many Americans in radiolocation. This could be done in Australia and the men sent to Singapore.*
>
> *(2) Australia must eventually require large numbers of radiolocation personnel. Once the equipment is obtained, and the school established, it will be a simple matter to divert the output to Australia's needs as they arise."*

After the Hankey Scheme had been discussed by the Board of Radiophysics, courses were established at Sydney University and the Melbourne Technical College, the first for officers and the second for mechanics.

W/Cdr Pither visited Sydney, Melbourne and Brisbane Universities, addressed the science and engineering students and took names of those willing to take part in "radiolocation". The original target was for 100 officers but only 50 were enlisted.

The Sydney University course in radiophysics theory, for officers, was under the direction of Professor V A Bailey. It was excellent and his students were known in the service as 'Bailey Boys'. The first course, which started on 15 September 1941, was completed in February 1942. Three other courses followed commencing in March, August and September 1942. It is of interest to note that by the time the first Bailey course started, the Australian War Cabinet had decided that only 200 trained radar personnel could be sent overseas to assist Britain.

The second group, who were recruited by advertisements in the press and on radio, consisted of people with appropriate technical qualifications and/or experience. Most of the first batch, who in the service were called 'direct entries', came from either national or commercial radio; were amateur radio operators (hams) or were people engaged in the small radio industry. In essence they provided the quickest means of obtaining personnel as they only needed the course at Radar School.

The contribution of the 'direct entries', both officers and mechanics, should be recognised. Radiophysics theory in some cases was not a strong point, but they had had 'hands on' experience and were generally older and more practical in their approach than those who passed through the crash courses in radio theory prior to Radar School. The first batch of 'direct entries', when added to the very small number of men available from the Permanent Air Force or the Citizen Air Force, provided the nucleus to start the overall effort.

Their influence was felt from the top to the lower echelons of the radar organisation. As an example when one 'direct entry', S/Ldr John Allan, joined the newly formed Directorate in mid-1942 he reported that:

> "There were about nine of us in the Directorate with the W/Cdr [Pither] the only permanent type. The rest of us were volunteers, mainly from the radio industry and the majority had amateur call signs."

Furthermore S/Ldr Allan was the first radar officer to attend the War Staff College, successfully completing No 1 Course in December 1943. Other 'direct entries', such as W/O Arthur Field, had 'roving commissions' which involved installation, matching and phasing, modifications and acting as a 'fix it' man when the need arose. In fact W/O Field, during his period of service, spent time on 37 different radar stations with some of them being visited on more than one occasion.

The third group was recruited at Recruiting Depots throughout the nation. Applicants for ground staff, whose educational qualifications and aptitude tests indicated that they might be suitable for training, were offered the mustering of trainee radio mechanic. Many of these only opted for radar because they had failed the stringent medical examination for air crew. So tough was the selection process for the latter that Sgt J W Hillier, a radar mechanic, passed the aircrew medical with flying colours, only to be rejected because he was left handed.

It has to be remembered that by this stage in the war there were those who has already tried to enlist in the RAAF, but for one reason or another, were not accepted. Typical examples are Harry Duggan who had wanted to join aircrew as a W/T operator but was rejected on account of age, being in his mid 30s and A.G. (Digger) Nottle had had a ruptured spleen as a result of an accident in a sawmill which made him ineligible for aircrew. However, when recruitment for radiolocation was initiated, they were both asked to enlist - Harry as a direct entry and digger as a trainee radio mechanic.

Only six courses at No 1 School of Technical Training (1STT) - alias Melbourne Technical College, with civilian instructors - were designated as Radio Mechanics (RM's). All of these airmen went straight from 1STT to No 1 Radio (Radar) School at Richmond, NSW.

After those six courses, radar personnel were selected from Wireless Mechanic (WM's) Courses. Later on to meet the increased need personnel were also drawn from Wireless Mechanics trained by the RAAF at Point Cook, Victoria. It is of interest to note that an examination of a couple of students' note books reveals, in my opinion, the RAAF training was more detailed and probably better than that given at 1 STT.

All of the groups, who 'signed up' before Pearl Harbour, were told that they were being recruited for overseas duty, with England and the Far East being specifically mentioned. The entry of Japan into the war dashed the hopes of many who had been looking forward to travel to places foreign. Instead they had to be satisfied with travel in Australia, New Guinea and the South West Pacific Area in general.

A very important point to remember is that the stations in the RAAF Air Warning Network were manned by technical personnel, of all ranks, - probably in excess of 80% - who had little or no prior knowledge of radiophysics theory before enlistment. Their training was all 'in service', commencing either at Sydney University under Professor Bailey or at Melbourne Technical College or the RAAF school at Point Cook, before a course at Richmond.

Radar School

The prime reason for establishing No 1 Radio (Radar) School was the introduction of airborne radar equipment known as Aircraft to Surface Vessel (ASV). In July 1941 the first course for RAAF personnel in radar in Australia was held at Radiophysics. This was an ASV course and those attending were F/O M A Brown and F/Sgt A Llewellyn, Sgt Henderson-Wilson and Cpl H Lewis, all of whom were on the pre-war Wireless Reserve of the Citizen's Air Force, and Cpl R Howe of the permanent RAAF.

Under F/O M A Brown No 1 Radio School was then established in No. 5 hangar at the RAAF Base, Richmond. The first course conducted by the RAAF commenced on 4 August 1941. The students were F/O's R Wadsley, C Kerr-Grant, and J Weddell and P/O's B F N Israel, J Weir and A Lewis.

Pither, during his visit to the UK, had initiated the idea of the RAAF undertaking training in Australia for the RAF as he stated in his 1946 report:

> "....in compliance with the British request for Dominion personnel. I felt that this would ensure that a nucleus of ground personnel would be available in Australia if an emergency arose."

Some mechanics from the first course were posted to No 10 Squadron in the UK with the balance being posted to Radiophysics and the PMG laboratories "as assistants to the people engaged in experiments and production of test equipment etc."

In September 1941 S/Ldr A E Mitchell (RAF) with three RAF Sgts 'Spud' Taylor, 'Taffy' Jones and R Richards arrived from the UK, joining the Radar School in October. They brought with them a CD/CHL transmitter and receiver which was assembled at the school by Sgts Jones and Richards. The School then undertook training in both airborne and ground radar.

Pither continued by saying:

> "This training in ground radar which was originally planned for the RAF, eventually became the saving of the RAAF when a ground radar programme was started."

RAAF Given the Responsibility for Air Warning

Possibly the best way to tell the story of this event is another direct quotation from the Pither Report of 1946:

> "It is of interest to note that at this stage [August 1941] no policy existed as to whether Army or Air Force should man the organisation and as the Army manned the anti-aircraft defences, it looked as if the Army should operate the long range warning system. The only thing against this was the British precedent in which the RAF operated the warning system. It was not until October 1941 that the matter was given serious consideration and at this time War Cabinet, in agendum 421, decided that a long range warning system was necessary and a joint services committee was appointed to consider the matter and make recommendations. This committee, on which the DCAS [Deputy Chief Air Staff] was the Air Force representative, recommended the installation of warning stations at 32 places around the Australian and New Guinea coast (File 201/28/22) and also recommended that the RAAF man all warning stations.
>
> These recommendations were accepted in Defence Committee Minute 159/41 on 7 November 1941 and thus, on the eve of the outbreak of war with Japan, the RAAF was presented with a colossal RDF programme."

This was only one month before Pearl Harbour !

Examination of the files in Australian Archives gives a slightly different picture of the above. The committee in that October meeting actually recommended 26 locations and it was not until April 1942 that a list showing the 32 locations appeared in official documents.

The November decision actually went further than just the provision of a radar network. It also covered the whole of the air warning organisation. Unfortunately the filter rooms and operations were put under a separate command and W/Cdr Pither was very critical of the arrangement. An extract from his report reads:

> "At that time The Radar and Filter organisations were separate. The responsibility of the radar organisation ceased when the teller in the radar station passed his information by telephone or radio to the filter room. It was extremely unfortunate

that the people in the filter room usually had no conception of the problems or capabilities of the radar organisation, with the result that on many occasions radar warnings were wasted and many bitter misunderstandings occurred.
This unfortunate situation persisted until 1943 when, by determined effort, the Directorate of Radar gained control of the entire filter organisation and instituted a training programme which resulted in radar [operators] and filter personnel becoming more or less interchange able, producing an understanding which was successful in removing most of the difficulties. This organisation was afterwards handed over to the Directorate of Operations."

First Positive Steps

Whilst this review is concentrating on ground radar it should be recognised that the first tangible step taken by the RAAF in radar was the installation of an ASV in a Hudson in October/November 1941. There were other experimental installations of ASV prior to this time but these were done by CSIR.

S/Ldr (then P/O) Israel flew on a test flight in the Hudson piloted by F/O Bob Greene who was a Flight Commander from No 6 Squadron. Having completed an exercise for Radiophysics which involved diving several times, straight at an Army SHD set at Dover Heights, they flew south to test the equipment. Near Moruya they located a convoy at about 50 miles out to sea on the port side of the aircraft. They investigated the echoes because they were not advised of any shipping in the area. The convoy consisted of the *Queen Mary* and the *Queen Elizabeth* escorted by HMAS Adelaide all steaming south east at about 30 knots.

Availability of Equipment in October 1941

A report of a meeting of the Joint Planning Committee on 23 October, attended by W/Cdr Pither and Prof White and Dr Piddington of the CSIR, admitted that no long range air warning system existed and that on that date, there was only three sets available, namely one MB (Mobile), one CHL and one SHD - all held by CSIR. Prof White stated that SHD sets were being manufactured in Australia and it would also be possible to manifacture the CHL type.

He continued by saying that the local manufacture of the MB sets would present some difficulty and that it would not be possible to manufacture both MB and CHL at the same time.

The use of the acronym MB has caused some confusion to historians. The English applied this acronym to the second generation CH (Chain Home) transmitters which operated in the High Frequency Band for detecting high flying aircraft and were mobile in the UK. In the RAAF, this transmitter was used in the ACO (Advanced Chain Overseas) or TRU (Transportable Radio Unit) - Pither never referred to MB, he used TRU in his list of stations and equipment needs.

The October meeting was also the time when it was decided that the MB (please read TRU) should not be installed at Darwin as proposed by the Army but at Bombi where they expected it to give warning of high flying aircraft for the Newcastle, Sydney and Port Kembla areas. This period was before the birth of the Australian AW and reference was made to "the installation of CHL of local manufacture". The estimated number of the latter was 26 to cover the following regions:

Cape Blanche to Sandy Cape	*12*
Perth to Albany	*4*
Townsville to Cairns	*2*
Tasmania, incl Bass Strait	*6*
Darwin	*1*
Port Moresby	*1*
Total	*26*

Darwin was given the highest priority followed by Kiama and Port Moresby. Five of the Tasmanian stations were last on the list.

Using the decision of 7 November as his authority, W/Cdr Pither made the first trip to Sydney to select sites for stations. The sites chosen were Tomaree near Newcastle, Bombi near Gosford and Kiama on the south coast.

A second siting party, led by S/Ldr (then F/Lt) Rex Wadsley, was charged with the responsibility for selecting sites on most of the coast of Australia for the different types of fixed stations then being planned.

Since there was no supplier of equipment outside the UK, W/Cdr Pither had no choice other than to order English equipment for the 32 locations mentioned above and listed in Appendix A. The proposal was to have two sets at each location which followed the English practice of the time, one to cover high flying and the other for the low flying aircraft. Then six Ground Control Interception stations were added for fighter control at different locations. Naturally the UK equipment could not be obtained in a hurry and deliveries occurred over an extended period.

The First Australian Air Warning Station

Quoting from T.B. Alexamder's report RP 207/3 on the History of the Development of the Australian Lw/AW Equipment, dated 11 January 1945:

> *"On the 17th September 1941, the Radiophysics Laboratory undertook to investigate the possibility, of local manufacture of an air warning set, having a range of about 100 miles. The initial scheme proposed, was one using a SHD receiver cubicle hut with a simplified time base. The transmitter was to be similar to the British GL or CHL type. Very Little effort was directed towards this project in view of the commitments on the SHD and GL sets.*
> *On the 8th October 1941, a further investigation was carried out on the possibility of using two NT99 valves with spark modulation for the transmitter cubicle. This was done in an effort to avoid delay in building the CHL and GL transmitters. However, as no valves were available in Australia, no further was carried out and development was postponed pending their arrival."*

Then on 7 December 1941, the Japanese attacked Pearl Harbour. Mr Michael Moran interviewed Dr J. Piddington when researching his thesis 'Radar Defence and The Darwin Disaster, 1942' and wrote "its leader, Piddington, read of the Japanese raid riding a bus to work down in Pitt Street. At ten that morning he gathered a group in the Laboratory and, within a week, they built a set." Whether it was a mistake by the author or whether, with the passage of time Dr Piddington had forgotten, but there were no buses in Pitt Street in 1941, only trams which were replaced by buses many years later.

Evans gives a graphic picture of the events at RPL:

> "After Pearl Harbour, the need became frantic and an experimental set was rushed together at RPL in 5 and one half days using modified components of the CA [Coastal Artillery] No 1 Mk II (Aust) and based on the experience gathered so far with SHD, ASV and GL production."

The time scale is confirmed by Bruce Alexander, in report RP 207/3, that the Army manned the set at 9pm on 12 December 1941 and provided Sydney with air warning for many months.

Examination of archival files reveals that, on 15 December 1941, Radar School requested the authorisation of funds to manufacture masts, aerials, buildings and three warning sets using local components. The same signal included a statement that the experimental set was already in operation in Sydney.

The fact that Australia had no large manufacturers in electronics was probably a big advantage during the war. There is ample evidence that the Americans and Canadians bemoaned the fact that there was a two year lead time between design and manufacture. The end result was that their equipment was two years out of date when introduced in the field.

RPL produced what was to become the AW with whatever valves and materials were available at the time. Namely those largely used in both the ASV and SHD programs.

Fortuitously, the final product was extremely light in weight and therfore eminently suitable for use in the LW/AW. The writer is firmly convinced that the very low combined weight of the transmitter and receiver was achieved by accident rather design.

JANUARY TO JUNE 1942

Pither reports:

> "From the beginning of 1942 till the end of 1943 most RAAF effort was concentrated on the ground [air] warning programme. This was due to the fact that in the early part of this period air warning was vital in defence ....The programme was divided into two parts:
>
> (a) The establishment of fixed radar stations to fulfil the requirements of the War Cabinet Agendum, and
>
> (b) The provision of transportable or mobile stations to meet the needs of the moment in forward areas."

The first few months of 1942 gave indications of a situation bordering on panic. It became a hectic period of training, procurement, experience gathering and the establishment of a new section of the RAAF. Everyone involved from the top to the bottom was on a fast learning curve, particularly in 1942 and 1943 - some fell short of the standards required, most succeeded and some were brilliant.

W/Cdr Pither examined the installation at Dover Heights and immediately increased the order for the sets to be supplied by RPL from three to six, to "manufactured as experimental pre-production models".

The immediate question raised by the above is why, when things were so desperate, only six such sets were ordered. The answer is twofold and was recently found in archival file 201/28/22.

Firstly, Pither considered that "these sets will not be as efficient as the sets on order from the UK but they will fill a want".

The second part of the answer is probably the real reason. Pither said later that "the quantity of six has been fixed by the spares of valves available and the time taken in getting more produced". This confirms Bruce Alexander's statement on the shortage of valves in Australia.

The need for the first AW's, as they were later designated, was extremely urgent. F/O Frank Bound, then a mechanic, was one of the group of about six RAAF radar mechanics who assisted RPL in the manufacture of these "pre-production models". The Radiophysics History only states that the RAAF mechanics were at RPL learning about the AW !

On the question of co-operation, in 1942, all three Australian Services had personnel at RPL working with the scientists on prototypes of different pieces of radar equipment. W/O Vern Berrett was one working on the ASV beacons.

Australia should be thankful for the success of the AW transmitter and receiver since, with modifications, it continued to be the backbone of the Air Warning System throughout the remainder of the war.

F/Lt F H (Hal) Porter in his limited edition book *Adventures In Radar* states "In these early days of radar there was no red tape. W/Cdr Pither was given or took 'carte blanche'."

It could be said that RAAF radar grew as a private empire - possibly there were few if any alternatives. While each Area of Command was informed about movements of stations and personnel into their areas, the assistance received by radar personnel ranged from co-operation to

obstruction. Possibly this was due in some cases to the cloak of secrecy surrounding this new and unknown activity but, in others, it can quite rightly be attributed to an Air Force version of a Colonel Blimp attitude. To quote Walter Bagehot - "One of the Greatest Pains to Human Nature is the Pain of a New Idea".

Bureaucracy and the accountants had not had time to establish controls or organise paperwork or accountability.

Since there was no real co-ordination by the RAAF early in 1942 for the development and manufacture of radar equipment, supply of bits and pieces, plus the procurement of spares, the position of Radar Liaison Officer was created to 'grease the wheels' of the new arm of the RAAF. S/Ldr (then F/Lt) Israel was the first appointee to this very important post which was initially located in Shell House, moving later to Stanton House, both being in Sydney, NSW. Pither reports:

> "This proved to be a very fortunate move. He was extremely energetic and enthusiastic and his intimate knowledge of Sydney manufacturers proved invaluable in assisting the manufacture and delivery of AW equipments. He maintained close contact with Radiophysics Laboratory, RIMU and the many suppliers of equipment and raw material and established an organisation which was to be of major assistance to the RAAF for the rest of the war."

In addition to carrying out the required duties of the post extremely well S/Ldr Israel's experience in industry and the brief Malaysian and Singapore Campaigns, was beneficial in many respects to the overall air warning system. His involvement in the special sets at Milne Bay and the birth of the LW/AW will be dealt with later.

Recruitment of Radar Operators

At the end of 1941 there was no mustering for radar operators because it seems that all recruitment to this stage had been for the RAF and not the RAAF. On 1 January 1942, W/Cdr Pither took action to create the new mustering, setting out the parameters for selection. In fact, in Australia at that time the only people who had had any experience in operating ground radar were the three RAF instructors at Radar School and they formulated the first training programmes for operators.

Some of the selection criteria for operators is quite interesting.

- *eyesight must be good but colour vision not important.*
- *normal speech free from the slightest speech impediment and no dialect or brogue.*
- *hearing normal.*
- *under general characteristics, Pither listed alertness, initiative, integrity. All applicants should be investigated from a security point of view. [This requirement also applied to all those previously recruited.]*
- *other comments included - a 'heavy' type rarely makes a good operator and a 'highly strung' person is likely to be erratic.*

The first 24 operators were to be drawn from within the service and it was not necessary for the person to have completed his drill course. Added to this was an addendum by F/O O'Neil wherein he recommended that "the first operators could be drawn from those airmen who had successfully passed the trade test for trainee radio mechanic and who had not yet started their training. These airmen could then be retrained as mechanics once sufficient operators have been trained".

A number of operators were then re-mustered for a variety of reason from aircrew, W/T operators' course, as well as from radio and wireless mechanics' courses at 1STT. Of the first 23 who arrived at Radar School on 5 January 1942, six were "classed as unsuitable and returned to 3STT". Another seven arrived on 8 January. This is the only entry in the School's history sheets where students were rejected and one can only assume that it was on the basis of something like a speech impediment of brogue.

The First Radar Station installed by the RAAF

The first ground radar station operated by the RAAF was installed by S/Ldr (then a P/O) R S Choate and party in collaboration with Radiophysics who had the equipment in their possession. RPL arranged for the set to be installed in an Army establishment at Shepherd's Hill, near Newcastle, NSW, using the aerial and building being erected for an Army SHD installation.

The Radiophysics History is incorrect in stating that the station had a CHL transmitter and an Australian receiver. W/O Arthur Field, and other mechanics, who worked on the installation agree that it had a CD/CHL receiver.

The RAAF installation party, consisting mainly of the students who were on No 1 Ground Course at Richmond, moved to the site on 31 December 1941 and the unit became operative on 10 January 1942. No number was allocated to the unit while it was at Shepherd's Hill.

Introduction of AW to the RAAF

On 20 January 1942 Pither reported that RPL had promised delivery of three of the experimental AW's by the end of the month, another on 7 February with the final three by the end of that month. The RAF had reportedly diverted three COLs which were on the water destined for Malaya, to Darwin and these were expected at the end of February.

The first AWs were allocated to Port Kembla, Rabual and Port Moresby. However, Rabaul had fallen to the enemy and it appears that the unit proposed for that outpost was sent to Darwin.

The two AW units for Darwin and Port Moresby were flown to their destinations. These early stations used modified SHD or AW aerials which were heavy steel structures. S/Ldr John Norrie reported a crop of blisters resulting from using a hacksaw to break one aerial down into components small enough to fit through the door of a DC2.

The Darwin set was air lifted on 5 February 1942 but did not become operational until 22 March when it immediately detected an enemy raid approaching Darwin. Thereby it became the first RAAF station to detect an enemy raid.

Much has been written about 31RS at Dripstone Caves, NT - some of it incorrect. Over the past four years statements have been collected from personnel who were there at the time.

Those stories somewhat contradict the hitherto accepted statement on page 435 of the book by D.P. Mellor, The Role of Science and Industry (Volume V of the series Australia in the War of 1939-45). The quotation is:

> *"The set sent to Darwin was accompanied by technicians of the RAAF, who, even though they were without manuals to guide them, felt confident of their ability to operate it. When an attempt was made they failed even to get the set on the air. While they were still trying to get it working, the Japanese made their first raid on the town."*

The eyewitness reports, all of which agree, clearly state that the array had not been erected at the time of the first raid, so Mellor's statement id incorrect. It was not a case of trying to get the set working, instead it was a case of being unable to even complete the installation due to inadequate lifting tackle, tolls etc. Incidentally, there is evidence that an elementary instruction manual existed on 5 February but apparently it did not accompany the equipment. There is no doubt that the efforts of CSIR were required in the end.

The question of the AW station at Port Kembla was, until as late as June 1992, somewhat of an enigma to the writer. Similar to Shepherd's Hill, it is not listed as an official RAAF unit, there was no written record of its existence, but Evans has said that the first three AWs were installed at Darwin, Port Kembla and Port Moresby. It has now been established that the RAAF, with RPL staff, installed the Port Kembla set at the Army base called Hill 60 - also known as Illoura Battery.

W/O (then Sgt) Harry Duggan was detached from Radio School to 3STT at Ultimo NSW, for the period 19 January to 27 February 1942. At first he worked at RPL assisting in the manufacture of the AW. Then, with some RAAF mechanics including Sgt Kirby, he worked with people from RPL on the installation at Port Kembla. The actual date when the unit became operational is not known but since Sgts Duggan and Kirby stayed on there for sometime after the station became operative, a guess puts the date at around 10-15 February.

An interesting facet is that Radar School, at the end of 1941, and the beginning of 1942, was the only unit under Pither's control whereby he could order equipment, establish and operate stations. This arrangement proved to be unsatisfactory and was soon changed. AN Anson aircraft was allocated to the school in January 1942 to calibrate both Shepher'd Hill and Port Kembla and was later transferred to 1RIMU when that unit undertook the responsibility of calibration.

S/Ldr Don Kennedy and his men operated Port Kembla for a short period while they waited for the equipment being made for Kiama.

Whether the Army operated the station as an air warning station or whether it was converted back to the original plan of being an SHD set is not known.

RAAF Coast Watching in NWA

Prior to 31RS coming on air at Dripstone Caves two coast watching units were formed, one on Bathurst Island and the other at Point Blaze. These two units performed the same duties as the Army and Navy coast watchers in other areas and reported direct by radio to No 5 Fighter Sector which was officially formed on 25 February 1942. No official records of these units have been located but a story about the unit on Bathurst Island has been told in *Radar Yarns*.

RAF Installation Party

Despite Pither's statement that appeals to the UK were "of no avail", in January 1942 a batch of English equipment was diverted to Australia, as mentioned above. In addition, an RAF installation party, with F/Lt G A (George) Day in charge, was sent to assist the RAAF.

Members of this party were F/Sgt Pete Williamson, Cpl Roy Martin and two Royal Canadian Air Force sergeants by the names of Wiltshire and Cheshire who were serving with the RAF in the UK. Rumour had it that the posting clerk in the UK thought that the surnames of the Canadians were the English counties in which they were born, resulting in them being sent to Australia.

Whilst the Australian Army had nine Canadian officers and 64 NCO's to assist them in the field of radar, Sgts Wiltshire and Cheshire were the only known Canadians who served for any extended period with RAAF radar.

F/Lt Day's posting was dated 19 February 1942, the date of the first Japanese attack on Darwin. With the time difference of 10 hours between England and Australia it would appear that the Air Ministry took immediate action on hearing of that air raid. F/Lt Day flew out to Australia whilst the others travelled by sea. Due to a mix up in the ships loading, their personal effects took 2 and 1/2 years to catch up with _them. This group of men was involved in radar installation, maintenance and modifications throughout the war with much of their time being spent on the English type stations such as Cape Cleveland and Milne Bay (the only COL in the New Guinea Campaign).

Later F/Lt Day became the Development Officer at 1RIMU and was heavily involved in such projects as the LW/GCI and the transit boxes used for both LW/AW's and LW/GCI's.

MAWD

The RAAF was lucky in obtaining the American SCR268 Gun Laying sets in February when the American Forces were diverted to Australia from the Philippines or the Dutch East Indies. They were originally offered to the Australian Army but as there were no American predictors accompanying the gun laying radar, the SCR268's became potential air warning sets and were handed to the RAAF.

RPL was consulted. They quickly and successfully produced the necessary circuit modifications to the time base and pulse recurrence frequency (PRF), changing the working range of the SCR268 from 20 to 100 miles. Thereafter this type was known as MAWD (Modified Air Warning Device). The Americans later modified the SCR268 for air warning purposes and designated it as SCR516.

Two MAWDS sent to cover Cloncurry (107 and 108RS's) were located at Quamby and Dalgonally Station near Julia Creek. To quote Pither:

> "Unfortunately, the absence of an adequate reporting centre rendered these stations useless."

The above quotation implies that both became operational but Sgt K Backshall, an operator from No 2 Course, stated recently that while 107RS at Quamby was 'on the air' the other was not put into use. On the other hand some of the MAWD sets performed very satisfactorily in other areas such as Darwin.

No 1 RIMU

The value of a Radio Installation and Maintenance Unit (RIMU) had been proved in the Singapore Campaign so 1RIMU was established at the Presbyterian Ladies College at Croydon, NSW. This unit also assumed the responsibility for forming stations, supplying spare parts and such activities as calibration, matching and phasing and airborne equipment.

WAAAF Operators

The decision was made to train WAAAF's as radar operators in the light of the successful performance of women with the RAF in England as it was foreseen that the RAAF operators would be needed for the combat zones.

The first group of 23 WAAAF radar operators commenced their study in No 11 Operators Course on 15 June 1942.

Involvement of Civilian Construction Authorities

When the early fixed stations were being established, the RAAF had no construction arm which could handle the concrete structures and the erection of the steel aerials etc. In consequence approaches were made to the Department of the Interior. A special section was created within the Department and standard buildings were designed for radar stations.

Architects and engineers visited most of the sites on the mainland, prepared plans and specifications and supervised contracts from their local offices. In the case of the ACO type stations, the Allied Works Council provided the staff to erect the two large timber towers and all the associated buildings at each site.

All of these activities were quite satisfactory but the establishment of a station became a comparatively lengthy and costly process. The advent of the LW/AW, which was wholly within the sphere of RAAF operations, made the services of outsiders unnecessary. There were some LW/AW stations in the North West area where the RAAF used a separate construction team which preceded the radar station and staff. Their involvement was to erect the camp when it was thought that the station would be of a permanent nature.

Summary of Stations Established

In this half year period no less than 18 stations, manned by the RAAF, became operative. Ten were fixed stations using AW and COL equipment, mainly around the Australian coastline and Port Moresby. The other eight were MAWD's or modified American SCR268 sets.

In addition seven Fighter Sectors were formed during this period being located at Preston, Vic; Bankstown, NSW; New Lambton, NSW; Brisbane, Qld; Townsville, Qld; Darwin, NT; and Port Moresby, PNG.

Possibly the outstanding station of this period was the AW which was air lifted to Darwin on 5 February 1942 and located at Dripstone Caves. It was the first station to detect enemy aircraft in a combat zone on 22 March 1942.

Whilst they were not recorded as being RAAF stations Pither states that there were another five stations using American SCR270 equipment and operated by American personnel which reported to the local Fighter Sector in their area. They were located at Paluma, Ayr and Caloundra in Queensland, and Gin Gin and Mundijong in Western Australia.

Once again, the number of American stations is a grey area with Pither reporting the above locations whereas F/Sgt John Carlson, who was one of the first to join 3 Fighter Sector at Townsville, recalls that the American units were at Mount Spec, Cape Bowling Green, Cape Cleveland (for short period), Magnetic Island and Castle Hill.

JULY TO DECEMBER 1942

General

In mid-1942 RAAF Command was formed and sent to Brisbane to maintain close contact with General Macarthur's Headquarters which had moved there to be closer to the war itself. From that point RAAF Headquarters in Melbourne had no responsibility in the tactical deployment of radar units concentrating on the development and supply of equipment and personnel, leaving the disposition to RAAF Command in Brisbane. It has been said that from many points of view this whole arrangement was not a happy one in 1942.

Also in July, the responsibility for the co-ordination of radio, radar and signals equipment was given to the Ministry of Munitions. To quote from a report by Mr H.J. Barnes, a Senior Project Supervisor in the Radar and Signals Supplies Section:

> *"Prior to July 1942, the various Defence Services looked after their own interests in the matter of procurement of electronic equipment with the result that the Services were thrown into competition with each other and the larger organisations in the Radio Industry were thrown into competition with the smaller units with the consequent lack of co-ordinated effort."*

In the defence of Australia in this period, a very significant event was the establishment of 38RS on Bathurst Island which gave Darwin and extra 70-80 miles of coverage. The increased warning was beneficial to the Kittyhawks so giving them time to reach sufficient height to attack the enemy bombers.

Other notable events of this half year were the erection of 37RS the 'heavy' COL station at Milne Bay, the birth and introduction of the LW/AW, and the use of ASV sets as early warning at Milne Bay.

Radar School was working at full pressure and the courses were modified as time progressed and experience was gained, to include additional topics such as calibration and new types of power supplies. *Instruction of Filter Officers was also undertaken at No 2 Fighter Sector at New Lambton, NSW.*

Pither used Israel as a 'fix it' man. He had been sent to Singapore late in 1941, became the first Radar Liaison Officer, was consulted on technical matters and in October/November 1942 was sent on a survey tour of New Guinea. This trip was needed because of reports that personnel on many of the more remote stations were suffering from inadequate medical back up and lack of support such as regular deliveries of essential supplies, food and mail - virtually forgotten outposts. The report supported Pither's representations regarding the need for the formation of Radar Wings in forward areas and resulted in them being established early in 1943.

Birth of the LW/AW

Before proceeding, it is necessary to clearly differentiate between the AW and the LW/AW types of equipment since several writers have shown confusion on this point.

Certainly both types used the same transmitter and receiver but AW, in the RAAF, designated a fixed station using the AW or AW Transportable aerial. The latter bolted together in the field - but it still took some time and effort to erect as it weighed about 12 tons.

The LW/AW was a 'marriage' of the lighter (LW) aerial system designed and constructed by the NSW Government Railways and the AW transmitter and receiver - hence the acronym LW/AW. The equipment and operators were housed in a canvas shelter under the aerial. The aerial was turned manually by the operator and the whole radar set rotated with it. The station was assembled and established by the station personnel.

Now to its birth.

W/Cdr Pither had felt the need for an air transportable air warning set as early as December 1941. In addition, on his return from Singapore, S/Ldr Israel told the Director that mobility was an essential element of air warning particularly in a fluid situation.

Action on further development of a lighter aerial was delayed for a few months because it was essential that all efforts be concentrated on the establishment of stations required by the War Cabinet. S/Ldr Choate examined the AMES Type 6 set - the English Light Warning equipment with limited range used at beachhead landings - and reported "for the purpose required it was a complete failure".

When the pressure had eased slightly, S/Ldr Israel asked W/Cdr Pither whether there was any objection to him having preliminary discussions with Radiophysics on the idea of using an aerial similar to the English CHL system. When Dr J Pawsey, of Radiophysics, was asked for an opinion he indicated that he saw no objection to a four bay aerial with open wire feeders as opposed to the AW three bay array.

In June W/Cdr Pither wrote to Mr Worledge at the NSW Government Railways, asking him to investigate the possibility of manufacturing an aerial with the same performance as the CHL array and weighing about 2-3,000 pounds. *The task was given to Mr E.M. Bullock, a very young newly graduated engineer, who worked for Worledge. Three alternative designs were submitted, one was selected but some refinement was needed. Consultations with the RAAF ensued resulting in a final design which was considerably lighter and much easier to assemble and erect in the field. Matching and phasing of the array was also an easy task. The railways performed the outstanding feat of delivering the first LW/AW aerial to the RAAF within 30 days from the acceptance of the final configuration.*

Clearly the success of this unit hinged on the AW radar set developed by Radiophysics. In 1942 this set, with the Worledge aerial, was so much lighter than any air warning set in use overseas that it could possibly be classified as the first truly air transportable equipment.

The first LW/AW unit was rushed into service. To quote Pither once again:

> "It had been with some misgiving that this move had been made. The array had been constructed without any [official] advice or consultation with Radiophysics who, when they heard of it, condemned it as impracticable, and in fact adequate operational trials had not been made prior to sending the equipment into operation, so great was the urgency."

The Achilles Heel of the LW/AW was the lack of a suitable light weight power supply. Early sets used a two cylinder air cooled engine, normally used in Howard Auto-cultivator farm machinery, driving a 2.5 KVA alternator. The Army had 'collared' the whole output from the factory but, after much persuasion and conferring, agreed to make some units available for the LW/AW. These small

units were never intended to run 24 hours a day, seven days a week, which resulted in a lot of mechanical trouble in addition to having significant voltage and frequency fluctuations during operation.

The virtue of the Howard was its lightness in weight. Its usage was only possible because the power consumption of the whole LW/AW was small. One has to remember that this power of 2.5 KVA also supplied the lighting in the tents etc for the camp. A modern electric stove consumes much more electricity than an LW/AW station did.

The second generation power supply for the LW/AW was a 5 KVA alternator driven by a Ford 10 petrol engine. Whilst this was a vast improvement it weighed some 1500 pounds. Since two units were needed for a station the provision of power made up the major part of the overall weight to be transported and manhandled through the surf and up steep bluffs.

If one were asked for the main reason why the LW/AW was so successful, especially when it initially had such a poor power supply, the answer would have to be the excellent time base unit in the indicator panel of the AW receiver. None of the time base circuits in the English or American sets of the time could have survived operationally with the large voltage swings which occurred with the Howard power supply. Even when relatively stable power was provided to the COL, GCI and ACO stations, the operator generally had a Variac autotransformer at his/her feet to continually adjust the input voltage to the receiver in order to maintain a constant trace length and range calibration.

301 and 302RSs at Milne Bay

These two stations, using modified ASV equipment, were used as special units and established in 1942 for coverage of possible Japanese shipping movements at Milne Bay. However, the RAAF official list of stations only shows 301 and 302 RS's as being formed on 20 February and 21 April 1944 respectively.

The background to the use of ASV sets for early warning stems from the Singapore Campaign. Late in 1941 S/Ldr (then P/O) Israel and P/O Andy Lewis were sent there to assist the RAF in the installation of ASV to aircraft but the situation rapidly got out of hand. Unfortunately they did not have either an Impedance Measuring Set - known colloquially as the Buggery Bar - or the details of the necessary lengths of coaxial cable needed to properly match impedances of the system. Security in those days was such that no one was allowed to carry any circuits or details of equipment with them when they left Radar School. Despite many signals to Australia this vital information was never received. S/Ldr Israel was sent back to Australia to get the information but Singapore surrendered before he got to Melbourne.

The two RAAF officers also held discussions with the CO of the local RIMU and recommended the use of an ASV set with Yagi aerials, mounted in a small truck for mobility, and using the truck engine driving an aircraft alternator for the power supply. There were ASV sets and aerials available because so many aircraft were being shot down. The idea was to use these sets on the mountain ranges in Java for early air warning as the Allies retreated. S/Ldr Israel told W/Cdr Pither of the discussion as outlined above and this is believed to be the genesis of 301 and 302 stations, which were located at the entrances to Milne Bay - East Cape and Kanakopi.

They were assembled with a sense of urgency in RAAF Headquarters, Melbourne. The aerial was made by the then PMG Department. Matching and phasing was done by S/Ldr C Resch in Melbourne prior to sending the units up north. It appears that only two of this emergency type of early warning were actually used.

The above somewhat contradicts G/Cpt E R Hall, who in his book *A Saga of Achievement* stated that they were developed as 'gap fillers' to extend the usefulness of radar coverage. To quote Hall:

> "The equipment was an early ASV set, later changed to an Australian ASV Mk II equipment, with a small aerial with six dipole elements. The set was tested at Home Hill, near Townsville, Queensland, and moved to Milne Bay to play an important role in the defence of Milne Bay during the heavy attacks early in 1943."

W/Cdr Pither stated that these were the first transportable radars used by the RAAF and indicated that lessons should have been learned. To quote him:

> *"From the beginning the enterprise was unfortunate. They were sent out into the blue and were immediately forgotten, with the result that they became unserviceable, the personnel were neglected, and serious loss of life could have occurred under less favourable conditions."*

Similar concepts were used by the RAF to protect the entrance to the harbour at Alexandria, Egypt and in Canada a similar unit (Nightwatch) was developed. From these beginnings, the UK developed the AMES Type No 6, as a short range Light Warning set. The latter was also produced in Canada using the English NT99 transmitting valves with North American components, becoming known as the SCR602.

Summary of Stations Established
In this period 14 AW or COL fixed stations, one fixed ACO type, three GCI stations and seven LW/AW's became operational - a total of 27 including the two special ASV units at Milne Bay. However, six MAWD's were disbanded as were the Milne Bay specials.

Two more Fighter Sectors were formed at Brisbane and Cairns in Queensland.

At the end of 1942 there were 37 operational stations - a creditable performance considering that there was not even an organisation at the beginning of the year.

The syllabus for each course at Radar School was revised and expanded in the light of experience gained in the field.

It is interesting to note that the first Americans arrived for training in July. Their lack of radio knowledge was such that they were trained as operators and not mechanics as originally intended. The OCs of American units had used the opportunity of getting rid malcontents regardless of their capabilities.

1943

General
This year saw a more stable situation and it became possible to plan ahead and aim at the production of equipment to meet special purposes. RAAF Headquarters in Melbourne had the responsibility of supplying equipment etc to meet the requirements set down by RAAF Command in Brisbane and to notify them if there were any shortfall. Research and development such as the new radar sets, which were being developed by Radiophysics, was under RAAF Headquarters.

Breakdowns occurred in tropical areas due to excessive humidity and arcing between high tension components were reported from some stations. Early in 1943 it was observed that these incidents usually took place after units had been switched off, sometimes for only a short period. The fitting of a heater in the base of the cubicles of the AW, to be switched on when the unit was not on line, maintained the ambient air temperature at a level sufficient to prevent condensation. Later the high tension transformers were sealed in air tight containers as an extra precaution.

Severe damage to electronic racks and components occurred due to moisture and the growth of fungi when they were in storage or transit. Not only was the cost of such damage high but it also resulted in serious delays in stations becoming operational. Committee L, comprising Allied Services and civilian experts, was the prime mover and co-ordinating force, arranging tests and

recommending standard procedures etc for tropicalisation. Several groups including RPL, Army and 1RIMU were also involved in testing of components.

A nice comment on the end result comes from Guerlac who in his book *Radar In World War II* said:

> "The Australian built LW/AW was the first light-weight radar available to the US forces in the SWPA. This set, which was rushed into production after Pearl Harbor, was particularly distinguished by its excellent tropicalisation."

Two major decisions were made in late 1943. Firstly the ACO and COL programs were stopped except for Lee Point, Cape Fourcroy and Cape Don where AW equipment was replaced with COLs. The second was the British decision to introduce the Mk III Identification Friend or Foe (IFF) necessitating the use of an Interrogator to 'read' the IFF responses. Another transmitter, receiver and aerial were required at each station to interrogate the Mk III IFF. The American BL4 unit, designed for the US Navy, and operating at 176 Mc/s was used by the RAAF for this purpose. A hectic installation program was begun in August/September.

Establishments of Radar Wings

Three Radar Wings were established early in 1943, No 41 at Port Moresby, No 42 at Townsville and No 44 at Darwin. The purpose behind the formation of these new units was to achieve a better system for control and maintenance of the stations in their areas. A pool of personnel was held at each Wing for replacements of staff. A store of spare parts was also held and RAAF Communication Flights made deliveries of urgently needed items to individual stations. The Wings took better care of the welfare of personnel by providing better services including medical liaison plus the all important mail and a watching brief on food deliveries.

Each Wing sited new stations or moved existing ones to suit the needs of operations and this was normally done following consultation with the local Ops Group.

Radar Officers' Conference

All area radar officers, CO's of the three Wings plus representatives of Radar School, 1RIMU and the RNZAF attended a conference on 23 August 1943. G/Cpt P Chamberlain (RAF) had just arrived in Australia on exchange duties, taking over the post of Director of Radar, from W/Cdr Pither who went to the UK. For the first time senior officers came together to discuss common problems. More importantly the timing was excellent because the drive towards Tokyo was about to commence. The opportunity was taken to advise senior officers of the need to adjust their outlook and thinking as the overall situation was changing from defensive to offensive tactics.

The conference had a big agenda and lasted for a week. Minutes of the meeting were very sketchy but hearsay evidence is that it "was extremely beneficial to all concerned and the service in particular."

During the first half year some 42 stations were formed of which 22 were LW/AW's, 14 were AW's or COL's, four GCI's and two ACO's - the biggest number of RAAF stations formed in a six month period during the war.

The second half year saw a total of 24 stations established of which 12 were LW/AW's, four fixed, two GCI's and six ACO's.

An additional two Fighter Sectors and three Fighter Control Units were formed in the year. Furthermore, the number of personnel (1642 on 112 courses for ground radar) trained during 1943 was greater than in any other year of WWII.

On a different front, Section 22, a joint services radar counter measures activity, was created with headquarters in Brisbane. Its name was derived from the fact that it started in room 22 and was very secretive - even more than radar itself.

305RS was one of the prominent stations in this period and its history has been well documented in the *Secret Action of 305* by Norm Smith and Frank Coghlan.

Possibly the most outstanding station at the end of the year was 335RS which accompanied the American forces when they landed at Pilelo Island - the first RAAF radar unit involved in such a landing. The full story is included in *Radar Yarns*.

1944

New situations arose during this year. There was a shortage of manpower in the country, both for industry and the services. Also there was a difference of opinion between Radiophysics and the RAAF as to whether the air warning system should become centimetric. And there were changes in the administration of the radar stations.

With regard to the manpower shortage, it was not as serious as some have indicated as far as ground radar was concerned. RAAF Command had asked for an additional 2,000 radar personnel, including air mechanics, in its program for 1944 and the answer was that the RAAF allocation for manpower in that year was such that only 1,000 "could be produced and it was their responsibility to use them as they thought best".

The mobility of the LW/AW had been clearly demonstrated and this feature was fully utilised. As the theatre of war moved away from Australia, units were shifted from one site to another which made much better use of both material and personnel.

About the same time, it was decided that no more fixed stations would be erected. As a further measure many of the mainland stations were placed on almost standby conditions only operating a few hours through the day. *The stations on standby were those south of the line from Brisbane in the east to Geraldton in the west - this line could almost be described as being the Reversed Brisbane Line.*

This action permitted more radar personnel to be made available for stations in combat zones.

Sir Frederick White, the first Chief of Radiophysics Division of CSIR, visited the UK in 1943 and on his return recommended to the services that they should 'modernise' and go centimetric. At this point the RAAF had had considerable success with the 200 Mc/s LW/AW Mk IA, local industry was geared to the production of a standard model and all the RAAF personnel knew it inside out. Furthermore the Japanese Air Forces had suffered some major losses and enemy counter measures were virtually non existent.

In hindsight the RAAF probably made the correct decision at the time - to stick with the LW/AW Mk IA.

It is interesting to note that the RAAF's usage of 56 LW/AW units was less than half of the total LW/AW units manufactured in Australia, the remainder was used by the US Forces (60 units) and Mountbatten's Forces in Burma (12) such was the quality of the equipment.

The first half of the year saw the unnecessary loss of life on Bat Island, 340RS, from scrub typhus. The opinion of a junior officer who opposed the selection of the site on the basis of his pre-war knowledge of the region was over-ruled. However, from that time medical approval had to be obtained prior to establishing stations in remote areas.

340RS was one of five radar stations which accompanied the Americans to the Admiralty Islands with the others being based on Manus and nearby islands on the northern side. These stations played a very significant supportive role for the Americans and some 25 bomber crews were rescued as the result of their vigilance.

In mid 1944 it was decided to disband the Radar Wings at Port Moresby, Darwin and Townsville and transfer the control of the individual radar stations to Mobile Fighter Control Units or Air

Defence Headquarters. Additional Radar Installation and Maintenance Units were formed and given some of the Wings' former responsibilities. RIMU's handled the technical necessities of stations.

The capture of a Japanese 'spy' boat by the personnel of 326RS was an unusual event in August 1944, with the station staff becoming boarding parties. The story of this happening is told in Radar Yarns.

It was not until late in 1944 that an early requirement for special training for newly formed stations could be implemented - the heavy demand for stations in forward areas precluded what Pither saw as a need. A special organisation was set up at Radar School for jungle training of personnel who were then sent to mountainous country nearby where they carried out several weeks training in camp life and operations. Pither said, "This produced, long after it was due, a party of men who had some chance of looking after themselves when they arrived in tropical areas."

There was a marked drop in the number of new radar units formed during the year. 11 LW/AW's, five GCI's and four LW/GCI's were established and it will be seen that even this number was halved in 1945. Certainly the re-positioning of stations had an effect but there are some who claim that by 1944 the Americans had sufficient stations to be able to go it alone in the push to the Philippines. *Pither stated that the manpower shortage was one of the reasons tempered with the fact that "The US 5th Air Force preferred to send RAAF radars to these jobs [340RS at Bat island], if not because the jobs were unsavoury at least because the RAAF personnel and equipment were the only ones in the area".*

Hal Porter puts forward an additional theory which may explain some of the drop off in the number of new stations:

> "Gradually equipment was improved, in particular waterproof packing, and bigger operations were planned, but a new bogey arose and beset the tiny radars and to a lesser extent other technical units - top heavy administration.
> Under the [Radar] Wing system the Americans stated that they required a station, ready for assault, in so many hours time. They got it. But times changed. Northern Command and 9 Ops Group were formed under RAAF Command, Brisbane. Macarthur's Hdqrs were in New Guinea. Further, RAAF Command and RAAF Hdqtrs were continuously running a trial of strength re who really had the say. By the time a request had passed through these headquarters several days had been lost and the reply usually was 'Not tomorrow but give us three more days'. Such a system did not satisfy our Allies and from Biak onwards, the Americans went in alone."

1945

As far as the expansion of the RAAF Air Warning Network was concerned, 1945 was just more of the same as 1944.

The major campaign was in Borneo and some 17 LW/AWs and LW/GCIs were involved. But RAAF radar was not used in the campaign for the Philippines and hearsay information from many sources claim that the Americans wanted our field units but not our bureaucracy - a sobering statement bordering on being an indictment.

Mention should be made of 350RS. It had the singular honour of never becoming operational in its career. No explanation has been found as to why this unit sat at Finschhafen for 15 months doing absolutely nothing. The writer found the following quotation, which comes from the April 1945 Operational Report, showed the OC's concern:

> "The morale is not high as may be expected on a unit which has been in existence for 15 months without becoming operational. The enthusiasm shown by the original

members of the unit is practically non existent. Discipline is satisfactory but harder to maintain than on an operational unit.
The response to the Third Victory Loan was most disappointing - there were only three subscriptions totalling £100. The attitude of some personnel towards War Loans is difficult to understand and is certainly no credit to them.

E T Robinson F/Lt. OIC 350RS."

Only nine new operational stations were formed before the war ended, four were LW/AW's and five were LW/GCI's but the service saw the introduction of the first two centimetric units which were Light Weight Low Flying Cover (LW/LFC). *These types were certainly lightweight in themselves but they needed a heavy 25 KVA diesel alternator and a motor generator set to power them.* Neither of the latter became operational before the war finished.

THE OVERALL SCENE 1942-45

The following table, based on information which is still available, has been prepared to show the expansion of the network during WWII - in view of the paucity of official records and the errors found therein it should possibly be labelled E & OE.

	1942		**1943**		**1944**		**1945.**		
TYPE	**J-J**	**J-D**	**J-J**	**J-D**	**J-J**	**J-D**	**J-J**	**J-D**	**TOTAL**
AW or COL	10	14	14	4					42
MAWD	8								8
GCI		3	4	2	5				14
ACO		1	2	6					9
LW/AW		7	22	12	8	3	3	1	56
LW/GCI					4	4	1		9
LW/LFC							2		2
Milne Bay Specials		2							2
No. Established	18	27	42	24	13	7	7	4	142
No. Disbanded		8	1	1		3	1	4	-
No. Operational	18	37	78	101	114	118	124	124	-

It would appear that the 56 LW/AW's were operational at 117 sites. Some other stations such as the MAWD's and GCI's also operated at more than one location. In total then, RAAF radar stations operated at some 210 sites.

Operations and Filter Rooms

There is no doubt that problems existed in this area and the following is quoted from the Pither Report.

"*The Air Defence Organisation in Australia got off to a bad start but it is most surprising that no real attempt was made to rationalise it for three years....In January 1942 with the fall of Singapore a frantic programme was commenced in Australia for the provision of filter and control rooms at focal points. At the same time a training organisation was established at New Lambton, Newcastle, this school being intended to become operational in the event of an attack occurring. No good purpose will be served in outlining the incredible series of mistakes and disorganisation which followed but the trouble can probably be traced to the failure of the Air Staff to realise the requirements of Air Defence.*
The Air Staff at that stage was a mixture of American, Australian and RAF, the RAF personnel being aware of the requirements and trying to establish an organisation following the British precedent, while the remainder worked on ideas of their own. The first result was a control organisation which had no connection with or understanding of the reporting organisation - either radar or air observer corps.

These misunderstandings were exaggerated by the personnel who were chosen as controllers; in most cases were failed aircrew or other officers who had no conception of the problem of air defence. The situation became worse until in 1943 [when] I was able to gain control of filter rooms and combine them with radar into one organisation, thus remedying part of the difficulties.

Another factor militating against success was the influence of ex-3 Squadron personnel at RAAF Headquarters. These officers had come from fighter squadrons operating in the desert and had established excellent names for themselves. Unfortunately, however, they had had no experience whatever of static air defence and had never been controlled by radar for an interception. They tended therefore to think of fighters in terms of desert warfare, tactics which were extremely successful at Milne Bay but were quite unsuitable for the defence of Darwin.

Further difficulties arose in the case of GCI controllers which was partly due to the fact that the number of Japanese was very small and there was no real need for GCI control. Nevertheless and rightly, the Air Staff required GCI facilities at all fighter sectors.

It was not until 1944 that this GCI problem was straightened out with importation from England of two trained officers, one experienced in GCI and the other in filter rooms and fighter interception. Meanwhile the lessons had been learned in operational areas, particularly at Darwin, by bitter experience, and Darwin became a very efficient air defence organisation. Moresby on the other hand was under control of the Americans who had not by this time developed a really successful system of control of their own.

It was unfortunate that while the RAF control system had been adopted in toto by the American training organisations in America and in fact officers trained in this system were being sent to New Guinea from America, the Americans in New Guinea refuse to abandon their local system and the controllers from America had to forget the British-American system and learn the local New Guinea system. And so it went on until by the time of the Philippines were reached and the RAAF was operating from Morotai, experience, combined with a certain amount of advice from overseas had produced an effective control system. In the case of the RAAF this resulted in the establishment of MFCU's and ADHQs, where the fighter defence organisation was an entity, radar, observers, control and fighters all being under the officer responsible for air defence."

Radar Countermeasures

Section 22, a joint services group, was formed for the purpose of combating enemy jamming etc. 'Ferret' aircraft were being equipped at the end of the war. Many people wondered at the time why the Japanese did not make better use of their knowledge of radar and its principles both in their tactics in the air and in defence. A captured document, which was translated after the war, confirms that the Japanese did have considerable understanding of the subject and made recommendations in most areas. To quote from that document:

> *"The apparent lack of use of information gained from early warning nets is the inherent difficulties of the Japanese language, which is unsuitable for the transmission of orders/instructions without writing down the characters. This is especially true if the subject matter is technical or complex. This may account for lack of an adequate communications system which is vitally important when using a radar warning net, or fire control equipment."*

Conditions on remote Stations

It is hoped that this brief history has given the reader an overview of the air warning network and before closing, it may be opportune to look at the effects on the personnel who manned the units in the SWPA.

To cover the 210 sites, all forms of transport were needed ranging from road, rail and aircraft to merchant ships, landing barges, a converted mud barge, requisitioned pleasure boats, pearling luggers, hired fishing boats even human portage - all involving a lot of sweat.

Quite a number of radar units were stationed in extremely isolated locations for long periods - on many stations personnel served for 15 months without relief - sometimes virtually behind the Japanese lines. Many who served on those isolated stations feel, even today, that they were neglected. Mail and food supplies were both irregular and infrequent - once on location they were largely forgotten except of course when they 'went off the air'.

This question of giving long term serving men relief was addressed in 1944 but it was found that there were not enough technicians, particularly operators, in Australia to replace these men. One explanation put forward was that the selection process had approved people for training who were medically unfit for the tropics, to old or too young, screened personnel and finally those unable to go because of compassionate reasons.

Nevertheless, everyone who served on a radar station, particularly in combat zones, made a significant contribution. Of course the success of a unit depended primarily on the radar personnel. The Officers, Mechanics and Operators were all working in the forefront of technology, an area which may now be called 'raw radar". There were no computers and everything was done manually.

Non-radar personnel, such as W/T Operators, Guards, Cooks Fitter DMT's and Clerks played their part often as general dogs' bodies and labourers carting fuel and other items in addition to their allotted duties. Their efforts were largely unrecognised but their contributions emphasised the criteria needed on a small isolated unit - team work and efficiency.

The isolation and poor food supplies placed extra stress on the Cooks. These men were an important element in maintaining morale on a station and most of them tried everything in their power to make the food at least palatable.

A radar station without power was literally powerless. Some of the Fitter DMT's slept alongside the noisy cantankerous Howard driven alternators and woke immediately if the motor changed its beat - such was their devotion to duty.

Civilian Input

Due recognition should be given to the civilian input to the overall scene. Radiophysics was responsible for the design of the extremely important AW transmitter and receiver and gave the RAAF continuing technical support and advice throughout the war. *In a proposed book, Technicalities and Generalities, an overview of the different models of equipment developed by Radiophysics will be covered even though some were not put into general usage.*

Similar support was received from the NSW Government Railways, the manufacturer of the LW/AW tower and array, and industry generally, even to furniture manufacturers who made the transit boxes for the LW/AW. *In fact some 60 odd companies and contractors were used during the war, working on RAAF ground radar equipment.*

Conclusion

In writing this brief history, there was no intention of detracting from the efforts of the Army and navy in the field of radar or the Coastwatchers who fulfilled another need with distinction.

Our appreciation should be expressed primarily to the late Air Commodore A.G. Pither CBE, the father of RAAF radar, who built the network from nothing at the end of 1941. The introduction of radar to the Defence Forces was probably the biggest scientific change the services had suffered since the invention of gunpowder.

Regrettably, the writer is convinced on two points. Firstly that W/Cdr Pither cut too much red tape and ran foul of the 'establishment'. This raises the question as to whether he was sent on exchange

duty to the UK in 1943 so that the bureaucracy could re-organise the service to meet their demands or whether he was sent to gain further knowledge and experience.

The second point is more pertinent - the Australian manufacturing sector in 1992 could not match the efforts and output of the war years.

Finally, it is considered that the RAAF ground based air warning network provided the defensive and supportive roles needed during the war. All of the civilians and service personnel involved should feel justifiably proud of its achievements.

A JAPANESE TRIFECTA in the PACIFIC

For those unaware of the use of the word trifecta, in racing circles it means winning on the first three places in a race. This is exactly what the Japanese scored in the Pacific - Pearl Harbour, Singapore and Darwin. The tragedy is that all three cities were given air warning which was ignored or misinterpreted so that the Japanese were able to achieve surprise in the three attacks.

Pearl Harbour - 7 December 1941

Comment: The Arizona Memorial Association conducted a seminar from 7 to 12 December 1991 apparently as part of the 50th Anniversary of the attack on Pearl Harbor. The December 1991 issue of the magazine *Systems*, published by the Aerospace and Electronics Society of the American Institution of Electrical Engineers, contained some articles from that seminar. Joseph Lockard was the radar operator on 7 December 1941 at Opana on the island of Oahu. The following is a summary from the magazine including some of Lockard's recollections.

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Six SCR270B type radar sets arrived in Oahu late in July 1941 to be operated by the US Army Signal Company Air Warning Hawaii. The units were dispersed around the island and on-the-job training was begun. The initial results were more than satisfactory, in fact they were good. As an example, on 27 September 1941 there was an exercise with carrier based aircraft and the US Navy planes were detected at a range of 85 miles - almost as soon as they had taken off.

Stephen L Johnston believes that the success of the exercise "may have created a false sense of security of Pearl Harbor in the government in Washington, which may have led to improper actions in negotiating with the Japanese government then."

Lockard was on the 0400-0700 watch on 7 December at Opana on the northern most part of Oahu. The SCR270B was located at an altitude of 500 feet with a clear view over the ocean about a mile away. Inland from the antenna the ground sloped downward slightly before rising to the heights of the Koolau Range. Due to the high level of back radiation from the SCR270 antenna the Koolau Range caused interference extending more than 20 miles!!

Lockard had a new man, George Elliot, with him as the plotter and the direct line to the Information Centre [Fighter Sector] at Fort Schafter was in operation but only until 0700 hours when it closed because it was a Sunday when only a skeleton staff worked. There was little activity before 0700 hours but at 0702 when Lockard was giving George Elliot some training, a huge echo was picked up at 137 miles. It was moving but was not pulsating because of the large number of aircraft.

The sighting could not be reported because there were no plotters at the other end of the direct line. So Elliot rang on the other "general" line and eventually Lockard spoke to Air Corps Lt Kermit A Tyler stressing the unusual nature of the target, direction and size only to be told not to worry about it.

An officer of the USAAF, who was there in a training status, instructed the Opana operators to disregard the detections of the radar because he had anticipated a flight of US B17 bombers from the mainland about that time.

Waiting for the truck to pick them up for breakfast they continued to plot the target until around 0720 when it was lost at a range of 20 miles in the interference from the back radiation!!

Lockard ended his article by saying:
"The incident at Opana is one of those 'what if' footnotes in history.

Of all the scenarios one can devise about this event, the most intriguing to me is this; what if the attacking planes had left their carriers 15 minutes earlier?"

Pearl Harbor was first in the trifecta.

Singapore - 8 December 1941
G/Cpt(Rtd) E.R. Hall

G/Cpt Hall, the author of *A Saga of Achievement* has supplied the following information. G/Cpt Hall was a POW along with F/Sgt R R Prowse.

F/Sgt Prowse was a RAAF Wireless Operator Mechanic with HQ RAAF Sembawang and was transferred to the RAF Radar Section in the Cathay Building in Singapore after passing a course in radar. Here he was in charge of 20 RAF radar mechanics working on radar systems.

Prowse was on duty in the early hours of 8 December when he received a message from the Mk V COL radar station at Bukit Chuang, on the south-east tip of the Malayan Peninsula, advising that a large number of aircraft were approaching from the north. He immediately rang the operations room at Air HQ Far East Command.

This information would have given Singapore 45 minutes notice of the raid which was the first bombing of that city.

Like Pearl Harbor the information was ignored.

Singapore was second place in the trifecta.

Darwin - 19 February 1942
The Lowe Report and many books about Darwin have more than adequately covered the failure to take the proper action following the sighting of enemy aircraft by Father McGrath on Bathurst Island. The fact that no radar station was operative at the time is of little real significance - an air warning is an air warning.

W/Cdr Pither later said that, in his opinion, it would not have mattered whether the warning had come from radar or a visual sighting - the end result would have been the same.

As if the above is not bad enough, the story contained in the *Courier Mail* on 28 December 1988 adds insult to injury. It is not known how much of this incident was reported to the authorities in Darwin but here is evidence that the presence of the Japanese carrier force was known at least to the crew on the HMAS Deloraine and warning could have been given nearly 24 hours before the attack occurred on 19 February 1942.

Former Navy telegraphist Len (Buster) Crabbe has written to, and obtained information from, the Japanese and Australian governments, has studied naval records, including the log of the Deloraine and has written to many of his former shipmates. There is general agreement from the latter that Crabbe's version of the events is correct.

"It was about 1800 hours on February 17. We were in the Arafura Sea, about 12 hours out of Darwin, escorting the SS Admiral Halstead, an American cargo ship which was carrying 15,000 drums of aviation fuel from Thursday Island to Darwin.

We were heading into heavy seas at the tail-end of a cyclone; it was raining and visibility was pretty bad. Norm McKinnon was duty signalman on the bridge and he called down to me on the wireless room's voice pipe: 'Hey Buster, go outside and have a squiz.'

I went out... it was what you call the waist of the ship, a sheltered deck on the port side. There was a break in the weather and I could see an aircraft carrier quite clearly. There was what I took to be a cruiser behind the carrier and the smoke of other ships in the distance.

I wasn't sure they were Japanese, but they sure as hell weren't Australian or American. After a couple of minutes I went back into the wireless room and sat down. You could say I was shaking with patriotism.

If I'd been told to break radio silence and notify Darwin I would have... but we would have been a hole in the water a minute or two afterwards."

Signalman Norm McKinnon gave the carrier the regular three-blink challenge. The reply was a steady light which Norm could not interpret. "Maybe it was just as well", he said.

It appears that the Japanese knew that they had been spotted but decided not to open fire as the Deloraine would have been able to get a message out before it sank.

Buster Crabbe was not the only one to sight the Japanese carrier. Len Popplewell, a leading stoker on the Deloraine was one of a group standing at the rail and they all felt that there was no doubt that the larger ship was a carrier. To quote Len Popplewell:

> "I remember saying that we were in for a right bollocking and we would have been too if the weather hadn't closed in again so quickly... and if we had broken radio silence to warn Darwin."

The Deloraine arrived in Darwin on the morning of 18 February 1942, nearly 24 hours before the Japanese attacked!!

The ship's captain, Commander D A Menlove was sick in his cabin, nearly dead with dengue fever and on arrival in Darwin was taken straight to hospital. The Lieutenant, the second in command, was on the bridge and according to the sailors "was out of his depth and lost his nerve." The gunnery officer was not informed of the sighting and later in Darwin the story was that it was only a hospital ship which had been seen.

Buster Crabbe added that after the bombing the Lieutenant, "blamed himself and went bonkers later. He's dead now: they say he drank himself to death."

Darwin was third place in the trifecta.

323RS at ARMY POST No 5, MAPI POST, DIGOEL RIVER, DNG

Tony Craig

Comment: According to official records, 323RS was formed on 7 May 1943, moved to Boepel in Dutch New Guinea (DNG) on 24 July 1943 and Mapi Post on 23 June 1944 remaining there until January 1945. Tony Craig was one of a group who volunteered in Townsville to go to Dutch New Guinea and an officer verbally guaranteed that they would be relieved in "three months". Mention was made of Boepel in *Radar Yarns*, here Tony has prepared the following which is virtually an abstract from his unpublished manuscript *Where Birds of Paradise Fly*. Keith Flynn, who was the only member of the original team who served with 323RS on all of its overseas operations, has also written a book, *The History of 323 Radar Station*. It is hoped that both of these books will be published in the future as they both tell the full story in detail whereas the aim in this book is to give a cross section of experiences in RAAF ground radar.

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F/O Murray Robson, the first unit CO at Boepel, was relieved in early February 1944 by F/O Clarrie Mazlin. Murray had probably the only moving picture record of any of the stations in our area. A year or so after war ended I saw these movies at his home in Brisbane. Boepel in Technicolor was breathtaking in its beauty. The mud didn't seem so formidable on camera. I hope that someone, somewhere has conserved this archival film, so carefully recorded by this very gentle officer.

At this time Merauke was no longer being bombed from the north. Madang and Aitape and later Hollandia were captured by the allies accompanied as usual by our RAAF radars. For this reason the sector covered by Boepel became less significant and we were advised that we were to be moved west to somewhere on the Digoel River. This signal was dated 5 April 1944. Around this time volunteers were called for an advance party which left for Merauke soon after on the only boat we were to see for quite a while.

This small party included Keith Flynn, Des James, Bombo Penfold and Ross Shaw, nearly all the guards, one cook Percy Blood, and one steward. I decided to stay with the rearguard, with Cliff Broderick (Sgt), Fred Antill, Neil Trainor, Jack Fidler, Bill Maiden, Bill Cooney, Gordon Hickson, Dudley Whittle, Jim Molyneux, Stan Craven, Ken Hocking, Dick Ellis, Dave Baker-Smith, Kev Finney, Ray Healey, Henry ? (the new cook) and Clarrie Mazlin.

We were soon engaged in the dismal activity of striking the main camp. We were advised on 24 April that we were to move to Army Post No 5 on the Digoel River. Between this date and 9 June when we left Boepel, we had no supplies whatsoever. The dry season had set in and the river blocked but no airdrops were made. We were existing on a diet of macaroni and dog biscuits. We had coffee but no milk or sugar. If it had not been for our hunting and fishing parties and the kindness of the villagers we would have starved. As it was we gave up swimming, we were too weak to swim against the current in the river.

D Day, 6 June, was my birthday. We had then all moved to the Hotel Boepel on the banks of the river. We had dismantled the unit and moved the power supplies. Lighting was now by hurricane lamp. On that evening we were listening to Radio Australia on Cliff Broderick's tiny radio and there among the communiqués on the landings was a birthday call to me from my family in Brisbane. We were rather hungry at the time.

On 9 June an army boat AM 70 skippered by an army major arrived at Boepel. By midday of the 10th we were packed up and were part of a very "tear strewn" farewell. My hunting boys begged me not to go shooting on the Digoel, as the tribes there were heavily into head hunting. There were also rumours about a survey party for our unit being attacked. My diary notes state:

> "That night we ate. Who can forget such a meal? Bully beef and beans, beautiful solid food, bread & coffee."

We arrived in Merauke on 13 June to find that our advance party was already at Mapi Post. Eight of them had been flown in by Catalina flying boat, making what must have been a memorable and exciting landing on the river, the first ever attempted at the spot. Our thoughts were with Ross and Keith and Bombo at the time. We hoped they had taken plenty of firepower with them.

Keith notes that they were met by a small group of Australian Army personnel - I think they were a detachment of 61st Battalion. Some time previously W/Cdr Thompson, patrolling from Mapi with a small party had been attacked and he and two others were wounded by hostile natives. Later on Captain Wolfe, who had been up to Boepel had several heavy encounters with the Japanese.

While we were in Merauke Cliff Broderick and I went over the place with a jeep and a fine tooth comb, picking up everything that was not nailed down. My diary notes that:

> "rolls of flywire, boxes of valves, sheets of waterproofing and clothing galore found their way to the waiting boat".

Our clothes and boots were in tatters from all this time in the swamp jungle. During our five day stay we went to the RAAF picture show four times and visited a very uncharitable two-up game in a native hut.

We embarked on the trusty AM 7O at midnight of a stormy evening. The major, we called him Captain Blood, was tipsy and his bosun even more so. He occupied the only two cabins on the boat. We were allocated a twelve foot square hatchway for the sixteen of us on which we had to live and maybe sleep. As we inched across the gulf of Okaba, mountainous seas broke over us and we had to join hands to avoid being washed overboard. We were all seasick and had to support each other as we heaved over the sides.

Cruising conditions improved as we entered the Princess Mariana Straits after calling in at Cape Kombies. We travelled through the night, by now well into doubtful territory. I was on the twin

Browning's on the stern and was not amused when Captain Blood went socialising with an unidentified campfire on the north shore. Fortunately it turned out to be one of our army patrols, which included three brothers named Foley. Next day we came to the mouth of the Digoel River, "kali Digoel", where all the men were bad men according to our friendly villagers on the Merauke river.

As we bounced around in the swell at the entrance I heard the chatter of guns and there, high above us was a silver Liberator bomber being pursued by a flock of fighters. We had to travel quite a way upstream before we finally came to Mapi Post at the confluence of the Digoel and Kawarga Rivers. There was a group of native huts with badly shot-up roofs on the higher land of the point.

We berthed at the long, rickety jetty, luckily missing the ritual arrival of the tidal wave that daily ripped its way down the Kawarga into the big river, taking all before it. We were not impressed with our first view of Mapi and the place did not improve on further acquaintance. I counted 147 bomb holes in the cleared area. These were full of rainwater, which we selectively drank, showered in and watched the camp dog take his daily dip. The mosquitoes were unbelievable.

The day shift were vicious, hard biting little grey monsters something like "aedes aegyptii" and the night biters were the black anopheles type. We saw the cave on the point where a solitary army coastwatcher had operated his radio for months reporting the movements of the Japanese in the area. We used some of the flywire from the boat to mosquito proof one hut, using tents to waterproof the roof under the cannon shell holes. There was not room for all the beds in this hut and those not fortunate enough to be in it had to undress for bed under their mosquito nets.

The army guards could only work hour shifts at night, so bad were the swarms of mosquitoes that attacked them as they sweated through their shirts and gauntlets. We did not envy them as they paced their lonely way at night along the riverbank. Most of us were debilitated at this time and all had lost a lot of weight.

Just looking at the site I could not conceive how the unit could possibly be camouflaged. We had to take advantage of the only elevated point which was eighty feet above sea level. There was one large standing tree which we lopped the top off and used as an anchor for our block and tackle. As the local inhabitants were unfriendly, even hostile, we then had to start the heavy work on our own.

We made our way into the nearest stand of good trees. This was the other side of a shallow swamp nearly half a mile away. We cut tracks in with the parangs and felled a number of huge jungle hardwoods. This done, we trimmed off the branches and physically moved them across the swamp to the campsite by hitching ourselves to them like coolies or the slaves of ancient Rome. In my diary I note:

> "I can never think of these times without thinking of my friends, of Ross, Keith, Gordon and the rest and of the manner in which they slaved to get that unit erected. It was a filthy slogging game, this tree felling in the jungle and they never jibbed, even when sick, as they often were. I know now that many of them were, like myself, rotten with malaria, but those wonderful little Atabrine pills kept them vertical and in working condition. These were my friends and I will tell the world I was proud of them."

We dug deep holes for the other upright logs and hoisted them with block and tackle. Adzed cross members were then lifted into position to form the bearers for a floor. Entrance was by way of a long ladder through a trapdoor into the operations hut. As we were quite close to the equator, you can imagine just how hot that tent was.

We nearly lost Syd Hungerford, a radar mechanic, when one of the adzed cross members crashed down onto his back. Syd owed his life to the fact that he fell into a small depression in the ground and the log bridged over him.

The radar unit itself occupied roughly one half of this area with its metal framework and double walled tent and the other half was built into an operations room which was flywired. This was one unit that was literally saved by flywire.

In late July an army tug came from Merauke and cut loose the barge it was towing. We laboured into the dark unloading eighty tons of supplies along the flimsy jetty on the Kawarga side. For the first time we received such things as fruit juice and good canned fruit. The large cans of beetroot were a failure, many had swollen and burst.

The unit erection was completed the first week in August and full operations commenced shortly afterwards. The crocodiles were so numerous that we did not even think about swimming for quite a long time. They used to climb up on the mud bank near the jetty at low tide and make rude noises at the army guards who then peppered them with Owen guns. I think everyone was feeling the loneliness. I can remember one of the newer operators sitting up on the point at Mapi, day after day, shooting away into the river. Our one great standby was a Beaufort bomber of the sea patrol which zoomed in out of the overcast every morning and always dropped us something, be it only some newspapers. We were so grateful to this squadron, literally our only regular visitors.

During the construction phase we were visited by an RAAF Chaplain, a Catholic Priest, who arrived on the army tug. He was the only clergy of any kind to visit us. Imagine my consternation when he took me aside and said, “You seem to have a strong character, son. I want you to get all the Catholics, army and air force together, once a week and get them to say the rosary”.

There were a few things wrong with the idea. Firstly, I had never led a rosary group in my life and secondly I had no say in what the army boys did anyway. I gave it a try and those fortunately few faithful got to gather in one of the army huts. I cleared my throat impressively, tried to look important, turned on one of the army corporals and said, “Rightho corporal, you say the first decket”. He knew how, I had forgotten, and the show was on its way.

The army had a bond wood launch which they were using to patrol upstream from Mapi. The lieutenant kept a running sheet of maps of the area he visited each journey out on a small note pad. I got to know him and began to transfer this small map information to the large scale maps we had of the area. There were large villages never previously recorded on a map and lots of local geographical detail.

We also used that bond wood in other ways to relieve the boredom. The army delighted themselves towing us behind them riding a large native shield as an aquaplane. After gaining a measure of confidence they started doing figure eights with the boat and I spent some anxious moments way out in the Digoel River waiting to be picked up. Bombo Penfold and I went with them one day to observe the tidal bore from a safe place further upstream on the Kawarga River. Everything went wrong, the wave came out of nowhere on a curve of the river and the only thing we could do was turn around and ride it out - the longest ‘shoot’ on a wave I have ever experienced.

We nearly lost Keith Flynn one day. The heat was savage, as always and Keith and a few others braved the crocodiles to have short swim near the jetty at high tide. The bore came hurtling past and a series of whirlpools were set up which swept Keith out of the small bay into the main river. Keith was no great swimmer, but he kept calm, turned on his back and let the current take him. He was swept in a huge arc of the current right around Mapi Point and unbelievably returned to shore by the current round the bend on the Digoel side.

Mapi Post was an old Dutch police post and would have been quite an effectual prison. We were surrounded by dangerous waters on three sides and by swamp jungle on the other. Unlike our station on the Merauke there was no friendly village nearby, no opportunity to go walking nor hunting, no provision for outdoor sports. The boredom was unspeakable, the mosquitoes were murderous, the only relieving feature the companionship of our friends.

The CO, F/O Mazlin with only one RAAF companion, Cliff Broderick, the mechanic who arrived with him, set out on an adventurous trip up the Kawarga which they undertook about this time.

They went in the army bond wood with a canoe in tow armed with a small outboard motor on the stern. We did not know much about the reason for the mission, which was officially to organise a supply of new attap roofing to waterproof our huts before the wet season set in. They took with them a young Indonesian named Dom to act as guide and picked up some Kaya boys as paddlers. I would not have trusted Dom a yard. He impressed most of us as being a cunning, devious type and had told some of us he would have to get some heads soon as he was thinking of getting married.

None of the old hands were invited along, nobody with any jungle or hunting experience. Some of us were very proficient in Malay but neither of the leaders were. Nor did they know that there were several war canoes full of head-hunters from a village on the Obaa River already on the water and approaching Mapi. They arrived two days after the bondwood party left and beached below the unit on the Digoel side.

At that stage the Pastor Tanamerah had arrived in his old, old launch and was at our side when the war party, in full regalia, made the shore. We knew that they only put on the full gear when they were raiding for heads. The pastor shouted at them, requesting them to leave, which they refused to do. An armed party was formed and some shots fired over their heads, which finally decided them to move. We heard later that they were on their way to raid a village in the Siaka area nearby.

Meanwhile up on the Kawarga, the launch party had turned into the Namboenou River and negotiations were made with the Indonesian teachers of three villages re the supply of new roofing.

The following information is hearsay - none of us was there. It was decided to proceed further. The launch was left to return to Mapi and the crew took over the canoe and outboard.

We heard later that they were in a rather narrow stream and had just passed some really big crocodiles. The outboard was started, probably with some difficulty, and the canoe rolled over, spilling everyone into the water. Men, supplies, rifles and submachine guns tumbled into the stream.

When order was restored it was apparent that none of those native boys was about to go diving for the guns. The detail has been lost in the mists of the past, but believe me when I tell you that it was a very quiet party that arrived back in Mapi Post under paddle power some time later. I somehow think this event did not feature on the A50's of the time.

Fiendish practical jokes were the order of the day - any thing to break the monotony. Getting to bed at night was a ritual activity. We undressed under the nets and would be just subsiding onto the sleeping mat when the attack would start. We had all types of powders ranging from Johnsons Baby powder to anti-prickly heat to anti-tinea. These were applied to the victim in all the wrong places and the unprintable language was something to hear. In my diary I record the evening we decided that one of our cooks was not trying hard enough. After lights out we converged on him, lifted him from under his net and tossed him into the nearest bomb hole which happened to be full of water at the time. I think he was still asleep when he hit the water. He arrived back in the hut dripping wet and crying with rage. He dried himself, slapping a few thousand mosquitoes, then loaded his rifle. I was a little worried as he was in the bed next to me. I counted him load eleven rounds- a full magazine and one up the spout - so he really meant business. As it happened he had recognised someone from the hut next door, so shortly after, there he was in the moonlight with the gun at his shoulder calling out "Come out T..... and get what is coming to you ". At this stage every rifle in the other hut was levelled at his back.

"Turn around Henry" we called gently. He saw the dull glint of moonlight on gun barrels and walked slowly back to bed. Strangely enough his cooking did improve and I think we were all a little sympathetic about his near disaster. When we were not working we played cards behind the

flywire. I even solved problems in calculus on the plotting table. The mail came in regularly, by courtesy of the sea patrol Beauforts flying out of Higgins Field, Jacky Jacky, on the mainland of Cape York. In "*Where Birds of Paradise Flies*" I note that Mapi Post was the worst planned, worst camouflaged, worst located radar site I ever saw. At a slightly earlier stage in the war we would have been wiped out in one day - a single determined enemy fighter plane could have wrecked the lot and killed all of us with ridiculous ease. I often thank a benevolent providence that the Japanese turned lazy.

Strangely enough the unit was successful from an operational point of view. Because of the open, elevated site and the distance from the rainforest, results were consistently good. The record sheet for September 1944 shows that we operated for well over 600 hours and reported 1,408 plots. I consider that at the time the operations crew were quite fabulously efficient. They passed their information to Fighter Control, Merauke quickly and well. In another more active theatre of war they would have been invaluable.

As it was they were wasted.

After three months at Army Post No 5, Des James, Ross Shaw, Bombo Penfold, Dud Whittle, Keith Flynn and myself were relieved and posted back to Australia. If we left Boepel with some regrets, we left Mapi with joy in our hearts and a song on our lips.

Non, je ne regrette rien.

Our craft was the trimmest most eye catching small ship we had ever seen. It was a bond wood torpedo retriever all of sixty feet long. We stowed our gear in the only available dry space in the torpedo hold as the aerial array of our electronic effigy faded away into the distance. As we left the estuary of the Digoel the rain and heavy seas drove us below deck to breathe the sickening fumes of the big Chrysler engines.

It had been a long trip but it was nearly over.

Postscript: Tony and some of the original crew spent nearly fifteen months straight in Dutch New Guinea as against the verbal promise of being relieved in three. They were not to be envied at all - the long period of isolation coupled with no food being delivered to them from 24 April until 9 June!!!!
Neil Trainor, who was also with 323RS, confirms the fact that the unit had good results. When a preamplifier was fitted to the receiver they achieved ranges in excess of the calibrated 180 miles. The effect was so dramatic that Fighter Sector told "them to get off the grog". They changed their tune when plots were subsequently picked up by other stations.

HARRY DUGGAN

Comment: Harry Duggan is probably the only man who should be known to every officer and mechanic who served in ground radar during WWII. As a direct entry he went to Radar School in August 1941; was on the first course for mechanics; was one of the early instructors and was only away from the School for about six weeks during the war. Harry is now 87 years old and not in the best of health. Following recent serious operations his doctor advised him to sell his car - this he did but he then bought a motor scooter!! Yes, he obeyed the doctor's instruction in a literal sense. Gwen Cole (nee Stuart), an ex-WAAAF radar operator, interviewed Harry three times in May/June 1992 and the following is a summary of those talks.

***

The Days Before Radar

Born on 11 March 1905, Harry was attracted to things electrical at a very early age and learned Morse Code at about the age of 10. Near the end of WWI, War Bonds were being sold in Geelong

and one of the gimmicks was that a signal was sent to an aircraft flying overhead if someone bought a £5 bond. The RAAF was somewhat surprised when he was able to send his own message at about 20 words a minute. He was a member of a group who used the electrical supply lines of Geelong to send one another messages. He was one of the first four amateur radio operators (hams) in Geelong and in fact still operates on call sign VK3XI.

Moving to Warrnambool, VIC, he became an electrician, maintained wireless sets, had a travelling "talkies" show and conducted an electrical contracting business. At the same time he gained his SEC A Grade Licence, Radio Operator's Licence and a Boiler Attendants Certificate. He had intended to go to sea but getting married "put the kibosh" on that idea.

In the early stage of the war he tried to enlist in aircrew as a W/T Operator but was refused on the ground that he was too old. The mustering of guard or cook was proffered but Harry was awake up to this and said no on the basis of "once a cook always a cook".

By the time recruitment for radiolocation was started, Harry was running several businesses - a dry cleaners, a steam laundry, an electrical and radio business, a caravan park and a garage where his wife literally pumped the petrol.

Introduction To The RAAF

A letter arrived saying that the RAAF considered his qualifications fulfilled the requirements for a new mustering and asked whether he was interested. With the answer in the affirmative he was sent a rail warrant and asked to attend the recruiting centre in Russell Street, Melbourne.

On the assumption that, if accepted, the RAAF would give him three or four weeks to finalise his affairs he was only wearing a lounge suit and had no other clothes with him when he went to Melbourne. What a surprise Harry got when having passed trade test and medical examination, he was marched down to the railway station - off to do his rookies at Canberra.

Naturally they disembarked from the train at Goulburn at 5 am in mid-winter and travelled by tender to Canberra. Strange to say Harry enjoyed his rookies as it was wattle time and Canberra was lovely to look at but bloody cold at night. So cold that his hip ached when he was in bed. So, on his first leave he bought a square of sponge rubber which he buried in the middle of his straw palliasse, placed under his hip, to keep it warm.

Radar School

Unbeknown to Harry, the school worked on Sundays so when his movement order quoted a Sunday as the date of arrival he took his time and reached Richmond in the evening. It required a bit of talking to get himself out of trouble.

It may be hard for some to believe but Harry absolutely revelled in Radar School - so many fascinating new things to learn - but the high level of secrecy demanded left an indelible impression which caused him some concern, as we will see when he was at Port Kembla.

Because of his knowledge of electrical wiring and in particular petrol and diesel power supplies and the usage of levers and block and tackle to shift heavy objects he was one of the first four RAAF trained mechanics to become an instructor.

Harry spent the whole of the remainder of his service at Radar School with only two short periods at other centres - five weeks at Radio Physics Laboratory and Port Kembla and a week at 1RIMU in January 1945. In 1944 he looked after the shifting of the 70 tons of equipment from Richmond, NSW to Maryborough, QLD, Possibly the most memorable incident which occurred to Harry at Richmond involved that hip which caused him some inconvenience at Canberra. In the sergeant's quarters where he shared a room with his old mate Sgt Kirby, to overcome the problem of his cold hip, he rigged up an electric light bulb in a tin fixed to the underside of the spring mattress. This was OK because there was never an inspection of sergeant's quarters - or so Harry thought. One

night the Orderly Officer made an inspection and asked why there was a light under his bed when 'black out' conditions applied to the unit.

Never believing for a moment that his explanation would be accepted he said:

> "Well, there's a black out order and I do a lot of study at night. So I put a light under my bed and I do my study under there."

Somewhat surprised Harry was called out on parade next morning and he was portrayed as being so conscientious that he studied under his bed at night.

Despite many requests for posting to a combat area, like his mates, in order to put his knowledge to good use every request was refused and was finally promoted to the rank of Warrant Officer. On the other hand Arthur Field, who started on the same course and also finished up as a W/O, visited some 37 radar stations as well as serving on units such as RIMU and Radar Wings.

Radio Physics Laboratory and Port Kembla

On 19 January 1942, Harry was made an acting sergeant and sent on detachment to 3STT at Ultimo. Here he slept and had breakfast and the evening meal. During the day he worked with the scientists at RPL and assisted in building one of the experimental prototypes of the AW transmitter and receiver.

After a week or so the equipment was sent to the Army site called Hill 60 at Port Kembla, NSW. There were three other RAAF types working with the RPL people on the installation of the gear and were divided into groups. Harry worked with Harry Minnett from RPL on the matching and phasing of the antenna. To quote Harry:

> "Harry Minnett was the boffin who did the antenna work. He was an amazing joker and he taught me the thoroughness with which the scientists worked. He used the Buggery Bar and told me to make the adjustments up on the array, he would say things like 'move the shorting bar two inches and the tapping point one and three quarters'. Then he wrote all of his readings and results in a book. If anything went wrong he went back in reverse over every step we had made until he was satisfied. He was about the first bloke I met while I was in the Air Force who knew what he was talking about."

The gear did not work when it was first switched on and each group was told to check their section - Harry Minnett refused because he was positive that the fault was elsewhere and he was proved to be correct.

Test flights were then arranged by Radar School to establish the vertical polar diagram of the unit which was the second radar station where the RAAF was involved in the installation. Shepherd's Hill became operative on 10 January and Darwin on 22 March 1942. From Harry Duggan's statements it is felt that Port Kembla was on the air between 10 and 15 February.

Sgt's Kirby and Duggan were left at Hill 60 to keep the gear running for about a fortnight with instructions to operate from time to time. On the second or third night they picked up a blip about 20 miles out to sea. It was slow moving and after an hour they decided to tell someone about it. Having discussed the situation and in particular the oath of secrecy etc they elected to take action even though the possibility of a Court Martial might result. Harry picked up the phone that hung on the wall and gave it a ring. The conversation went something like:

"I'm on the east coast of Australia and I can see something about 20 miles out to sea."
"What is it ?"
"I don't know what it is but I know that it is there."
"Where are you ?"
"I can't tell you."
"Oh ! I'll pass you on". Probably thinking that he had some sort of an idiot on the other end.

This happened a few times and they even spoke to someone in Northern Queensland until finally they were passed on to an Army chap who was on the other side of the wall from the radar set. He came around and rang the right person and a plane was sent out to investigate. This plane was plotted and when it reached the position of the unidentified object the plane returned but the blip disappeared.

Later they were told that it was an aircraft packing case but now Harry thinks that, having heard the broadcasts over the ABC after the Bendigo Reunion, it may have been a submarine.

Comment: The information concerning setting up the AW at Port Kembla is of historic significance as only somewhat vague references had been found in CSIR records and none in official RAAF documents.

Once A Ham Always A Ham

Even today Harry still operates his rig and his latest experiment is to send a transmitter, power supply and beam antenna, up in a kite to a height of 500 feet. The whole gismo is radio controlled from the ground and Harry seems to be having trouble convincing people of what he is using.

The latest news on the radio front is that Harry has now put a CB radio on his motor scooter with, according to Gwen Cole, an enormous aerial. His opening remark was, "Well, Gwen, you can see that I've joined the bloody enemy [the CB's]."

The Long...Long Arm Of Coincidence

M. (Morrie) E. Fenton

This is a three part story spread over 47 years.

Part 1

The date was 27 February 1945. The place was 154RS at Truscott. We may have been to the pictures - I can't recall exactly - but it sure was a bright, mild night, plenty of moonlight, and I reckon that the time was approaching midnight, or a bit before. The phone in the OPs' Tent jangled, and we two on Standby - Sam and I - were called down to the doover. There was some sort of a flap on.

So down we went, pretty quick, Sam and I. No trouble finding our way in the moonlight, we could have probably made it blindfolded we knew the way so well. The CO's blitz buggy was already there, and inside the tiny doover cabin on the International truck, 'Snow' Waldron was having the queer echo explained to him by Bob McDonnell. Laurie Norris was in the cabin, too. The echo was almost concealed somewhere in a jumble of echoes, all approaching the coastline some 30 miles south-west of Truscott. The height couldn't be determined, but yes, in the jumble the actual plane echo could clearly be seen, and the speed was certainly that of an aircraft. The first plots had been passed to us by 319RS - and the plot had been confirmed as an 'X' plot.

Bob McD and Sam, both corporals and the unit's 'top gun' operators, took over the tubes, Bob on the range tube and Sam on the PPI. Somehow I was pushed out into the Ops Room to do the plotting - but first for some inexplicable reason I dashed back into the tents and collected our four tin hats. Probably some obscure regulation had been dinned into me at some time and had registered that tin hats should be worn in action. I remember Sam and Bob looked a bit stunned when I opened the door and presented them with their 'hard hats'. 'Snow' had the OBU Spits on Yellow Alert I know, so I guessed Laurie Norris was on the switchboard. The R/T would have been tested, and I remember I was allowed to stand behind Bob and watch the queer jumble of green echoes on the trace with one constant echo in the middle which came from an aircraft. It was approaching the coast, somewhere down near where we believed a Jap recce party had landed some twelve months before.

The eventual outcome proved to be quite an anti-climax, really. As the echoes approached the coast, the strength diminished, suggesting loss of height. Eventually they disappeared altogether,

and we were left with a clear trace. 'Snow' reluctantly cancelled the Yellow Alert - and Sam and I returned to bed for the night. The considered opinion - possibly a Jap seaplane which had landed somewhere along the coast - remember a seaplane could well have landed on such a calm night in moonlight. And that's how that night stayed vaguely in my memory for over 45 years - my one and only brief encounter with the enemy while at Truscott.

Part 2

It was 1991 and *Radar Yarns* had just been published. The story by Les Kinross struck a very powerful chord. Les recalled about 25 February 1945, he was somewhere along the coast in a Hudson, with contraband Yank cigarettes on board, and the problem was where best to hide them to avoid big trouble in Perth. So he opened a sealed container of Top Secret Window, the radar jamming material, and stuffed his cigarettes inside. The problem then was - what to do with all that Window foil stuff left over.

You guessed it right ! Les just tossed it out the aircraft - and so caused alerts apparently from Truscott down along the coast towards Perth where a force of up to 100 planes was reported approaching.

Sure enough, the details of his story coincided exactly with our incident, and our little bit of excitement that moonlight night at Truscott proved to be a bigger anti-climax than we had first thought.

Part 3

At the Bendigo Re-Union in March 1992, I duly reported to the Transport Table to arrange bus pick-ups and times etc, and gave my name to the chap behind the table. Please bear in mind that none of the above was in my mind and you can imagine my surprise when he said,

> "Ah, Morrie Fenton - I reckon you 'picked up' the window from our aircraft back in '45."

Aircraft window - what aircraft window - how could anyone lose an aircraft window - what's he talking about ?

And then the penny dropped. I suddenly realised after 47 years, I'd met the chap who had caused the inexplicable little flap at Truscott in 1945 when we were almost convinced a Jap seaplane had landed somewhere along the coast in the bright Kimberley moonlight.

Which all goes to prove what a small world we live in - after 47 years came the complete answer to those queer echoes I remembered everyone pondering over so deeply in that tiny little doover.

I'll bet that Les Kinross didn't realise how close he came to having a Spitfire chasing him across the moonlit Kimberley sky back in 1945.

347RS and 345RS in the Admiralty Islands

A (Tony) Craig

A lot of people believe that the first real step along the road to victory in the Pacific was the invasion of the Admiralty Island group in 1944. These islands are in the Bismarck Sea some four hundred and fifty miles north of Papua New Guinea, northwest of the Solomons and New Britain and New Ireland. The Japanese had an important naval base on Truk Island north of the Admiralties. General Douglas Macarthur decided that the capture of these islands would provide an ideal base for further advances back along the island chain to the Philippines. The strike force was the American First Marine Cavalry Division, which was to be put ashore through the surf on the north coast of Los Negros Island. The main Japanese defences were located on the other side of the island facing Lorengau Harbour, a large, deep, almost landlocked waterway protected by huge land based naval guns looted from Singapore.

At that time MacArthur would make no move without the help of the RAAF radar units. The assault force for the Admiralties included the radar units and a Fighter Control Unit picked up at short notice from Finschhafen on the north east coast of New Guinea. Some of these units were 345, 346 and 347 RS's and 114 Mobile Fighter Control Unit. The United States Navy provided the sea power and the air bombardment was conducted by the US Air Force, assisted by elements from 75 and 77 squadrons of the RAAF. Preliminary photography was done by the US 192 Bomb group, whose Liberators had previously seen action in the Battle of the Bismarck Sea, filmed by our own Damien Parer, lying prone in the nose of an Australian Beaufighter. The Australian units were picked up by Liberty ships and had absolutely no equipment apart from the radar gear and their personal belongings.

After a few hours at sea with no food on offer the officers approached the skipper of their transport to enquire about the ration situation. The captain made the immortal reply to the effect that he had never known Australians to go hungry for very long. The hatches were quietly opened, and after a short search with crowbars the hunger situation was solved.

The stage was being set for the first invasion on the way back to the Philippines, an invasion that was much publicised and was probably the psychological turning point in the conduct of the Pacific war.

In the battles against the Japanese there was also to be another chapter in another war, the secret war, involving the RAAF radar units. After the action finished these units were to be deployed, as usual, about one hundred miles in advance of the American base to provide early warning of any incoming attack. They had also to control the local fighter cover, note all shipping movements and generally nursemaid all allied aircraft, enabling the rescue of downed aircrew.

The secrecy surrounding these units was total. There was the paralysing thought amongst the air force hierarchy that a station might be taken by the enemy and the technology revealed to them and copied. There was an almost paranoid fear that the operating radar frequencies might be discovered and jammed.

The Landings on Los Negros

Many years afterwards I examined the A50 Unit History Sheets of the three radar units. On the morning of the Los Negros invasion each book contained only one line “Arrived Los Negros 0630 hours”. No mention is made of the fact that the Australian units landed in the second wave of the attack, nor that they were involved in an extensive firefight. Nobody is mentioned in dispatches. No note was made of any killed or wounded. No mention was made of the hazardous conditions of the landing, nor of how the RAAF personnel conducted themselves.

What we needed, and did not have, was another Damien Parer with a movie camera. To this day the Australian War Memorial in Canberra, ACT, is officially ignorant of any Australian involvement on that fateful morning of the Los Negros invasion. We received an honourable mention in at least one American war history but no reports nor photographs exist in Canberra.

Fortunately for those involved, everything went well.

The Japanese were expecting any attack to come from the other side of the island and their heavy guns could not be brought to bear. The marines walked in over the reef, in the surf, at low tide. On shore there was the inevitable frantic rush for the tree line, where the sweating invaders were busy digging foxholes. F/Sgt Bill Ross remembers that every time a marine put down a shovel or a trenching tool he was in danger of losing it to some equally desperate Australian neighbour, who had a vested interest in digging a foxhole for himself. The naval bombardment had been so heavy on this narrow section of the island that enemy resistance was soon isolated to the ends of the island with small pockets of Japanese in the immediate area. There was plenty of sniper activity from the coconut palms, ruthlessly eliminated by the marines in company strength.

First priority for our units was for the provision of bedding, tents, cooking gear, rations and transport. The officers had then to reconnoitre suitable preliminary sites for the units.

Walter Fielder-Gill, CO of 345RS, confesses that at this time his main memories were of the pervading smell of the dead. Nobody could conceive the speed at which the Americans exploited the landing. After the marines came the airfield construction crews, the Seabees - the bulldozer commandos. Roads were driven through the extensive coconut plantations to the existing airstrip, Momote field, which was enlarged and extended. A start was made on a new strip, Mokerang strip, where the bulldozers, operating under fire, crashed through the abundant cliffs of white coral and literally extended the island into the sea.

In another area the marines were investing the Japanese on Manus, the largest island in the group, which was separated from Los Negros by a narrow channel of water. Eventually the surviving Japanese took to the dense jungle on Manus, some probably remaining there till the end of the war.

Enormous hangars were erected at Momote field for the repair and service of carrier aircraft and the increasing land based air planes. Almost immediately, it seemed, the bombers arrived and there was hardly a moment, day or night, that there was not a Liberator on takeoff on its way to bomb Truk, which they did most effectively. I joined 347RS on the seaward end of the new Mokerang strip, having travelled to Finschhafen on SS "Katoomba" and flying from there to Momote. There was a touch of Tennyson about our campsite.

> "On one side lay the ocean, and on the other
> a great water, and the moon was full"

Out in front of us were thousands of acres of coral reef, behind us the turmoil of the new airstrip, and beyond this the vast harbour of Lorengau where a boom was under construction across the entrance. In the early days the US aircrews slept under the wings of their bombers, quite often within sight of the radar unit and they provided, unknowingly, good camp stretchers and sheets for us when they took to the skies at dawn. At that stage we had no air force issue and it was no trouble for the American crews to get a new lot when they arrived back at base. We installed a second roof over our tent with sheets of galvanised iron salvaged from a plantation building and modified the tent walls into a roll up blind mode.

Above us towered the coconut palms and below us at beach level we installed a gravity-feed shower fed by forty-four gallon drums of rainwater collected by the tent roof. We flywired the hut interior and I had a splendid writing desk made from the windscreen of a Liberator bomber that did not need it any longer. Beyond the narrow beach the surf thundered in over the coral reefs as the tide rose filling the deep caverns which extended seaward. We explored these on suitable days, wearing boots to avoid lacerating our feet as we dived into the waves when they recoiled through the caverns.

Occasionally we saw and avoided the highly deadly pink coral snakes. As the tide level dropped we patrolled the reefs using homemade sea-scopes - glass bottomed boxes - to view the wonders of the living reef. We found and collected all kinds of shells including a leopard cowrie that was particularly attractive.

I acquired a small treasure, a box library, from the US Navy and began my acquaintance with the literary greats of the Americans. The small print books contained the works of the noted poets, of Walt Whitman and Edgar Allan Poe. There was a complete series of the Perry Mason Books of Earl Stanley Gardner, the works of Zane Grey, Thorne Smith and a host of others. My tent mate initiated me into the charms of chess and some of the lesser-known card games, so we were never at a loss for something to do with our spare time.

Alongside us, further up the strip was a Sea-Bee unit of the US Navy, who had a movie screen strung up on the palms. Here, on the night of my birthday, I saw "For Whom The Bell Tolls", the

film of the Hemingway book, and retired to help a few friends get through a carton of Budweiser beer. Some time before, the Seabee numbers had been decimated when a Liberator on dawn takeoff, groundlooped and trundled along their breakfast table, one wing down, killing as it went. They lost more Seabees that morning than they did in the landing.

Next up from them was a New Zealand fighter squadron, equipped with Corsairs, a distinctive fighter with a dihedral wing much used on the carriers at the time. We played soccer against them on the blinding white coral surface beside the strip and they soundly beat us. It was my pleasure many years after, to meet and gamefish in the Bay of Islands with one of their members.

We gradually accumulated transport, mainly jeeps, each of which had to bear a license number, registered with the US Navy. We actually had three jeeps with the one number running around the island until two were stopped at nearly the same time by service police at different ends of the island. I was made supply officer for the unit, which meant I had to drive regularly to the great naval stores which had been built on Manus, passing through Momote strip on the way. This was a real bonus, as there were goodies aplenty to be salvaged from the Momote dumps.

Over in the navy world at Lorengau on Manus, I had to see the officer of the day, then shop my way through the enormous igloo type storehouses. There were gigantic cold stores carrying Californian oranges, turkey from the eastern states, beef from Australia, lamb from New Zealand, others stacked with breakfast cereals and a smorgasbord of canned everything. Yet others carried manchester goods - shirts, sheets, mattress covers, even down to the sewing kits issued to the navy personnel. Here, being an alien Australian, I could get beer on issue, and I made certain I drew three times our quota.

Across from the store igloos, clustered round the harbour edge, was another interesting complex. The navy bulldozers had carved an amphitheatre from a sizeable hill and terraced the rims for seats to accommodate thousands of spectators. There was a movie screen and a stage and in front of these a baseball diamond and a basketball court. To one side was the Cathedral of the Admiralties, a church igloo used by all faiths in turn. Nearby was a genuine USA drugstore where those thirsty young sailors could order their milkshakes and college straight-ups, the ice cream sundaes much in favour in those days. Unbelievably the next installation was a Coca Cola factory manned by navy personnel, turning out countless cases of Coke per day.

On the same level was a huge naval mess, or feeding station, serving hundreds at all hours of the day and night. Discipline was very severe on the ‘other ranks’ and when they were summoned ‘on the double’ I saw many sailors drop their forks and actually run out of the mess. On the higher grounds were the administrative offices and the accommodation for the ‘Navy great’.

There was a plethora of admirals, chicken admirals, captains and lieutenants, all of whom had to be saluted OR ELSE. My favourite spots became the Chief Petty Officer clubs, where I was welcomed because they found my rank insignia looked a little like theirs. This I encouraged, as the service was great, the beer was cold and one could even get delicacies like trout sandwiches from the well stocked bars.

If all this sounds a little much, one must remember that these were the permanent navy, the twenty year men, and many of the temporary guests off the ships could easily be dead in a few days time. Among the other amenities provided was a currency exchange, where we non-Americans could exchange our money for American dollars. It was here I met at times some of our own Australian Navy personnel and also some of the British Navy who were newly arrived and stationed near a small island called ‘Pitilou’.

I must mention that in all my dealings with the American navy I was treated with the greatest courtesy and help, no matter what the rank of the individual concerned.

Assembly and Departure of The Philipines Invasion Fleet

Several events of the time stand out in memory. One evening we were watching a movie at the Seabee unit next door. It was a perfect night and the Admiralties were a blaze of light, comfortable in the assurance that there were no Japanese aircraft in the area. Suddenly, out of nowhere, three torpedo bombers thundered over our heads at about a hundred feet of height, heading out over the harbour towards Manus. They were aiming for the floating docks and on nearing them, dropped their torpedoes, cleared the docks and plunged into the sea. It was a kamikaze mission from Rabaul and the pilots did not have enough fuel for the return flight to their base.

Comment: The Americans asked for an investigation as to how such an incident could have occurred. S/Ldr Don Kennedy was sent to carry out the investigation and recently he gave the following explanation.

There was a regular track for aircraft travelling from either Guadacanal or Torokina (two major bases in the Solomons) when flying to Madang, crossing between Gasmata and Rabaul. It was quite safe to pass between those two points and not be attacked by Japanese fighters which at that stage were operational out of Rabaul. When approaching Lorengau, or Momote, friendly aircraft would start to lose altitude 50-70 miles out and so pick up speed. The enemy aircraft were in fact plotted by RAAF radar and all indications were that they were X plots. But they were travelling at a speed slightly in excess of the cruising speed of a C47. The Air Warning Officer, even though there was no record of friendly aircraft movements expected, assumed that the plots were of C47's on their landing approach which accounted for the higher speed.

Which only goes to show that human error still played a part in those days, despite similar incidents at Pearl Harbor and Darwin.

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Lately we had noticed the enormous concentration of all types of vessels in Lorengau harbour, so we guessed that a major naval action was planned for the near future. One morning soon after, we were excited witnesses of this vast invasion force putting to sea. There were aircraft carriers, battleships, heavy and light cruisers, destroyers, everything down to LST's (Landing Ship Tanks). That evening I wrote some verse on the occasion which I remember included the lines -

"Silhouettes fade, shadows play fantastically,
Off towards The Philippines, the great ships go.
Back in Australia, lounging in the drawing rooms,
Drinking in the bars, home fronts talk,
Murmur sympathetically,
Remembering the sons that sail beyond the dawn."

We were awestruck at the sight of this sail-past. This was the complete about-face for the Americans, the first time since Pearl Harbour, with all its tragedy, that the United States had been able to muster again a great battle fleet, majestic in its power and its glory. We felt very miniscule in comparison and I myself, usually contented and self-possessed, felt suddenly quite lonely.

That day one of the members of 346RS, at Bundralis, had an extraordinary experience. The unit had no official transport at the time, he was going with two others to get fresh food and they were sailing a skiff, which one of them had been given by an American, when it overturned. Two of the men were rescued within a couple of hours but LAC Shearn was in the water overnight.

Luckily for him, he was picked up by a Catalina and transferred to the aircraft carrier HMS Unicorn which was leaving on the invasion. LAC Shearn was too weak to be put ashore so he sailed with the fleet - proving that there was at least one RAAF radar man in the Philippines invasion.

About this time I was posted to Harengan Island which was about a day's journey by barge out of Manus harbour. The unit was 345RS and was led by Walter Fielder-Gill, a good leader of men and one who really stuck up for his men. I spent the rest of the war under the tender loving care of Walter, and with his buccaneers on Harengan Island.

Harengan was a little paradise, a gem of an island, with its own circular reef set inside the great main reef further out. It was shaped roughly like a hat, with flat sides and a hill in the middle. It was a very laid-back establishment. The only other people on the island were the native population, many of whom were diving boys, and an American navy radar unit. I inherited a beautifully appointed hut just up from the beach, complete with deck chairs and lights suspended in the coconut palms outside, a sort of primitive beer garden.

The Americans had a cold room in their dining room, so I generally had a case of beer and a case of Coca Cola on hand in case we got thirsty during the night. Out in the lagoon, fifty yards from shore, floated a sizeable raft, made of drums and cut wood, complete with a diving tower. As we were on American navy scale of rations, the food was very good indeed. There were times we had steak for breakfast, pork for lunch and turkey for dinner.

The chance of Japanese air activity was remote and we spent most of our time nurse maiding our own aircraft. I found out much later that around twenty five American aircrews owed their lives to RAAF radars in the area.

There seemed to be plenty of time for extra-curricular activity and I was soon inducted into the manufacture of souvenirs by F/Sgt Bill Ross and his cohorts. We made all kinds of articles, but the big money items were the stainless steel watchbands and bracelets. The stainless steel links were made from the bomb bay doors of navy Helldivers in the Momote field dumps. These were set with either blacklip or goldlip pearl, trochus shell or tortoiseshell. They were then joined with steel wire, polished and checked.

In the evenings the CO and the others used to join me in the beer garden to watch the moon rise over the lagoon. At times, when we got hungry, we ran a raid on the chicken nests which were set about ten feet high in the coconut palms to avoid the crabs. After checking them for baby chickens we would have poached or boiled eggs on toast. Our off-duty mornings were spent swimming or diving from the raft, into water so clear one could see the bottom clearly at sixty feet down. The Americans had an amplifier and a record player with lots of records. This was indeed living!

Every two weeks I had to go by barge into Lorengau to pick up stores, taking with me my driver, a guard named Curly Dawson. The navy started their day early, about four am, so I got quite used to the complaints of the American Chief Petty Officer, named Rabies, who was at best a very noisy unpleasant individual.

We would arrive at the barge to a great cry of 'Goddam Australians, never on time' and then sail away into the dawn off the coast of the main island. All went well until round midday, when the storm came up and the sea heaved and rolled until later in the afternoon, as we approached a little island off the entrance to the harbour. This was Onetta Island, rechristened 'Lost Paradise' by the US Navy radar men in occupation. From the rough sea outside we would slide the barge through the narrow reef entrance to the quiet lagoon, right in front of a sign on a palm tree carrying a verse by Robert Louis Stevenson. The dinner gong would be ringing and we would enjoy the cuisine provided by their chef. After this we would draw the compulsory two cans of beer and two bottles of Coke and show the locals movies we were carrying on the barge. Next morning, again early, we drove past the boom into the main harbour, where I would do my shopping.

Work completed, I would make my way to the first CPO club wearing one of those shiny watchbands. I did not have to sell them, I would be killed in the rush to obtain one.

"Goddam,I gotta have one of them there bracelets" was the usual approach, and at one stage I was getting thirty six US dollars per band. On the third day we would join the barge for the run back to Harengan Island, having drawn beer and cigarette rations for roughly three times our numbers as well as lots of that good Navy food.

We were visited at this time by an RAAF chaplain, Father Brian Kelly, an old boy of my former school - Gregory Terrace. We drank a little beer that night, and before turning in, he said, "There must be a lot of unbaptised kids on this island, I really should do something about it."

You can imagine how popular we were at two am next morning going around the local residents, getting them out of bed to baptise the infants before barge time at dawn. I suppose I must be godfather to a heap of now aging Harengan Island greybeards.

One morning I was sunbaking on a diving board as three of our crew were swimming towards the shore. Suddenly I saw a stream of bubbles, deep down on the seaward side of the raft. The stream became a shadow, the shadow became a shark, which rolled over alongside us just as the last swimmer hauled his legs aboard the raft. It was mid-morning and there was no boat to take us in, so there we stayed till well into the afternoon, when the tide changed and I supervised a very quick, crowded swim to shore.

Back at Manus on another stores visit, disaster struck. Curly Dawson and I were returning to Lorengau after visiting a club at Momote field, had crossed the inter-island causeway and were gaily running down the steep road approach to the main entrance to the Lorengau Base. This had a boom gate across it, manned by very difficult Navy Service Police. About halfway down Curly said, "I've got no brakes. I've got no brakes. What'll I do?"

I had a quick look at the bad drops on both sides and said, "take the boom". This we proceeded to do, only to be surrounded by service police and whisked off to the Officer of the Day. We were booked on just about every charge bar assassinating the admiral and then referred to the senior Australian officer, the Commanding Officer of Fighter Control on Momote field. As he tore up the large sheaf of charge sheets he said to us, "Please, please, don't ever do this again..."

Once more back in paradise, an amphibian landed on the lagoon and disgorged a British Naval Officer. "Would we like to play cricket against the Brits on Pitilou ?"

After they flew us in, played us and soundly beat us we proposed they might like to try some other game, like, for example, rugby.

> "Of course, old chap" came the reply, "At cricket we beat you. At rugger we will simply flog you."

Unfortunately the war ended before he could make good his boast.

The Pacific war news was all good, the great battles for Saipan and Okinawa were over and we were awaiting the next move by big brother America. It all happened too quickly for us to digest it. We heard that there had been drastic raids on Mainland Japan and were vaguely expecting news of a ceasefire. One evening we had a big party on the strength of a rumour, but the expected news did not come. The next morning it was official...Unconditional surrender by Japan.

This was the morning of VP Day "Victory Pacific Day" and in our exuberance I asked Walter Fielder-Gill to join me in a swim around the island. It wasn't such a long swim really, and at times we climbed over some shallow reefs. That afternoon we made a terrible discovery - we were out of beer. After eating, into the mess stumbled Chief Petty Officer Rabies from the Navy radar unit. Rabies was monumentally drunk, so I put it on him for a dozen cases of beer and asked him to have the sailors join us. When this beer vanished we went to their mess and drank the rest. In the early hours of the morning there were three of us left, Wallie F-G, myself and the American cook.

This provident person produced some genuine corn liquor, made, he said, to an old family recipe developed during prohibition....I almost made it to bed, about half way to be precise and I will never, ever forget V.P. Day!

Two days later I arrived in Manus by barge and reported to the officer of the day, whom I suspect was a 'chicken admiral', he was wearing so much gold braid. On presenting the usual requisitions for stores he told me, "Sorry, son. I can't give you any stores. The war is over, Lend-Lease has ended."

Rather desperately, I said "Hold hard, sir - a lot of that food we are talking about comes from Australia."

"Ah yes", he said "Paid for with American dollars."

One can imagine the welcome I received on returning to Harengan Island with a cargo of beer and cigarettes. Walter Fielder-Gill's handle-bar moustache actually twitched with righteous indignation - luxuries but no necessities.

We held a council of war and decided to send a quiet signal to the US Navy requesting three barges, to evacuate the island and return to Momote field on Los Negros. Did we signal Air Board? Only Walter knows, but I have an idea the signal was much delayed. We spent the next days dismantling and crating the unit and the camp, stacking everything on the beach. Anything we did not want to take with us we gave to the natives. The barges arrived and were loaded and we departed from Harengan at dawn of a lovely morning, regretfully watching our beautiful island fade into the distance.

I Saw Manus Burn

We checked in at Fighter Control on Los Negros, there to witness the disintegration of this great base. The Americans had requested the newly formed United Nations for the Admiralties to be used henceforward as a joint base to be shared with the Australians, who held the old Mandate [under the League of Nations]. Doctor Herbert Vere Evatt of Australia was the President, being newly elected, and, we suspect, a little carried away with all this power - Australia refused the offer.

Fires appeared all over the island group, as the Navy jettisoned cars, trucks and jeeps, removing the tyres and rotors and dumping them in the lagoons. The tyres were burned... a vast funeral pyre of Goodyear and Dunlop rubber polluting our skyline. Our busy little group liberated several jeeps and command cars, using our own rotors, before the ratings returned to strip the tyres. I was busy collecting electric motors, even de-icers from bombers, which I thought I might take back to Australia with me.

Superfortress bombers started to land on Momote strip and we rushed out to inspect the first that arrived. They were huge aircraft by our standards at the time, and from them emerged the emaciated figures of some of our own prisoners of war, freshly liberated from Japan. These were the troops who had been used as slave labour in the coal mines. Our hearts went out to them as they clustered under the shade of wings, uniforms all rags and tatters except for brand new hats, fur felt, which some army chief must have decided would boost their morale. They stayed only to refuel, then continued on their way south.

Among the other gear being destroyed I saw tens of thousands of bales of brand new Navy and Marine clothing. Even in those times we were hearing of the parlous conditions in the displaced person camps in Europe, where the inhabitants were hungry and unclothed, facing the rigours of an approaching European winter.

These bales of clothes could have easily been moved to Europe to help them in their time of want, but somebody, somewhere, in America, decided otherwise. Did economics dictate this decision? Who will ever know. Even to this day I tell my friends. "I saw Manus burn."

Some of the thoughtful islanders were running jeeps off into the jungle, against the time the Americans would depart. Refrigeration machinery and cooking ranges joined the trucks in the lagoons. The only exception to this orgy of destruction was the heavy earthmoving equipment. Literally thousands of bulldozers, graders, tractors and steamrollers were assembled in parks, where many were later acquired at tonnage prices by people like Theiss Brothers of Queensland, who took them away by barge to lay the foundation of their construction empire.

Strangely, I was one of the first of the unit to be posted home for discharge. Someone back there wanted me. At very short notice I had to pack my gear, make my farewells and board a Curtis transport. We by-passed Finschhafen, landing at Dobodura, once a hectic wartorn airstrip, even then being reclaimed by the jungle. We overnighted at Garbutt field in Townsville, leaving next day for Brisbane and home. Our unit later returned by ship, but that is another story.

The Case Of The Missing Keg
Ron Beesley

I am not sure about the exact date, however it would have been towards the end of March 1945 when our unit was forming.

Our cooks etc were working in the Officer's Mess, guards were joining in general guard duty and most of the technical crew were finishing off the packing of our gear that would follow us about and be 'in action' with us.

All of the station's equipment was packed in strong, tin foil lined packing cases (30"x26"x24"), lids screwed on and wired with a Red Devil wiring device. The cases were painted black with our station's identity stencilled in white on the lid. Most importantly, the cases holding high priority technical equipment were stencilled with a round red disc about 6" in diameter on each end of the lid.

In the event that equipment had to be jettisoned in an emergency, the cases with the red dots would be the last to go - being transported at all costs, for without their contents the station could not function. I was placed in charge of the packing and the preparation of the shipping lists, showing the number of each case, the case's priority, along with a general description of its contents.

This list was vital.

Our departure was imminent. The camp was closed with no leave of any kind. However, a gala dinner was planned for the officers, and Curly, working in the Officer's Mess, was lavish in his description of the food and the quantity of grog - the OR's were envious !

About 2200 hours Curly slipped down to our tent lines with the news that most of the officers were 'blotto' and there was a possibility that a keg could be slipped out the back door of the mess unnoticed. Were we interested??

Yes, we were !!

Merv was to drive the jeep to the back door at 2230 hours, with two helpers to pick up the keg which would be waiting but unattended.

Everything worked like clockwork, and without so much as a light showing the keg was secreted into our tent line and all and sundry were invited to turn up with their mugs. It was polished off in no time - tasted like nectar!!

The keg was left hidden under a pile of kitbags and webbing, since returning it to the Officer's Mess proved impossible, with so many officers milling about outside.

We were somewhat perturbed next morning when the word was passed around that there would be a special parade of all personnel - absolutely **all personnel** without any exception.

On checking with Mac it appeared that the grog at the officer's 'do' had run out, and when the Messing Officer did a keg count it was found that one was missing. This was serious!

Logic said that since the camp was closed as tight as a drum it must be possible to find the keg and dole out punishment on those responsible for its untimely disappearance. We were all on parade, standing at ease, and shaking in our boots. The search had commenced and it was only a matter of time.

Suddenly I had an idea.

I paraded myself before Mac, standing out in front of 354RS, and explained that we had not counted on this parade and in fact we had not quite finished packing the technical spares and since the parade could go on for some considerable time; would it be possible for a 'special pass' be given to Frank and myself so that we could finish off the packing and have everything tidied up and ready to move.

The OC of the parade was not keen on the idea and we had to present ourselves with Mac and explain the urgency of our work.

We were given the pass.

The SP's had commenced the search and there was not a moment to lose. I did not hold a service driver's licence; however, a jeep, belonging to another unit with the key in the ignition, was near our lines. In panic I took off with the hand brake half on and was stopped by an SP who demanded to know why we were not on parade. The pass did the trick. Then an inspection of the jeep wheels since the brakes were smoking - more delay - Oh dear!!

Eventually we got the keg in the trailer behind the jeep, wrapped in a few spare palliasses, and safely down to the packing shed. We packed the keg tightly in a case using the palliasses, secured the lid with screws and wire, stencilled the station number in place as well as the two large red priority dots.

The case was given a number and listed on the shipping list - then secreted under a pile of other 'red dot specials'. We then opened a case of technical spares, previously packed, and busied ourselves fiddling with these - and just in time too. Two SP's, one an officer, presented themselves; they knew who we were but demanded to know the nature of the packing - all serene.

The keg was never found.

From the smell in our tents and round about, caused by the spillage of beer in the dark, it was a hot tip that someone in 354RS 'knew' something - however the war had to go on! I had intended to ditch case 18, somewhere, sometime, when the opportunity arose.

However I was never to have that opportunity as the responsibility for the shipping lists and the movement of cases etc was taken out of my hands on the following day.

You have guessed it! When we eventually got on site in Tarakan and commenced to set up the doover, the third case to be opened was No 18, containing a heap of palliasses and a fine empty beer keg. Transported at great cost across the seas, transferred from ship to ship as the action hotted up and finally carried into action at great risk to life and limb. Truly a triumph of man's ingenuity.

Merv took charge of the keg, and it eventually found its way into the Army camp just below us, having been swapped for a quantity of bottled beer 'with the lids on'!!!

A Flight To Remember
Jack Mason

The article ‘The Secret Airfield’ in the September 1991 issue of *Wings* magazine brought back memories; particularly the part about the fatal accident between a Kittyhawk and a P47 on Gordon Strip in February 1944.

At the time I was a 20 year old corporal attached to 42 Wing and my job was to go around the radar stations in the area checking and maintaining the efficiency of the antennas. Responsible for my own transport, I was sitting on the edge of Gordon Strip the day of the accident waiting for a lift back to Townsville when the crash occurred.

In typical Yankee fashion, the USAAF flew a Dakota from Townsville complete with a Chaplain and other officers and flown by a full colonel. By the time they arrived to take the body of 1st Lt Hawke back to Townsville, the dead pilot's body was already in a coffin made by the Allied Works Council.

I managed to bum a lift to Townsville in the Dakota but after sitting on the metal seats for a while I thought that the empty coffin would be more comfortable and hopped into it. Boy, did the Yanks react ! After a dressing down by an officer I resumed my hard seat for the remainder of the trip.

You wouldn't want to know! About an hour out of Iron Range we ran into a bad thunderstorm and the starboard motor gave up the ghost. Naturally I got the blame for our bad luck and what the superstitious Yanks said to me is unprintable, even now. We managed to limp into Cairns and, I'll say this for the colonel, he made a perfect landing on one engine.

The next day I was idly watching a Yank mechanic ‘fixing’ the engine which gave up the ghost on the previous day. As he worked he was putting various bits and pieces on the top of the landing wheel which folds down from under the engine. When he finished the job there were a few nuts and bolts left over. For some minutes he kept looking at them and then at the engine and Blind Freddie could see what was going on in his mind. Finally he just picked up the nuts and bolts, put them in his overall pocket and went away, slowly shaking his head.

By this time the Yanks had cooled down and they grudgingly gave me, my trusty Buggery Bar and calibrating gear a lift back to HQ.

Yeah, the article ‘The Secret Airfield’ sure brought back memories I had almost forgotten.

Comment: I am afraid that I would not have had the courage, like Jack, to board an aircraft knowing full well that there were a few nuts and bolts missing.

303RS
Bob Blomfield

303RS assembled in Townsville largely, as I remember, from the personnel of 107RS when it was located at Quamby out of Cloncurry. We were flown by a Sunderland flying boat to Port Moresby, stopping for lunch at a cafe in Cairns. From Port Moresby the next step was by DC3's over (or rather perhaps ‘through’ would be a better word to describe the low level flight) the Owen Stanleys to a jungle strip at Wanigela in Collingwood Bay. The pilots, not wishing to be caught on the ground, bundled us out without cutting the engines, and took off again in a hurry. It was the end of October 1942. The next move was by ship to the fiord immediately north of Tufi where the Americans had a PT boat base from whence they sallied forth, usually in the late afternoon, to harass the Jap positions further up the coast, returning early the next morning. Because we were immediately up the coast from them we often watched this procession.

Having arrived in the fiord, we disembarked at the foot of a cliff which could be clambered up, though less easily when conveying bits of the doover by hand. Native labour was certainly an enormous help, but there was plenty of work for us white boys to do too.

Particularly after our experiences at Quamby we had no great expectations as to what the gear could do. Jap bombers flew almost over us, coming from New Britain and apparently using Mt Victory

as a landmark before turning towards their target. As soon as practicable after arrival we rolled up our tents and took to living in huts which we constructed, and had them thatched by the natives to look from the air like a normal native village - much more comfortable too.

Everywhere we went we walked in single file, as the natives did, so that our tracks would likewise arouse no suspicion. Nothing could be done to camouflage the array, of course, but the ops room underneath it, like our quarters and mess, was thatched. I don't doubt that our survival depended on these measures. We only had a rifle a-piece with one clip of five bullets, so could not have resisted an attack.

As already noted, we had had little experience, but learned hands-on - as the modern phrase has it - what sort of blip represented what in the air. One day there was an excited cry from the operator on duty, who announced that he was looking at 20 aircraft! All of us within earshot ran to see what this could be; then, when the target grew close, we stood expectantly along the edge of the hill to see what should come out of the clouds. Sure enough, aircraft appeared from behind a bank of cumulus, in succession, and we all counted.

They flew left to right across the front and then swung round behind us. It was only after No 20 had proved to be the last that we saw No 1, much closer now. The pilot was clearly visible and so was the large red circle on the side! The realisation that we were standing, out in the open, gazing stupidly at Jap Zeros, struck as all simultaneously. We disappeared.

Near the edge of the camp there was a dense wall of vegetation, which I would have normally gone round, but after that day there was a hole in the middle of it, the same shape as me. I would not otherwise have believed that it was possible, even given the right impetus, to penetrate it. Fortunately for us the Nips had their full concentration centred on the American PT base.

The Americans had their PT boat fuel in 44 gallon drums, stacked to a height of many feet against the cliff behind their camp. A few rounds of incendiary bullets from the Zeros set the whole base afire, blazing petrol running out across the water and setting fire to the boats before they could be moved. The flames from the blazing drums, which were some miles from us and on the other side of the intervening ridge, rose high above the ridge and continued for some time.

It happened that a boat carrying supplies for us, including mail, was caught in the conflagration and was burnt quite literally to the waterline.

We had no mail for weeks, or was it months, and morale was accordingly not at its highest.

Memories of 31RS and 39RS
C.R. (Bob) Meredith

Bob was a sergeant guard who served 13 months in NWA. The following are some anecdotes and extracts taken from his diary.

Barefoot Berti Borg at Dripstone Caves
Berti Borg, who was Maltese, was a very nervous chap as he had experienced the first raid on RAAF Headquarters in Darwin. The time was the early days after 31RS had become operational and we were subjected to many air raid alerts, particularly at night - they became a real nuisance.

One moonlight night, about 2 am, a warning went out and of course those of us who were asleep, woke up and rushed out to the slit trenches. After a while we noticed that one of our number was missing - Berti Borg as usual - so we yelled out to wake him up.

Then out he came flat out and passed us at 100 miles per hour and headed straight for the cliffs. We roared out to him telling him where we were. He stopped, turned and jumped in with us. When the All Clear sounded it was noticed that Berti was barefooted. He said that he had his boots on when he left the tent.

So we went looking for them down the track towards the cliffs and there they were - together, facing out to sea at the spot where he had turned to come back to us. He had stepped clean out of them without altering the direction in which the boots were heading!!

39RS - Port Keats

Having completed a Security Guard's Course at the 30 Mile south of Darwin, Bob was posted to Port Keats.

Monday, 11 January 1943

Caught plane, "Dr Fenton's Air Ambulance" twin engine Dragon Rapide. Arrived at destination about two hours later with mail and stores on what may be called a strip. Natives swarm about us to make us welcome, they appear to be very friendly. So this is 39RS but where !!

Tuesday, 12 January 1943

Settling in, nothing much about, so we start to build a hut, no materials, decide to get bark. Natives show and teach us to get bark from trees in the bush. Hard work but I am still very fit after the course. Natives terrific and can outwork us. Native boy from the mission attached himself to me, about 16 years old, and is our interpreter. Tucker not bad ! But weather nearly unbearable, bloody hot and *very very* humid.

Wednesday, 13 January 1943

Still building hut, work is very hard and our hands are a mess, but my fitness helps a lot. No sign of mail. Natives never stop laughing (perhaps at us). They wear nothing, only the younger mission boys sometimes wear a loin cloth.

Friday, 15 January 1943

Spent day in the bush with natives getting bark for the roof of the hut. It's a special length, the natives pick the tree & remove the bark by standing on the shoulders of another, a two man length of bark is cut - boy can they teach us!! Strangely they are all the same height.

Sunday, 31 January 1943

Dutch bombers (B25's) returning from a raid were lost, permission granted to land on our small strip. One made it OK but the other two couldn't make it and went down in the jungle. All their other planes got back safely, dropped their bombs two miles off the coast from us.

Monday, 1 February 1943

The Dutch crew very happy and surprised to see us RAAF boys here, carried their bombs all the way back from Dili. We had to pump from 44 gallon drums enough petrol into their tanks to get them back to their base somewhere in Darwin. Had to hand clear the end of the strip of all tall timber for take off. It made it late in the day. Terrific!!

Tuesday, 2 February 1943

Natives found the other planes, crashed about 25 miles away, luckily they stayed close to each other. The crews are safe, we formed a party to go out to retrieve them. Bad country being crocodile infested, will take two days to get them. Plane has dropped them rations.

Wednesday, 3 February 1943

Mail arrived, two letters from home. Beaut! Haven't heard from rescue party re Dutch crews yet.

Thursday, 4 February 1943

Our rescue party out of water, rushed it to them by native runners, these warriors are terrific, know the country like the back of their hand. I have a great admiration for these people. Very wet day and very humid, two Wirraways down today, they dropped rations to the crashed Dutch boys.

Friday, 5 February 1943

Rescued boys arrived back from crashed bombers all well and safe, although very tired and bitten all over with everything !! They couldn't sleep because of crocodiles, had to cut holes in their

wings to stay safe. They are being well looked after. Weather stinking and very wet, it poured. No mail.

Saturday, 6 February 1943
Planes picked up the Dutch boys, they got back to base and hospital. All's well!!

Tuesday 9 February 1943
Put in the day cleaning guns and then testing them. [The twin machine guns for anti-aircraft. They arrived with balance of guards on the previous day.] Will mount them in their pits tomorrow. Testing guns is a problem, have to ring the Mission and tell all about it, but the natives still go bush!!! Jap Zero very low over us about midday, certainly looking for us (hope he didn't find us). I had him in my sights at point blank range, canopy open and I could see his face, but no orders to fire!! Perhaps just as well!!

The remainder of Bob's diary at Port Keats describes the rotten weather and the difficulties they experienced in trying to maintain the roads.

He reported that on 28 March 1943, Doc Fenton flew him back to Livingstone strip, just prior to darkness setting in, during a Red Alert. Having heard of the situation on the radio Doc said to Bob, "You go down the back and keep an eye out at the back window and be my 'rear gunner'. Those _____ Zeros will have to get very low to get us."

Doc dropped the aircraft lower and lower until Bob at times they only seemed to be 100 feet above the ground until he reached the end of the strip he just set it down on the end saying, "Well that's that !!"

Bob's comment, "Boy was I pleased."

How To Catch A Crocodile
At the mission a very large crocodile was seen leaving its tracks near the married quarters and it was traced to the nearby river. Father Docherty contacted us and we drove our Blitz Buggy down to the river with a machine gun mounted on the hatch of the cabin roof.

The tender was parked on the bank of the river and we waited but didn't see it all that day. So the following day the natives decided to bait it to see if they could get it to rise from the bottom of the river.

We couldn't believe our eyes!! They tied a rope around the waist of a small boy, about five or six years old, and tossed him in the river. Then they slowly pulled him back in. This they did for some time and would you believe, up came the crocodile. The area was quickly cleared and we opened fire hitting it several times, killing it.

It was a beauty - about 18 feet long.

The next night we were invited to a corroboree which included a couple of circumcisions and dances which seemed to go on forever. Eventually the dancing stopped and they racked the ashes back from the fire and there was the crocodile again. We were offered a great big piece to eat (we could not refuse because that would have been bad manners) and we consumed a little. It wasn't bad really.

Danny and A Poker Game
Danny was a lad about 14 years old who was my interpreter and general guide. He came to the camp every morning about dawn and in time became a 'member' of the group in our hut. He helped us no end in everything and we got to like him very much.

On rainy days, when we couldn't work, we played poker and introduced Danny to the game. He loved it and of course, just in fun we used to cheat a bit. On day he put everything he owned on thee game including his loin cloth - he lost the lot. So in the next game he bet his girl friend. Once again he lost, we enjoyed the fun and then forgot all about it.

Next morning before dawn, there was Danny delivering his girl friend to the winner!!! To him a bet was a bet - a more honest person you would never find. We had great trouble trying to convince him to take her home. No way. In the end we had to arrange a special hand of poker, there and then, so he could win her and all his belongings back. Of course he did and everyone was happy.

36RS at Hammond and Horn Islands
David Bell

I was posted to 36RS on Hammond Island as one of the replacements for the original "inhabitants" and can only offer the opinion that the unit commenced operations around April/May 1942. The equipment was an early AW and housed in a concrete block house intended for use by the Army for SHD. Our sweep was around 330^{o} and the aerial, unlike the LW/AW, was power driven.

Our two power supplies were driven by old four cylinder Rugby car engines of the late 1920's and we reported to RAAF Operations by W/T using plain language. There was an emergency party line to the Army and Navy as well as to RAAF Operations.

A Japanese Zero had crashed on Hammond Island before I got there. I still have the No 4, taken from the plane, which was mounted over the door to the large galvanised iron hut which was the mess and kitchen as well as accommodation for about two thirds of the personnel. The remainder were in tents with the exception of the CO, F/O John Davies, who had his quarters in part of the block house which was only a few minutes walk away.

At Hammond we had our own boat. It was about the size of a large rowing boat but more heavily constructed and built around the turn of the century. Called the "Namilita", it had been found in the mangroves and had apparently been dumped by the civilians who had left the Thursday Island group. The boys salvaged it, repairing both the boat and its single cylinder engine. It was a very good work horse for us.

Comment: It might have been a good work horse for the unit but this was the boat which scared Arthur Field, quoting from page 47 of *Radar Yarns*, he said:

> "It was an open boat and looked as if it had been manufactured about the turn of the century - a very old engine making loud clanking noises. I was intrigued to find that the ignition consisted of a 6 volt battery and an induction coil and the spark was initiated by a cam operated lever. Anyhow we took off for Hammond Island and roughly half way across the engine conked out, in fact the head blew off. I was not too happy because I had heard that 10-15 knot currents were quite prevalent around this area. We were drifting eastwards rather rapidly and common sense told me that the first land was probably the Americas. It appears that breakdowns often happened. The guys packed material down the cylinder, cleaned everything up and carefully replaced the head and we were on our way again. I was very pleased when I arrived at 36RS."

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The relocation to Horn Island was I believe due to the fact that the Army wanted their block house back and so the RAAF moved 36RS to Horn Island in August 1943. Here we had a MK V COL and two Southern Cross diesel alternators located on the only big hill at the northern end of the island. Horn Island camp consisted of Army style tents with water being delivered by tankers. The most vivid memory of Horn Island was the trillions of mossies as night fell.

There were incidents which come to mind. Once an old Walrus flying boat was tracked for some miles out of Horn when it suddenly disappeared from the screen. Fearing the worst an aircraft was sent out to search around our last location. The Walrus was found sitting peacefully on the water with its occupants - calmly fishing!!

Catalinas were regular visitors on our screen. They used to return to their base, Cairns I think, over Horn Island after patrolling Timor etc. One rather wild, rainy, stormy night when you wouldn't let your dog outside, a target was picked up coming from WNW, the direction of Timor. Operations thought that it might be a Catalina patrol returning after finding the weather too bad to continue. We lost the target about 20-30 miles from us and continued sweeps of the general area failed to find any further echo.

At day break a search plane was sent out and it located the Cat slap bang in the middle of some reefs not far from our last reporting. It was guided through the reefs into open water, took off and continued its journey home. The point of the story is that the Cat landed due to the bad weather at high tide. Had it been low tide, need I say more.

We had a scare at one period when there were very strong and persistent rumours that the Japanese had landed on the western side of Cape York Peninsula, deep down in the Gulf. For a week or two we were on six hours notice to quit, with orders to destroy everything. Whilst we were very busy on the screen we did not know whether the plots were 'ours' or 'theirs'. Fortunately the tension eased but for some time afterwards a readiness was observed just in case the next time it might have been for real.

Memories of 335RS and Pilelo Island
Phil L (Arni) Cunningham

The story of 335RS landing with the Americans at Pilelo Island has been told in *Radar Yarns* under the title of "Malta of the Pacific". Phil has sent his diary and added some personal touches.

At Pilelo Phil's nickname was Arni and he has offered the background to that appellation. Being of Cornish descent, Phil has a dark olive skin which very easily develops a nice deep tan. In consequence, by the time Port Moresby was reached he had tanned to a very dark shade. It just so happened that the name of a native on the garbage truck in Moresby was ARNI and each time he saw Phil he used to yell out from the truck - "How are ya ? BLACK FELLA."

This greatly amused the boys on 335RS who very quickly gave Phil the nickname of Arni. He went on to say:

> "By the time we got to Arawe, I was only ever called Arni. Guys who joined to us at later stages didn't know my name was Phil. Most of them thought Arni was a diminutive for Arnold. I was always a bit sad that I lost that nickname when I came south as it had such a personal meaning to me."

Incidents before Pilelo
Three radar stations, No's 333, 334 and 335, were formed in August 1943 in Canberra where they stayed for only a few weeks before moving north. During that short stay Mrs Eleanor Roosevelt, wife of the President of the USA, Franklin D Roosevelt, paid a goodwill visit to Australia.

The personnel of those three radar stations formed the Guard of Honour for her at Canberra airport. To men who served in the Army this would not be considered to be a 'big deal' but it has to be remembered that radar personnel were not known for their marching ability and were rarely required to attend ceremonial parades. Therefore this Honour Guard may well be of historic significance to all ex-radar personnel.

335RS then went to Goodenough Island via Port Moresby. Norm Smith, the sergeant radar mechanic, who with F/O Katz and P/O Bell formed the installation party, recalls how P/O Bell, at Goodenough Island, briefed the Americans on the local conditions, details of the reefs etc. In particular he advised them not to land at the eastern end of the Alamut plantation because of the existence of caves which provided cover for the Japanese. On the false premise that they could land in rubber boats without being detected the attack proceeded, as originally planned, with dire results to the Americans who withdrew having suffered heavy losses.

The unit left Goodenough Island, with an American Task Force, proceeding to Finschhafen which had only just been recaptured from the Japanese - fighting was still going on nearby. 335RS was only staying overnight so the boys erected two tent flies with most of the unit sleeping under this temporary cover. During the night someone was heard coming through the bush ringing a bell. It was a Salvation Army man wheeling a home made trolley - he had heard that there were some Aussies there and set out to find them and give them a supper of cordial and biscuits.

The next morning, having helped load barges the previous evening, it was a case of 'off to Pilelo'.

At Pilelo and the First Operational Shift

The landing was no picnic. Phil says that the use of the flame thrower to eradicate Japanese soldiers who had barricaded themselves in a cave "was a dreadful business, and our first direct experience of the horrors of war".

Much of the unit's provisions were lost in the landing but the boys found some Japanese rice and tinned salmon. This became the basic food until such time as the Americans could arrange to get normal supplies through to the station.

The doover was erected close to the mission building which had been built on the highest point on the island. It had an unpainted iron roof which shone brightly in the moonlight. They quickly realised that the Japanese were using it as a landmark and they usually strafed the roof as they flew over. There was some thought of pulling the roof down but this idea was dismissed as the Japanese might then have suspected that there was something important nearby.

Despite constant bombing and strafing the unit became operational 48 hours after landing on the island and the first shift of operators, Bill Gill and Phil Cunningham, went on watch. Incidentally they stuck together as a shift and earned the nickname of the 'BH'(bomb happy) Shift because they always seemed to bring in the worst raids. To quote Phil:

> "There had only been time before dark to erect sandbags to a point about two feet above the floor of the doover, so of course we, the operators, were pretty well unprotected. There was no track between the W/T dug-out and the doover on the first night. But someone had run a wire from the W/T to the doover winding through the bush. You had to hang on to the wire to find your way. On the first shift Joe Taylor was the guard who escorted us each way.

P/O Bell was just the guy needed in the situation we were in - game as Ned Kelly but very careful. He had run a telephone line from the operator's position to the edge of the cliff. He told us, the first shift operators, that he would sit on the cliff's edge all night watching the aircraft coming in. This he did, telling us when to hit the floor and which side to lay against the sandbags - then he told us when to get back operating and also the direction to quickly pick them up.

On the first shift I think that it was Dick Gill who had the historic honour of detecting the first raid.

At one stage I fell between the edge of the floor and the sandbags finishing up in the dark under the floor, and even worse I lost the headphones. I could hear P/O Bell yelling down the phone to tell us to recommence operating. He was obviously worried when at first I did not reply - he didn't know whether I had been killed, injured or had shot through to places unknown. We eventually got it all sorted out.

I was very very frightened. I think more scared of the journey to and from the radar gear than when operating. At this stage we did not know whether there were any live Japs still on the island. I felt a degree of security in the W/T dug-out because at least there you were not alone - you had the company of the W/T operator.

At first, when operating, I was terrified when it was quiet and no aircraft being picked up. I expected Japs to come crashing in at any second. Strangely, I felt much better when I started to

pick up aircraft. Incidentally, that was the first time I ever saw AIRCRAFT BLIPS ON A RADAR SCREEN!!!! We had only ever been trained on shipping. Once the aircraft started coming down from Rabaul, I think that I was too busy to even think about my own danger.

We were all very scared when the first bombs started dropping. We knew from the screen that the planes were in the ground pulse and could be overhead. Everything was shaking and rattling from the bomb explosions and you didn't know whether they were near us or a long way off.

On the next day P/O Bell came to see those of us who were on the first shift. He gave us a lot of good advice on how we should spend our time, especially later on when things quietened down and became boring. He was a marvellous person and we were all very sad when he left us.

It wasn't until the next day that the reaction set in and I started to realise the dangers of the previous night. I can't recall now, how I felt on shifts after the first night. Within a few days the boys had got the doover properly sandbagged which made us all feel a lot safer when operating.

Personally I preferred to be on duty during a raid rather than being off duty and in my fox hole. At least when you were operating you knew what was going on - where the planes were etc. You also knew, before anyone else, when the raid was over. Also you were so busy - time passed quickly.

When off duty you were in foxholes, and all one could do was sit and wait for the All Clear. In addition the Japs had a nasty habit of including some delayed action bombs - so you were not sure whether it really was safe to leave your foxhole when the All Clear sounded. Most of us tended to stay there for a period after a raid, and so time dragged very slowly indeed".

Life on Pilelo

Plots were passed on to Norman Houlberg and Nick de Angelis, two Americans on the mainland, New Britain. Quite a friendship sprang up with these Americans and Phil and Dick visited them on the mainland later, when the attacks eased, playing table tennis in the American Red Cross Club. Even to the extent of spending the day with them on 9 March 1944 when Norm and Nick moved on.

The island was alive with snakes but they did not cause any trouble as they seemed to live on rats. The W/T dug-out was roofed with coconut logs and sandbags. On night shifts (but never on day shifts) you would hear the rats screaming as the snakes were killing them.

The closest Phil got to a reptile was when the natives asked him to kill an extremely large python, curled under a bush. They asked him to shoot it for them as they wanted the skin for the small hand drums which they used for 'sing-sings' and sending signals.

On 23 December, only a few days after the landing and still in the thick of the attacks, Phil decided to establish an orchid garden "as a diversion to the so called horrors of war". The orchids were mainly Goat's Head Dendrobiums and he continued collecting orchids as well as observing the flora on the island.

Christmas 1943 was a bit of a let down. The Americans had promised a couple of turkeys which did not arrive so the Christmas fare consisted of Japanese rice and biscuits.

The island was under almost constant attack. The landing was on 16 December and by the 29th there had been 35 raids - a total of 53 by 23 January - 181 red alerts by 10 February. A particularly heavy raid on 25 January was thought by some to have been the 'end' for the boys and affected Phil to the extent that the next night he slept with his clothes and boots on - but there was no raid that night.

By 21 February the figure quoted for the bombs dropped was a total of 1400 - 750 of which considered to be close to 335RS. Of the latter it is estimated that 60% fell in the sea, 24% on Pilelo itself and 16% on the mainland.

3 March was almost a red letter day for the unit. Things were pretty quiet and for the first time electric lights were turned on in the mess. That is, until there was yet another red alert.

When Things Quietened Down

Entries in Phil's diary became less frequent when things had quietened down and there are no official references of the visits to the personnel of 335RS by American nurses, who were stationed on New Britain. This fact only became apparent from the descriptions accompanying some photographs.

US protocol dictated that these nurses, who held commissions, were only supposed to fraternise with US male officers - not on any circumstance enlisted men! In addition, they were supposed to be accompanied by male US officers when they visited the island.

However, these nurses thought otherwise and on several occasions they 'conned' enlisted men on the barges to take then over to Pilelo. To quote Phil once again:

> "Naturally we sent photos home and wrote about swimming, sun bathing etc with the nurses. [Phil was not asked to explain what the 'etc' meant] The CO received a letter from Censorship headquarters in Melbourne to say that his men were NOT to send such photos, or describe such scenes, as it would give the people down south a false impression of the war situation!!!"

Comment: Now that snippet of history will make 335RS the absolute envy of every radar station which was located in a remote area - they enjoyed some female companionship.

A Black Box at RIMU

Cyril Vahtrick

During part of 1944, I was attached to a small specialist workshop at RIMU to which all kinds of test instruments were brought for repair and calibration. We had to take on all sorts of jobs, for example I can recall tackling a rather bent cathode ray oscilloscope which had fallen off a truck onto a wharf from whence it fell into the sea. We rebuilt the entire unit.

One day one of the officers told us that there was some equipment in the store which had come from UK, having spent a good deal of time in sea passage and he had decided that it ought to be tested before being put out on operations. Being well trained in RAAF etiquette, we didn't ask what sort of equipment it was, nor did we comment when we were told that there was no documentation but that the necessary details were no doubt in the crates containing the equipment. From recollection, there were about a dozen crates, enclosing identical units which were literally black boxes about 2ft wide, 1ft high and 1ft deep, painted all over in the 'crinkly black' so familiar in the COL radars.

A superficial inspection revealed the expected valves and other components, but not in any arrangement that was familiar. The most interesting feature, however, was that there were no markings of any kind whatsoever either on the outside or inside of the units. While we were accustomed to the highly secret classification of radar, this seemed to be taking things a bit far. To add to the interest, there was no circuit diagram or any other documentation of any kind, nor did our enquiries reveal any other clue as to the function or intended working destination of these units.

A careful survey of the equipment was then made, but this just served to indicate that the equipment bore no similarity to any operational or test equipment that any of us had experienced. Again from recollection, each unit had two large bakelite knobs on the front panel, which seemed to control potentiometers. There was what appeared to be an output terminal, but there was no apparent input facility. Being young and enthusiastic at the time, this represented a challenge to be undertaken with relish.

The first thing I decided to do was to attempt to trace the entire circuit, which even involved measuring the resistance of some of the resistors. (The makers of the units were certainly imbued with the need for secrecy). Nevertheless, having completed the circuit diagram after a good deal of painstaking work, I found that it still did not resemble anything which made sense to any of us. Eventually, I figured out a way of working the units into a cathode ray oscilloscope on which two pulses, similar to radar blips appeared. If my recollection is correct, each of the two large bakelite knobs controlled the amplitude of one of the blips. While none of this made us any wiser as to the purpose of the boxes, the circuit diagram which I had traced, coupled with the observed CRO pattern, did provide a means of 'testing' all the units and this we duly accomplished. Indeed, we had to replace faulty components in some units before they would 'work' giving the proper blips.

Notwithstanding all this 'testing', we never did find out what the units really were. My best guess was that they possibly were some sort of operator training set, perhaps for height finding radar, in which operators were required to estimate the ratio of the amplitudes of blips coming from different antenna lobes. At the time, operators on height finding radars were required to estimate such a ratio, the figure thus obtained then being referred to tables from which the estimated target height could then be obtained.

The potentiometers would permit an instructor to set any combination of amplitudes in such a training exercise, but the whole 'black box' arrangement seemed to be an unduly complex and cumbersome way of achieving such a simple training objective.

I then thought that perhaps the Brits had also come to realise the same thing and somebody over there got the brilliant idea of sending the whole lot incognito to Australia. I wonder if there is anybody who can throw further light on this equipment? Anyhow, having duly tested those 'black boxes', we recrated them and sent them back to store.

For all I know, they could still be there in some dark corner of some ancient Stores Depot.

Comment: The A50's for Radar School indicate that this equipment was later used in training controllers and operators for GCI stations.

Memories of 1STT and North West Area
Colin Thiele

I enlisted in the RAAF early in 1942 after the bombing of Darwin and was called up mid-1942. Actually I was at Adelaide University doing some post-graduate work. Having graduated in Arts with some physics, my maths was less than distinguished. However, I completed the course (a four years course in six months) without mishap and then went onto Richmond for the radar section of our training.

My most abiding memory of the Exhibition Building was a command one Saturday afternoon for a couple of us to fix an electrical fault in the WAAAF quarters nearby. As we were ushered in we were preceded by a female sergeant of Amazonian build and temperament who walked ahead giving warning of our presence like one of those present-day police cars with flashing lights warning motorists of a hazardous wide load following close behind.

With a voice that fairly rattled the rafters she bellowed, "There are MENNN, MENNN, in the dormitory."

It seemed to be a raging shout of mingled despair, frustration and anticipation. We caught glimpses of flitting figures disappearing into nooks and doorways as we sidled in her wake. As the fault was in the shower block I guess her concern was reasonable. When we repaired the fault we were marched down the corridor again, preceded by slightly less vocal warnings, and thanked for our services. The door was closed behind us with great finality.

After Richmond I was posted for a time to Metung in Victoria. It was a sort of radar rest resort - beautiful lakes, fishing, ocean beach, boats, and with Bairnsdale and Lakes Entrance within easy reach. The only bind was the winter temperature. We were issued with FIVE blankets - the wind seemed to come straight off the snow-capped Baw Baws.

In typical bureaucratic fashion this Elysian existence was broken overnight by an URGENT signal requiring me to be in Darwin by the previous day (no leave possible). I was flown in a labouring Hudson that bucketed about all day and finally made Mataranka at nightfall. After a memorable journey on the train 'Leaping Lena' through Katherine I then sat about at 44 Wing doing nothing at all for six weeks.

60RS at Cape Van Diemen, Melville Island, NT

Then a group was formed to establish a station on Cape Van Diemen on the northern tip of Melville Island to help provide more radar cover for Darwin. By the time all the inevitable hassles and delays had been resolved it was really too late in the season (about October 1943 as I recall) to be embarking on such an enterprise. Anyway, we were finally loaded on a bucking little coaster with a hell of a load of supplies, two Lister diesels, fuel and a complete Mk V COL as well as personnel, communications gear, tanks for fresh water, and God knows what else.

The monsoon being upon us we had a wild trip out - around Bathurst Island to Garden Point on Melville. The ship had to anchor a few hundred yards from the shore and all the gear had to be ferried ashore on an improvised raft - we nearly lost a truck and the two diesels in the process, but we miraculously got everything ashore more or less intact and then hacked a road for about 25 miles from the Garden Point Mission to Cape van Diemen - through thick bush.

The choosing of the camp site, building of huts (big ones with bark roofs, the bark being stripped off in long sheets from the trees), the setting up of the radar station on a cliff overlooking the Arafura Sea, laying down of concrete beds for the diesels, building a power line through forest for half a mile (the diesels were heavily camouflaged and set well away from the station, the digging of the well for fresh water etc etc took an enormous amount of work. We were at it from dawn till dusk seven days a week, and often in the middle of spectacular thunderstorms and rain squalls. Of course the gear was soaked a score of times before it was finally installed in the doover and we had a devil of a time trying to dry it out, get rid of the mould, rust and what have you, and then to getting it to perform properly. It didn't perform well for some time but eventually emerged from its technical cloud. I used to like to do some operating on the dogwatch and once picked a Jap recce plane near the Gulf of Carpentaria of all places.

The station was very isolated and there were long periods when we didn't get any mail or supplies. We often caught fresh fish though and had some hilarious times when the old Walrus tried to get mail and fresh supplies to us. It could not land on the sea so it dropped the stuff on the beach. Mail and so on was okay, but the fresh meat either ploughed into the sand and tasted like powdered glass, or fell into the water some distance from the shore. It was then a hard decision whether or not to swim out to retrieve it, knowing that there were big salt water crocodiles everywhere which probably preferred a bit of fresh rump steak to a side of stale beef in a jute sack.

We once went so long without any mail coming in or going out that we soldered up an old dehydrated potato tin to make it both air and watertight. We then sent our mail by dug-out canoe, paddled by two aborigines, down the Apsley Straight to the Bathurst Mission which had an airstrip and they managed to fly it out for us.

The Tiwi people of Melville Island were splendid at that time - tall, strong, independent and very friendly. They helped us greatly, and a group of them, about 16 I think, were actually recruited into the Air Force. I would have backed them at any time as scouts or guards at night. I'm sure that an enemy trying to land on the beach at night would not have wanted to face them when the Tiwis were hidden in the thick bush near the shoreline. A Tiwi spear - fast, silent and deadly accurate -

would have been infinitely more effective than a tommy gun that was noisy, clumsy and often jammed.

Of course we had the usual traumas, as when a white guard reported landing barges on Cape van Diemen one night (he thought the phosphorescent-like glow on the water was the light of a barge), and the station went onto red alert. People were running around in the utter darkness with hand grenades, putting themselves and everyone else in great peril of their lives. We, the technical staff, were told to prepare the bombs to destroy the doover. Someone was to burn or eat the code books! Luckily it was a superb false alarm.

Among a million stories to come out of the place the one I liked best of all concerned Jack Harrington, a fellow mechanic and a great friend of mine. He had been in Darwin during the great early raids and was, to put it mildly, rather nervous as the result. One night he imagined that he could see a bandicoot sitting on the end of his bunk - our huts were open all round near the ground and wild creatures could more or less come and go as they wished. Jack was an anthropologist from Sydney University and he had collected a fine array of aboriginal artefacts including spears and clubs. So he stealthily reached for one of his clubs, moved his arm back to full stretch, and brought down the club as hard as he could. Unhappily it was not a bandicoot but his own foot sticking up in the half light. The poor fellow hobbled about the station for weeks on improvised crutches.

After my stint on Melville Island I was told to join a roving band of three "trouble-shooters" whose function it was to fly out to stations in the region where technical problems were occurring and to fix them up smartly. The team consisted of Horrie Baker, from Port Lincoln SA, who was in charge, Jack Yates, from Moree NSW and me. We had an eventful life flying about the region in all manner of decrepit old kites - Avro Ansons, Dragon Rapides, Walruses, and God knows what all else. How some of them ever became airborne I'll never know. We landed on beaches, on hairy airstrips, clearings in the bush, anywhere. In that way we saw a lot of Arnhem Land and the north coast; Cobourg, Croker, Millingimbi, Wessell, Cape Fourcroy and so on.

Eventually in March 1945 Horrie and I were sent to Strathpine near Brisbane via Cloncurry in an overworked DC3, to prepare to join a unit going to Borneo. As we hadn't had any leave for about two years we put on a turn and paraded ourselves to the CO. We got our leave and I went south to Adelaide and got married.

39RS at Port Keats
Jim Flaherty

A Native Trade War
During the wet of 1943-44 the unit ran out of supplies except for some weevilly flour and tea. Natives from the neighbouring Moyle River tribe collected eggs from the whistling geese nesting on the swamp in their lands. We traded native tobacco for these eggs. However this trading was contrary to tradition according to the Port Keats tribe who claimed the trade monopoly with 39RS.

The Port Keats natives claimed retribution in that six of the Moyle River tribe had to withstand six Port Keats natives hurling six spears at each of the offenders without the right of reply. Their only defence was by dodging or using a woomera or spear to deflect the oncoming spears. This 'trade war' took place on a traditional battle ground situated on the boundary between the two tribes.

Luckily Bill Harney, the well known Territorian and Protector of Aborigines, was staying at the mission on that day. Several of us from the unit and Bill Harney followed the warriors to the battle ground. The warriors were appropriately painted and worked up to battle pitch.

The two parties lined up about the length of a cricket pitch apart. At a given signal, after an exchange of insults, the Port Keats natives let loose with a mixture of 12 foot shovel-nosed and Mulga tipped bamboo shafted six foot spears. It was amazing to watch the weaving, dodging and deflecting carried out by the Moyle River natives.

Bill Harney explained that if anyone got injured it was only bad luck and proved that the injured person was no longer fit to be a warrior and therefore should retire to the old men's council. After the required number of spears had been thrown all of those involved seemed to be satisfied and all participants retired to camp together to get a hand-out of trade tobacco.

The Engine Room Fire

One day in 1944, Bill Eacott, O'Farrell and I set out with Father Docherty, riding on the tray of his T Ford truck, for a trip to Paperbark Plain - a round trip of about 25 miles. On the way out we passed a white bearded patriach accompanied by his several wives and children - all starkers - going on a 'walk-a-about' on their tribal lands which was usual after the wet season.

Stopping at Paperbark, Father Docherty gave Tiger - a notorious tribesman - a shotgun and two cartridges. The swamp nearby was crowded with hundreds of native geese and ducks. As far as the eye could see the plain held thousands of native companions, water fowl and buffaloes. We heard two shots. The natives from the mission who had accompanied us soon appeared with 20 geese. These were divided three ways between the RAAF, the mission and the natives.

As we crossed the edge of the airstrip, on the way back, we heard an almighty explosion followed by a huge black column of smoke coming from the direction of the RAAF camp about two miles away. Flat out, or rather as flat out as a T Ford truck can travel, we headed in that direction. As we neared the camp we could hear much rifle fire - had we been invaded?

On arrival we found the engine room, which housed the station's power supply, a smoking ruin. Occasional bullets were still exploding - ammunition and the Lewis gun had been stored there together with three demolition bombs. Luckily the latter had been rolled out in time.

The Fitter DMT had been repairing the idle motor using a blow lamp. He had put it down behind not noticing that it was directed straight at the fuel line of the operating engine. The fuel caught alight and caused the fire. Unfortunately the DMT was burnt and had to be evacuated by air to the RAAF hospital for treatment.

Naturally 39RS was off the air as the result. Darwin was contacted by W/T. The whole station worked late into the night clearing the area and shifting the two 25 KVA alternators out and onto bases ready for transport back to base for repairs. Next morning two Ford 10's arrived by Douglas transport.

Within 24 hours of the fire 39RS was back on the air but the camp had to revert to hurricane lamp lighting due to the drop from 25KVA to 10KVA produced by the Ford 10's.

A Initiation Ceremony by the Murinbata Tribe

The tribal chiefs or elders invited the boys from 39RS to the initiation ceremony which was to be held only about three miles away.

For three weeks seven young boys about 12 years old had been in the hands of the elders for initiation into the arts of hunting, fishing and dancing. The lads had been segregated from the rest of the tribe, living in the bush and forbidden to talk to any lubra. Each boy wore a white cloth tied around his head and forehead and had red and white markings on the face and body.

The boys were in the early stages of initiation which extends over some years in seven stages. One older boy had been selected by the elders to be ready for the final ceremony of circumcision.

On Sunday afternoon Father Docherty rang to advise us that dancing had been in progress all the afternoon and that the circumcision ceremony would most likely be carried out in the evening. A party of RAAF personnel, with F/O Bass in charge, immediately set out for the mission.

When we arrived the dancing had stopped. Men in tribal markings were standing around in groups; the women, many with blood stained heads and faces from self inflicted wounds, were sitting around and wailing.

There was a dispute among the men about the best time for the ceremony. This argument was soon settled by Father Docherty saying in a loud voice, “Alright. You no finish tonight - you get no tucker tonight; no tucker tomorrow.”

He walked away leaving the men to decide. Inside ten minutes they decided the time was now.

A shout went up and soon two weirdly painted figures were seen approaching with the rapid, upright, dignified walk characteristic of the tribe. One was Waggin the medicine man, the other his assistant Jumbo. They took charge of the proceedings from this point.

Waggin introduced himself and shook hands with F/O Bass at the same time explaining that he was not doing the cutting himself but Jumbo would do it under his instruction - “Him learn”.

Jumbo explained that he had done the ‘job’ once before on a boy named Billy Coo who was standing nearby. A hollow ground ‘cut throat’ razor was passed around. It was lightly stained, but not nicked and appeared quite sharp.

Two hundred yards from the mission buildings, two blankets were laid on the ground. Four men lay down on them, face down. The two centre ones in one direction; the outside ones in the opposite direction. Minmara, another elder, lay on top of them across their bodies, the small of their backs forming a sort of bed. He lay face upwards.

The initiate was brought forward to the group. The RAAF visitors formed a ring around this group facing inwards. Men of the tribe formed an outer ring facing outwards so that the women and children could not see the action.

The victim was in the charge of two older men who brought him forward and placed him, facing upwards, on top of Minmara who wrapped his arms around the boy’s chest while four assistants firmly held his arms and legs. A long red cotton cloth hanging down in front of the lad, held by a string around his waist, was removed. A small bag, which he was wearing around his neck, was put between his teeth.

The band, consisting of didgeridoo and wooden clapper players, started up. Jumbo and Waggin placed themselves at the boy’s feet. They washed their hands in water poured over them by an assistant. Jumbo held the razor by the blade, using only the last inch of it at the tip to cut. He pulled the foreskin back and made a small nick at the base. When blood appeared a great howl went up from the men; an even greater wail went up from the women.

Jumbo pulled the foreskin forward, then cut it through without difficulty, separating it from the penis. Waggin throughout the whole ‘exercise’ instructed Jumbo where to cut. When the foreskin became separated another great howl went up from the men and a much louder wail from the women. A few loose tags were then trimmed off.

The operator then stood up retiring out of sight. The music stopped. The red cloth was replaced with another one underneath it, thus covering the wound. The wound was neither dressed nor bound. There was very little bleeding.

The boy’s father, who throughout the ceremony was standing behind him, stood up and supported the lad who was looking very pale. The lad fainted - a bystander lifted each eyelid in turn and spat in the eye, without any effect. In a few minutes the boy recovered and supported by his father and another man was taken to the mission for Father Docherty to administer ‘good mission’.

The tribesmen then gathered around the RAAF personnel including F/O Bass who distributed tobacco; more or less payment for the privilege of being allowed to witness the proceedings. We left but the dancing, led by Waggin, went on late into the night.

The aborigines working at the camp next day expressed great satisfaction at the event. As for the patient - “him better, him quite well three-four days”.

Incidents at 347RS, Mokerang, Los Negros
John McDavitt

Raider and Radar
United States Naval base activity at Lorengau in the Admiralty Islands increased considerably in the latter half of 1944. Convoys of merchant ships and freighters of all descriptions arrived in Seeadler Harbour to discharge a multiplicity of cargoes. Seeadler Harbour is formed from the horseshoe shape of Los Negros Island opening towards Manus Island. It is 15 miles long and four miles wide, deep, well protected and capable of sheltering large naval forces.

In late September a fleet carrier group assembled in the harbour, comprising carriers and escort carriers, battleships, cruisers including HMAS Shropshire, with various other smaller vessels down to MTB's. These were accompanied by troop transports, supply ships, landing craft and barges until the harbour extensively supported an arm of the Philippine invasion fleet. As the fleet at anchor could be vulnerable to air attack from the enemy's occasional minor harassing raids, a screen of RAAF radar stations kept vigilant air warning watch on the archipelago and surrounding seas, while RNZAF Corsairs (F4U) maintained constant air patrols. 337RS was at Momote, 347RS at Mokerang, both on Los Negros; 345RS was on Harengan Island off the western end of Manus and 346RS was at Bundralis on the central north coast opposite the Ponam Island naval airstrip.

On a dull, cloudy day in the first week of October, the munitions ship USS Mount Hood was torpedoed and sunk while at anchor in the harbour. This caused major concern to the Fleet Commander as other ships might also be attacked, so antisubmarine activities were increased. Two nights later the operators on 347RS, working the midnight to 0600 hours watch, D/F'd a blip about 12 miles to the east. The target was stationary and showed no IFF. US Navy barges conveying supplies to the outer islands sometimes showed no IFF, but these were generally daytime activities. This blip was stationary and at night, and was therefore unusual. The co-ordinates of the plot were communicated to the Mobile Fighter Control Unit.

The blip or echo was a strange one, round topped with a left side shoulder and the operator, LAC Alan Gough, had seen a similar blip before when stationed at Gabo Island, 16RS, enemy submarines being active off the east coast of Australia in early 1943. As the plotter, I reported the X-ray plot to 114MFCU with information regarding the possibility that it was an echo from a submarine.

This intelligence was forwarded by the MFCU to No 23 RNZAF Corsair(F4U) squadron which was preparing for take-off on dawn patrol. The echo had now faded but they were advised to be particularly vigilant in the area indicated by 347RS. The US Navy was also alerted and anti-submarine craft were dispatched to the area.

Plots of the aircraft activity were sent to the MFCU but reports received connoted no contact. As the day progressed a number of US Hellcats (F6F) aircraft joined the New Zealanders in pattern searching the area, coming in to Mokerang airstrip to refuel, then taking off again to resume the search. It was a bright clear day and the sun sparkled off the sea like diamonds in polished malachite, making it difficult for aircrews to observe competently, but at about 1500 hours a Corsair reported a shadow near Tong Island, about 30 miles east of Mokerang. This site was attacked by RNZAF Hudson bombers that had been held in readiness and by a USN corvette. After about 20 minutes a submarine emerged, nose down, the stern section and part of the conning tower being visible. Seamen appeared on the bridge and began jumping into the water, while others using rubber rafts paddled away from the hull. A motor launch from the US Naval vessel rounded up and took in tow the life rafts, as well as rescuing survivors. Later the submarine was again bombed until it sank.

It was certainly an unusual activity for an air warning defensive radar station to participate successfully in an attack on an enemy sub-surface vessel.

The splendid job done by all the operators covering the plots of the RNZAF (Queeny IFF) and USNAF (Apples IFF) during the pattern search of Tong Island and its surrounds cannot be over-emphasised. It is believed that the CO of 347RS was given a letter of commendation or something similar by the US Navy Headquarters expressing their appreciation of the work done by the station.

Several nights later unidentified persons were observed in the 347RS campsite. When challenged they hastily retreated into nearby undergrowth. The following day persons were observed at the crashed aircraft dump and USN Provosts were alerted. Three Japanese seamen were later captured in the area. They had been endeavouring to salvage radio equipment from the aircraft wrecks.

Then, in May 1946, a party of seven ex-enemy servicemen comprising a naval officer, two seamen and four soldiers surrendered to New Guinea authorities on Manus Island. They had been living with natives and had only recently heard that the war had concluded.

The Storm

The day was somehow different. It felt different. Everyone from 347RS noticed it. Cumulus cloud on the horizon the previous day had covered the whole sky overnight. Everything was still. No palm fronds rustled, no gulls circled across the harbour and the sea beyond the coral reef was a flat-calm lake. Airmen went about their duties with lethargic despondency.

About 1800 hours there appeared, several miles to the northwest, a thousand feet or more spiral of black. We gazed at it in wonderment. The twisting, gigantic spout of water was swaying like a hula dancer, gushing spray for hundreds of feet around it and travelling at an alarming rate towards the island. The sea began to stir, waves were breaking across the nearby reef. The day blackened, a breeze sighed by, stirring tree tops and turbulent dark-grey clouds played tag as they tumbled overhead.

A signal was received from 114MFCU at Momote that a flight of four RNZAF Corsairs were staging up from Santos and were due to leave Madang airstrip for Los Negros, ETA about 1800 hours.

The wind velocity increased and the storm was imminent. Tent flaps were secured, jeeps run into sheltered areas and on the tarmac, aircraft were man handled into dispersal bays or tied down with stays. Rain began to fall, but to our relief the water spout moved direction northeast away from the island.

The Filter Officer at 114MFCU contacted radar stations requesting a vigilant watch. He said the RNZAF aircraft had radioed that flying conditions were appalling but they were continuing to Mokerang rather than returning to Madang. Later the leader reported the flight had lost visual contact and he was experiencing difficulty with radio reception.

The west wind velocity increased as it howled across the atoll, the daylight faded rapidly and darkness wrapped around like a velvet cloak. Squalls blasted the area in violent flurries, rain hammered huts and tents. Radar operators were also having difficulty with reception. The trace was heavily ‘grass’ affected and lightning cause jags and flashes across the screen but at about 1810 hours the operator at 347RS picked up a ‘queeny’ IFF, the usual RNZAF identification and with difficulty was able to D/F a target blip to the south-east. MFCU radioed the pilot and with the airstrip lights being assisted by headlights of jeeps and trucks from various units in the area, the Corsair made a wobbly but safe touch-down.

The storm continued with intensified lividity. Giant seas crashed over the coral reef and lashed up the beach into the jungle’s fringe along the shoreline. Coconut palms, with fronds streaming, bowed before the wind. The cathode ray tubes were unreadable, being filled with erratic flashings of electronic green, but red-eyed operators strained to find an echo blip through the verdant confusion. At about 1830 hours an operator at 347RS noticed another ‘queeny’ IFF flash

momentarily on the screen giving him just enough time to D/F an approximate position which was passed on to Sector. Again the headlights of jeeps were used to assist in illuminating the airfield. Sector had also called on a US anti-aircraft outfit at Mokerang to assist and their gunners fired star shells up into the clouds.

The ground crews waited and strained to listen through the pulsating, ululant gusts of wind and were rewarded to hear the faint lumbering throb of an aero engine. Landing lights from the aircraft pierced the night's nigrescence and then the Corsair whooshed through the rain onto the airfield, slewed around, tipped onto one wing and finally came to rest.

The search continued with no R/T or radar contact with the two remaining aircraft. The US ack-ack periodically fired star shells but the situation appeared hopeless. Then, during a momentary lull in the storm, as if the wind was catching its breath, a clear plain language contact questioned, "Where the hell am I, Sector?"

Simultaneously an echo appeared on the radar screen. As a result the third Corsair was contacted and given a bearing derived from the radar plot. Soon it burst through the low cloud as jagged slashes of lightning bathed the scene in electric blue, leaving residual thunder claps mumbling across the atoll. The aircraft crash-landed but the pilot escaped injury. He later said that he saw the star shells bursting and turned in their direction. This change of course brought him closer to the island and allowed the radar stations to D/F him. The operators on duty at various radar stations in the area continued with the search, struggling to hand-wind their arrays against the severe wind. Their cathode ray tubes were badly affected by atmospherics and their eyes were strained from gazing at the flashing, unstable trace seeking the missing aircraft. They found no sign of the fourth Corsair.

The night and the storm continued until morning when some respite occurred, the wind gradually moderating. A faint paling and weak red glow on the horizon pushed back the black night as the sun struggled to assert itself. The damage was less than expected and work parties from the US 'Sea-Bees' soon cleared the roads of fallen trees and debris. Pools of water soaked away into the coral leaving the sun to steam-dry the area.

A few days later a small group of allied servicemen gathered to place a raft/wreath of bush orchids and leaves into the sea, to commemorate the lost NZ airman. It was a fine clear day. The wreath bobbed away in gentle sine curves on an ebbing tide while a Padre recited appropriate prayers. One could not help but compare the calm sea to the violent black waves that must have greeted the lost airman.

An Incident at Kiama
Gwen Cole (nee Stuart)

On Saturday 20 November 1943 a training plane crashed on Saddleback Mountain near the radar station. At first we did not know whether it was one of 'ours' or one of 'theirs' and some of the personnel hid in the bushes nearby for a short time.

The crew was killed and some of our people helped in retrieving the bodies. Two RAAF tenders were sent to collect the bodies and these vehicles were parked alongside the doover so that an early start could be made the following day but also because the doover was at some distance from the mess and living quarters.

That night I was on the dog watch and as we all know one of that shift was usually sent to wake the next group a half an hour before they were due on duty. I was given the job and due to the circumstances of the previous couple of days I was not keen to go on my own. But when a sergeant in charge of the shift tells you to go, experience tells you to go forthwith.

Half way up to the barracks, I heard, "Halt. Who goes there?".

Shocked by being stopped and affected by the events of the previous days, I instantly forgot the password and yelled quite loudly, “It’s me. It’s me.”

The guard was jittery and had a loaded rifle - he had had a few drinks to keep himself warm and settle his nerves or that is what he said afterwards. It was really quite understandable as he had helped collect the bodies and had picked up a flying boot only to find a foot still in it.

Anyway he recognised me, my mission and where I was going - so I hurried to the hut to wake the girls up and promptly went to bed. Suddenly I remembered that I had forgotten to wake up the radar mechanic Jack Hastie - known to us as ‘Speed’.

Out of bed I hopped and put on my long brightly coloured dressing gown and set off for the male quarters to wake him.

By this time daybreak was nearing. So I banged on the hut door and yelled for ‘Speed’ and told him to get up. I heard a noise, over near the ablution block - yes you guessed it - it was Madame who had heard the noise and decided to investigate. [It should be explained to younger readers, the term Madame in those days was used when addressing WAAAF officers - an entirely different connotation to the usage of the word Madame today which refers to a controller of a house of ill fame.]

My immediate thoughts were: I have been caught out of bounds near the male quarters at 0550 hours, I’m in big big trouble.

In a flash the mechanic let me into the hut and I leapt into one of those steel wardrobes. Very soon Madame was knocking at the hut door enquiring from the mechanic as to whether he had seen an ACW about. Naturally and thankfully he said no.

I then had to get back to my hut before Madame could make an inspection. She had noticed an ACW running through the short thick scrub dressed, in a colourful dressing gown. Luckily with all the bushes acting as camouflage I got back to the hut and jumped into bed as quickly as possible knowing that an inspection by Madame was about to begin or was in progress. Luck was once again on my side as my hut was the last to be inspected.

I really believe that I would have been put on a charge had I been caught. In thinking back, it is quite probable that Madame still, on occasions, wonders who the ACW was in the men’s hut and why.

40RS at Merauke, DNG
Fred Hull

According to records I was on Temporary Duty, detached from 1RIMU from 9 July 1942 to 30 January 1943, for the purpose of establishing 40RS in Merauke, DNG. The first step was to travel to Townsville where, with the rest of the personnel and equipment, we were loaded on to an American Liberty ship, the John Jay, and taken to Thursday Island.

There, on 14 August 1942, we joined the American ‘Augusta Force’ and were attached to a Medical Company for provisions etc. One of the American MO’s seemed to be very keen on circumcision and during our stay at Thursday Island, he talked a couple of our men to have this done. It was of course their decision. Eventually we were taken by two small ships, the Bidelia and Baralabar, to Merauke.

On arrival we set up camp with the Americans and given the use of a jeep. As soon as we settled down I started looking for a suitable site for 40RS. The country as far as could be seen was flat with a beach extending about 300 yards from the Arafura Sea to a swamp which extended a mile or more to flat land on which the town of Merauke and the American camp was sited.

We found a road from the town to the beach near the river. Accompanied by one of the radar mechanics we explored up-river and along the beach eventually finding a knoll about 20 feet high

on which 40RS was to be sited. Apparently no other suitable site existed as 40RS remained there when it was changed to a Mk V COL some time later.

The camp was set-up in a coconut palm grove, in the village of Lampo Satoe, close to the doover. It consisted of tents plus a large canvas fly which acted as a mess and activities 'room'. I converted a large packing crate into a room for myself. Water was carted to us from the American camp and we had to be very careful with ablutions and other use of water.

Accompanying the 'Augusta Force' was a small RAAF signals unit for communication back to the mainland. They too were accommodated in the American camp.

At the time of our arrival the town of Merauke was occupied by a company of the Dutch Army with some Dutch and Chinese civilians. No Australian Army was in Merauke during the seven months I was there.

The doover was sited close to a small village of native people who had a number of pigs. According to some of my boys they saw a baby pig being breast fed one day when they were passing the village.

The Americans provided us with a couple of Tommy guns and a mortar with enough ammunition to practice.

After several months of operation we were ordered to dismantle the station, pack and move to the American camp ready for transportation. After some weeks we were ordered to move back to the old site and re-install the station. Why we had to move is still a mystery. During the period at the American camp we were bombed several times and again after we had re-installed the set.

While we were re-installing the gear we heard one Yank telling another, "These Gor Darn Aussies are making bolts with a file". Actually the boys were only touching up the threads on a bolt with a three cornered file.

The array was on a tower with a platform about 10-12 feet above the base. The platform supporting the rotating gear formed the roof of the operating room. The turning gear was very heavy probably weighing a ton or more. We were fortunate that one of our crew and I had some experience in erecting towers, he as a station hand erecting windmills and myself with the Royal Flying Doctor Service.

We borrowed, from the American Engineers, a truck, ropes and pulley blocks for both the installation and re-installation of the equipment. Without their help we would have been in difficulties getting the turning gear up on the platform.

The equipment was an AW transmitter and receiver, very similar to 31RS, with a Mk V COL array and turning gear. We had no details of the array and no impedance measuring equipment. However our experience in amateur radio helped work out a suitable matching and phasing system.

After we had been attached to the Americans for sometime, our boys were getting sick of having coffee every meal, so I requested the American Stores Officer to order us some tea. When the next supply ship arrived, he called me asking that I collect the tea from the Stores Depot. On arrival at the Stores Depot I went to pay my respects to the Stores Officer and he asked one of his men to take my jeep and get the tea. The man returned shortly and said that he could only get two chests of tea on my jeep.

Imagine my surprise, here we were with only 20 men with enough tea for a lifetime, when our families were on ration at home. I told them to take one chest back and hold what the RAAF Signals Section could not use for the Australian Army if and when they arrived.

Being so isolated, no Xmas cards were available for sending back to our families and friends. Before Christmas, when looking around the cook house, I noticed tins of fruit with some very nice

illustrations of apricots, plums etc which would serve the purpose, I took several and wrote suitable Xmas greetings on them. The idea soon took on.

When I was posted back to 1RIMU the Americans gave me a send off. As a special gift they gave me a large bottle of medical alcohol - remember we were attached to a Medical Section. I was rather embarrassed and on my return to the mainland, quickly got rid of it to the first RAAF MO I came across.

Being with the Americans, all personnel received two packs of 20 cigarettes, two packs of pipe tobacco or two plugs of chewing tobacco a fortnight, being a light smoker I had saved a kit bag of cigarettes, enough to give away to my smoke starved friends and have plenty for myself. The Americans were also very generous with clothes etc. I also brought back a very nice folding camp stretcher and mosquito net that had been issued to me.

There was a short cut through the swamp to the American camp, vegetation was high and the road rough. We had to travel slowly when using this road. On one occasion when visiting the Americans I saw the largest snake ever, it was at least 18-20 feet long - it was not my imagination, it certainly was big and as round as my upper leg. I never got out to measure it but watched it for some time.

The isolation seemed to worry some of the Americans whereas our boys seemed to take it in their stride. After we had been at Merauke for four or five months one of the American Medical Officers, whilst sitting in their large amenities tent, pulled out his revolver, put it to his head and shot himself. They were very concerned about officers living on their own like me. They really did not understand that, as far as I was concerned, there was no barrier between myself and the boys - we were just one happy family. Well, as far as I could make it.

The Bureaucracy Fights Backs
F.H. (Hal) Porter

As MacArthur's forces moved north, Earl Mountbatten was preparing to retake Burma. He urgently needed radar cover and Australia had the best equipment for the jungle conditions involved. Furthermore our Government had agreed to supply any requisition at once.

An ‘immediate’ signal was received at Radar Liaison Office, Sydney - to have the equipment for twelve COMPLETE stations ready for airfreighting forthwith !

After a great deal of phoning, begging and cajoling, and with much help from the Ministry of Munitions, manufacturers, and RIMU, we had everything or rather almost everything. But there were no batteries for the Ford 10 alternators.

As these particular batteries were standard RAAF issue I followed the hallowed procedures by phoning every Stores Depot on mainland Australia without success or even suggestions on where else to try. Then the Ministry of Munitions’s help was sought but still no batteries. However they advised me to contact the Controller of Civilian Automotive Supplies - an authority whose very existence was new to me.

I was soon in the gentleman’s office explaining my needs. He gave me a sympathetic hearing and much more important, the opportunity to collect the batteries that afternoon.

I left the office that night rather pleased with myself !

Any lingering euphoria was soon shattered when the bureaucracy attacked, apparently fighting a different war to the rest of us!! A distressed Stan Horwitz rang from Headquarters to say that Stores had reported my ‘unlawful’ action and the Director of Equipment was after my blood - at the time I thought I was rather small fry for such attention. Stan went on to direct me to be in Melbourne the next afternoon. I should add that as no Radar Liaison Officer ever had a job specification or similar document it was difficult to determine what was ‘lawful’ or ‘unlawful’.

As the DC3 droned slowly south I had ample time to consider my predicament. I became depressed, realised I had not thought to bring clothes for a forced stay overnight, and tried to anticipate what punishment fitted the crime, so far undefined. At least firing squads were out thanks to Billy Hughes and World War I.

On arrival there was little discussion at the Radar Directorate, only that we were in 'big' trouble. Several of my colleagues then joined me in the procession to the Directorate of Equipment. There we were told in no uncertain terms that they "weren't to blame, it was entirely our fault". Thereupon several of their members also joined the procession.

We were off, so I was told, to see the Second Secretary to the Treasurer and I certainly felt important as I always seemed to find myself at the front of the ever growing entourage, with the guide. The Pied Piper flashed through my seething mind but I was not calling the tune as we made our way tortuously along endless corridors.

Eventually we entered a very big elongated room at the far end of which was a middle aged civilian at a large executive type desk. To a twenty two year old he certainly appeared at least middle aged but I was grateful there was only one judge to hear my case. I noticed that I was still in front and that the procession was neatly and discreetly assembled to the rear.

I was immediately asked - quite courteously - to outline my actions. This took just a few minutes. The proceedings ended swiftly -

"Mr Porter, I understand you have flown down specially for this meeting?"

"Yes Sir."

"You think you did the right thing in this matter?"

"Yes Sir."

"And no one has had the _____ sense to say so! Now go back to Sydney and stop worrying."

By the time I had taken all this in and looked around the entourage was rapidly dispersing with much shaking of heads and muttering.

For my part I was delighted to be on a late flight north contemplating a wasted and very very long day, the mysterious workings of the bureaucracy, and trying to calm down.

Next day on with the other war.

To this day I have never been sure what crimes I committed or nearly committed over those 12 batteries. Certainly after Equipment's failure to supply or offer any help on a major operational requirement I sought and obtained 'outside' aid. But this was my responsibility and one I very clearly had to face alone.

Nevertheless many months after the war whilst a student completing my engineering course at Sydney University, the Bureaucracy struck again ! Apparently the Army were claiming that the Air Force had borrowed six cathode ray oscilloscopes from them. I was to provide forthwith the serial numbers of the offending instruments and details of the authorising signals involved.

Feeling braver by then, I happily advised no recollection of the alleged loan and added that knowing the lack of cooperation between the two services at the time, such a loan was very unlikely.

That completed the saga.

Recollections of 1RIMU
Ed Simmonds

It has been reported that S/Ldr Mitchell, RAF, selected the Presbyterian Ladies College as the site for 1RIMU during a flight over Sydney in a Tiger Moth. The site was a suitable choice since it was fairly central in relation to the manufacturers, Radiophysics and transport. The unit was formed on 1 June 1942 and filled a valuable role in the radar network.

RIMU became the centre for activities such as supplying spare parts, calibration, matching and phasing of aerials, some research as well as being the base for trial erection of equipment and formation of stations. Most personnel who were posted there became 'screened' and therefore it was very difficult to get away from the unit.

One never knew from one day to the next where you were likely to be sent because so many were members of Mobile Installation Sections or involved in carrying out modifications on various units hither and yon. The faces around the table and in the Sergeants' Mess changed so frequently that one could almost miss people for months even though you were serving on the same unit.

Being in Sydney many lived at home. One chap, whose name fortunately escapes me, had recently been married and used to change into his working gear as soon as he arrived in the morning. One morning he was somewhat reluctant to change - parade time was approaching and he became desperate and just had to change. He dropped his tweeds and the reaction was immediate - mostly vocal and laughter. He was wearing a pair of light pink silky scantees instead of underpants !! It appeared that it had been raining, the washing had not dried, and his bride of only a few weeks standing insisted on him wearing a pair of her knickers !!

One night after a beer or three in the Sergeants' Mess Bill Couper and I decided to join the PLC Old Girls' Union. We rang and the lovely young lady on the other end of the phone was adamant that having served for more than a year at PLC did not guarantee membership of the union. Anyway she and a friend went to the pictures with the pair of us and a nice night was had by all.

The Workshop

The main workshop was located in the gymnasium. It was filled from wall to wall and ceiling to floor with transmitters and receivers. Radio frequency waves ranging from 42.5 Mc/s to 200 Mc/s with 10 cm airborne radar sets and one large Navy type 10 cm set (I think a type 277) filled the complete space.

It was the first port of call for the English ground equipment for two reasons. Firstly, to get rid of the salt water and crud which had accumulated during its passage out from the UK. Secondly, to align the sets after they had been cleaned. Modifications also were made when necessary.

From memory no safety instructions were given as to the safe distances to be maintained around transmitters. I believe that this was done in ignorance rather than neglect or other hidden reason. Who knows whether this has had any detrimental effect on those of us who spent time in the workshop? But I do have my suspicions - Bill Couper was the man who was working on the 277 set for a comparatively long time and he passed away a few years ago having battled bone cancer for several years.

In 1944 we saw the Navy 10 cm 277 set which Bill Couper had under his control. The first day he started it up was quite a circus. Being Navy it ran on 180 volts and 400 or 500 cycles; therefore it needed a motor alternator set to convert from the normal 240 volt 50 cycle supply. With everything connected up correctly Bill threw the starting handle down for the motor alternator. The result was absolutely amazing - with a starting resistance of only half an ohm it dragged one phase down to something like 180 volts. But the other two phases went up to something like 300 volts. Electric light globes blew, motors raced and overloads on several transmitters went out. The pandemonium spread over the whole area fed by the local authorities' transformer.

All subsequent running of the 277 necessitated the use of a 25KVA Lister diesel which grunted and groaned when it took the load, blowing perfect smoke rings for a short time until the motor

alternator came up to speed. The diesel's shuddering was so severe that the radiator sprang a leak after a few weeks.

A favourite pastime for the airborne boys in the main workshop was to focus the small dish reflector onto visitors - not all, depending on their rank - concentrating on pockets or heads. In the case of the former the recipient would start an impromptu dance as the coins warmed up in the pocket, almost invariably removing and juggling the hot coins to avoid damage to nearby parts.

Church Parade

Friday was Church Parade. At first F/O Jack Ryan played the PLC girls' organ in the chapel but numbers were such that not all personnel could fit into the chapel - the OR's in their boots stood outside (banned inside because of the parquetry floor) with 'Cappy' Andrews, Jack Ryan's corporal offsider standing at a very large sash window beating time for them. Now Cappy was a bit of a prankster who realised that Jack Ryan kept a weather eye on him and the beat. So there were times when Cappy would quicken his beat -Jack Ryan would get flummoxed and the PLC girls' organ would emit a series of beeps. Then Jack would start the hymn again.

The unit grew in numbers and the Church Parade was shifted to St James Church where all could be seated. This new venue posed no problems for Jack Ryan in maintaining the beat but a new problem arose. Jack liked the occasional cigarette and it was not unusual to see him waving his arms about in an effort to dispel the smoke resulting from a quick puff at the keyboard during the sermon.

A Cashiering

There were times when we all became agitated at the amount of paperwork involved in stores etc and made disparaging remarks about the ancestry of those involved in the bureaucracy but it was necessary because of cheats. My most outstanding memory of 1RIMU was being present at the cashiering of an officer when Bill Couper and I were detailed to be the sergeant guards after the event.

A WAAAF corporal stores clerk noticed that American type valves had been issued to an English type unit. A stores officer was caught. His rather elaborate and extensive exercise of stealing valuable items was subsequently exposed.

It was not a pleasant sight to see him stripped of all insignia and rank in front of his fellow officers - even down to the buttons on his tunic. As senior NCO escorts, after the event, we marched him off the parade ground and held him under guard awaiting the civilian police who collected him for delivery to Long Bay Jail where he was sentenced to serve twelve months hard labour.

166RS - Labuan

Warren Mann

Having spent some time at 131RS, the Mk V GCI at Ash Island, I was posted to command 166RS. It was a Mk II LW/GCI and was formed at Richmond, NSW in July 1944 at the same time as 164 and 165RS's. The technology of these units was still being refined and for a period our unit was set up at 1 RDIU [Radar Development and Installation Unit, formerly 1 RIMU] which was in the grounds of the PLC. Others may recall the officers' quarters there, being formerly girls' dormitories, had bell pushes with notices saying, "If you need a mistress during the night, ring the bell". Needless to say, the bell pushes were U/S!!

There was a degree of haste about the whole operation. We were scheduled to fly out of Richmond into active service, I think, late September. The unit was equipped and manned as quickly as possible. I had become engaged and had pre-embarkation leave, during which I met my prospective in-laws.

Early on the appointed morning we were packed and waiting by the edge of the airfield for a fleet of DC3's to arrive and transport us. It was late in the day when we were told that the exercise was

postponed. Several days later a further signal arrived from RAAF HQ telling me that it had been cancelled. We were instructed to set up camp in a paddock by the river near Pitt Town to get experience and sort out a few technical problems.

The equipment went back to RDIU, and I, with the senior mechanics, Sgt Rowley Thomas and Cpl Jim Waters, commuted back and forth in our jeep. Rowley, a former radio ham from Queensland, was technically brilliant and was soon pirated by RDIU. Jim Waters became sergeant and the senior mechanic for the rest of the action. On 30 December, at two days notice, Helen Serpell and I were married, at the old church at Ebenezer which was across the river and up a bit from Pitt Town, where 100 years or so earlier my great-great grandfather had been minister.

Early in 1945 we moved the equipment and unit to Londonderry where it was set up operationally. We all learned a lot about operation and other things like fighting bushfires that threatened our site in mid-January. In February we moved again. This time to Sandgate near Brisbane where we spent another two or three months.

Eventually we were loaded on to a Liberty ship 'Simon Bamberger' and set off on what proved to be a slow and circuitous journey to Morotai. After several weeks becoming acclimatised to the tropics at that overcrowded base, we were loaded into an LST and set off in convoy to what we eventually discovered was the invasion of Labuan. During the trip our jeep and five trucks were waterproofed for an amphibious landing. This took place, I think, on the morning of 12 June 1945. The US Navy, with some Australian ships, pounded the shoreline for several hours, then we set off, driving into water about four feet deep which was as near as the LST could get to the shore.

There was still a good deal of action on shore and in the confusion two of our trucks were separated from the rest of us. We spent an anxious night wondering what had happened to them. In the morning they turned up, having been much of the night on the wrong side of the front line, with a few battle scars including some bullet holes in a large milk can supposed to store fresh water. Fortunately the two drivers and their companions were not hurt and we were able to get on with setting up the unit on what appeared to be a disused light aircraft strip.

For some time a group of Japanese held out in a pocket not far from our unit. One night they broke out, made their way past, some even through, our perimeter and down to the foreshore where they created mild havoc before committing mass suicide.

There were quite a few technical problems with the equipment, largely caused by the high humidity during most of the time since we left Brisbane. Rowley Thomas was flown up from Sydney to help and soon all was well. [The Canadian built SCR602 T6 used in the LW/GCI can best be described as being close to be called a 'lemon'. CSIR recommended that two sets of electronics be sent with each station to keep one set on the air.]

166RS reported to111MFCU which was commanded at first by Roy Goon and later by Peter Delahunty. The controller at our unit was Harry Whiting. There was some air action. We were involved in controlling an interception off the coast which was successful, but for most of the time the greatest danger to our people was the US unit camped nearby, whose guards were very jumpy. On one occasion they fired on us when the midnight shift change was being made, fortunately doing only minor damage.

Our only casualty during the whole operation was one of the guards hit by shrapnel, though not seriously wounded.

We were still there when the atomic bombs were dropped on Hiroshima and Nagasaki. Even though the war was obviously over, we were instructed to be especially vigilant in case of kamikaze bomber attacks - none eventuated.

When, on 15 August, the peace agreement was announced I confiscated all firearms and had them locked up to avoid the risk of accidental injuries during the celebrations. Unfortunately, our weekly

beer ration had been used up and all the 30 odd of us had to celebrate with was one bottle of gin and a bottle of Sake we had discovered when we arrived.

It was well into November before 166RS was finally disbanded and we flew home. My aircraft stopped in Zamboanga for some repairs, then we made it to Darwin, where we spent a few days. Probably a week in Townsville, then train to Brisbane (two nights) and finally, a couple of days later, a flight to Melbourne, arriving on the morning of 2 December 1945.

53RS at Mount Surprise
Doug Boag, Syd Keighley and Jack Wilkins

Comment: Mount Surprise was not one of the original 32 selected by W/Cdr Pither but an examination of the maps of Eastern Australia and Dutch New Guinea will reveal that it had, in 1943, its strategic importance. Mount Surprise was in a key position, using Australian made equipment, being an integral part of the north-south and east-west chain of stations in Queensland. There was a fear of an attack by the Japanese from the Aru Islands across the Gulf of Carpentaria. 53RS also fulfilled two other roles - a supportive one is assisting the Catalinas returning to Townsville from patrol over Java and as a training station for radar personnel.

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It was a very comfortable station having been built by the Allied Works Council. The rig was hauled up to the top of the 'Mount' by flying fox and the site was ideal for a radar station as it had a 360º sweep from the high knoll above a large treed plain. Power was supplied by two 25 KVA Lister diesels. The information link with Townsville via the usual AT5/AR8 rigs was later enhanced by metal transmission masts. There was a phone link with fairly poor connections via Mareeba. Mail, rations and fuel arrived usually on a weekly train on route from Almaden to Forsayth - up one day and back the next.

The railway was virtually the station's main life line.

The Vital Rail Link
Summarising from Julian Kerr's *The Triumph of the Narrow Gauge* this very lightly constructed rail line, built by a private copper mining company in 1907, was subsequently taken over by the Queensland government which ran regular mixed trains from the mainline junction at Almaden to Forsayth. In 1927 floods washed out six bridges which were replaced by low-level ones which of course were flood prone. In that same year rail motors were started and in the late 1930's a 153 HP diesel, named 'Etheridge' specially designed for the Etheridge line, was introduced. Syd Keighley said that for anyone interested in trains a ride with Jack the driver was quite an experience.

Doug Boag remembers that on parts of the trip the train was slow enough for passengers to get off and walk alongside. But this rail link was vulnerable for whenever it rained the low level bridges became closed and the train service stopped.

This important service was not known for its punctuality. On one occasion the fettlers, who used the only trolley for transport when maintaining the line, were forced to 'abandon ship' in a hurry when an unexpected loco appeared on the line.

The trolley was destroyed and with it the idea that anyone seriously injured or sick could be evacuated by the trolley if such emergency arose. Fortunately this did not occur.

Was It Nearly a Station of WAAAFs - No
The unit was built on part of 'Byramine' station, about five miles from the homestead, which had what might have been described as an airstrip. When a plane was due the unit truck would drag a log along the surface of the strip to flatten vegetation and any new ant hills. A fire was lit to show the wind direction.

The strip was used by the occasional Anson and Dragon Rapide and late in 1944 for an inspection by A/Cdre Summers, the AOC of NE Area, and a WAAAF Wing Officer. The purpose was to ascertain whether 53RS was a suitable unit for WAAAF radar operators. The idea was abandoned after a bumpy ten mile truck ride through several creeks.

Whether it was coincidental or not is not known but within a week of that visit operations were reduced to four hours a day and most of the personnel posted overseas.

A Shout of Anguish From a Visiting Padre

There was a loud shout of anguish from a visiting Padre! It was bad enough that the railway, and every other road and track, was blocked by flood waters but a snake under the toilet seat was about the last straw for the Padre. In such times even snakes looked for dry shelter.

It may have been a talking point in the future but surely not the high point of the Reverend gentleman's visit to Mt Surprise. He had just had a brush with the 'facts of life' in the Gulf country, the natural habitat of tree snakes, adders and taipans. He would not have enjoyed walking into the hand sized spiders which spun their webs near the doover at the top of the mount.

Pets and Animals

Some radar units acquired some very interesting pets, but how many had a pet crocodile? 53RS did, but it was disposed of after frightening the daylights out of another Padre. Did we have anything against Padres ? I think not.

On another occasion they had, albeit briefly, a large goanna which arrived in the camp on a leash led by some of the crew after they had spent the night in the village.

Unfortunately, according to Syd, "all of the camp followers were of the four legged variety."

Wild pigs abounded in the area and they had bred into a uniform black colour and were very mobile. With the assistance of Mick the local police black tracker, some of our intrepid hunters on horse back would pursue a mob until the little ones ran out of puff. Before the big pigs could see what was happening, one of the riders would grab a small one, drop it into a chaff bag, and take off. The little pigs were put into a compound near the camp and fed on kitchen scraps until they were considered to be rid of the 'wild' taste and ready to become roast pork.

'Off unit' activities such as pig hunting and fishing were not available to the shift-rostered personnel.

The unit had a contract with the local cattle station to supply beef bodies at six pence per pound as and when needed. A couple of aboriginal 'ringers' would then bring in a small mob of cattle and drive them under a tree beside the camp. One of them would climb the tree with a .22 rifle and as they passed below, he would 'do in' the selected beast. They would then string it up, skin, gut, cut up and weigh the cuts before putting it into our large cool room. The owners frequently complained about slow payment by RAAF Area Finance.

Recreational Activities

The township provided limited recreation such as swimming, cricket against the locals, a weekly dance and the pub which had a ration of one nine gallon keg a week. This lasted about two hours and thereafter it was spirits if any!

Fishing trips were organised through the local police station. Following the Elizabeth Creek for about 10 miles, the group would camp overnight to fish the larger holes for silver perch (grunters), 'long-toms' and cod.

A 'grudge' cricket match was recorded in the newsletter 'TROPPO TIMES' and the demon bowlers were Jacky Wilkins with six wickets for the 'bachelors' and Dal Deacon, bowling for the 'marrieds', who skittled the last five wickets with ten balls including a hat trick. The bachelors

scored 97 runs in a fast 65 minutes but still lost by six runs. The township ladies provided much appreciated advice and afternoon tea.

Summation

In retrospect it was almost a health camp compared with 322RS at Tanah Merah where two officers and four of the crew were subsequently posted.

The A50's show that 53RS was shut down in August 1944 after 13 months of operations. Mount Surprise was a real 'coulda-been-great', disease free, well provisioned, well accommodated, somewhat remote radar station which was never, thankfully, forced to face hostility encountered by most of our overseas units.

Troubles on the Wharves

Ed Simmonds, Norm Smith et al

One thing which contributed to the poor conditions experienced by most of the stations in isolated areas was the lack of regular and adequate food supplies. There were units such as 305RS where they lost all of their sugar and tea during a landing and did not see some important food items for months. In fact, 305RS did not see any bread for over a year - or flour for that matter, apart from what they took with them.

On another station when the first delivery of bread was made after a year, the CO called a parade. He then held up a loaf of bread and asked the personnel on parade whether they could recognise the item in his hand. Sad to say the above were not isolated incidents there were many, many others.

The personnel on those affected units virtually lived off the land, foraged for fruit etc, caught fish and traded with the natives who, in most areas, were very co-operative.

Pilfering of supplies was a twofold situation. Firstly it was practised by the servicemen delivering the goods to the units. Secondly, and more importantly, the major theft occurred on the wharves in Australia where any item of value or food was 'fair game'.

The black market in Australia flourished and therefore pilfering was rampant. George Odgers in his book *Air War Against Japan 1943-1945*, page 249, states "when unloading, it was found that much of the equipment had been pilfered and damaged". This referred to equipment for 76 and 77 Squadrons and No 27 Air Stores Park at Noemfoor.

Possibly one of the worst cases involving radar was when 311RS arrived on Green Island in the Solomons. To summarise the story from *Radar Yarns* page 128, there was an intense tropical storm and a squadron of Vultee Vengeance aircraft were returning from Rabaul. 311RS could have been operational except for the fact that the case marked "radio valves-handle with care" had been opened and all the valves had been taken. The net result was two pilots managed to ditch in the lagoon and were saved - no trace of the rest of the squadron.

To lose one's life in combat is one thing but to lose it due to the greed of others is unacceptable.

Then of course there were the strikes by wharf labourers which were not appreciated by many servicemen. In Melbourne the RAAF wanted to obtain a piece of radar equipment which was strike bound. The LAC, who was sent to acquire the piece of equipment, was given an Army escort, with loaded rifles, who were told to use them, if necessary, when collecting the piece of equipment.

A fine state of affairs!!

There were many strikes which had an adverse effect on the war effort and sometimes things got a bit nasty. At Glebe Island where RAAF were loading their own vessels, there was yet another wharfies strike. A band of strikers approached the locked front gate displaying somewhat nasty or belligerent attitudes. It is reported that the W/O guard commander told them to push off - or words to such effect - and fired a burst from a Thompson submachine gun into the ground in front of them whereupon they turned and left rather hastily.

In a democracy such as ours, the right of free speech is valued. But it was not really appreciated by a radar operator who went down to a wharf to say farewell to his brother who was leaving with the 7th Division. He was not particularly pleased to see a banner, which many others vividly recall. It read:

"Good riddance to the 5/- a day murderers."

Some servicemen, even today, consider the attitude of the wharfies to have been approaching that of a "fifth Column" within the country.

One wonders how those wharfies would have fared under the Japanese if the "5/- a day murderers" had lost the war.

An Unidentified Plot at Kiama
Jo Dunbar (nee Lehman)

Comment: Kiama was one of the early AW installations which was subsequently replaced by a Mk V COL but it retained the old AW aerial. It was the highest air warning set operated by the RAAF being at 1321 feet above sea level. Noel McCormack feels that the main lobe "slid down the hill and stayed close to the water" - good for shipping and low flying aircraft but little else.

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It was 19 February 1943. The place 18RS on Saddleback Mountain near Kiama. I was on duty in the dark old doover hut, on the tube gazing at the black screen and pulsating green light. Nothing but permanent echoes were showing on the screen. The aerial swept round monotonously; the same assorted PE's came up from the same mountains.

Then I detected a tiny blip not seen before. I called the plot and began tracking it. The blip was so tiny that it kept getting lost in the regular 'grass' and then it would show up again. When it was time for me to leave the tube the following operator was unable to locate the mysterious blip.

So, I went back 'on the tube' and was able to follow a broken course for some time. Fighter Sector advised that they had no aircraft in that area and that the plots were too erratic to do anything about them.

Unkind suggestions came back, such as "one should not drink alcohol from the compasses" and other distressing implications. The station was put on alert as the plot showed that an unidentified plane was coming our way. We never actually saw it and the whole thing was forgotten.

I love a mystery and always wanted to solve this one.

Fifty years later, I was reading the Sydney Morning Herald. David Jenkins had written an article about a Japanese pilot who had made two flights in Australia and never been challenged. The first was over Sydney Harbour before the midget submarine attack in May 1942. The second was on 19 February 1943 when he flew very low right down the NSW coast and then returned to his aircraft carrier off the coast. Susumi Ito, the pilot, said that he flew low between the mountain peaks, so as to remain undetected. He did not go undetected after all, but he did take his photographs and went home.

Today, Susumi Ito is the president of an office equipment and computer firm in Japan. He was interviewed by David Jenkins and the full report of this venture is to be found in his book, *Battle Surface - Japan's Submarine War Against Australia 1942 - 45*.

I am typing this story on a Japanese computer - just as well we did not intercept Susumi!

The Secret Radio - Java, Burma and Thailand
Arch Caswell

Comment: This story was forwarded by J G Colley the CO of 335RS. Since G/Cpt(Retd) E R Hall, the author of *A Saga of Achievement*, was a POW with Arch Caswell he was asked to comment on Arch's story and this is what he said:

> "Arch Caswell's story is one of ingenuity and outstanding bravery. Despite his knowing that three Dutchmen had been put to death for similar work, Arch proceeded with his project. From the time he started his secret radio in the POW camp in Java until 18 months later at the end of the Burma Railway, Arch (a radar mechanic) and those helping him ran enormous risks of severe punishment and/or death. I was in many of the POW camps with Arch, and I and others familiar with his work were constantly aware of the dangers. For his bravery and getting the news to his fellow POW's, Arch was awarded the British Empire Medal.

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It was late March 1942 after being captured by the Japanese in Java that we prisoners were transferred from Garoet to the capital Batavia (Jakarta). We were imprisoned in barracks known then as the 'Bicycle Camp' named after the Dutch Bicycle Brigade previously housed there.

After a few weeks tolerating the terrific amount of rumours circulating in camp, everyone became news hungry, and well I remember someone saying, "What's wrong with you radio chaps? Can't you build a receiver to get fair dinkum news?" The natural reply was, "What with - match sticks". However, the impression was made and we explained that two of the top priorities were valves and power supply, preferably batteries. One chap, a few days later said, "Here you are" and produced an enormous graphite anode transmitting tube, which was quickly hidden.

In the meantime the Japs were making demands on our camp adjutant to supply them with a radio mechanic to repair a few radios in Dutch homes now taken over to accommodate Japanese officers. I was 'dobbed in' for this job much to my disappointment, fearing that I may get 'the treatment' if the Japs discovered I was a RAAF radar mechanic. This did not occur however, so the first receiver fixed for them was a Dutch made Erres set. The fault was a dead RF stage which I simply by-passed, loosely coupling the antenna to the mixer valve input. This gave me an aerial trimmer, condenser and resistor not in use, which were quietly removed and brought back into our camp. The next radio was a Philips receiver, but I was unable to scrounge much except a few lengths of hook-up wire from this machine. During the testing of this radio I accidentally hit a news broadcast from the BBC 25 metres. The volume was quickly turned down, but a Jap officer must have known it was news. He came over and said 'Englander'. I nodded and then 'bash', I copped a good one. He made it very plain that England was 'no good' but Australia was 'not so bad'. But all news was forbidden anyway!! Another of their receivers gave me a .00025 mica condenser and so on and on.

Back in our camp some progress had been made on scrounging parties which my main partner in crime - Brian Breillat, also RAAF - was organising, the bright spot being the finding of a 1N5G battery valve brought in by Frank Huxham. This was the very thing which would do the job, and when I asked him where he found it, because we wanted more, he said there were quite a few in a store in Batavia, but the Jap guards were also very alert. After a few days Frank proudly marched in with two more 1N5G's at quite a risk but he eluded the guard search by taping the valves to his privates and you can imagine the yells and comments during the removal of these tubes. We were now able to give much more thought to the form of radio construction which would be least detectable.

Work parties were regularly going to the Soconey Vacuum oil terminal at Tan Jon Prick, a few kilometres away, and here was our supply of a few good items. A sheet of tin plate wrapped around my waist, a piece of solder and even a soldering iron was found. We could not find any soldering flux at that time, but found, by experiment that coconut oil did a good job as flux with the new tin plate. The field windings were stripped from a car generator as a wire supply, an old

telephone ear piece was removed from a telephone box, and at the same time, another airman presented me with a flying helmet complete with headphones, which by some stroke of luck he managed to get into the camp.

Things were beginning to look rosier now, even though a rumour was circulating camp that two Dutchmen in Sourabaya and one in Batavia had been sentenced to death for the illegal operation of radios. Brian and I decided that this may only be a furphy, so a home made dixie was to be the chassis and case for the radio, which would be a two valve affair. The dixie was made slightly deeper than the Service Issue one, so that the two 1N5G's would lie on their sides on the bottom. Another false bottom was constructed to form another layer, leaving a space about one inch deep to hold some cooked rice, as this was our all day, every day, menu. Other friends, in the meantime, had purchased standard Eveready torch cells, 1.5 volt, from Chinese traders and wherever we could find them, until we had a few dozen because I reasoned that 40 volts may be required to give a satisfactory performance.

The circuit was a common leaky grid detector using the 1N5G as a triode, driving a single 1N5G as a pentode audio stage, this was because we had not been able to acquire a variable potentiometer. Also, as no valve sockets were available, all connections to the valves were soldered directly to their pins - a couple of straps were soldered around the waist of the valve to the tin base to hold the valves in position. The grid coupling condenser was a .00025 mfd ‘swiped’ from the Japanese officers’ set and a fine pencil line drawn across this condenser between the terminals gave us approximately 2 megohm grid resistor, varied from night to night to get the best possible performance. The generator field wire was used to wind the tuning and reaction coils which were wound on a waxed wooden former (wax by courtesy of Soconey Vacuum). The tuning condenser was made from tin plate with wooden end plates also waxed, and was a very crude looking affair which we doubted would work at all. The RF choke was made in a bunch form from very fine wire stripped out of a transformer. Some fencing wire was chopped short and more fine wire, plus waxed paper insulation made a crude audio choke. The receiver had no terminals because they would give the game away, and all connections to batteries, headphones and aerial were to be connected in the dark.

It was decided to concentrate on one short wave band only, and 31 metres was chosen as the best all round night time band for reception. While this construction was going on, we were gradually accumulating more material, and this was becoming a headache to hide. The barracks had a completely tiled floor, so that digging a hole in the ground seemed impossible. While we were lying on the floor one night comparing notes, I found one tile near my bed seemed a trifle loose. I tapped it harder and it began to sound more loose. The idea immediately clicked, and work began with a knife blade to scratch out the composition around this 6" X 6" tile. Eventually it was removed to expose more cement below, so each night the excavation continued, the surplus material being scattered finely around the grounds.

This work was tedious, as there were many interruptions, although we had two guards of our own keeping a sharp look-out for any Japs who may appear. The rule was that all men must stand to attention when the Jap guards charged through at any time of the day or night. There were a few near misses, and eventually, we had quite a space of about one and a half cubic feet. A second tile was removed to make the entrance larger and a frame of wood constructed so that the tiles could rest on it and still take the weight of a man walking across them. Ordinary bar soap was used to seal around the perimeter of the tiles to give the appearance of an untouched floor. The cavity was lined with the remnants of an old gas cape, to try to keep out moisture. All the gear was then bundled inside leaving room on the top for the radio and batteries. Incidentally, a quantity of gear is probably there today, if the barracks are still standing. The final soldering, which was done in the camp kitchen was now completed and the radio waited for the initial try-out.

By good luck the receiver worked and the BBC finally located. Much whistling and scratching accompanied the signal, but a bulletin of news was received and all our gang were jubilant that night. However, the shielding and general construction made reception very touchy, regeneration was too fierce and modifications had to be made. I had to hold the receiver case in my hand so that the station was not detuned by body capacity and hand capacity effects. The antenna posed a problem also, but that was soon solved by untwisting a 30 foot length of native hemp rope and then retwisting it back with a length of generator wire in the centre. This rope then stretched across the verandah to dry out sundry pieces of washing etc. The end of the rope dangled down the wall near the head of my bed, and the wire was easily located after dark. As a matter of fact, the wire was so well concealed that it survived all searches, and was still in use as an antenna two years later.

The radio had been gradually tamed down quite a lot, and many bulletins were received, which were given directly to the Commanding Officer of No 1 Squadron, W/Cdr Curly Davis.

Receiver instability, plus humidity, were the two main troubles to date. At times the radio had to be aired for some five to ten minutes before the news, so as to obtain regeneration. It was decided that a new model must be constructed, because we had acquired a potentiometer which would enable us to vary the screen voltage of the pentode detector valve and this would ensure a much smoother control for regeneration.

About this time the Japanese had been selecting various POW's to write letters home to Australia. These were to be broadcast in English from 'Radio Nirom' which transmitted on short wave from Batavia. After a few broadcasts our officers became suspicious as to the correctness of the transmitted versions, so we modified the old receiver to accept this local broadcast and I was handed a copy of the letters and told to write any alterations in or cross out what was not transmitted. This proved to be quite a task because the transmission was made before lights out. However, our guards kept a watchful eye, and when F/Lt Ken Smith came to collect the corrected versions, one could see that only the letters which praised the Japs were sent out. Ruses were then resorted to and one which went over the air to Melbourne told how the Japanese fed everyone well, treated us kindly, gave gifts, and it was just like being in 'Ringwood' [Rookwood?]. This obviously went over their heads, but got the message through to Australia.

Since everyone was talking 'Nirom' one of our chaps, Brian Breillat, decided we could make a crystal set if only we had some detecting material, so some lead sheet was acquired and a little sulphur - the bright idea was to make galena by fusing the sulphur to the lead. How to do this was a problem, until the idea was suggested that we use the 130 volt mains to get the power. Many times the camp lights were fused, as any of the inmates will remember, but a small piece of galena was produced eventually and worked reasonably well - only on the 80 metre 'Nirom' station, of course.

At last the form of the new valve radio was decided. It was to be a three valve affair - RF stage, 1N5 pentode; detector 1N5 pentode and the audio also a 1N5 pentode (later changed to a triode). The whole affair to be constructed to fit in a water bottle.

Bill Moore, a RAAF radio officer, had kindly donated the remnants of a small 'command' receiver, and from this we used small coils, and a beautiful small variable condenser gang, plus quite a few other useful pieces. Due to the condenser size, a special water bottle had to be made, just a little larger than the 'issue' one.

Special harness and felt covers were made to cover the bottle, and it looked the perfect job. The mouth of the bottle had a tube sweated in which went right to the base and securely soldered there enabling water to be actually poured out if a search was on - the radio section being built on a separate base which surrounded the central tube. With variable screen regeneration now incorporated and anode bend detection, the finished receiver worked quite smoothly. Tuning was from the bottom by slotted shaft and needless to say the better materials improved the sensitivity of the receiver. Terminals were still dispensed with, and the twist wire method adhered to, to reduce

the bulk. At this stage I must mention that, thanks were due to an Army friend, Ray Single, who helped quite a bit.

A lesson learned in Java was that all news must be controlled, sometimes one found his hut mates were causing much concern because they would discuss the news too loudly and odd words like 'Coral Sea' etc were fully understood by the Japanese guards. Naturally hut searches were more frequent.

Dissemination of the news was from myself to Ken Smith and the CO of the unit, then they in turn would distribute the correct news to the men via their company or 'Kumi' officers, and everyone was more satisfied than hearing the many exaggerated versions which circulated otherwise.

Rumours were also circulating the camp that we were to shift from Java by boat to some other place. As these stories became stronger it was decided we must prepare to be fully mobile with the radio, so a second water bottle was constructed to contain a few spares, head phones and a spare valve. The torch cells were more of a problem but the idea was put forward that as there were quite a few empty Army M & V tins around the camp we could cut two tins around the middle so as to make the appearance of an unopened can. A circular tin sleeve soldered on the inside ensured a nice press fit for both halves, then the original label could be glued around the circumference to hide the join. I think the tins held seven torch cells each, which, of course, were thoroughly insulated top and bottom from the can. The completed can almost felt the correct weight and the job was very satisfactory. We made up quite a few tins to ensure some future power supply also, and they became quite heavy on a long trek, as Air Force type Bill Wilkinson will testify because his job was to carry a good few of these.

The second water bottle was carried by Bill Breillat, while I managed the radio and aerial. Little did we realise that this outfit would travel to Singapore, Burma and Thailand.

The new receiver had an extended tuning range and passed all tests, news being regularly received from San Fransisco, the BBC, All India Radio Delhi, and Radio Australia, Melbourne.

Because one had to conserve batteries it was decided that the best regular bulletin was from the BBC Far East transmissions. Of course, there were times when it was not possible to listen because of Jap guards, camp shifting etc.

All listening was done in the dark now and notes made on paper which took some deciphering in the daylight. The rumours of our shift proved to be true, and within a few weeks we were to leave Bicycle Camp Java, destination unknown, perhaps Singapore. The day came and we were loaded into a Jap cargo vessel, bought from Britain pre-war as scrap metal. The space per person was two feet per man, quite a cosy crossing of the Equator.

After many days of hell, we reached Changi Camp, Singapore. We soon learned this would be only a staging point, so the radio was not operated, as apparently someone at Changi also had a hidden radio and news was being received. A couple of weeks later we were herded into a cattle boat and away again, this time a much longer and arduous journey - the conditions filthy and progress slow - everyone sweating it out under the steel deck plates until Rangoon, Burma was reached. Someone on board has a compass and daily checked our direction of travel. I think it was Ken Smith who reasoned we must be nearly there, then a deck party saw the muddy waters of the Irrawaddy River delta.

A slight respite for a day, then to sail again from Rangoon to Moulmein, Burma. Here we were marched off the ship to the Moulmein jail. An ever to be remembered sight was the 'Golden Pagodas' glistening in the sunshine, then the sight just inside the jail gates of sets of stocks, and the rack, and other medieval means of torture. This made us think hard, especially seeing some primitive Burmese tribesmen prisoners walking around the courtyard with heavy chains shackled

around their ankles, and holding a heavy iron ball in their hands which was in turn chained to the ankles.

We decided to throw caution and set up the radio that night and received two news broadcasts.

Within 48 hours the move was on again and we marched away through the outskirts of Moulmein to a place named Thanbyuzayat, which eventually was to become the Burmese terminal of the infamous Burma/Thailand railway. On the march we were most impressed by the friendliness of the Indian/Burmese population who tried to give us food, towels, clothing and books, risking the ever present chance of a good Japanese flogging. Many of these people spoke fluent English and were obviously well educated.

Back to the radio, which was now again in operation at Thanbyuzayat, Burma and after our Java lesson all news went only to our senior officer, Ken Smith, who handled the dangerous job of distribution. A week or two here and many Japanese indoctrination lectures, saw us off again 40 kilometres into the jungle towards Thailand. We were indeed going to build a railway of which much has been written.

Some weeks passed during which the radio received many cheerio calls from relatives in Australia and as the time suited (darkness) quite a few messages were delivered to the POW's from their families down under. This boosted their morale and gave them some hope.

The usual talkative person was still in our midst, and the Japanese were becoming frustrated because they could not discover the radio they thought we must have. As too many other people were concealing a varied collection of watches, jewellery and other items in water bottles, the time had come for us to review the situation. The Japanese were walking through our huts saying, "Changee, changee, ten rupee for watch, compass, radio etc."- The Clots - they even stripped our camp of odd lengths of fencing wire.

A little discussion between ourselves resolved that we would make a wooden stool with a false bottom, and conceal the radio and batteries there. This ruse also fooled the guards as they frequently sat on the stool when searching our gear and when shifting camp the stool was loaded with the kitchen gear and away went the Jap guard sitting on the stool in the back of the motor truck. The opening was naturally nailed shut when a move was on.

The months dragged on, we shifted back to the 26 Kilo camp Burma, then off again to the 55 Kilo camp, marching back again to the 40 Kilo camp and then to 75 Kilo and on to 105 Kilo camp which was just outside the Thai border. Not much when you say it quickly, but time registered 18 months of jungle.

The radio still performed well in spite of the humidity. Unfortunately, at 105 Kilo camp we lost our good friend Frank Huxham with dysentery.

The railway line was now finished. Other parties had been working up from Bangkok and when the last rails were laid we saw the spectacle of Japanese troops going north and wounded going south. The Japanese propaganda was intense but they could not fool us, we knew that their time was beginning to run out.

The constant humidity was taking toll of the batteries - what with 4/5 months of continuous rain, one could expect troubles. Eventually, the rains cleared, but our power supply was low. Brian suggested that we replace the battery paste with a mixture of sal ammoniac and rice flour. Some cells were rebuilt and really rejuvenated, but very messy to handle. The effort proved our point though. Apparently the radio news did give a boost to morale and also dissuaded many from trying to escape into the barrier of the jungle. We knew and they knew that the nearest allied forces were some 400 kilo's away and no one could be that lucky to escape and not be detected. As a fact several did try to escape but were brought back to camp and either shot or beheaded without any semblance of a trial.

It must have been 1944 when we again shifted camp, this time into Thailand, and down eventually to Tamarkan, where we were greeted by old friends. On entering the camp our CO, F/Lt Ken Smith, told us it was time to give the radio up as the Japanese Kempei Tai (Military Secret Police) were active and we had pushed our luck long enough. Since some Englishmen at a nearby camp Chungkai were operating another secret radio, I surrendered ours to Smithy who buried it in the kitchen about 100 yards from the "Bridge over the River Kwai" and it probably is still there today.

In conclusion, we must remember that this project, like many others, would not have been possible and worthwhile without the effort of many people, who working as a team ensured its successful operation.

My gratitude to all who contributed.

The Case of Wilfred from Bathurst Island
Ian Leith

Comment: This story is based on newspaper cuttings supplied by Ian Leith who served on 38RS on Bathurst Island. It really epitomises the truly Christian attitude of helping your fellow man regardless of colour and creed. It is included only on the presumption that Ian cannot be charged for disclosure of secrets - but at least Wilfred is or was an Australian. The entry in Ian's diary for 3 February 1943 is of interest, "Wilfred drives the tractor and truck & also cuts their hair. He tells us when he takes Katy 'alonga bush for moombra !!!"

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In 1949 Wilfred, an aborigine from Bathurst Island was charged with murder in the Darwin Court. When Ian read this in a Melbourne newspaper he immediately remembered Wilfred and wrote to Doug Lockwood, who was then the Darwin correspondent of the "Melbourne Herald and Sun" newspapers. In effect Ian's letter was a character reference for the defendant - but first to the circumstances relating to the alleged murder.

Temalara, the son of Tommy ('Play-up') Jimmy, died and the natives suspected that he had been poisoned. In consequence on 26 October two lots of men armed with heavy throwing sticks lined up 25 yards apart on the Bathurst Island airstrip - 16 on one side and 25 on the other. Heavy throwing sticks, normally used for killing kangaroos and other game, were thrown by both sides and little damage was done.

The fight continued on the next day and Immanuel threw the first stick. Then three men on the opposing side threw three sticks at Immanuel - they missed - but a fourth one struck him on the temple and he fell down and did not move, dying later in the Mission Hospital. Wilfred was then charged with murder.

On reading about this, Ian wrote to the effect that he "was perturbed that a Bathurst Islander named Wilfred had been charged with murder".

In the supporting statement he said that Wilfred was:

> "one native outstanding from all others in his ability to do a job. We taught him to use solder, drive a truck and a tractor. We taught him Morse Code. Finally we taught him how to operate the radar receiver and to plot with accuracy the track of an aircraft moving across the screen.
> That native's name was Wilfred. He became almost a valet to my tent mate Ken Long and myself. Wilfred was our constant companion.
> There is not enough that I can say in his favour. If this is the same Wilfred I would like to be able to tell the authorities something of his valuable service to his country during the war."

The Sun's correspondent went to see Wilfred "whose face lit up with joy. He recalled instantly that he had helped you and Ken Long with the radar gear. He said you were one of the chaps who always said thanks to him and he now wants to say thanks to you for trying to help."

Wilfred was acquitted.

Early Days at 131RS - Ash Island
Helen Mann (nee Serpell)
In general WAAAF operators at Ash Island carried out all the same duties as the male operators and received no special consideration. Yes, the WAAAF did operate the hand turned aerial cabins of the English Mk V GCI. It was quite heavy work in a strong wind. As I recall, one ring of the bell meant forward and two, reverse. Would there have been a signal for stop? That I can't remember.

It was very cold out there; on one cold wet windy night, I decided to leave my flannelette pyjamas on under my boiler suit ('goonskins'); one of the girls spotted the bit of pink peeping out at the ankle and was scandalised at "what people might think was going on". As the unit was located on a dairy farm, the cows, our only company, were not impressed one way or another. I don't recall how the matter was resolved, but I was shocked to think that clothing manufactured for sleep-wear presupposed "goings on".

In the early days of the station, it was not only the aerial cabin that was cold, as the receiver was in the back of a large English Crossley 4 x 4, christened 'Leaping Lena' which was not wind proof. At the time we were housed in tents. The cook-house was out in the open, protected only by a corrugated iron roof.

When the wind blew strongly, food might be blown from the plate getting back to the mess tent. In the hot weather it was likely to be blown by blow-flies. Attached to the cook-house was a scrawny black cat named Lousy.

When I returned to Ash Island a year or so later the doover was in a flash concrete building but the aerial was still hand operated. tents were replaced by corrugated iron buildings and the cook-house had a fly-wire door and a fridge !

Comment: Ultimately the Mk V GCI was replaced by a Canadian RWG/GCI which did have the luxury of an electrically driven aerial - no longer did the operator have to sit in isolation in the aerial cabin, hand turning the aerial and herself around.

Early AWs and 29RS at Port Moresby
Bill Harnath

When war was declared on 3 September 1939, I was not surprised, or sad or pleased. I was relieved, not being cut out to be a bank officer. The very next night I went down to Albert Park Army Signals Depot and became a signaller in the 2nd Cav Div Sigs Unit at the age of 18 and one month.

In 1941 when the first whispers of hush-hush RAAF development were heard I was one of the early seekers. At Richmond, for the first time, the magic words 'Radio Location' were spoken, but very circumspectly until we had passed a sort of preliminary inquisition.

At last we were 'in' and on the fourth 'air' course. Towards the end of our course a Hudson arrived to be fitted with ASV. The transmitter and receiver were English but the antennae were made locally, I think by a local blacksmith. It was during this exercise that I met two of my three lifelong friends Bert Israel and Hugh Peaston - Hugh was to become my best man a couple of years later.

Early AWs
About the time of Pearl Harbor I was involved on 2G course which immediately followed 4A and there was a scheme for a ground station at Rabaul. Fortunately the Japs got there before we did, so

I didn't get to use my schoolboy Japanese. Before 2G finished course, moves had begun on the two AW's for 29RS at Port Moresby and 31RS at Dripstone Caves.

Antennae for them had been made in the NSW Railway workshops following very closely the Army SHD pattern. The frame was mounted on a column using 6"x 6"x 1/2" steel angles. These began in the 'turning gear' block, a 30 cwt, six foot cubical section containing a 6 cwt casting for the actual bottom shaft, together with high and low speed reversible motors and all the control, electrical and mechanical connections. The whole thing was so complex that Bill Couper, Bob Ratcliffe and, I think, Bill Wellstead and I were sent to the Railway workshops to get the 'gen'.

The whole antenna for 31RS had to be sent by air, but the base was too big to fit through the aircraft door, and had to be cut diagonally in the vertical plane to get it in. It had to be completely stripped down and reassembled on arrival. I am glad that we did not have that problem with 29RS as this was shipped by one of the Burns Philp boats carrying mostly RAAF supplies.

Arthur Matthews, 'Blue' Ratcliffe and myself from 2G were posted to 31RS as was Bert Emmerson from 1G who had been at Kiama. Eight operators who had been dragged from a course newly begun, joined us for the train trip to Cairns. Because the line was flooded in several places this took about 12 days but we finally got there. Nobody knew anything about us, so no air transport was forthcoming for about another week. Great fun being secret. We landed at Moresby at the 'Seven Mile' strip, the only one then in existence on, I think, 20 February and sat waiting for transport for a couple of hours from 1100 to 1300 hours. We were sitting in a fuel dump right at the end of the strip, with no slit trenches or other shelter. The very next day, and almost every following day for some months, the Japs raided the strip between those times. On the first raid, they completely wiped out the fuel dump. Even after 50 years, the very idea gives me cold shivers, but then ignorance WAS bliss.

When we did get to the barracks in the town, nobody knew us or even wanted to. We had great trouble with accommodation and messing. We had to wait more than a week for the ship carrying our gear, and then several more days while it dodged from the wharf back into the harbour to avoid raids. Most of the cargo reached shore in darkness, and then moved smartly to a more protected spot, or should I say spots. You can imagine the confusion this caused. Even worse, because of the secrecy requirements, none of our consignment was marked other than "CO, RAAF, Port Moresby". Every likely pack had to be examined, very many opened, and most re-closed. For instance we ended up with several hundred 6J7G's, the entire RAAF supply for a year. The ensuing shortage proved extremely useful for bartering. We had a few losses too as we had to carry out most of the station installation without a multimeter.

We used the waiting time in reconnaissance around our station area, and found a deserted PNG Rifles Barracks at the foot of the 600 foot hill and ridge where our doover would be. The top was only about 350 feet above the huts and the nearest road access but the track was about a mile long. In places the gradient was 1 in 10, sometimes steeper but rarely flatter. Worse still, the cross slope was as great as 15 degrees.

The six foot cube base frame had a very poor centre of gravity for this sort of track and we were in constant peril of it rolling down the hill. This would have been disaster indeed. Firstly because it may have been wrecked on some of the rocky outcrops, secondly, we would have had to start up the hill again and thirdly, there would have been a considerable job to scrape up the remains of those who were supporting it on the low side.

We finally got it to the top of the rise, using a tractor and winches attached to trees on the high side. There were a couple of quite bad moments when a brace of these pulled out of the ground under full tension, and at one stage we nearly lost the tractor. Remember, the Americans and their plentiful supply of equipment had not yet arrived, and the tractor was by no means a bulldozer!

All of this took more than a week to accomplish, and during this time, by short cutting every official procedure, we arranged for the Papuan Works Group to clear the site, excavate the foundations for the tower and pour the concrete for both the floor and foundations. If you remember that we did not exist officially, you can see that this was no small victory. We were still living in the Moresby Barracks and having no official transport were forced to hitch rides in vehicles. This was a difficult problem and caused long delays.

When we finally moved into huts at Murray Barracks, we found some new loose ends. Firstly, no one wanted to victual us. Secondly we had no cooking facilities or cooks. There was no power, no reticulated water and no sanitation, no guards and no general hands.

A few visits to the vacated and largely gutted town provided a one-fire stove and plenty of utensils, but official approaches for support staff and supplies met with almost complete rejection. Once again we had to find a way to by-pass official channels and obstructions. When Rabaul had fallen to the Japanese, a shipment of food, liquor and supplies had been on its way from the mainland. This had been off-loaded in Port Moresby and dumped in the vacant huts in the native barracks. By the time we found it all the grog had gone, but the rest kept us very well fed for quite a few months.

We also found a deserted Magazine, well supplied with land mines, gelignite etc, and heaps of ammunition. We still had no guns but in the wrecked house where we 'recovered' the stove, we found a very dilapidated Winchester .22 repeater. One of our operators was a dab hand with explosives, so we were soon ready to repel Red Indians.

We found stopcocks for the barracks water line, and ran a power line to tap into the power main beside the main road. This was done with everything live, but nobody was damaged in the process. We managed to exchange some of these 'stores' for needed commodities.

None of us had heard of tropical worm infestations, and my first turn as cook produced a nicely crackled hindquarter of pork with luscious gravy, but we had no vegies except dried potatoes. Learning how to cook was something none of us amateur cooks ever learned (and very few of our 'mustered' cooks who came later for that matter).

By the middle of March, the station had been erected and provided with a fine two room shell. Camouflage? Yes, but no sandbags as yet. We did have some slit trenches after some Zeros buzzed the hilltop. On a later occasion one of the trenches was found by Blue to have been sited too close to a nest of King and Queen sized tropical hornets.

Our big trouble was power. A low voltage line connected to any available source would have had too much voltage drop. In any case there was no local supply as it had not been thought of by the local planners. Once again, our reconnaissance team came up trumps. In a wrecked marine store dealers, under a heap of rubbish, we found a 6-cylinder marine petrol engine coupled to a 15KVA alternator. It had apparently been in for repair when the balloon went up, and was only partly reassembled. Getting it to our site was about as easy as getting the wooden horse into Troy, but it was installed a few hundred yards below the doover. We traded the services of the 7 Mile W/T station's Fitter DMT for six 6J7G's and soon the power supply line was carrying power to the doover.

All this time there were the original twelve of us; thirteen if you counted the CO. On the first of April, we were sent a cook and messman. However, the joke was on us as we were all sick within two days. Getting up and down the hill under these conditions was a real adventure!

Despite such minor excursions etc, we got on the air on 13 April [only three weeks after 31RS at Dripstone Caves]. The sweep was restricted to between 130^{o} and 300^{o} because of the mountainous terrain behind Moresby. The ends of this sector were rather unreliable because of the continually changing refraction patterns. This soon led to some disagreement with Fighter Sector but we became more acceptable a few weeks after getting on the air, when a once only echo about 80 miles

up the coast turned out to be a Dutch plane preparing to ditch on the shoreline. Because FS had not known about the flight they were loath to accept it, but views changed a day or so later when the kite was found.

Meantime, the Japs had adopted a flight plan which took them over the Owen Stanley's south-east of Moresby. They would continue out to sea for 20 miles or so before turning towards Moresby. They obviously either did not know we had radar, or wrong ideas about tactics. At first there were no aircraft to intercept them, but a little later when we first got some Kittyhawks and then Airocobras and these had learned it was safer to gain height in the south-east than the south-west, the air defence started to become effective.

During this time, the Japs were coming down the Kokoda Trail, and at one stage reached a point only 40 miles or so outside the town. Preparations for the destruction of the doover were made, and land mines with 10 minute fuses and open petrol drums made life hazardous for smokers.

Our explosives wizard, previously mentioned, nearly caused a disaster when he tried to cut a land mine detonator in half with a hack saw ! The resulting explosion 'blew' him back to the mainland, but thankfully didn't trigger the prepared 'disposal' kit. Things got worse and stayed that way for two or three weeks before the Japs were pushed back through the ranges.

The tales we heard of the troops condition were almost unbelievable, but it wasn't long before some of the troops returned to our area and we found that the reality was much worse. A CMF unit which had camped on the other slope of the hill to us, had been in the thick of it; only about one third returned after the Kokoda battles.

Things quietened down after this. By the end of 1942 the station had grown to a total of 25. We had a 24 hour poker school which drew many visitors and was very popular. The guards added to our unit all seemed to be expert souvenir makers or jungle juice manufacturers. The number of 'Zeros' used for these activities greatly exceeded the total strength of the Japanese Air Force!!

The income from sales provided funds for some members to go for months without drawing any pay, unless of course they lost it at poker.

From this burgeoning paradise I was suddenly carted off to hospital for a month with hepatitis. I lost nearly 40 pounds - weight I mean.

The 'Walkie-Talkie' Man Goes To Wessel - 312RS
S.B. (Bruce) Davis

As the 'walkie-talkie' man my responsibilities in NWA during WWII was to show films to boost morale particularly at isolated units. Whilst it was my duty, fifty years on, some of the trips I now call adventures.

Some of the places visited included units at a Lutheran Mission, I think on Mission Bay, Drysdale Mission, Argyle Downs, Wyndham, Port Keats, Melville Island, Bathurst Island, Millingimbi, Ouipelli, Gove, Yirrkala and the Wessel Islands, the last being the most interesting of all.

NWA HQ was fifty miles south of Darwin, so I travelled by car to a Catalina base then by Cat to Melville Bay where we landed (on the sea) at dusk, descending from sunlight into twilight where we transferred to a sixty foot Army supply boat. It was already loaded with supplies and personnel for the radar station on Wessel Island.

Our sleeping accommodation was the deck, no blankets and a 'hat fur felt' for a pillow and for dinner, a small tin of bacon. Before settling down for the night there was much talk about the morrow's voyage. We were told that we would be leaving at first light as it would take all the daylight hours to get there.

It was known that Jap submarines were around and often landed on the islands for a break. Our means of defence was obvious but not reassuring as it consisted of one Lewis gun mounted in the bow. The boat carried no provision at all for passengers, but the weather was warm and clear.

We were told of the difficulties experienced by the personnel at the unit - water shortage, pollution, food shortage, no cigarettes or tobacco, and waiting for replacement personnel, certainly a situation much in need of a morale booster.

At dawn the engine was started, and without a shave, or a wash, a swim being out of the question as Melville Bay was full of sharks, and so had our breakfast of tinned bacon whilst the boat got under way, heading north to the east of the string of islands. The day was hot, the sea glossy and only a small area at the stern was shaded, apart from the wheelhouse.

During the morning some of us had a look at the map of the destination provided by the Navy - it was little more than a thumbnail sketch showing a channel through from the east side of the islands to the west side and a note that the radar unit was just past the third headland to the north of the channel. A cross marked the location and probably covered several miles of the coastline.

Lunch consisted of a tin of bacon and a drink of water while seeing the occasional island to the west, a turtle or two, a sea snake. The islands were much closer now. About mid afternoon we turned into a bay and when still some distance from the shore, the engine was cut to an idling speed but our boat speed did not alter.

I don't suppose many of us outside of the crew knew what to expect, but the skipper called out that we were approaching the channel and were being carried on by the current, and what a current. The Wessel Islands are in an area of 30 foot tides and are somewhat like the wall at the end of an enormous reservoir resulting in an unimaginable volume of water flowing from one side to the other at such a speed through the channel, no wider than a canal, that our boat had to go with it or not go at all. We were sucked in on the eastern side and spat out on the western side.

Our course then headed north as we all counted headlands and watched for signs of life on the shore.

Time went on and three headlands later there still no signs from the shore. A short discussion concluded that the Navy's description of headlands was not the same as ours and we decided that we still had two larger headlands to go. The sun was getting low and there was some concern that sunset might beat us, but as dusk fell and we rounded the last headland a fire was lit on the shore. Now the debate asked - were the firelighters RAAF, Japs or natives

An Aldis light, which I'd seen in the wheelhouse, was used to send a signal the shore 'to put the fire out if they were RAAF'. The fire went out very quickly, and just to cap our day of adventure, we ran onto a reef. There was no damage and the boat backed off into deep water to anchor for the night.

Whilst having our dinner of tinned bacon we heard some calls in the dark and after calling back, a dinghy came alongside with several chaps begging for tobacco or cigarettes. We cleaned out our pockets so they could enjoy a better smoke than the Nikki Nikki [native trade tobacco] they had been reduced to using.

Next morning we had our last tin of bacon as the boat moved through the reef and anchored close to the shore to unload. I was one of the first off together with my films and equipment.

The 'parade ground' was chosen as the best site for the picture show that night, setting up the power line, scrounging three lengths of water pipe on which to erect the screen (a bed sheet) and then I enjoyed a wash, a shave and a cuppa.

The tales of the unit working for a satisfactory water supply, their shortages in the food line and canteen supplies, and being taken out to see the progress in clearing a strip gave me some idea of the way in which they had been struggling at 312RS on Wessel Island.

Two shows that night were most rewarding for all concerned; anyone who was not required on duty sat through both sessions.

I hope that the morale of the personnel on Wessel Island was the better for my visit.

A Return To Civilisation
Bill Hughes

My posting after doing a stint at 327RS at Broome was to 228RS at Rockingham where I arrived on a Sunday. When I went in for a meal, lunch in fact, I was confronted by table cloths and wild flowers on the table.

The meal consisted of steak, eggs, chips and tomatoes with sweets which was a lemon butter meringue pie with heaps of cream. The WAAAF cook came out and when talking to me apologised for the meal - she was only the stand by cook!!!

327RS at Broome
Edited by M.E. (Morrie) Fenton

Comment: Morrie has produced a shortened history of this unit from the wealth of material which is available. The first history was written by Fred Wilcox and Ken Ragless in 1944; even though it was censored at the time it proved to be an invaluable record. Then Colin Yardy kept a very helpful diary from the unit's formation until September 1944. More recently Jim Pitney wrote yet another very good historical account.

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"Born in Hope - Raised in Tribulation" was the description afterwards given by P/O H Gordon Brooks to the early struggles he had in forming his new unit, 327RS. His new command began to form at RAAF Mascot, Sydney on 16 June 1943 and it was equipped with an LW/AW Mk II equipment and the Worledge aerial and Ford 10 alternators. As P/O Brooks first began to gather his men around him, he found his new unit was one of four similar stations, all with the same hopes, and trials and delays as they gathered men, equipment and stores.

Finally, on 9 August, a Movement Instruction to Perth was received by all four units.

Across The Continent
So 327RS, with its three sister stations, 326, 328 and 329, entrained at Sydney and set off across the continent from east to west, with many changes of trains and gauges, through Melbourne, Adelaide, Port Augusta and on across the Nullarbor where the journey was best remembered by some as a 'trail of sausages, brightened by pineapple, and on occasions even fresh apples'. Others more dourly described the trip as 'a continuous game of two up,' starting in Port Augusta, and ending in Kalgoorlie.

In Perth, all personnel were taken to the Subiaco Sports Ground where a week was spent being outfitted with tropical gear. Burma was rumoured as a possible destination - but on 26 August, all personnel, loaded to breaking point, struggled rather dangerously up the gangplank of TSMV KOOLINDA - destination Broome. Koolinda now set off on a record fast trip, loaded with fuel, explosives and four complete radar stations now destined to form an integral part of the radar chain watching the northern shores of Australia.

Later it was discovered that prior to departure from Fremantle, Radio Tokyo announced that four radar units were heading north on the Koolinda, but as the ship had rescued many Japanese pearl divers in a typhoon at Broome several years earlier, the ship would have a 'safe passage'.

Four days later, Koolinda tied up at the Broome jetty, and immediately the men began unloading the stores and equipment for a quick 'turnaround' and were amazed to watch the tide empty out of Roebuck Bay, leaving Koolinda sitting high and dry on the sand. More sobering was the sight of the wreckage of the many flying boats, strafed and destroyed in the air raid on 3 March 1942 when many lives were lost.

Unloading the stations, the stores and equipment took several days, and to facilitate the quickest turnaround, it was agreed that the men of the four stations, earning from 6/6 to 11/- per day, worked with the wharfies who were then making a killing with various penalty rates.

A story has surfaced (from Bill Hughes) that half of every load from Koolinda was knocked off by the boys and hidden under the verandahs of the empty houses nearby.

Later they were told from the town store that theirs had been the dearest trip ever made in the history of the shipping line ! A cheaper result would have been achieved by paying the boys the same overtime rates as the wharfies! Crates of tinned fruit were appearing months later from their hiding places.

The township they discovered was but a ghost of its former self. Two white women, not many white men (mainly servicemen) a few tradesmen who refused to leave the town, including Charlie the Chinaman, who served big icy cold lemon drinks. Three hotels still operated - The Governor Broome, the Roebuck Bay and the Continental - and there were about 100 buildings, many being unoccupied. Chinatown was deserted almost, with a few groups of aborigines now in possession, with the exception of Streeters warehouse and jetty where supplies from the Koolinda were taken.

Setting Up The Station

The unit was set up on a point at the seaward end of Roebuck Bay overlooking Reddell's Beach, near the present Hovercraft terminal. Here the men set to work levelling a sandhill, filling sandbags and digging trenches so that the doover could be erected and protected, while the camp was being established in the houses of the Quarantine station which were then empty. In one of the rooms, the craftsmen of the station were delighted to find a pile of pearlshell, sufficient for the needs of 'foreigner' makers for many months to come.

327RS went 'on air' on 9 September 1943, and the initial technical troubles and operational experience, or rather lack of it, were soon overcome, and the station set itself the task of performing really well. The canvas wall around the Worledge aerial being covered in camouflage paint, and on Broome's many hot days with temperatures quite often in the 40's, the smell of the baking paint combined with the heat made working conditions very grim, and the perspiration would almost pour off the men on duty in the doover. Some relief came with a two hour stint in the operations tent set up in the bushes at the base of the sandhill.

The camouflage was excellent, except for the path made in the sand as the men moved between the doover and the ops tent - the footprints could have been seen for miles from the air!

From September to November proved to be the usual 'settling in time' with the men adjusting to the new conditions and life. In October there was a cricket match, a rifle shoot and the first camp concert. Then on 7 November the camp narrowly escaped destruction by bushfire. Personnel had been fighting fires raging in the scrub at some distance from the camp, and it was decided that fire breaks were to be burned around the camp limits. Before this work was completed a sudden change of wind brought the main fire roaring back along a narrow strip of scrub and into the main camp area. Smoke and flames surrounded the Mess and made towards the men's quarters. Suddenly the wind dropped and the men were able to control the fire. It was a very weary group of airmen who finally achieved victory after their baptism by fire.

Within a few weeks there was another crisis. Food stores began to run out, and everyday meals became a problem. Colin Yardy recalls that on the day when the men sat down to a meal of lettuce

leaves, it was resolved that ‘something must be done - and quickly!’ So at low tide, half a kilometre from the shore in Roebuck Bay, a large fishtrap of wire netting was built. Into the bay raced the 30 foot tide - then out again - and their food worries were over for some time!

The catch filled fifty sandbags, enough to feed all Broome, and for a few days every plane leaving town carried fish, packed in ice obtained from the town, to places like 324RS at paradise, Noonkanbah where they would see any fish.

At 327RS the next thirteen main meals were fish, from groper to garfish!

The men had quickly set about making themselves comfortable in the houses of the Quarantine station - each man had been allotted a small section of a verandah to set up as his own. The Mess, Kitchen and Orderly Room were in the houses, and suitable ablutions and facilities for the 20 odd men were soon built, and were up and running.

Christmas 1943

Although in exile, Christmas did not lack its traditional festivities, and ACF parcels arrived, and a new cook with his helpers slaved to provide a special Menu. There was a concert and an enjoyable supper on Christmas Eve; then on the day itself, the Christmas Menu was :

Breakfast:	Weeties and Lait au Poudre: Bacon & Eggs, Preserves, Coffee.
Christmas Dinner:	Roast Pork, Apple Sauce, Vegetables; Trifle, Apple Slice and Custard, Cordials, Beer and Fruits.
Christmas Tea:	Cold Ham & Mashed Potatoes, Pickles & Sauces; Preserved Fruits, Jellies and Custard.

Station Life

In Broome itself, a Zone Filter Centre, 40ZFC, was set up soon after 327RS arrived, and a landline was laid from the station to the Filter Room which received plots from all radar stations in the vicinity. Unfortunately, when the landline was running, the unit lost four W/T Operators who had formed with the station - they left before Christmas 1943.

At Broome airstrip, 70 OBU was operating; there was an Army garrison in the town itself and the men of 327RS were able to spend much of their recreational time at the canteens in Broome or with friends at one of the hotels, which understandably proved very popular. Over the months that followed, a spirit of competition developed between the units, and many were the sporting battles fought out in Broome, with 327RS performing very well for its comparative size. And there was also a spirit of co-operation at picnics and various social events, all of which helped greatly in improving morale.

There was a regular change of programme at the Sun Picture Theatre, but although the atmosphere proved particularly relaxing in the comfortable deck chairs in the warm night air, much frustration was sometimes felt if the unreliable old projector suffered a major breakdown in the middle of a good movie, and the night had to be called off.

The Station Diary

The Station Diary, commencing in January 1944, has several distinctive entries worth commenting on. There is much history to be read from the brief entries which can be credited to the two Commanding Officers - F/Lt H G Brooks and F/Lt H E Tucker. Both of them were good recorders, though their styles of writing were very different.

F/Lt Brooks had the task of forming the unit, settling it into its location and establishing the watch over Broome. By 1944 the main threat to Australia's northern coastline had considerably lessened. Broome had suffered four air raids in 1942 and 1943 - the most destructive being the heavy strafing attack on 3 March 1942 - the succeeding raids appeared to lessen in severity, the last two being no more than token raids, with little or no damage.

But a very real threat remained, as reconnaissance aircraft still appeared over the town - and usually over 327RS. The station tracked several 'reccos' from November 1943 to April 1944, after which there were only a few 'alerts'. There were the usual lost aircraft seeking assistance with one or two showing the 'distress' code, all of which were guided into Broome quite safely.

There were one or two big storms and minor cyclones, with the doover operating on 'fixed bearing' - there were the inevitable occasions when the gear broke down, but by and large, the work done by 327RS can be described as being quietly efficient, and whilst its role in the defence of Australia critical and essential, its history holds no exciting stories of possible big raids.

Two 18 pounder guns arrived in January 1944, also an Army crew, and over the next month or so they were set up along the beach and the men received instruction on manning and operating the new weapons. Small arms instruction, and machine gun operation became part of station routine, with practice shoots and competitions with other units, but undoubtedly the highlight of the arms instruction came when the big guns were fired and a ten or a dozen rounds were put through.

The diary has recorded the astonishing number of visitors to the unit, from AOC's in charge of Western Area, to Flight Sergeants servicing the recreation room billiard table. Indeed there were so many visitors, and so often, that one can reasonably suspect that Broome, the main centre of WA's 'active area', was a popular place to visit because of the regular civilian air service connecting it with the south - the comfortable Lockheed Electra. Up to 25 visitors appeared each month, and in October 1944 the unexpected happened - two WAAAF Sergeants from WA HQ somehow found sufficient reason to visit on 'arrangements for District Court Martial proceedings'. Whether or not the arrangements affected 327RS is not recorded.

Some Noteworthy Plots

Like many other stations 327RS was affected by TI - Temperature Inversion or Super Refraction. When this condition occurred exceptional ranges were achieved particularly on shipping. A selection of some noteworthy plots are:

Month	**Shipping**	**Aircraft**
March '44		196 - 124 miles.
April	127 - 240 miles	
May	80 "	185 - 153 "
Sept	236 "	117 - 126 "
Oct	127 - 192 "	191 - 200 "
Mar '45	108 - 112 "	125 -142 "
May	106 "	

It can be seen that the aircraft plots recorded are average to good, ie 100-200 miles while the shipping plots appear abnormally high in comparison. One phenomenal plot was 157 miles on a Tiger Moth plus 80 miles on an Anson (both timber frame aircraft). These planes were used as an air link of sorts with Cape Leveque and possibly Wallal Downs.

On two occasions, March and May 1944, the Diary noted the movement of large numbers of aircraft southwards from NWA. At the time of the March incident, it was rumoured that enemy action against a target in Western Australia was anticipated; at the time of the second incident, aircraft were moved to the Exmouth Gulf area to provide cover for the large Allied fleet assembling for action against Sourabaya in Java.

Social Activities

During 1944, 327RS was declared a 'fifteen month station'-and a lively recreational programme was embarked on. Inter-unit sports became well organised, and a series of sports enjoyed: cricket, tennis, shooting and indoor sports were popular; there was even a Christmas meeting of the Broome

Hunt Club! Competitive matches were played against the Filter Centre, the OBU, two Army teams and the Civvies.

The social scene was just as busy with camp concerts, while chop picnics were held on Doover beach, at Willy's Creek, and at Barred Creek, usually with parties from the filter centre or 4MRS. Swimming and surfing were taken up at Cable Beach - shortly after New Year's Day 1945. A party travelled about 100 kilometres to visit the interesting native Mission at Beagle Bay, probably the station's most ambitious expedition. But the fact that in November 1944 the guns and their crews had been withdrawn was indicative of the quiet operational life which had descended on to 327RS. When in February 1945 the hours 'on air' were reduced to eight hours (four hours morning and afternoon) and the station's complement halved to 13, the competitive ability of the unit was very much reduced.

Meanwhile in February HMAS DUBBO tied up at the jetty and 327RS was able to reduce the daily boredom by acting as shore base to the corvette which turned on a spectacular starshell display at night. Before leaving port the radar men of 327RS were invited on board to view their radar equipment.

And the Filter Centre assumed the title of Air Defence Headquarters with control over 327RS, so that better supervision of local air navigation could be given.

The Commanding Officers

Only two officers held command of 327RS - the first CO, P/O Brooks eventually achieved the rank of Flight Lieutenant and in January 1945 was posted to command 48RS at Jurien Bay. F/Lt H E Tucker then assumed command and although his ten months as CO proved to be very quiet, the Station Diary makes good reading with is entertaining, even amusing comments, particularly relating to a new 327RS interest, the unit's vegetable garden.

The Saga Of The Garden

In May a shortage of vegetables caused the germ of an idea to filter through several minds. A garden was started, and the Diary tells the story:

Active work commenced on the garden. Beds were prepared and fenced off. From hiding places packets of seeds sent in parcels to the lads, made their appearance. Yates Garden Guide which had for so long lain on a shelf, suddenly lost its air and appearance of shining newness, and became thumbed and worn as it was read and re-read so that the seeds would have at least a sporting chance of utilising their sweetness on the desert air.

The great interest of the moment was the garden, and when the young seedlings came through, the interest became greater. Visions of salads equal to any in the south floated through the minds of all personnel, but the realisation that the wallabies were interested too, and had been nosing round the fences, brought home the fact that there is many a slip 'twixt the seed and the eating'.

June 1945

The garden continues to grow. the beans came through, to the great surprise of everyone and the delight of a few stray grasshoppers.

July 1945

Our gardening has not been a success. The beans which gave such promise last month, the sweetcorn which caused many a premature functioning of the salivary glands, have given up the ghost. It was not from the want of care, but seems due to malnutrition, or the excessive saline content of our bore water. Sorrowfully we dug them in, but our optimistic gardener contends that the loss was not so great because they will now form green manure for the carrots and tomatoes he is going to plant in those beds.

Another Diary Comment

May we never again see a film in Broome of the same standard, or even one that even approaches the standard, of "The Great Train Robbery". This quintessence of a doubly distilled cheaply produced fifth rate support caused the unit to wonder why its intelligence should be insulted. If it is necessary that films shown in Broome have to be donated, why cannot films which set a high standard during the last decade be shown.

Peace At Last - August 10th
No one on the unit realised, as the light morning mists swept away to reveal another pleasant August day, that the evening would mark the beginning of the end of their Air Force career. Not since the pearling days had Broome seen so much excitement, as when the first news of Nippon's offer to surrender was received. It is even on record that one of the hotels bought free beer for the customers.

This unit, however, not being among the participants, consider that this may have happened when there were only four customers there.

August 15th
The Peace has come at last. All the excitement had died down over the last four days, and now all the thoughts on the unit, when faced with the tangible realisation that their service life was practically over, turned towards the thoughts of discharge and rehabilitation. Two days stand down was granted to all members of the unit, and in order to give the messing staff a deserved spell, a team of sergeants headed by the CO undertook the catering and cooking.

All the members of the unit are still alive and there were no admissions to hospital !

Towards The End
Operations ceased on 13 September 1945...the news "to the operating staff who were dreading spending another Broome summer in the radar tent where the temperature exceeded at times 120 degrees", was most welcome.

The work on disbanding the unit commenced on the following day. The camouflaging was removed from the doover, the equipment dismantling began, and packing cases were prepared from any suitable material on hand.

On 22 October, the Quarantine buildings were returned to the Commonwealth Department of Health. 327RS's Orderly Room moved to ADHQ Broome, and the men into transit tents at the OBU. On 26 October, the CO flew out by Anson to Port Headland, then on to his new unit and a special plane flew the men out on 30 October.

The RAAF and Radar In Java
G/Cpt(Retd) E.R. Hall

On board the Aquitania, a British ship of 44,786 tons, when it left Sydney on 10 January 1942 was P/O Andy Lewis, a radar officer and eight radar mechanics including AC1's Arch Caswell and J Forby. P/O Bert Israel had left Sydney for Singapore by Qantas on 3 January. All were posted to Singapore primarily for the installation of ASV equipment in the Hudsons of RAAF No 1 and 8 Squadrons.

Other radar personnel on board the ship were P/O's Colin Abercrombe and Don Thomas and aircraftmen Paul Britnell, Brian Bruillat, Max Bucchorn, J B Evans, A S Faulk, Jack Goodwin, Harold Hine and Adrian Knowles. They arrived in Singapore on 24 January and were seconded to RAF RIMU. After installing a CHL station on the tower in Changi gaol, they were evacuated to Java on 6 February.

After about two weeks in Java, the RIMU party moved to Sourabaya to set up eight American Gun Laying sets. P/O Abercrombe took one unit and a few mechanics and operators to Sitoebondo, just east of Sourabaya on the mainland and P/O Thomas took three GL units and a party to the adjacent island of Madura where they were set up at Modoeng, Tambaroe and Parmakasan.

The GL equipment were made by Western Electric [trailer mounted SCR268's which the RAAF in Australia converted to MAWD]. The range of the sets was supposed to be 25 miles but reliable echoes at 35 miles were obtained at Modoeng. The Modoeng station operated from 18 February to 9 March 1942, the Parmakasan from 24 February, but the station was erected but not operated. The party on Madura Island moved to Djamble where they surrendered to the Japanese on 12 March 1942 to become prisoners of war.

Being involved in a secret operation, as radar was at the time, it was necessary for members of the units to have a cover story. P/O Don Thomas and his mechanics said that they were very junior signals personnel, had done a crash course at Laverton, Vic, which they did not remember much about, were posted to Singapore, almost immediately dumped in Java, sent down to East Java, didn't know what they were supposed to be doing and all they wanted to do was keep out of trouble.

A few months after capitulation P/O Thomas, with some of his mechanics, was called up for interrogation. They went into a long shed in which there was an office area. The Japanese squad included a colonel, several majors, captains, some troops and what appeared to be civilian experts.

They had a large map and asked Don where he was captured. He pointed to Madura and in answer to another question said that he had gone from Kamal to Bangkalan, and then to Djamble. In the meantime they quizzed Max Bucchorn showing him some photographs of some of the radar equipment and asked him whether he had ever seen anything like it before. He said he had but it didn't mean much to him.

Then they brought in three Dutch officers, all known to Don Thomas. To a question asked in Dutch, the officers shook their heads and said, “Nay”. It was obvious that the question had been, “Have you ever seen these people before ?” and it was apparent that these officers refused to recognise Don Thomas, Max Bucchorn and Jack Goodwin. These Australians were not subjected to any further interrogation.

Meanwhile P/O Colin Abercrombe had moved, on 7 March, from Sitoebondo approximately 50 miles south to Sempol. The next day he went to Banyuwangi on the east coast of Java in an attempt to leave the island. In the harbour he found some yachts, although he had had some sailing experience before, he had nobody who could lend him support. Sadly he had to forgo his attempt to escape. Colin and his group became prisoners of war.

At the western end of Java P/O Andy Lewis was killed in a Japanese ambush. In the same ambush Brian Bruillat feigned death and escaped alive with a bayonet wound in the wrist. Brian later became a prisoner of war.

14RS at Wilsons Promontory
Part 1
Merv Beitz

Good fortune came my way in April 1942 when, as a newly graduated radar operator, I was posted, along with Bob Balfour, to Australia's most southerly operating radar station. The location of these units was then very hush hush. We were sent first to Melbourne, still in the dark, as to our final destination. The clerk, at RAAF HQ, who passed us our final orders seemed to find much mirth in telling us that we would travel by train to Foster, then forty miles by Army truck to Tidal River where a pack-horse unit was stationed to transport supplies to 14RS every second day. From Tidal River to the site beside the lighthouse was a distance of 15 miles. This was the part that filled the Melbourne clerk with delight. “You,” he said, “have to walk that 15 miles. The horses are only used for supplies”.

This we found hard to believe. Surely no one would expect His Majestys airmen to walk that distance.

Well, the clerk certainly had the last laugh. We arrived at Tidal River close to 6 pm on a cold evening where a slight drizzle was doing its best to hide the moon.

We had the choice of sharing a bed on some straw in the horse shed or having a go at walking with the help of the filtering moonlight. Being young and ignorant of what difficulties the forthcoming hike would present to us, we made the decision to head into the hills for the station. Our Army horsemen hosts helped our decision by assuring us we could not lose our way so long as we stuck to the track followed each time by the horses. But nothing was said about the sandy stretches, the steep slopes winding up the sides of the valleys, the deep gullies and creek crossings when once down at the bottom it was a tough scramble to reach the top of the slippery sides well over a hundred feet high.

Once committed Bob and I had to keep going. About half an hour after midnight we saw before us that the track climbed steadily to a gap in the mountains. While Bob sat down for a spell I scrambled up this last slope and was pleased to see from this saddle the beam of the lighthouse as it circled through the night. When Bob reached the top we then moved downhill to the Promontory peninsular and a last climb to the station where we reported in at 1 am. Mission completed. Who said airmen weren't tough ?

This was to be the beginning of a stay there of nearly nine months.

Living through an autumn, a winter and spring has left me with unforgettable memories of this wild, but beautiful southern leg of Australia. Thankfully, the Victorian Government has also realised its wild beauty for most of the area has been a National Park since 1910.

Some years later after the war I read an article by a Dr Smith in the then published magazine, *Walkabout* of his interest, love and memories of Wilsons Prom. I am able to add to his thoughts, of blazing sunrises and sunsets, the feelings of an eighteen year old on guard through all hours of the night, the effort of stumbling into a cold roaring westerly around the base of the lighthouse, (the doover was right next door to the stone tower) the heart stopping moment for both myself and a solitary wombat when our paths crossed on the edge of the 300 foot fall to the rocks and waters below the ever circling beam of light. At times the barking of the seals would mix with the pounding of those Bass Strait waves.

Our homes were service huts built upon the rocky outcrops close to the lighthouse. Steel cables from each corner of the buildings tied to metal pegs in the rocks assured us that they would not be blown off by the howling gales.

Food supplies and mail came across 'the track' from Tidal River three or four times a week by Army pack horses. Fuel in the way of oils and petrol and coke for open fires and stoves arrived every three months aboard the well known lighthouse ship, the 'Cape York'.

How we airmen prayed for westerly winds before the 'Cape York' arrived. The Promontory had two landings, one on either side of the peninsular but only the one on the eastern side was served by a flying fox. This was great to use when hauling 44 gallon drums of fuel and other heavy supplies to the top of the hill. If the south easterly or easterly breezes blew then unloading had to be done on the western side with unhappy, hard working airmen rolling the drums by hand to the hilltop.

Every fifth week meant a leave period in Melbourne, but oh ! to get there - that 15 mile hike to Tidal River (and being young and fit the temptation to break the record time for crossing the track which, when I left, had been reduced to 2 hours 50 minutes), the truck ride of 40 odd miles to Foster, and then the train ride to the Capital sometimes in a goods van that had lately been used for transporting fish.

Finally, after a few short days in Melbourne, the whole thing in reverse. It was not uncommon after that rough 30 miles for each of us to repair our boots with a new set of leather soles.

Other thoughts return - particularly the day I watched, from our high perch, a school of porpoises (all sizes) easily a mile long and 200 yards wide, passing around Australia's southern tip on their way to the west. Another time the dark shadow over the sea for some days when the mutton birds were nearing the end of their long journey from the cold regions of Alaska to their nesting grounds on the Bass Strait Islands; the challenge of rowing the lighthouse's whale boat round the promontory from the from the west landing to the east on a calm day when even then we slipped down into green valleys of water before rising with the next swell to once more see the horizon.

One night when on the 'dogwatch' a blip on the screen appeared to be an unidentified surface craft cruising out from behind Rodondo Island. It passed in front of the lighthouse and disappeared around the corner into Waterloo Bay. Our guess was a Japanese submarine on the surface recharging her batteries - for no allied craft was supposed to be in our area. We now know that many ships became victims to Jap submarines on journeys between Sydney and Melbourne in 1942 and 1943.

While at 14RS I had my first experience with temperature inversion (TI). A strong regular beating blip, which could only represent a convoy of ships, showed up at 135 miles. Our guess proved to be correct for the same convoy sailed past our position the next day.

Each mechanic and operator worked a six hour shift each day but the system allowed for the first six hours of one day followed by the last six hours on the next day which gave an airman a break of 36 hours between shifts. Spare time was filled in in various ways. Some had an interest in fishing (wonderful black cod were easy to catch); hiking to the 'dam', the source of our water supply, I must explain the 'dam' was a small concrete basin no larger than a bathroom handbasin set some 500 feet up on the mountain side to the north of the station. A two inch water pipe ran from the basin down and then ran uphill to a set of large storage tanks near the station huts. The unit was about 300 feet above sea level so the water from the spring flowed from the 'dam' by gravity to the tanks. It may be of interest that in 1988 my son-in-law hiked from Tidal River, which is now quite a village, and he looked for and found the system which was still in use.

Some of the airmen found time to try their hand at vegetable growing. I can remember tomatoes and lettuce being produced. Swimming was once tried by my good friend Bob who had, before his Air Force days, been a regular visitor to Bondi's famous beach. Apparently the waters of Bass Strait are many degrees colder than those of the Sydney beaches. We all calculated that he left the water about six times faster than the rate he had dived in. Result - end of swimming.

I left 14RS in December 1943 to join in the formation of 345RS at Richmond and later went with it to the Admiralty Islands.

Part 2
Bill Hughes

On my 19th birthday I was posted with two others to 14RS. Although I didn't drink unfortunately my two mates did. After waiting for three or four hours at Foster for the Army truck my two mates were pretty drunk - not the right condition for tackling the walk in to the Prom.

It was quite an effort getting them up the hills on the track; but no trouble to get them down the other side - they just rolled. After walking for about three hours we met three other RAAF types coming out. We didn't think we had far to go because there was water on either side of us. When we asked the other blokes how far we had to go, they said, "See that stone PMG hut ahead. Well that's half way". Our progress was even slower after that.

A stone wall had been built around the doover so that it would not get blown away. When it blew too hard, we had to crawl up on the roof of the doover, turn the aerial end on into the wind and tie it down to concrete blocks set into the to rocks. Of course we then had to tell 7FS, at Preston, that we were temporarily off the air. On one occasion, I rang in to advise them of a shut down only to be

asked whether the wind was steady or gusting? When I told him, at the other end, that it was 'gusty' he asked couldn't we scan between the gusts!! I still haven't worked out whether I was supposed to smell the gusts or see them when they were approaching.

On another occasion there were two convoys, one going to Sydney and the other coming from Sydney, which met right off the Prom. Consequently we had echoes everywhere. I sent one particular plot of one ship to 7FS and they wanted to know which way that particular ship was going. Knowing that it could take me up to half an hour to work it out on the screen, I told him that I would go outside and see which way the sharp end was pointing. I was then able to tell him that it was going to Sydney.

ARDUA at Paradise - 324RS
T.N. (Noel) Jolly

Before getting too serious, I would like to relate a humorous incident while I was at Radio School. I developed appendicitis and had it removed in hospital. Then I was granted ten days leave back home in Adelaide. On the Friday morning I got my Travel Warrant and filling in time before the time for the train I wandered down to the airfield.

There was an American Lockheed Lodestar on the tarmac and I had a conversation with one of the Yankee crew members. It was from Townsville and they were on a grog buying mission to Melbourne. Naturally I bummed a ride with them.

A couple of hours or so into the trip to Melbourne this same Yank asked if I knew my way around "Horstralia" as they were not exactly sure where they were. I went up front to the cockpit and looked out to see the Murray River flowing into Lake Alexandrina and the ocean. Thereupon I suggested that if they turned right, there were better opportunities to buy grog in Adelaide and directed them to Parafield thence to the Gresham Hotel, the Air Force pub in North Terrace.

So I arrived in Adelaide at 6 pm with a leave pass to start for ten days at 8 am on the following Monday morning. Fortunately no one asked to see it and I was able to bum a ride into town in a RAAF ambulance.

Vale Yankee navigation.

Now to Paradise, I was only 19 when we went there and was involved almost immediately in erecting the doover. Conditions there could only be classified as being pretty hairy and arduous. Carrying the bits of the doover (who in hell called it lightweight) up a 900 foot ironstone ridge was no one's idea of fun. We had with us W/O Taffy Jones, RAF, a Welshman who had a somewhat colourful command of the King's English.

The nature of the exercise prompted him to make a remark which nearly made us drop the rotten thing. He said to us, "If you taste that brown hairy ring at the back of your throat, don't spit it out, it may be your a_____."

Paradise was a Godforsaken hole and many have said that surviving the place and the secrecy probably toughened us so that we were able to take on anything afterwards. Of course some did not make it. I recall an LAC guard who went berserk with a Thompson submachine gun and had to be restrained. The last time I saw him he was a straight jacketed form being carried away - whether he was dead or not I cannot say. The camp was very hushed for a couple of days.

We all learned the essentials of life in the wild very quickly, like shooting and skinning kangaroos, constructing bush shelters, antbed floors, spinifex camouflage and carrying water in 44 gallon drums. Playing poker, hours upon hours turning the aerial in unbelievable temperatures while watching an empty screen.

The YMCA dubbed 324RS at Paradise as the most isolated RAAF unit in NWA and sent us a 44 gallon drum of fruitcake which we had raw, fried, baked and crumbled - I still look at fruitcake with some distaste.

We used to go fishing with instantaneous fuses for catfish in the Fitzroy River and quickly learned not to stand waist deep in water near the explosion. The first time that did happen the chap hobbled around for a couple of days with crushed jewels. Some of the boys with shaven heads and armed to the teeth were known as the "Mad Mob from Paradise" who scared the daylights out of some of the more sedate people in Broome - also as the "Hydraulic Mob" who lift anything not nailed down.

After 16 months at Paradise and Cockatoo Island Bill Schmidt and I, the last of the originals were posted south. In tattered clothes and without hats, we were busily quaffing 32 oz pots in the Port Hotel in Broome when we were arrested - thought to be spies. The young OC in Broome, a six week wonder, was glad to shove us on a DC3 to Perth.

We arrived in Perth in the winter, still in tattered clothes and without notification - have you ever tried to get an issue of clothing when there is no authorisation? You can't salute without a cap or hat, can you? The Adjutant at Forest Park seemed awfully glad to see our still tattered ends on a train out of Perth to the East.

Paradise training stood me in good stead whilst waiting for discharge at Bradfield Park - look busy and on a secret mission. I acquired an old dog-eared RAAF file and stamped it with a Secret and Confidential stamp. Whilst the red tape unfurled for my discharge I walked around Bradfield Park for over 10 days with the file under my arm and a secretive smile without ever being questioned once. All this time the other chaps were doing guard duty, loading boats at Glebe Island or cookhouse duty.

316RS at Kombies, DNG
Philip Loh and Norm Smith

This unit was formed at Mascot, Sydney on 1 March 1943 and travelled by the MV Wanaka to Merauke arriving there at 0800 hours on 28 March. It became a 'lodger' unit with 40RS. All the gear was checked and the effects of spoilage en route to Merauke were corrected.

The radar operators commenced shift duties at 40RS while some of the other station members were employed by an American unit which was constructing the airstrip. One of the unit's Ford 10 power plants was used on the airstrip construction.

The advance party left for Kombies on 9 July with the second party leaving on 24 July. In the intervening period erection of their LW/AW alongside 40RS was commenced and completed in five days - the purpose was to take over operational duties when 40RS went off the air for major maintenance.

Even though the radar equipment had not yet arrived at Kombies the second party reported, via an Army W/T unit which was already in operation, the sighting of three Japanese aircraft heading towards Merauke.

The site for 316RS was chosen to cover the entrance to the Princess Mariana Straits and the approaches to Merauke by sea from the Japanese base at Aru. Like some other units in Dutch New Guinea it was surrounded by extensive mud flats and swamps, which in the wet season, precluded an escape path if attacked from the sea. It was different in the dry season when one could walk for miles and an escape would then have been easier.

The camp was established near the mouth of the Kombe River and duck boards or wooden walkways had to be built between facilities because the tracks were awash at high tide and mud trails at low tide. At this dank mangrove, inhospitable jungle clad environment F/O Carter and the final party arrived on 16 August - this brought the station strength to two officers and 47 airmen.

Phil Loh has provided the following description of the area:

> The unit was sited on about 10 acres of sandy soil on a one foot ridge running south of the tidal Kombe River. Cape Kombies was about five miles to the south with muddy swamp land all around. In 1606 Torres had passed through the Strait named after him and hugged the southern shore as close as possible considering the muddy off shore shallows. He reached Cape Valsch (False) where he turned north around Prince Frederick Henry Island which was in reality a large swamp crisscrossed with canoe paths.

Because of the flatness of the site a timber tower had to be erected to improve performance. This work was delayed by broken boring bits but was completed on 28 August and the station began full 24 hour operations on 22 November. The operations room was about 20 feet above the ground with the doover on top.

An explosion and fire destroyed the No 1 generating set on 5 October and the No 2 set failed two weeks later. Just to add a little spice to life, there was a severe earth tremor and most personnel rushed to the beach. A Catholic priest who had taken temporary refuge at 316RS advised them that they had run the risk of being exposed to a devastating tidal wave or tsunami which often accompanied large tremors.

A Couple of Successful Interceptions

Apart from Japanese reconnaissance aircraft traffic was light in the area and the nearest fighter base was at Merauke some 200 kilometres away. However, in January 1944, 316RS plotted Japanese reconnaissance aircraft off Cape Valsch which disappeared in the general direction of Australia on a more or less regular basis.

After studying these reports the decision was made at 113MFCU on 22 January to send F/Lt Stuart to patrol Cape Valsch about the time when Japanese aircraft might be expected - a Japanese Betty bomber appeared and was shot down much to the delight of W/Cdr Kingsford-Smith who watched the incident on the master plotting table in Merauke and the operators on the screen.

The following day F/Lt Bob Whittle and F/Sgt Kerrison, flying Kittyhawks intercepted another Betty bomber and two Zeke fighters - the bomber and one Zeke were shot down with the other plane being driven off. A post-war Intelligence Report from North West Area dated, 10 April 1944, indicated:

> "One Zeke crash landed at Kai Island - pilot complained that his formation had been jumped by a squadron of Kittyhawks."

Saving face?

Phil Loh's Recollections of Kombies

Kombies was notable in that there were no villages nearby. Tribes from a 30 mile radius would visit by canoe. Wamal was a mission with a German national Pastor named Kiemann. He wrote an official complaint to the CO concerning our people being serenaded with long banned erotic dancing until sunrise. The most impressive visitors were from Kladar near Cape Valsch who had a huge canoe with paddlers to match. The 'cox' Felipus was a runt of a man with a head hunting cannibal background. The Dutch used Javanese soldiers as pacifiers, hated only slightly less than the Japanese, the latter only by reputation. Civil magistrates and school teachers/missionaries came from Kai and Aru Islands or the Celebes - all very civilised and polite.

During 1943 the unit maintained patrols and good relations were established over a very large area and an efficient intelligence network was established. Word of mouth reports of Japanese aircraft sightings and crashes were followed up by investigation. Once an allied barge became stranded on the coast but by the time a patrol reached it via an unusually long route the cargo had disappeared.

After about four months keen personnel had a fluent command of the local language, bahasa kechil. However we were put in our place during a rare visit by Dutch officers who insisted that English was the language of gentlemen.

My posting to 316RS was as the Technical Officer with F/Lt Worboys and an agreed split in our responsibilities was both workable and amicable. Transport from Merauke was by an Army supply launch with sleep, on the deck on top of a varied cargo, was interrupted by a kitten belonging to the child of a local teacher. We headed into a glorious sunset and next morn turned north into a muddy channel and the racing tide through the Princess Mariana Strait.

The skipper said, "There is Kombies," and we had to strain our eyes to pick out the doover, so well did its camouflage blend into the tall trees.

There was a quick handover/takeover while the cargo was manhandled from ship to shore through the mud flats that rapidly emerged as the tide went down. When the July king tides were with us we adopted the procedure of waiting for the full tide at night and then carefully guiding the vessel to a promontory and doing a quick lift of all cargo direct to the shore. The flushing of the channel was frightening but the disposal of sewage and rubbish was convenient - only dropping it into the water where it fed the sharks and crocs at Cape Kombies.

By the time of our arrival the wet season was receding and all the canvas tents were rotten and natives had built atap and bamboo quarters under the canvas with about a two foot air space below. Walls of the W/T hut were sandbagged and it proved to be a popular gossip centre at night. F/Lt Worboys was very keen and we soon had a magnificent mess, skeeter proof and very dry. The cook house was ramshackle but clean and effective.

The Medical Orderly was exceptionally competent and we had no serous medical problems. Malaria was non existent in the station until an operator named Colley returned from a visit to Wamal - he was immediately shipped back to Merauke.

F/Lt Worboys made personal visits to Merauke and was eventually successful in getting a metal dinghy with outboard. We did have the loan of a dug out canoe - with the tide race security of the canoe was a problem and we were lucky to have natives return it after it was washed up on the coast.

Relations with F/Lt Paul Phillips in Merauke became acerbic over the failure to supply urgently needed clothing and regular food supplies. Our four weeks rations arrived at five week intervals. Eventually he pulled rank and told us to shut up. To supplement the food situation we arranged for the delivery of eggs, fruit and vegies from the admin centre about ten miles up the strait. Payment was made from canteen cash so a coin shortage developed, particularly in OZ sixpences. Once we complained about the reducing size of the bantam eggs resulting in the next delivery being huge eggs, probably swans.

The Second Raising of the Doover

My main project was to raise the doover for a second time. The aerial had to be lifted above the tree line - the war had moved away and camouflage was less important and we wanted to improve the doover's performance. F/Lt Phillips agreed and after waiting a couple of months we received everything that we could have needed - pulleys, augers, adzes and long bolts. I sat scratching my head over time and motion studies and two days later got a signal, "Why has the project not been completed?" So we got to work.

Four long poles (26+6 feet to raise the height by six feet) were found up river and floated down to the site.

McGlashan was in his element as a sleeper cutter and produced perfectly squared bracing timbers. The ropes and pulleys were used to raise the four poles next to the doover and the floor of the new

operating level laid. Naturally I inspected ‘my baby’ at every opportunity. Once I noticed that the whole structure was wobbling. It was not unstable it was only an earth tremor.

The radar boys did a fine job working at heights and shifting the cabinets and Worledge aerial pieces across and up. Another inspection and horror to see the unseasoned poles developing a bow - urgent adzing and crossbracing eased our minds and Kombies now had an eight legged beast (Othello/Iago) and was operational on 17 August after a few days shut down.

We were never able to calibrate the aerial which was now rotating above treetop level as MacArthur and our pilots had moved away and the Japs kept their distance. For the remaining months of our stay only a few tracks, probably Catalinas from Karumba, were plotted. The operators became bored and almost truculent with lack of aircraft to plot which was vastly different to earlier times, before the second raising, when they could give accurate assessments of the height of aircraft and had more to do.

Around November 1944 a naval patrol boat was wrecked on the coast near Wamal and flotsam was recovered by the locals. Phil Loh was greatly surprised when Pastor Keimann turned up at the unit with a sealed bag containing the latest red code book!!

Strangely enough the unit nearly ran out of fresh water in the middle of the swamps of Papua new Guinea. But we did run out of footwear and clothing. The meagre supplies of both were considered to be the rejects from the stitching, dyeing and clothing industry. The unit had a visit by G/Cpt Hely on a naval patrol boat and to emphasise the unit’s predicament Phil took off, stark naked from the swimming hole, boarded the boat and saluted.

G/Cpt Hely left a medical orderly to make an overall assessment of the unit. Very shortly after Phil was posted being replaced by John O'Sullivan. He arrived spic and span, took over Phil's duties with the only problem being the write-off of tents. At a general parade he ordered GAS MASKS !!!

The next morning Phil left the unit weighing six stone and yellow with atebrin - yet he still says to this day that he enjoyed his time at Kombies.

The Last Flight of A27-287
Edward A. Barnes

W/O Barnes was the navigator of the ill-fated A27-287 when he and the pilot became guests of 316RS at Kombies, DNG. Now to his story.

11 April 1944 still has vivid memories for me. That was the day our Vultee Vengeance dive bomber tried to be a flying boat and we dropped in on 316RS. At the time I joined 12 Squadron, based at Merauke, the main flying activity was a flight of nearly four hours called ‘P’ patrol. It was an anti-submarine flight, and for this we carried two 250 pound bombs in the bomb bay; but we also carried at least one sugar bag in the rear cockpit. This bag was filled with magazines and books and was dropped over 316RS.

The route of our ‘P’ Patrol was Merauke to Position A (a geographical point 70 miles out to sea) - then Cape Valsch (on Prince Frederick Henry Island) - Modder Point - Mapi (on the mainland) - Kombies - Merauke.

We always flew in pairs and as this was our first ‘P’ patrol, the other aircraft was leading. F/Sgt Butcher of Queensland was my pilot and I was the navigator/wireless operator/ air gunner.

We had carried out more than half of the patrol as we approached Kombies in a shallow dive across the strait. Most of the unit's complement had gathered together near the small beach and Butcher decided to ‘shoot them up’. About 200 yards from the shore Butcher pulled the stick back to climb over the trees but the Vultee Vengeance was slow to re-act (it weighed seven tons).

Next moment we were ploughing along the waves like a flying boat coming in to land. I remember a column of water going past our port side. My seat was locked in the rear-facing direction, but I had swivelled my neck, and with hand on one hip, was trying to see where we were going.

Our aircraft quickly came to a halt about 20 yards short of the group of onlookers. Butcher and I wasted no time unbuckling our safety belts and jumping overboard. I was a weak swimmer, 20 yards was my limit swimming breast stroke. It was high tide and there was a strong cross current at the time. I headed for the shore but my track was 45 degrees out - like a Tiger Moth flying in a cross wind.

Nearing the end of my tether I reached a tree which had been partly uprooted and was leaning over the bank. One of the radar staff came out and helped me ashore. I had survived the crash with a few scratches; Butcher had a bruised forehead.

We were very lucky!

We then waited for the Walrus amphibian aircraft to come and rescue us. We waited, and waited, and waited, but the aircraft never came. Meanwhile we were the guests of F/O Worboys, the CO of 316RS, and his men.

They were a nice bunch of chaps at Kombies and in some ways we were sorry to leave them; but after 12 days as their guests another method of rescue was arranged.

The Australian Army operated a number of small supply boats used to provide a service to isolated units on the south coast of Dutch New Guinea. One day we flagged one of these boats which had been racing along trying to beat the ebbing tide and sand banks at the southern end of the strait, it stopped and waited in mid-stream while the radar chaps rowed Butcher and I out in a native prau.

The Army boat had a crew of four. From memory there was a Lieutenant captain/navigator, a Warrant Officer engineer and two deck hands. I never found out the ranks of the latter two as they were always topless, but I remember they were twins.

Well, picking us up delayed the Army boat and by the time we reached the southern end of the strait between the mainland and Prince Frederick Henry Island the tide was well and truly out. We were only some 30 feet from the middle of the main channel, but that was far enough - we ran onto one of the many sand banks.

There we sat all night, past the midnight high tide until midday on the next day. Then we were on our way, but only as far as the lee of a small island where we sheltered on the second night. Eventually, some 48 hours after leaving Kombies we reached Merauke.

Today many memories of that country come flooding back and I sometimes wonder what manner of man was Prince Frederick Henry and what he might have thought about the island named after him.

16RS at Gabo Island
John Graham

Gabo Island is situated directly off Cape Howe and I have read the name is an aboriginal attempt to say in English that it is the island belonga Cape Howe. In the 1930's a well known passenger steamer, its name eludes me now, ran aground on Cape Howe, and its remains are probably still there today.

There would have been nothing of value worth salvaging by the time 16RS was established, but I remember three or four of the lads one day rowing our punt the two miles or so from the island to the wreck to inspect it close up. It took them quite a long time to get there.

They had no sooner tied up and clambered aboard when a couple of Beaufort bombers came flying low with the obvious intention of practice bombing the wreck. I am sure that no live bombs were

used, but the punt crew didn't wait to see, and set an Olympic record for the punt event on their return to the island. It was quite a while before they were allowed to forget the incident.

Food Supplies

Fresh food, mail and personnel were all brought to the island by professional fishermen from Mallacoota, the nearest habitation located several miles down the Victorian coast. The island was often isolated by bad weather, sometimes long enough for us to have to fall back on to bully beef and biscuits.

On some of these occasions the island's colonies of fairy penguins were drafted into rounding up fish for us. The penguins regularly left their nests at the same time every morning, spent the day at sea, and returned home at dusk, driving fish before them. We had, on the island, a long fishing net and our old punt. When, in the evening, we could see ripples approaching the small and only beach on the island, it was not too difficult to row the punt across the points of the beach cove, trailing the net between the fish and the penguins, and then drag the net ashore.

This usually resulted in a very satisfactory haul of fish, and I can remember the whole camp looked forward to the next couple of dinners, particularly if we happened to catch a school of garfish. Sometimes we would net one or two penguins as well, so, carefully avoiding breaking their beaks, we would untangle them and set them down on the beach, from where they would waddle off home to their burrows quacking indignantly.

Submarine Activity

There was a lot of submarine activity off the Australian coast then in 1943, much of it still not public knowledge. We had regular rifle and machine gun practice and were often warned of the possibility of a landing party from a submarine being put ashore to knock out the station. But I was rather sceptical of the likelihood of a small boat landing from a submarine.

However, I had a rather frightening experience one night which made me realise that I had not entirely dismissed the idea of an enemy landing from my mind. Operators' duties included the manning of the alternator hut which had been camouflaged and built into the side of a sand dune. It was usual for one of the men on the dog watch to take the opportunity to write letters home, as much for the purpose of keeping awake as keeping in touch with relatives, as the heat and drone of the generators and fans were torporific.

I was so engaged in letter writing one night and not far off dropping asleep, when I received a terrific blow on the back of the neck, was knocked off my chair and laid out for a minute or two. When eventually located, my assailant turned out to be not a Japanese submariner but a larger than average penguin which had fallen through the ventilator opening high above my head.

What it had been doing wandering around the sandhills in the dead of night I can't imagine, but it was smartly assisted out the door into the dark again, with the aid of a broom.

Comment: John is not the only one to have reported the shortage of food which occurred at Gabo Island. Doug Beard and Bray Bagust have also made comment on this question. Once, when the weather finally abated, Doug and some of the lads were transported to Eden by trawler for a brief spell of R & R and to feed them up. Bray was hit on the leg by a side of beef on one air drop which did not please him very much.

Both also mentioned submarines. Bray Bagust reported that an enemy submarine actually recharged its batteries in the lee of the island which was rather traumatic. Doug's report was a bit different. It was early in his career as an operator in the wee hours of the morning he detected what was thought to be a submarine. It was duly reported to 7FS and Spitfires were placed on standby to take off at first light. The 'target' was moving very slowly and still about two miles off Gabo - the unit prepared for invasion - two Spitfires arrived just after dawn and made several low

runs over and reported a very large school of tuna. They were, however, commended for their vigilance as submarines were active at the time.

Not By The Book
C.E. (Ted) Williams

Radar people had a well deserved reputation for getting things done but, often, their methods made them more than a little unloved by the Establishment.

In August 1943, I was going about my business overhauling some buggery bars at 1RIMU, when I was told to gather up a certain LAC electrician and to proceed to Melbourne that night. Then I was to find my own way to the PMG Research Laboratory and contact Mr Jock Campbell who would have waiting for us:- a BL4 Interrogator, AW transmitter and an AW receiver which had been modified to use with the BL4.

This equipment was to be taken down to Laverton, where there was an LW tower already erected and also waiting for us. When I had the whole thing working, I was to contact a certain F/O 'Y' at Air Board. In the meantime F/Lt John Weir of the Airborne Radar Section, located in a neighbouring hangar, would be installing the Mk III IFF in a variety of aircraft for testing with the BL4. F/O 'Blue' Davies would come down to supervise the actual tests and F/Lt Weir had been asked to give me whatever assistance he could should any difficulties arise.

All went swimmingly well, 'Blue' Davies arrived and we started flight tests. Immediately it became apparent that we were going to waste vast amounts of flying time unless we could establish a communication link with the aircraft under test.

Nothing could or would stop our 'Blue'. He charged off down to the Signals Office, borrowed an AR7 receiver and a Morse key, as well as organising the exclusive use of a transmitter at the Point Cook Transmitter Station. He then went to the store and drew out every yard of Cab Tyre flex which they had.

When darkness fell, working alone, he strung up the flex from lamp post to lamp post along the street from the Sigs Office to the Sergeants' Mess, over the roof of that building, across another road, through a belt of trees, and down to the radar. Terminating the flex with the Morse key at one end and a connection to the dedicated transmitter via the Sigs Office at the other, we now had a communication link to the aircraft with a Bailey Boy skilled in Morse at our end.

After a week or so, 'Blue' had all the results he needed and took off for Sydney, leaving us to hang around for a little longer, just in case someone thought of any other tests which could be useful. Thus it was, until a few days later when the Station Commander, while taking a stroll down to his office, happened to glance up when passing the Sergeants' Mess. He caught sight of the flex and was more than a little infuriated that someone would spoil the tidiness of HIS STATION. Since he couldn't get his hands on the culprit, all he could do was to order the cable to be removed immediately.

The LAC and I quietly rolled up the cable and took it back to the store. We also returned the Morse key and the AR7 receiver to the Sigs Office.

A few days later, F/O 'Y' told me to dismantle the radar and pack it ready for transit to Sydney. A short time later he advised me that we would be moving out on the following day. Thereupon I suggested that, to save time, we should start our clearance procedures first thing next morning - he thought that to be a smart idea.

Next morning I fronted up to the Orderly Room Sergeant, and told him that my contact at Air Board had told me that a Movement Order for the two of us was forthcoming and that it could save time if we started Clearance Procedures in anticipation. He just looked at me, and after knocking on a door labelled Station Administration Officer, disappeared inside.

In a couple of minutes. he emerged and ushered me into the said office. There I was confronted by a Wing Commander blowing smoke out of his ears. I got a lecture. In summary it was to the effect that THEY would tell me if and when I got a clearance, and furthermore SERGEANTS do NOT talk to Air Board. DISMISSED.

I threw him the smartest salute I could manage, and scurried up to the Radar Section where I grabbed a phone, got on to F/O 'Y', and told him my story. His reaction was, "Oh shit Sarge, sorry to do that to you, lie low for a bit and _I'll see what I can sort out".

Half an hour later, a message came through for Sgt Williams and party to report to the Orderly Room. The same pofaced Sergeant, without a word, handed us our clearance forms!!

A Tiff at Collaroy - 54RS
Cliff Burnett

Some of the operators, including me, rented a room in the Barsley residence as a place to keep our clothes and relax when not on duty - playing monopoly was a favourite pastime. Eventually the sergeant mechanic turfed us out of our room, arranging to rent it himself as sleeping accommodation.

Some time afterwards he noticed that the curtain rods in his room vibrated with a buzz whenever the doover pointed towards the room. This was fine normally but one night he found that the rods buzzed for long stretches of time which meant that the antenna was stopped and not constantly turning. Apparently the operator was resting his left arm.

Instead of storming over to the doover, a mere 200 yards away, and having it out there and then, our sergeant waited for a few days, and then, getting the CO on side, cancelled all leave to hold a meeting of all operators and mechanics. He gave us a tirade of abuse about laziness - no doubt deserved - asserting that it was vital to keep the station on the air at all times except for duly authorised maintenance.

Rather incensed at this, I (a lowly LAC operator) pointed out that there were frequent occasions when he and other mechanics closed down for extra maintenance without seeking permission from Fighter Sector, or even informing them.

Operators had objected to this at the time but were over-ruled.

The meeting broke up with the score, Sergeant Mechanic 1 - Operators 1, but after that there were no more "resting" antennae or unauthorised shut-downs.

Pulling Out 302RS at East Cape
Bill Harnath

Having spent some time in hospital with hepatitis, I did not return to 29RS instead I joined the newly formed 41 Wing being one of its first members. At the beginning we built a few huts, scrounged or otherwise took on strength some test gear with the idea of forming a Maintenance Party, and began a spare parts service for the units under the Wing's mantle.

One of the first jobs I got, early in '43, was to go down to Milne Bay, and pull out or de-commission the station at East Cape - the northern end of Milne Bay. This station, which according to my memory was 301RS but has been listed elsewhere as 302RS, had a very interesting history.

Shortly before the Japanese landed at Milne Bay 37RS was established at Gurney near the head of the bay. The terrain blanketed out areas to the north and south, and there were no stations on the northern side. There was also a need to monitor shipping movements at the entrance to the bay. To cover these needs two unique stations were created. The equipment was ASV, a rudimentary T/R switch, and a six element Yagi aerial which was hand turned. This sounds a bit crude, but, situated

near the end of the Cape, on a high ridge, with a sweep of about 270° they proved highly effective on surface vessels.

After the battle for Milne Bay was over, and some stations had been established on the northern side of the island, these two stations were no longer required, hence the decision to pull them out. By the time I reached the Bay, and the boat arrived for transport to East Cape, the station was already dismantled.

The place was isolated, a boat called once in three months, and I was astonished to find that the personnel didn't want to go back to civilisation. It didn't take long to find out why. You could say that they had the best 'wicket' in the territory. Literally, I mean as well as by inference.

The unit was quartered in a Methodist Mission just inside the lip of the bay. Although the Missioner and his family had been evacuated, he had sown well, and among the teachings he had left behind were a love of cricket and an innocence rarely seen. Every day before school, the kids scythed the oval with curved and sharpened pieces of hoop iron and the wicket was rolled with loving care. They could play the game too, and it was rare for the Taubadas to beat the locals.

The Missioner's wife had also done her job well. Cooking and house keeping were prized skills. No wonder the boys did not want to leave. Neither did I; by the time I had waited a week for the boat to take us back, I too was a confirmed hater of civilisation. No more four pound paw-paw hidden under clotted goat's milk - no more 10 to 15 pound blue emperor fish steamed in green coconut milk !!!

Comment: On page 19, in the Historic Background, mention is made of these two stations which are not recorded in RAAF records. Officially 301 and 302RS's were not formed until early in 1944 - but the numbers were utilised for the stations at East Cape and Kanokopi. There was a marked contrast in the conditions for each station. At Kanokopi, the other end of the spectrum, they were largely neglected, Keith Hinchcliffe caught blackwater fever. W/Cdr Pither sent F/Lt Israel on an inspection of outlying units such as 301RS and his report was mainly responsible for the creation of 41 Wing so that stations could be better serviced.

31RS at North West Cape

Comment: The original equipment from Dripstone Caves was moved to Fenton and subsequently re-erected at North West Cape, WA. Here it suffered from cyclone damage. Part of the tower still exists today as depicted on the back cover. A fascinating aspect is that officially the station was re-numbered from 31 to 310 on 1 July 1944 but the A50's are all headed 31RS until the station was disbanded. Probably the easiest way to tell the story of cyclones etc in 1945/46 at North West Cape is to quote extracts from the A50 Unit History Sheets.

***

1 February 1945

Cyclone warning was received and all tentage fastened down. Valuable stores were deposited in safe places.

2 February 1945

Heavy winds commenced blowing at approximately 0330 hours. Then increasing all day and at approx 1000 hours power lines were blown down and it commenced to rain. Electric power was then switched off as, owing to moisture in camouflage and even wet wooden doors about the power house were alive. At 1700 hours an attempt was made to lash the aerial tower with rope as the wind was steadily increasing. This, however was an impossibility and would have endangered life to attempt it. At approx 1815 hours the mess was blown away together with all outbuildings. Between this time and 2359 hours the wind was at its height, trucks were turned over, tents were blown into the sea and general damage inflicted.

3 February 1945
A scene of utter desolation presented itself. The quarters and roads were covered in feet of sand. Both power houses were full of sand. All the motors were in the same condition and had to be stripped down before it was deemed wise to run them.

4 February 1945
W/T communication was re-established with Air Defence Headquarters, Broome, this afternoon. The kitchen was resurrected after a deal of trouble and fortunately the stove and coolroom were left intact. Food was limited and for four days 31 and 155RS's lived on two meals a day. The weapons carrier was made serviceable again. A RAAF Liberator flew over the camp site in the morning and a 'no communication' signal was given by Aldis lamp.

5 February 1945
An attempt was made to clear debris from the quarters. Much private and service kit was lost or damaged. Weapons carrier managed to get through to Learmonth and get supplies of rations.

6 February 1945
A Beaufort circled the camp site and enquired whether medical assistance was required. Fortunately it was not.

10-11 February 1945
Cleaning up continued and a new AW equipment was brought from Learmonth by weapons carriers on a shuttle basis.

14 February 1945
Installation began of the new LW/AW Mk IA set.

16 February 1945
Maintenance party headed by Sgt Busch H arrived and completed installation of the new LW/AW.

20 February 1945
New LW/AW becomes operational.

4 March 1945
That night a signal was despatched to ADHQ, Broome, advising that in view of an impending cyclone the AW installation was about to be dismantled to minimise damage. The installationwas dismantled between 2030 and 2345 hours.

8 March 1945
As cyclone danger has now passed a start was made re-erecting the LW/AW array. Re-assembly started at 1730 hours.

9 March 1945
All radar racks were placed back in position, necessary connections made and the set was operational again at about 1000 hours. At 1600 hours the station was on normal watch.

18 March 1945
A shooting party was arranged for the members of this Unit and a quantity of fish and kangaroo were obtained.

23 March 1945
Mr McKerracker, Allied Works Council, visited this Unit in connection with grading the airstrip, which had been rendered unserviceable by rain and wind.

24 March 1945
All radar racks were removed from the AW installation, the aerial and tent lashed at 1800 hours as a strong wind accompanied by rain was raging. Cyclonic conditions appeared imminent.

25 March 1945
All radar racks were replaced and heaters turned on for some hours to dry equipment out.

8 April 1945
A fishing trip was arranged to obtain fresh fish for the mess. This resulted in a haul of 30 dozen garfish. Two kangaroos were also killed and provided fresh meat for a few days.

10 April 1945
Cpl Pearce, radar mechanic, arrived to install a new ASV beacon. [It was operational on the next day and Cpl Pearce returned on 16 April to install a permanent beacon.]

2 June 1945
CO visited the Department of Civil Aviation Controller, Mr Anderson, at Learmonth with a view to arranging radar coverage for incoming and outgoing Lancastrian aircraft. A satisfactory arrangement was concluded which during the month has worked to the satisfaction of aircraft captains.

3 December 1945
This unit is responsible for the care and maintenance of the lighthouse on Vlaming Head (probably the only RAAF lighthouse keepers in the world), and in order that the light could still keep showing its reassuring beams to coastal traffic, a tender was despatched to Onslow to carry drums of kerosene for the light.

31 December 1945
At 0300 hours this morning a violent gale struck the unit. High winds and heavy rain were still present at 0700. Because of the suddenness of the onslaught and due to the fact that the air warning equipment was off the air at the time, the tent housing the equipment was torn to ribbons by the force of the wind, which drove water into both the transmitter and receiver drenching them thoroughly. The water also caused short circuits on the power lines so that when approached, it was found that the whole of the radar equipment was electrically charged. The power lines were severed by one blow with an axe, (hardly orthodox but an action suiting the occasion), which solved that problem. Incidentally it was amusing to find that when rounding up the fowls to put them in safety, they became electrically charged whenever they came in contact with the wire netting and sparks ran from their feathers to the fingers of their pursuers. On top of the hill (Vlaming Head), the wind was increasing and as the radar could not be dismantled, it was with great difficulty lashed and braced against the force of the wind.

In the meantime, the Weather people had warned us that a cyclone was approaching, that we were in its path and to take all necessary action. We did not feel too happy.

Remembering the last disastrous cyclone that struck the unit in February last it was decided that the safest place was the lighthouse dwelling place. Accordingly at lunch time all personnel stored food stuffs in a safe place, and carried to the lighthouse dwelling enough food for three meals. Hurricane lamps were got ready as it was evident that the power would have to be cut off to obviate danger from overhead lines if they were carried away.

In order that the lighthouse may shine throughout the night, a crew of three men have been stationed in the light with rations (1300 hours) in case increasing winds make it impossible to ascend the face of Vlaming Head.

At 1400 hours the CO and Cpl A Power made an inspection of the radar equipment. The wind had reached an estimated velocity of 70 to 75 mph with gusts of greater velocity. Heavy rain driven by the wind, stung face and body so that it was impossible to look ahead, and progress was only by groping except when strong gusts of wind blew us willy nilly and we were able to clutch some supporting rope to save us from going over the cliff.

It was evident that we could do no more than had already been done for the safety of the radar equipment. An attempt was made to carry two radar beacons into the safety of the lighthouse tower, but the wind whipping over the exposed headland made this impossible, and they were

stored in a stone building close by which although flooded out, and with the roof flapping ominously, was much safer than their former position.

In order to enter the lighthouse it was necessary to crawl on hands and knees to the door. Inside the lighthouse was very damp and wet, and it was evident that our lighthouse keepers were in for a dismal night. They were pretty cheerful however, as they wiped the condensation from the lens and prisms.

2100 hours. We are all now awaiting the worst. The wind appears to be changing its direction which is a good sign that the centre of the cyclone may by-pass us. The force of the wind also appears to be diminishing.

This is not the way we planned to spend our New Year's Eve, however, there's a strong chance that by next New Year's Eve, we will have handed the lighthouse back to its rightful owners and be seeing 1947 in climes much more salubrious and congenial. And so to bed, hoping that all who read this are having a happier time than we are.

In our next thrilling episode you will hear how we fared during the last blow of 1945 and the first of 1946.

1 January 1946
"Ring out the Old, Ring in the New", so sang Tennyson, many years ago, but in this location it was a case of blow out the old, blow in the new.

It will be remembered that when the last A50 closed we were waiting for the roof of the dwelling to be blown off. Fortunately as the night wore on the wind showed signs of abating, and when morning came the rain had ceased, and the wind, although still blowing had lost a lot of its venom. There were no buildings damaged but the radar equipment was definitely the worse for wear. The aerial was strained and twisted, the grill reflector was twisted and strained. The legs too had given up the unequal struggle of bracing against the wind, and had sagged in the centre. The lighthouse keepers had had a bad night. Any sleep was impossible because of the howling of the wind, to mention nothing of the pools of water, that had collected on every floor. In addition the light had played up, which meant excursions in the night searching for spare parts, and this, even with a rope tied round the middle and paid out by anxious colleagues was no sinecure. However there was a light at all times.

2 January 1946
The task of overhauling the radar equipment began. All hands assembled and lowered the array. The racks have been drained and are being placed in the sun to dry. Much work has to be done on the array before it will again be serviceable.

3 January 1946
Many personnel have learnt to do jobs they never thought they were capable of before.

13 January 1946
Another cyclone is on its way according to the Meteorological Section at Learmonth.

14 to 19 January 1946
At 0600 hours this morning, the array was lowered and stored so that no damage could be done to it. The transmitter and receiver have been stored in appropriate waterproof transit cases. There does not appear to be any signs of a blow.

Well, the threatened blow did not arrive. After a period of indecision, of expectation without realisation it was decided to re-erect the array, and resume operations. So after being nineteen days out of commission we are once more on the job.

24 January 1946
Mr Burgess-Lloyd of the Department of Post-War Reconstruction visited the unit today, and

addressed personnel on the work of his department. On the success of his lecture we will remain discreetly silent. Many letters from personnel who have been discharged are making the laddies a little cynical about their post war life.

Footnote: This unit confirms the supportive role of radar particularly as it was used early in 1945 to cover the incoming and outgoing Lancastrian civil airliners which then operated from the UK to Australia in addition to having an ASV beacon and being lighthouse keepers. An interesting entry at the end of the last A50 is that F/Lt H E Tucker, the CO, shows the strength of the unit as being one officer and the 16 other ranks were attached for duty from the Air Defence Headquarters in Perth.

A Bailey Boy at Sydney University

David Boddam-Whetham

I was 19 years and two months, had failed the eyesight test for air crew and had one and a half years of an Engineering Diploma at Sydney Technical College up my sleeve. Thinking that Diploma Maths 1 might be worth something I applied to the RAAF to join Radiophysics at Sydney University and surprisingly was accepted.

Looking back I was horribly 'green'. Certainly I had very little in the way of 'worldly experience', although I had worked in industry, gone to Tech from 6 pm to 9 pm four nights a week, and was a very sporting and active person.

On Saturday 15 August 1942 I awoke at 6.30 am, after three hours sleep, arrived in town at 7.55 am and caught a taxi for two shillings to Woolloomooloo for an 8 am start in the RAAF. We were called at 10.30 am. WAAAF's typed our 'dope' sheets and we had the conventional medical to ensure that we were unscathed by VD (a quick 'short arm' parade). My blood was typed and at 12.05 pm I was sworn in for the duration and 12 months thereafter. Photos were taken. Thence to Ultimo Depot to receive a knife, fork, spoon and cup. Lunch at 2 pm. Another 'short arm' medical for some reason !!

Now to kit issue. Three pairs of socks, two shirts, four collars and everything one needs.

Most of the fellows are from other States; only four being ex-NSW. We trammed to the Deaf Dumb and Blind Institution at Darlington where the RAAF had taken over. A Corporal Senior (bit of a Cockney and a sense of humour going with it) allotted us to our tents and we were finally issued with palliasses of straw and four blankets. So to an early night in new surroundings with three strangers.

Next day we were told how to fold our blankets in a 'very special manner'. The Commanding Officer welcomed us and ended up with, "You can't put anything over me. I was in the last war and I know all the tricks".

Monday 17 August 1942

We watched the Course ahead of us do drill. They looked a young lot. We were marched to Ultimo where it was found we were not needed, so we marched back again. Shades of the Duke of York....

At 2 pm we made our first University appearance. Professor Bailey asked the question, "Why are we students gathered here today?"

Met Mr Pollard and Mr Somerville - lectures. Between coughs a few words emerged there being some mention of solving a second order differential equation with the assistance of two lengths of Meccano and a rubber band.

After dinner went to the Tech College Library to study physics. "Oh, I have so much to learn".

The next day we were marched to the University by Sgt Cairncross (seems strict but fair). Somerville lectured in electrostatics, but gave us little time to take notes.

Within a day or so we were introduced to morning drill - something new to me, and sometimes I feel as if I have three legs and four arms. In practical work I and another built a power pack which provides DC at 0-400 Volts. Pollard lectured in Maths and appears a hell of a brain, but he was too quick for me (seems a common complaint). While we potter over our valves and soldering irons Pollard sits among us answering our questions interspersed with a reading of a heavy looking book on European History.

Monday 24 August 1942
Now one week has passed. At drill we were taught a few more tricks - how to turn about and salute while marching. As the school holidays are on, many of the kids who live nearby in not very inviting houses, come to the parade ground while we try to march in unison. Their language, for ones so young, is quite remarkable ! Bill Belson and I discussed, "Are the slum people inhabitants just as good a type of person (in themselves) as the more educated section of the community?".

Later in the week. "Work is very hard. I cannot keep up with Pollard and his mathematics. A Mr Salier takes us for maths tutorials. He is known as "Dirty Dick".

--"M____ is one of those keen bastards who wants to do everything in prac work and usually does".

Wednesday 26 August 1942
"In the arvo we went out on a route march with Sgt Cairncross. We hiked to Forest Lodge, around a few back streets and then hopped a tram to Balmain. Once there we found a pub (one which seemed to have been picked out beforehand by Cairncross). After a couple of drinks we returned to Forest Lodge by tram and then Cairncross lined us up, "I want you to march back to barracks with your arms swinging level with the ground - and if anyone breathes a word of what we did, I'll break your bloody necks".

Thursday 27 August 1942
"Pollard is whipping through the maths. Integration complete. We're now on differential equations!! There's a fellow, Frank W, who knows all the dirty songs in creation. He can reel them off, one after another".

Friday 28 August 1942
"HL and TM are finding the work a bit too hot and have been investigating the possibilities of dropping into the photographic unit. Fell asleep in Fraser's lecture.

Mrs Makinson gave a physics tutorial. She's a bit thick around the girth (expecting?), wears slacks most of the time, has a slight English-Scottish accent which makes her speech hard to construe at times. Certainly seems to know her work.

Had an eye test and am to be fitted with glasses. Said the Doc, "From the initial tests, you're practically blind".

We were vaccinated against typhoid and tetanus. A feverish weekend ensued."

Monday 31 August 1942
"A solid hour of drill. Just what was needed to loosen up after a sorry weekend for most. The needles had varying results".

Later in the week, "not getting much sleep at the right time. Concentration is poor.

Received our first pay of £6/12/6. JH and I went downtown, found Repin's and gorged ourselves on waffles.

JR and I wandered down to Gillespie Hall where some union was holding a dance. It was a pleasant affair and surprisingly the evening ended with a short prayer meeting."

Monday 7 September 1942
Missed examination due to eye tests. Now have horn rimmed specs. Cost 16 shillings. In afternoon had a lecture from Bailey - very dry - fell asleep.

Later in the week, - "Had a tutorial from Miss Phyllis Nicol. She's about 50 - knows her work terribly well. I have studied 'Booth and Nicol' for the past four years. She's an unusual bird, has a yawning mouth and talks with her eyes shut.

News from mother, brother Tudor is either in New Guinea or the Solomons.

Typhoid injections. Arm sore.

Monday 14 September 1942
New orders, - "All personnel to have beds made and be out of their tents by 6.15 am". Spring has come.

The Fire Brigade rolled up and we watched an intensive fire drill. It seemed so unnecessary, yet in reflection I suppose there's a fair chance of an air raid in Sydney.

Cpl Senior came into the recreation room and pounded out some tunes on the piano. Soon the boys had gathered around and were singing their hearts out. We have some good voices in the mob. Senior in private life is a barber and a professional musician.

F/Lt Wally Bartlett, the CO, gave us a pep talk on the uncleanliness of the place. He was all upset about lice and wogs which were 'everywhere'.

"Remember", he said, "Cleanliness is next to Godliness. You must discipline yourselves - use your Australian initiative. You're careless, slovenly. You don't take any pride in yourselves. All you think about is your next leave. You all need waking up."

While he rants and raves, he scratches his nose, then his leg, then his back and then back to his nose. No wonder he's worried about lice and wogs. Later Cpl Senior, in concluding some instructions to us, copied Bartlett to a tee with his scratching. A brilliant piece of humour.

MC wants a transfer to air crew.

HL is a classical student. He speaks several languages, has studied piano at the London Conservatorium and has been a lecturer in Geological Topography. He aims for a black belt in Judo and is giving a lecture in a few weeks to some University group on Chinese Poetry. He's a Quaker in religious sentiment.

Was on tent guard for the day when a bunch of young kids came over and seeing the sign Deaf, Dumb and Blind Institution asked me whether I was deaf.

"What did you say?" I replied.

"Are you deaf?" said the kid again. Putting my hand up to my ear again, I replied, "I can't hear a word you're saying". The game went on a few more times when we all broke down and laughed.

Belson, Hobley, Hipwell, myself and one other volunteered for the concert ballet. Cpl Bowden, a show business person in civilian life, ran us through some good routines.

Later In The Month
During practical work, Cpl Senior came in and yelled for Mann; Norman, it is suspected, has meningitis and therefore his tent mates have to be isolated. Off went Mann, Mills and Warford-Mein.

Practical work was going quite well until a point when, with the meter adjusted to ohms, I applied volts. Result - one bent needle.

Those who talk about wireless outside working hours are classified as 'valve happy' or 'potentiometer potty'. Such is the jargon.

Exams are close. Belson and Malempre swotted in the locker rooms. The Orderly Corporal came around and ordered lights out. Belson and Malempre were determined to continue. They found that in the canteen there is always a light that shines from the cookhouse through the glass doors. They therefore shift a table outside the door and duly study until midnight. Surely those with such determination cannot fail to succeed.

Downtown met Jack Cameron, a previous neighbour for many years. He's playing trumpet in Bert Howell's band at the Prince Edward. The latest arrival to his family has been called Glenn Miller.

Still no anode current in the practical exercise. Sought the technical brains of Mrs Makinson. She couldn't get any current either. Her solution was that we start again and rebuild in stages. Hell!!

High temperature, sore throat. Sick parade. Put in hospital at Rona, Bellevue Hill - beautiful spot.

It has rained virtually non stop for a week. Six tents have collapsed and everyone has to sleep in the lower recreation hall for the time being. Absolutely packed the place was. You needed a knife to cut your way out in the morning, the air was so thick. Cpl Senior came down prior to lights out and played 'When Day is Done' on the piano and wished us all goodnight. It seemed we all called back in unison, 'Goodnight Dad.'

Exam results came out. Four were to discontinue training in Radiophysics; about five were put back a course and the fate of four more, including myself, has yet to be decided.

My 'Cooks Tour'
Lorna Brodie (nee Olsen)

I enlisted in June 1942 as a trainee radio operator and transferred to Bradfield Park for my rookies. Before the pass out parade some trainee operators were posted north to Brisbane W/T and on to HQ Allied Air Force where we completed a Signals Clerk Course. Only a small number of us held out to stay in our chosen field instead of accepting the alternative of remustering when the course was finished.

Our small party returned south to No 1 Radio School at Richmond in December 1942. On completion of the belated course I was posted to No 2 VAOC, Sydney. Barracks were in the Labrador building, which had been previously condemned, in Macquarie St. As we walked to the working area in the tunnel with its entrance opposite the library, we were the cause of amusement being dressed in our working dress, mens' issue jeans [goonskins] tied at the waist with belts etc, and clutching provisions for the shift ahead. We found this very interesting as we were in contact with watchers throughout the state, passing on information to Fighter Sector.

Two months later a posting north - Ash Island (131RS) - I thought I was really going to North Queensland, instead of being put on a train to Newcastle and a tender to the island in the Hunter River. Here we operators were housed in two tents, lockers in the centre and beds arranged around the four sides, these were in the grounds of the school house which was used for messing and ablutions. The chip bath heater was quite temperamental at times. New quarters were being built on one of the dairy properties which we duly occupied and settled in more comfortable conditions with a tent a distance away for operators coming off the 'dog watch'.

As radar was very hush hush at the time, to the locals around the Newcastle area we were though to be recuperating at a Convalescent Depot. A very happy group of operators, mechanics and general staff, plenty of exercise walking across the farms to the doover and swimming at our favourite water hole. Friendships which were formed on this station have lasted to this day.

Back to Bradfield Park early in 1944 where they endeavoured to keep us busy whilst waiting for the right conditions in Nth Queensland to proceed to 1RPP in Townsville before continuing on to 136RS at Alligator Creek. The swollen Burdekin River had been preventing any transport across that area.

No sooner had we newcomers arrived in the Tropical North than a few of us went down with Dengue Fever - so off to the tent hospital CS4 only to be evacuated after a few days owing to a cyclone causing havoc, transferred to barracks at Aconvale until the swollen rivers and streams were down enough for us to return to 136RS. Compensated with a week's leave on Magnetic Island - very hard to take!! This was the forerunner of many visits to the island during our breaks between shifts.

136RS was another very happy station and we operators were made very welcome by existing personnel. We even had a dance in the Rec Hut each month with music provided by the Salvation Army Mobile Unit. The recreational hut was built along the railway line resembling an outback station.

This was followed by a transfer, in July 1944, to 211RS where the reception was not so good. [see page 144 in Radar Yarns]

Early in March 1945 I was posted to 2PD, then on to 2SD at Waterloo, before leaving in a month for 209RS at Benowa. Here I settled for approximately six months during which time the Nerang River flooded separating the doover from the living quarters so a rowing boat was commissioned to paddle back and forth to keep shifts on duty.

During this time the Pacific war came to an end but the unit was kept in operation. September 1945 saw me being posted to 135RS at Pinkenba where duties were mainly to keep the equipment operating and giving the usual weather reports. It was only a short stay at 135RS followed by a spell at Eastern Area HQ and Radiophysics Laboratory before discharge in November 1945.

I should have kept a tally of the miles travelled on this ‘Cooks Tour’ plus those up and down on leave from Cairns in Queensland to Adelaide in South Australia.

315RS at Cape Ward Hunt
Alf French

Upon completion of training at Radar School at Richmond I was posted to 315RS and shortly afterwards, without any pre-embarkation leave, was flown to New Guinea in April 1943.

With other members of the unit, I spent a few days at Milne Bay learning how to peel potatoes and open cans. We were then flown to Port Moresby on 12 April where we joined up with the remainder of the unit and then taken to the wharves to load our equipment on a Sunderland flying boat.

While on the wharf over 100 Japanese planes bombed Port Moresby causing damage to a petrol dump but luckily the flying boat was untouched. After completing the loading I was able to explore Port Moresby and locate my brother who was at an Army depot.

Next day, 13 April, we flew by flying boat; this was an experience I had never had before, wondering whether, during take off, the sea would break through the hull. We landed at Douglas Harbour just south of the site for 315RS at Cape Ward Hunt. In company with a platoon of American troops we transported our equipment by barge to the site of our new home on the same day.

The next few days were spent clearing sites for the camp was next to a village on the sea shore and the doover on a nearby hill (Mountain). The Americans were busy setting up guard posts around the camp and protecting the doover.

The station became operational on 21 April 1943 and 134 plots were transmitted on the same day. The unit was, at that time, the most forward radar station on the New Guinea coast and an ideal spot for tracking enemy aircraft - we could cover as far as Salamaua, Lae and the south coast of New Britain.

It was a busy station and according to official records during the month of December 1943 12,000 plots were transmitted to Fighter Sector.

Although nearby Douglas Harbour was raided a number of times there were no attacks on Cape Ward Hunt. The closest we came to being attacked was by the American Air Force which strafed our kitchen area while having target practice at a nearby island called Mitre Rock. This island was only small and was often mistaken for a small ship by Japanese sea planes which patrolled the sea at night.

The other possible dangers faced were the trigger happy American guards who often opened fire on the surrounding jungle. When changing shifts at midnight we had to be particularly careful when passing a guard post on our way to and from the doover. Later in 1943 the guards were replaced by Australians and life became easier.

As we were living alongside a native village we suffered a lot of skin complaints. I, at one stage, was covered all over my body with ringworm or tinea which was difficult to deal with. However, our Medical Orderly, named Scobie, made up a batch of ointment which had to be rubbed on every day (Gee it both stung and stank) and spend a few hours sunbaking - I think that I introduced nude bathing at Cape Ward Hunt.

Other activities, mainly organised by the Guard Sergeant Charlie Watkinson, were bayonet practice, rifle practice including maintenance and on one occasion, a gas drill. The unit had the use of a small barge with an outboard motor in which we used to venture south for a short distance - never north. I clearly remember one day we were coming back from a fishing trip when around the headland came a low flying aircraft, we all hit the water but luckily it was an American plane.

Later in 1944 we were given some leave to Oro Bay having to return on the weekly supply ship. This was most enjoyable as we were able to have more recreational facilities and visit open air pictures and shows by visiting artists. It also gave us a greater number of people to talk to instead of just our station personnel.

Apart from operating the doover and associated work, life at Cape Ward Hunt would now be regarded as taking a holiday at a sea side resort, clean white sands, swaying trees and blue skies. I can still remember sitting on the shore at night watching a thunderstorm out at sea, especially the lightning effects.

With the value of hindsight I believe that duty at Cape Ward Hunt helped me to develop in many ways, especially to lose my fear of darkness which was soon overcome when climbing the mountain to the doover in a pitch black jungle.

Some More on 31RS, Dripstone Caves, NT
Fred Hull

On 20 February 1942, the day after the first raid on Darwin, I was taken off No 2 Radio Officers' Course and posted to 31RS at Darwin. I was instructed to pack my belongings and be ready to proceed to Darwin with the last load of the RDF equipment for the station. Early next morning on reporting to a hangar where a DC3 was ready to take off, I was surprised to find the pilot F/O Max Campbell was to take me to Darwin. Max and I had worked together at the Royal Flying Doctor Service at Port Hedland.

When some distance from Darwin you could see smoke still rising from the city. We eventually landed and found transport to Dripstone Caves where we met Harry Hannam and Bruce Glassop who were anxiously awaiting the equipment to complete the installation. At this stage there were some civilians still working on the site and imagine my surprise to find the foreman was Val Maddigan from Port Hedland. On one day three of us from Port Hedland with 31RS.

After reporting to Harry Hannam and getting settled in I was informed by Harry that he and Bruce Glassop had everything in hand and there was not enough room in the doover for any more!! It seemed to me that he resented I had been sent. I then decided to hop in with the boys [the operators] and dig some slit trenches etc and generally improve the living conditions of the camp. I cannot remember if he treated the mechanics in the same manner.

As a result I never got to know what really was the problem but from what I heard they were having trouble with phasing the array and low power output. Dr Piddington was contacted and apparently decided to come up and sort out the problem. I believe that when he arrived he found that the coaxial cable was not the correct type and a signal was sent to get the correct one. I also believe that when new runs of the correct cable had been run, and the set tuned, 31RS worked satisfactorily.

Eventually Harry Hannam was posted to Fighter Control and Bruce Glassop, I think, went to 105RS, Point Charles, and I became the CO of 31RS. It was not until I took over that I got to know 31RS.

I can remember quite clearly the story told by Lew Collier [*Radar Yarns*] regarding the Zeroes coming in low from the sea. I was showing the 'Brass' from Fighter Control around and the comment "Brewster Buffaloes be xxxxxx, they're Zeroes" caused immediate dispersal. I could almost see the smile on the Jap pilot's face saying, "Top Brass him run fast."

From 31RS I then went to 1RIMU followed by 40RS at Merauke. From then onwards I filled "shiny bum" jobs at 1RIMU, 42 Wing, RAAF HQ and 2RIMU. After reading *Radar Yarns* I am very disappointed that I never got any of those interesting jobs in the field.

Bombers, Crocodiles and Rubber Dinghies
Keith R. Croft

When 346RS arrived at Bundralis Mission on Manus, we were camped on the beach in tents and a thatched hut with some US jungle hammocks. Well, a one-man dinghy turned up, don't know where it came from, could have fallen off the back of a boat!!

So this afternoon, George Edsell, mechanic, and Charlie Smith, operator, decided to go out reef fishing. The dinghy was a bit crowded, George (the longest) sat in the front with his legs down the back. Charlie sat between his feet with his legs in the water. The idea was George used the paddle and Charlie kicked his legs, didn't make too bad a speed, not as fast as an outboard, but you could see them getting along at about three miles an hour, I'd say.

Well, we carried on with what we were doing, reading, swimming, working or just plain spine bashing and sort of forgot the fishermen. Then just on dark as we were going to tea, we heard this awful thrashing in the water so we grabbed our rifles and raced down. Here came the fishermen at, I swear, 60 mph, arms and legs going like windmills, or maybe paddlewheels would be a better word. Well, when the boys could talk, they said they were returning OK but when about 150 yards out, these two great fiery eyes emerged from the murk and started following them, so naturally they took off for the shore.

But this was the second scare for their trip - out at the reef they were fishing away quite unconcerned, and a US Liberator flew over at about 1000 feet, patrolling to see no Japs escaped by sea. Well, the boys were spotted and the next thing, down it swooped to about 300 feet and started circling the craft. George and Charlie both swear every gun on board was aimed at them !! Well, George or Charlie (depends who tells the tale), took off his fur felt hat and turned up the side and held it for the Yanks to see. So, the Yanks circled again and waggled a wing (can you waggle a wing in a Lib? - sounds good anyway) and flew off out of their lives - not with them.

Well, like a lot of fishing yarns they caught nothing - but they said, "You should have seen the ones that got away - one 20 foot crocodile and one four engined bomber !!!"

207RS at Lilli Pilli, NSW
John E. Jones

In mid-1942 after a short spell at 1RIMU John went to Lilli Pilli with a small advance party. Initially accommodation was under canvas but later the personnel were housed in a group of what appeared from the outside to be normal domestic weatherboard houses intended to 'fool the enemy', although it was never explained how the towers could be taken for anything other than a service installation of some description. Possibly the authorities felt that as the site had previously been occupied by 2UE then the enemy may have thought that the commercial radio station had been upgraded.

The installation process was long and tedious. John went off to do his A&SD course and was posted back to 207RS to find that it still had not been finished. Despite heroic efforts on the part of the unit personnel, RIMU and Calibration Flight, great difficulty was experienced in getting the equipment fully operational and calibrated. The general opinion was that the location was unsuitable because the ground fell away to the water to the east, south and west, and with a reasonably gentle slope to the north at Georges River, some five miles or so away.

The only notable operating event, while John was there, was the night when aircraft were flying off the coast from Wollongong to Sydney. 207 was not operational, but on being alerted by Fighter Sector, the equipment was switched on. The operators in fact tracked the aircraft quite accurately. A very good view was to be had of the aircraft being fired on from the 40 foot level of the receiver tower.

Sidelights at 207RS
A piano and gramophone were acquired. As there were both male and female personnel there in 1943, they enabled a good measure of self-generated entertainment.

Of course, some more informal entertainment also went on. Ablution facilities were very primitive, only cold water being available, which was very cold in the winter. Anyone who wanted hot water had to boil it up in a wood-fired boiler. However, someone had 'liberated' a bath tub which got a fair amount of use being set up in the ablution block. On one memorable occasion retribution caught up with a certain NCO when, as he was luxuriating in a nice warm bath, some person or persons unknown tossed a bucket of Conde's Crystals dissolved in water over the adjoining partition into his bath. The culprits were never apprehended!

211RS at Home Hill, QLD
John E. Jones
In June 1943, John Jones and Len Wisemen were posted from 207RS to form two new ACO type stations. Wisemen went to 212RS at Bones Knob, Tolga, QLD and John Jones to 211RS at Home Hill about 105 or so miles south of Townsville.

The move to Home Hill was successfully completed by rail including the unit mascot 'Aspro', a dog of an unclassified breed, who staged at Sandgate Depot in someone's spare kitbag.

The actual site was a spot called Charlie's Hill, about six miles south of the town, which was a flat topped hill about 60 feet above the surrounding plain. Installation work was still proceeding on the equipment however, it was possible to get on air soon after Christmas 1943 after quite some time was spent on matching and phasing, tuning and calibration. From memory, ranges of 100-130 miles were obtained which meant that the station was tracking aircraft approaching Garbutt from the south - it was rarely possible to achieve accurate and consistent height readings. Good operators handled the goniometer very well.

Of course, by that stage of the war, there was little likelihood of enemy aircraft appearing on the screen so male operators were replaced by WAAAF's, probably about March 1944.

Lasting impressions of the ACO type of radar were the sheer power pushed out by the transmitter in comparison with the LW/AW; reliability and the use of spare parts was minimal.

It was disconcerting to discover, from accurate surveying during calibration, that apparently the station was some distance east of the location indicated on existing maps. This necessitated the correction of the plotting screen, not only to ensure correct plotting but to also avoid the sensation of drowning.

Sidelights at 211RS

The personnel who served at Home Hill will recall the outstanding hospitality of the townsfolk, who could not do enough to make our stay as pleasant as possible.

It was a memorable day when one of the radar mechanics, about 15 stone on the old scale and built proportionately, came into the office bearing a ladder rung which had snapped under his weight, about 95 feet above the ground on the outer face of the transmitter tower. Fortunately he had been 'working to rules' and holding the sides of the ladder, not the rungs, so that he only fell one rung. Not at all amusing at the time!

Only mechanics were supposed (officially) to climb the towers and then only for maintenance. One of the achievements was to climb the tower and then stand upright on the one metre square top, 135 feet above the ground. The things we did when we were young! [At Toorbul Point, one mechanic was seen doing a hand stand on the top of the receiver tower!!!]

Occasionally snakes would find their way into the cable ducts to the consternation of the operators and they would have to be dealt with by the mechanics on duty. Another snake of the carpet variety, and therefore harmless, was a station pet who lived in the wood heap outside the mess. That is he did until the WAAAF arrived when it was moved elsewhere.

Radar Liaison Office

Cyril Vahtrick

In mid 1943, after a stint as one of the radar mechanics at 23 Radar, Lytton, I was given a posting one day to the 'Radar Liaison Office', Stanton House, Pitt St, Sydney. This perturbed me more than somewhat because I hadn't seen myself joining the RAAF only to be posted, at the adventurous age of 20, to what seemed to be an office job in the middle of the city in Sydney, my home town. The job confirmed my worst forebodings, despite the fact that, in retrospect, I can see that, given the high secrecy attached to radar, RAAF staff were necessary in view of the centralised information available to the Liaison Office.

Furthermore, the office was performing an important supply function by keeping essential equipment and spares moving from the various manufacturing industries to points where they were required. Nevertheless at the time, I could not bring myself to regard it as anything other than just another office job - pushing paperwork. The work was not entirely confined to the office, however, as it was necessary for me to visit manufacturing establishments all over Sydney and some of these were quite interesting. As a mere LAC, I also acquired a most valuable universal kind of pass from the office, stating in proper official terms that my duties required me to move all over Sydney, and authorised my access to all RAAF radar establishments at any time, and when not on duty I was authorised to 'live out' at home. I found this a most valuable piece of paper which I kept long after I left that job.

I don't recall the details, but I must have made a real nuisance of myself complaining in the office, as a result of which I was very soon 'loaned' to No1 RIMU.

My first job was to help with the installation of an experimental Australian-built LW/GCI radar on the edge of the cliff at Ben Buckler, near Bondi. I recall nearly losing the top array (and a couple of us too) over the cliff. After the lower array had been fixed in place, the top array was designed to be hoisted by mobile crane and lowered into key bolts in the lower array. A colleague and I were

positioned on the framework on the top of the already mounted lower array to guide the top array onto the bolts.

As the top array was being hoisted into place, the crane jib suffered a structural failure and the array plummeted to the ground a few feet from the edge of the cliff. I still remember the feeling up there, as we were reaching out just about to take hold of the suspended array when it fell. The failure occurred because, as it was taking the load, the crane jib came down and rested its middle against the framework of the lower array, creating a fulcrum point the jib was not designed to cope with. The jib buckled at that point and simply folded over with its load. The top array was not seriously damaged, but we all had a scare. I only stayed for the test installation.

Shortly after this episode, I was loaned to a small team conducting some experiments with the LW/AW on the perimeter of Bankstown airport near the Georges River. One exercise we carried out a few times was to have a small team - three men, I think - timed while installing a complete LW/AW station from a completely knocked-down state (including antenna) to switch-on. To the best of my recollection, with a bit of practice, we could perform the entire operation in a couple of hours or so. I also recall installing and testing at Bankstown a Canadian-built unit [SCR602] which was extremely compact and which impressed me was its incredibly high reputed peak power output and that it was spark modulated by a rotating spark gap and that one could draw sparks from any part of its chassis with a screwdriver when it was switched on.

The BL4 Interrogator

On another occasion I was told to report to the main workshop at RIMU to help with some urgent work. There I found a number of other radar mechs busily uncrating some equipment which had arrived from USA. Each crate contained a BL4 Interrogator unit, measuring, from memory about 3 ft in height by 2ft wide and 18 inches deep. It was explained to me that the BL4 was going to be integrated with existing radar installations to provide a new secure IFF facility. The BL4 unit, was manufactured by the Hazletine Corporation in USA and, to me at the time, appeared to represent a big step forward in compact, modern design of equipment compared with what I had experienced, although this design also created problems as will be seen.

There was one small problem, in the delivered units, however. They had been tuned to the wrong frequency for our area and needed to be retuned by shifting the taps on the parallel Lecher bars. Easy? Well not quite.

With a skill which would have brought applause from today's car engine designers, the BL4 designers not only managed to locate the Lecher bars at the rear of the cabinet behind a whole host of valves, resistors and other components, but they also made sure that all the screw heads on the screwdriver-adjusted Lecher bar taps faced the back.

Despite ingenious attempts at constructing round-the-corner screw-drivers, etc., all these proved futile and I was told that there was no alternative but to unscrew, unbolt, unsolder and remove as many components as necessary to get at the Lecher bar mountings. The bars then had to be removed, the screw taps adjusted (leaving the screw heads facing the right way this time) and then the whole lot had to be re-assembled.

My memory tells me that this was about one man-day's work with each unit and, since they were very urgently required, all hands were wanted on the job and so I had been called in to the fray. After carefully examining my first unit, it occurred to me that it might be a lot quicker tackling the job from the rear, although I seem to recall there was a rather large transformer which was inconveniently in the way there. While the warrant officer in charge was otherwise occupied, I decided to experiment accordingly. While the task proved to be more difficult than I had anticipated and entailed demounting the transformer, it still took only half the time that way.

The technique was demonstrated to the warrant officer and he immediately ordered all hands to employ the same method and so production was speeded up. A couple of days later, while still

busily engaged in this work, I was summoned into the presence of an officer who told me that the warrant officer had recommended me as a suitable installation mechanic for BL4 equipment and I was to accompany a consignment of BL4 equipment to Perth as a security guard and then proceed to install the units at various radar stations located along the WA coastline. I could scarcely contain my excitement. When was I to go?

“The equipment will be delivered to Central Station at 5pm - you need to be there to check its loading on the train”.

“Today ?”

“Yes of course today, you’d better get yourself moving”.

I very carefully avoided asking whether this matter had been cleared with the Liaison Office in Pitt St, where I was still officially posted, but did not really relax until I was on the train, safely on my way to Perth. It was a matter of supreme unconcern to me that, at that stage, I didn't have the slightest knowledge of (nor indeed had I been given any instructions on) how to install BL4 interrogators. I didn't even really know how they worked.

Sydney - Perth

The train trip was something of an epic, probably worth recording a few paragraphs for posterity. Firstly, of course we had to change trains at Albury to the wider Victorian gauge. It happened to be the day before the Melbourne Cup and it seemed that everybody south of the border was intent on getting to Melbourne. Amid great bustle and confusion at Albury station, I overheard the boss porter tell his gang that they would have to leave freight, as the train had to get out on time.

Clearly this also included my equipment, of which there was a considerable quantity. I quickly sought out the Stationmaster and explained to him that my equipment had to be on this train. He issued the necessary orders and the porters dropped everything else and loaded my crates. The train left on time, leaving a pile of other items (even luggage) on the platform.

At Melbourne the RAAF system actually worked and there was a RAAF truck waiting to take the equipment into safe store overnight, as the train to Adelaide did not leave until next morning. A railway porter with a large hand truck came to unload the equipment from the train. I was somewhat concerned that the porters heaped a huge pile of crates onto the truck, so I warned them that this was delicate equipment to be treated with care.

“She’ll be right mate”, said the porter, whereupon he began wheeling the truck along the edge of the platform. Sure enough, not only did the top crate fall off, but it missed the platform and landed on one of the rails.

“I’ll pick it up later, it’s only a light one.”, he said, nonchalantly continuing on his way with the truck. Imagine my relief in Perth to find that the crate contained only spare components, which were well packed and undamaged.

From Melbourne, I travelled on a fully allocated troop train and immediately there was a different kind of trouble. There were now officers and commands, marching etc. and, as a mere LAC, my orders from RIMU not to leave the equipment carried little weight.

During some of this confusion when we arrived at Adelaide, I was dismayed to see a little shunting engine hook up the freight van with my equipment on board and make off. There was another small engine on the opposite platform, so I ducked away from the parade or whatever was going on at the time and raced over to the engine. I managed to convince the driver that the van disappearing down the track contained highly secret equipment which must not get out of my sight and so we followed the other train into the shunting yard where I insisted on being let into the freight van where I stayed until we were shunted onto the next train.

At Port Augusta there was another change of trains and I managed to convince the officer in charge of the new troop train that I must be in the carriage immediately next to the freight van. I was somewhat taken aback when I discovered that the 'carriage' next to the freight van was nothing more than a converted cattle van, of which I looked like being the sole occupant, the rest of the train being conventional 'situp' carriages (and crowded to the hilt with troops).

A number of these cattle vans had been converted for troop carrying across the Nullarbor, although our train only had one such van. The exterior conversion was very simple - a single entry door had been inserted on each side of the van, one near each end and, to provide some light, some small windows had been added, cunningly located just under the ceiling so that anybody walking along the platform could not see in to count the troops.

Internally, there was a wooden ledge about 9 inches wide running longitudinally down each side and a little cubicle in one corner with toilet and wash basin. In the van, there was no visibility to the outside other than through the access doors (when open) or by standing on one of the ledges to reach high enough be able to peer through a window. The floor was bare boards (probably trodden by thousands of cattle in their time) and the 9 inch ledge was virtually useless for sitting, so I was grateful to be taken by the railway staff to a shed with palliasses and lots of straw. I made myself two thick ones for good measure.

Just before departure, 3 or 4 army stragglers appeared on the platform and, because there was no room on the rest of the train, they were told to join me in the cattle van. Since the trip across the Nullarbor to Perth was to take 2 days and 3 nights and since there were no en route catering facilities for most of the route, the train had to be self sufficient in that regard, although we did stop very frequently for coal and water. To accomplish this, there was a special cookhouse van attached to the train and, for meals, the train just stopped at the appropriate hour and the troops queued in the desert with their eating utensils, received their curried snags and mash, or whatever, and sat round on the ground to eat.

Having been given due recognition at Port Augusta as being 'on guard duty', I had been authorised to get to the front of the meal queues, which meant that I always got hot, fresh food. My fellow cattle van travellers very quickly caught on to this advantage and so, as far as the cookhouse knew, we were all 'on duty' for the trip.

One of the interesting aspects of these meal stops was that, while the train appeared to be in the middle of empty featureless desert, not long after it stopped, Aborigines appeared as if from nowhere, offering carved Mulga kangaroos, crocodiles, etc. in exchange for food or cigarettes. I noted the cookhouse staff doing a brisk trade and assumed that they would have been a regular source of supply to outlets in Adelaide and Perth. As the train journey progressed, I soon realised that we cattle van occupants were really the first class travellers. We had 'sleepers', plenty of room, no toilet queues and, as a break to sitting on our nice thick palliasses playing cards, we could sit on one of the doorsteps with the door open and watch the world go by. At night, I can clearly remember lying on my palliasse and looking up at the sky through our high windows. I would go to sleep watching a single star whose position did not change as we rattled along the hundreds of miles of perfectly straight railway track.

At Perth

After escorting the equipment in to RAAF store, I began the task of sorting and identifying all the equipment crates in preparation for the installation projects. An obviously envious officer in charge gave me a list of the destinations of these installations. From memory, these included: Albany, Busselton, Rottnest Island, Yanchep and Geraldton. Limited technical information then made available suggested that I might need to spend a few days at each place doing the installation and, with summer coming on, this was hardly a daunting prospect. After a few days sorting out all the necessary material, paperwork etc., I was ready to start.

Then I was summoned to the CO who had a new movement order for me. My heart sank - had the long arm of the Pitt St Liaison Office finally caught up with me?

Perth - Darwin

What came as a total surprise was that I had to catch the first available plane to Darwin to join a BL4 installation team there as a matter of urgency. The next morning I was sitting in a RAAF Lockheed Lodestar (my first plane flight) watching as we climbed out over Perth, slightly wistful at what I was leaving behind, but full of anticipation at what lay ahead. We ran somewhat of a 'milk run', overnighting at Broome where I saw my first sight of war, with the shattered hulks of Catalina flying boats which had brought refugees out of Batavia but had been caught by Japanese planes in the bay. I can't recall the fate of all the people.

We continued on the next day to Wyndham where one of the aerodrome buildings, no more than a 'tin shack', had been so extensively shot up by Japanese planes that it looked like a sieve. I can recall that the building still seemed to be functioning, with the only visible 'repairs' being internal wallpapering with wall to wall pictures of pinups. From Wyndham, we proceeded inland to Daly Waters.

Here the pilot told me he was now heading south, so I would have to get another plane. This not only surprised me but it infuriated the local CO, who only had a small handful of men and who was virtually out of food, the principal remaining diet being raw onions. Furthermore, he told me there was absolutely no accommodation, not even a tent. Nor, of course, had he been told anything about my arrival. He also had no idea when I might expect a plane to take me north. As the afternoon was drawing on, I selected myself a suitable tree under which I would spread my groundsheet for the night.

As I was doing this, a US C47 (DC3) plane came in to refuel, so I immediately went up to the US pilot and, finding that he was going to Darwin, asked him for a lift to which he readily agreed. I had reckoned without our sterling CO, who adamantly refused to let me go on the basis that he had no authorisation to do so. Of course I was not in any position to argue with a superior officer. Then in desperation I pulled out my movement order again and pointed to the words 'as a matter of urgency', laying it on that a critically vital installation team was awaiting my arrival and Radar Headquarters were expecting that I should get there at the earliest possible time. (I didn't, of course, believe for a moment that this was true). This caused him to re-think and, after getting me to sign a statement that I was proceeding under my own initiative, he let me go.

44 Radar Wing and Some BL4 Installations

We arrived at Batchelor just before dusk and I soon found a truck that would take me to 44 Radar Wing. As we proceeded in the warm balmy night air I was more than somewhat intrigued to see the whole place ablaze with light. There were night tennis courts, open air movies and floodlights where construction gangs were working. Back down south, windows were of course blacked out, street lights were hooded and even bicycles had to have the top half of their lights painted black. Since I knew from the news that Darwin was still experiencing enemy air raids at that time, the vital part being played by radar in providing early air warning to this area was dramatically brought home to me by this experience.

So this time I was really going to be installing BL4's. The CO (S/Ldr Chilton) characteristically remembered me by name from Radar School days and I was to become one of a team of three based at 44 Radar Wing. Of the three, as LAC I was the junior rank. From memory, the others were Sgt. 'Tich' Kelly and a corporal whose name I have forgotten (I think it may have been Merv.) Here for the first time there was all the information on the equipment together with additional circuit diagrams which showed that the installation work would be quite complex.

Our standard installation team was two, being myself and one of the other two, who alternated because they had other work to do at the Wing. We would arrive at a radar station and finish as

much of the installation and preparatory work as possible before needing to switch the AW off the air. Then we would seek approval from Fighter Sector to go off the air. They would then go off and get a weather forecast and other relevant information before coming back to us. Suffice to say that our requests were never popular and FS showed considerable impatience when we were late getting the job finished and back on the air.

I recall that the first installation we did was at Batchelor, which was no doubt chosen because it was the closest and also its air raid warning function could be largely covered by Point Charles and other stations. When permission to switch off was given, we went to work with some trepidation, like surgeons pulling out vital organs to operate - time was of the essence and we knew that FS was keeping a nervous eye on us.

I still remember that we slogged on virtually non-stop for just on 24 hours, at which stage we cautiously switched back on. To our relief, everything we could check seemed to work, although we could not yet have a real live interrogator test because, as I recall, there were no planes yet equipped.

We then did, from memory, Point Charles, which was relatively straightforward, followed by Fenton, which was next to a US Air Force bomber base. The RAAF airmen at the radar station soon woke up to the fringe benefits of having a US station next door. When off duty, it was the practice to wander over and see what was on general issue in the way of cigarettes, ice cream, fresh fruit, etc. One simply had to queue up with the US servicemen to be handed any of the items asked for.

In the meantime, at least one other BL4 installation team had been formed to share the work and complete all the radar stations as soon as possible. Nevertheless, I believe that a couple of other installations in which I participated are worthy of a few notes.

There was a station at, from memory, Cape Arnhem, at the extreme east of Arnhem Land. Clearly this whole area must have been considered one of the likely places for the enemy to get a first foothold on the Australian mainland. The whole radar station complement was on continuous alert and it was mandatory to carry rifle, tin hat, etc. at all times, including going to meals, toilet, whatever. For this installation, I was joined by Canadian Sgt Charlie Cheshire, who had never understood how he and fellow Canadian Doug Wiltshire came to be posted to Australia from their original posting to UK. No doubt because of the state of alert in the area, I seem to recall having some trouble getting permission from Fighter Sector to switch the radar off at this station and so we spent some time just waiting around. The station was next door to an Aborigine Mission post and I remember getting a strong recommendation from the airmen on the station to go to church on Sunday if I was free.

This happened and I saw the reason for the recommendation when the somewhat elderly (or so I thought at the time) missionary arrived with his beautiful young wife, who obligingly sat in the front row. She appeared to be a mixture of the best features of a number of races and for us in this virtually ‘male only’ world, it was a real treat just to sit and look.

Murphy’s Law was very much in evidence with our BL4 installation program. Contrary to what might have been normal expectation, instead of getting faster with experience after the first installation, we seemed to strike more and more trouble. At Cape Arnhem, we had an irate Fighter Sector when we didn’t finish in the allotted time and I recall being ordered to switch back on temporarily without the job being finished after 36 hours of non-stop work. After a good rest, we got back and finished the job in a few more hours.

Some Recollections of Normanby Island
Keith R. Croft

Fresh Pork

One time on Normanby Island, we were out of rations as the RAAF boat 'Oomoobah' had broken down (radio also) up towards the Trobriands. It was our sole source of supplies and mail - it could come every two weeks or three or more, very irregular. Well, there was always plenty of fruit, but like the natives we got meat hungry, so I decided to see what I could shoot. No one else wanted to go and it wasn't much fun on your own but I decided to go.

Then Keith Cork, an off duty operator came - with a butterfly net!! It was OK, Keith had been a school teacher before he joined up and was always learning even up in the islands, doing correspondence courses. He was interested in bugs, flora and fauna. Well, we walked along the beach and in the edge of the bush and saw nothing, even the natives we saw weren't interested in shooting - couldn't have been hungry.

After walking about four miles we came to a track leading into the jungle to a small village so, as it wasn't far, we decided to have a look. We hadn't gone far when we heard a dog barking and kids yelling. A kid ran out on to the track, saw us and said, "wild pig, you shootem".

I charged after him and there was this big sow and it charged us!! Well, Keith tried to climb a tree. The dogs wheeled the pig again and it went round a big tree, so I went round the other way and got a shot into it. It went down and I cut its throat.

Next thing, an old native woman arrived and claimed the pig. I was already tasting pork and wasn't going to give up too easily. Others arrived from the village and all said, "wild pig, you takem". I wanted to be fair so got the natives to take the pig to the village only 150 yards away, and asked for the Chief. When he came out I told my story as best I could and he talked to the old woman and the others and then said, "wild pig belong to nobody, you eatum".

I was thinking we were over four miles from the camp with about 150 pounds of pig (dressed), so I said, "Chief, if you give me two boys to carry half the pig to camp, your village can take the other half of the pig, the skin and head". That pleased him and all very much. They had a celebration, dancing and singing while we skinned and dressed out the pig. We tied our half by the legs to a pole and gave the Chief and the old woman some tobacco. The two boys carried our half back to camp.

The feed of pig was great, but just as well rations arrived two days later or we may have had to have more pork and although there was plenty of tame pig about the villages, wild ones were hard to come by!!!

No Contest

Bill (Avro) Hanson and I went shooting. We were soon joined by two native boys as they were very meat hungry, and would get us to shoot birds, fruit bats or whatever for food. Across a creek, about 80 yards away from us, there was a white cockatoo up in a high tree. Well, as I reckoned I was a better shot than Avro, I fired and killed the cocky. He only dropped about 10 feet and his leg caught in a vine and there he was, 60 feet off the ground hanging head down.

The natives wanted the meat, so I had two shots trying to cut the vine or the leg of the bird - didn't want to hit the body again as there's not as lot of meat on a cocky, so if it got two 303's through it there would be only skin and feathers left !

Well Avro said, "give us a go", threw the rifle to his shoulder, pulled the trigger and cut the claw off as clean as a whistle. Down came the natives' dinner.

I never boasted of my shooting to Avro for quite a while after that.

338RS at Long Island

Source: Records at RAAF Historical Section

338RS was originally supposed to go to Tufi but was sent to Long Island when 336RS went to Tufi. Long Island had been a Japanese barge staging base and their float planes operated from Lake Wisdom. A few weeks before the unit was sent, there were reports that between 600 and 1,000 Japanese were still there. But these had been cleared out by aircraft which were directed in their attacks by a ground party of three Americans, with native help.

The CO, F/O Lum, was instructed to report to the 6th Army HQ at Finschhafen on arrival and that their objective was to establish the station on the south west corner of the island to cover the operations at Madang. General Heavey, commanding the US 6th Army, said that this was impossible because their reconnaissance had only been carried out on the eastern side of the island. To further complicate the issue, the Americans did not appear to have heard of 338RS and even suggested that they might go to Cape Gloucester with the Marines.

It is of interest to note that the siting party sent to Long Island to select a site for the radar consisted of an American medical officer, Capt Cummings, and an NCO. On protesting his lack of knowledge regarding the requirements for radar sites, Cummings was told that "he knew as much as the [American] officers who were sending him out on the job"!!!

F/O Lum found that the only people who knew anything about the position were the 592nd US Amphibious Engineers who were given the task of transporting 338RS to Long Island. Eventually the situation was sorted out and on 24 December 1943 the unit proceeded by barges, from the 6th Army HQ at Draeger Harbour, to a staging base at Langemak Bay 12 miles away, where the American Marines bound for Gloucester were also staging.

Next day at 1400 hours a convoy consisting of a crash boat, five LCM's and two LCV's headed north up the coast keeping well out of range of enemy gunfire. Just at dusk a group of destroyers were seen on the horizon causing a measure of anxiety as their identity was not known. They appeared to be friendly as they sailed right across the bows of the small convoy.

The radar convoy ran into a heavy rain storm and three barges, including the CO's, became separated finishing up near Tolokiwa Island about 30 miles east of the proposed destination - that island was still under Japanese occupation. The crash boat was the only one in the convoy which had navigational equipment and it went off to find the three lost barges which by then had realised their predicament and were heading back towards Long Island.

The remainder of the group had been lying offshore since 0400 hours and the ground party had answered their signals but the American coxswain could not read Morse and the signal "not to land" was misinterpreted. The story surrounding the debacle of the landing, setting up the doover and its subsequent move to the other side of the island is told on page 27 of *Radar Yarns*.

The chosen site for the doover was on a 165 ft high spur, the only approach to which being a native track. Access to the site was precipitous, almost sheer rock, necessitating the use of lifelines. The whole of the equipment had to be carried up by hand after steps had been cut in the rock.

Soon after the landing the wet season broke and it rained continuously for 40 consecutive days. It was impossible to dry clothes or light wood fires as all the wood as wet. The whole camp became swampy and the jungle at night was aglow with 'phosphorus' and the atmosphere fetid. For security reasons it was not possible to clear the camp site as Japanese PT boats patrolled the waters offshore and their reconnaissance aircraft had already been over at night. American PT boats destroyed their Japanese counterparts as the result of information signalled back to the 6th Army HQ by 338RS.

The unit had been ordered to maintain radio silence until they became operational. On the second day the personnel were amazed to hear, on a BBC broadcast, an announcement saying, "the Americans have landed in force on Long Island and now control the north west entrance to the Vitiaz Straits".

Six weeks after 338RS arrived an American radar was established at the northern tip of the island but it proved to be of little operational value. The Americans supplied the protective contingent for both radar stations beginning with a company from the Amphibious Engineers, being replaced later by a platoon from the 32nd Division infantry.

Once on the air, ranges of 150 miles were achieved with a maximum of 185 miles so giving very effective air warning to both Cape Gloucester and mainland New Guinea.

Later operations covered the convoy involving the invasion of the Admiralties and the whole of the Saidor operations, including the formation of convoys which later took part in the landings at Aitape and Hollandia. The so called Saidor job was possibly the most effective of 338RS's work.

It may be of interest to note that some of the personnel did not leave the island at all during the 15 months that 338RS was on Long Island - it ceased operations on 28 January 1945 but was not withdrawn until late March arriving back at Madang on 2 April.

Like many other stations there was no entertainment during the whole period!!

Scrub Typhus

George Adams, the Australian camoufleur, had instructed the unit to minimise clearing and so a 'wind tunnel' was cleared through the jungle with just enough width for the unit jeep to pass. On both sides of the said tunnel clearings were made just large enough to house tents. This action coupled with the wet conditions may have helped to create an unhealthy environment.

The first case of scrub typhus occurred a fortnight after the unit arrived on Long Island. Cpt Cummings, the American MO, was unable to diagnose the case and whilst evacuation was recommended, this did not happen for five days with the result that LAC Blok died at Finschhafen on 22 January 1944.

Five more case occurred within the next two weeks, none of which were diagnosed by the MO. Fortunately all of them were evacuated in time and none proved fatal.

F/Lt Willis, medical officer of 41 Wing, visited 338RS on 29 January and discovered the typhus mite at both the doover and camp sites. He immediately condemned the camp site and recommended that the whole unit be withdrawn for a rest.

This recommendation was not adopted.

Instead instructions were issued to clear out the camp site regardless of security and camouflaging requirements. Native labour was conscripted to assist in the 'clearing' which comprised cutting down vines and creepers, revealing bare earth and laying sand and gravel.

No further cases occurred before the unit moved to the other side of the island.

Mail and Supply Deliveries

The mail and supply position was always difficult. No mail was delivered for five weeks after the landing. Then when it did arrive it was found that it had been left out in the rain at the airstrip at Finschhafen for a fortnight. That batch was the unit's Christmas mail and the net result was many letters were illegible and the Christmas parcels ruined !!

The next mail did not reach Long Island for a further five weeks.

Fortunately the Americans were supplying rations and provided the unit with a complete outfit of jungle greens. The conditions could have been worse in the clothing department as 41 Wing was short of RAAF issue clothing.

One shortcoming was that there were no RAAF personnel at Saidor to organise the forwarding of stores. Consequently there were times when stores were either left on the airstrip or beach or even wrongly sent to other units. One consignment of canteen supplies valued at £70 [a lot of money in

those days] and a considerable amount of technical equipment was lost in this way. On the other hand, there were several deliveries where Beaufort spares for 8 Squadron were sent to 338RS.

The Americans left the island about June 1944 and then the supply situation became very irregular and unreliable. On a number of occasions food deliveries were at least a week late and so the men during these periods relied on bully beef and biscuits as there were almost no natural foods readily available locally except turtle and fish.

Section 22
Les Kinross

Having spent some 14 or so months as an instructor at Radar School a few of us applied to get away and we travelled via 1RIMU to Brisbane being seconded to Section 22. It was a few days before Christmas and we had not acquired any friends in the city so we got a five gallon keg of beer and set ourselves up in the guard house, with the guards' approval of course. The keg was promptly dispatched during the afternoon and we stayed there because we considered that, in our condition, it was a safe place to stay.

I was only a small cog in the works and my first job was to teach Wireless Operators to operate special equipment to get details of Japanese radar, in particular the frequency and pulse recurrence frequency (PRF) which could range from 50 cycles per second to 400 or 1000 or more. The former was easy but the latter involved the recognition of a tone in their headphones when flying over enemy territory.

My next assignment was with the Land Intercept Unit which went to Long Island and the story of this mission has been told in *Radar Yarns* but some minor points were omitted. We got to Finschhafen six days after it had been captured, boy had they belted hell out of the place. On the first night we were told to dig fox holes and mine reached about nine inches. There was a raid that night, so by night 2, my fox hole was some four feet deep.

On night 2 we went to an open air picture show and were enjoying the show when a group of American bombers came back from a mission. However they were followed close behind by a Japanese bomber which dropped a stick of bombs on the picture show killing quite a few people.

Night 3 we witnessed a similar event - bombers returning from a mission with another plane close behind them. Assuming that it was another Japanese repeating the performance of night 2, it was blasted out of the sky. Sad to say it was an American who was unlucky enough to have got a bit behind the others. Unfortunately this sort of thing happens in war.

On return from Long Island around May 1944 one of my first jobs was to build an audio amplifier so that the operators could turn the dial until they had matching tones in their headphones so taking the human element out of determining the PRF of enemy radar. Quite a number of them were made.

Ultimately we moved to an old warehouse at Kangaroo Point in Brisbane and were starting to collect a lot of top drawer equipment such as microwave signal generators, high class receivers etc. Then one Monday morning we returned to find the whole place burned down.

The Americans had such a high regard for the work of Section 22 that they thought the incident was a catastrophe. Whether it was sabotage or not was never actually established but sabotage was suspected. They seemed to equate the loss as being equivalent to losing a battleship with all hands, so important was the equipment.

When, in 1945, the Hudson, which we had fitted out with jamming gear and used on a trip around Australia and to New Guinea, was considered to have served its purpose we were given the job of fitting out a Liberator for 'ferret' work. We could not seem to be able to get all the cables and fittings needed for the job through regular channels and had to look for alternative sources. Then

someone suggested that we look at an American dump near Archerfield where obsolete and discarded material was literally dumped.

This provided all the cables and fittings needed but being curious sods we looked at some other crates which were split open. It was somewhat surprising to find some which contained hundreds of valves which appeared to be in good condition - even in their original individual boxes. So we took as many as we could back to the unit and tested them. The result was a big surprise as about 80% of the valves tested OK on the valve tester. Naturally many of these were put to good use both during the tail end of the war and afterwards.

The war finished before the Liberator could be put into use and only some testing was done to prove the design and effectiveness of the equipment.

Comment: At 1RIMU it was found that quite a number of batches of American made valves were faulty, the percentage of failure being quite high in some cases. F/Lt Ray (Acker) Ryan advised us that the problem had been investigated and the outcome was very interesting. Apparently women were employed in assembling the delicate elements of the valve and it was established that during their menstrual periods a weak acid was being exuded from their fingers. This was sufficient to corrode the elements resulting in failures. The solution was for the women to be given different jobs during those times and the position improved. However, many valves were dumped rather than have them cause problems in forward areas.

335RS - The Final Chapters
John Alder

During most of my sojourn at Emirau Island as CO of 335RS, I was burdened with a highly enthusiastic (some would say nagging) senior radar mechanic. He was forever urging me to somehow obtain this and that bit of equipment, so that his boys could improve the operators' comfort, improve the stores storage system, tweak the performance of the LW/AW or just plain make the whole thing prettier. Now for my sins, 47 years on, ex-F/Sgt 'Joe' Williams is again nagging me to write the conclusion to Bill Vawdrey's beautifully told account of 335RS in *Radar Yarns*, page 203 onwards.

When I arrived on Pilelo Island on Good Friday 1944, it appeared that some battle fatigue was evident after the prolonged heavy bombing and very stressful conditions endured, particularly among the operators; on the other hand, they were a very cohesive lot, and proud of their shared front-line experiences.

Reasonably good food, volley ball, swimming and visits to the Arawe movies on our Jap barge healed some of the more obvious tensions, although mail was very infrequent. Bill Vawdrey has expertly told the story of our next six months, including our epic journey to Milne Bay aboard the MV 'Ena' with F/Lt Bully Hayes as skipper (an old sailor, he had quite a few nautical superstitions, one was you were not allowed to whistle forrard of the mast).

Milne Bay
We staged at 43 OBU for some months (November to February) before the station's relocation to Emirau Island in the Bismarck Archipelago. The camp at Milne Bay was in a pleasant setting, the main danger, falling coconuts. We re-erected the equipment and ran it with a crude antenna. We experimented with intensity modulation to see if operators found this an improvement but the results were inconclusive.

Several unfortunate incidents occurred whilst staging, one of our guards was badly burned after pouring petrol on kitchen waste and igniting same. Fortunately he had a good recovery. Some of our people were used by 43 OBU as labourers, and finished up as 'wharfies'. Some beer

'accidentally' fell off the back of a truck and some 335 personnel took the rap, which meant that they had to be charged, found guilty and awarded field punishment, which was duly carried out.

Emirau

We 'set sail' for Emirau Island on two DC3's in late February 1945 and took over an ex-US Navy site with fine accommodation and a magnificent site from a technical point of view, with great coverage towards Kavieng and Rabaul.

Installation was uneventful, we used a truck with a rope to hoist the array, we worked on 'Angau' to get a 'sac-sac' building the radar and the adjoining radar mechanics workshop which was called 'Joe's Theatre' - because it had a sisal Kraft curtain similar to a stage curtain to shut it off from the doover area.

I remember there was some difficulty as to how to man the station with only three mechanics, the democratic solution adopted was a Duty Mechanic on call 24 hours at a time.

We were tracking USAF Mitchells and RNZAF Corsairs who were attacking Rabaul and Kavieng constantly. If I remember correctly, we were responsible for getting a limping Corsair home safely.

It was a great site and the station tracked very well indeed. 'Joe' (actually Ted) Williams reminded me that Army surveyors visited the island and found existing maps to be about a mile out, consequently we were able to pinpoint our position to an accuracy of plus or minus ten feet. We were able to fix their radar set!

Sergeant Ted Beckett, our guard sergeant, proved himself an excellent power line foreman in reticulating power to the camp site, whilst the CO proved a competent chauffeur driving the movie truck.

It turned out that the CO got a ration of spirits, and being almost a teetotaller, the sergeants' mess benefited (or suffered) as a result. On VP night even the CO may not have been fully in command.

Incidentally, the one interception we controlled was an unidentified aircraft coming in from the north east at an estimated height of 11000 feet, corrected later to 10000 feet. Fighter Control got a Corsair nicely into position and then identified it as a B17, just as we had a very weak IFF signal coming up on the screen.

Coming Home

After VP day, we waited for several months before packing up and setting sail for home on board an American mass-produced Liberty ship, calling in at Jacquinot Bay, New Britain, with a destination of Brisbane.

Finally we ended up at RAAF Base, Richmond where I de-commissioned 335RS about December 1945.

Much Ado About Nothing

Cyril Short

This is a report of a football match at Labuan in September 1945.

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The greatest battle since the Jap breakthrough was witnessed at the 5ACS ground today. In the absence of the 9TMT rugby league team, the soccer team plus a few of the Aussie rules team, challenged our league team. The Marquis of Queensbury Rules prevailed and in the absence of Joe Wallis, 'Tiny' Carrick supervised the riot.

There was never a dull moment, and here are a few of the highlights.

Outstanding forward was Mick Shone, who in kicking two goals for the soccer boys, opened the score for them. Mick's rugged play in the pigs was reminiscent of his Sandgate form in maintaining

his position at Mick Drury's bar. It is rumoured that coach Keegan has made Mick a very attractive offer. ('Dodder' Crisp please note!!!)

'Rodger Dodger' Short, despite severe injuries to his moustache in the earlier game, turned out again. His volley ball was seen to be an advantage with his long aerial passes.

Mick Helmling, local representative of the 'Tribune', finally found an outlet for his wind today. This energetic airman covered more ground than a bulldozer.

Honest Bert Sandford ('Bugger Me') showed a combination of league and Aussie rules which puzzled the referee as well as the opposition. Bert admits to being a little puzzled at times himself.

5ACS are after the services of 'Chic' Hough as a grader. He spent 60% of the game on his stomach flattening the ground for future matches.

Duffy and Dellaway gave an exhibition of how wingers should run when in possession of the ball. Aspiring league players please note.

Smart as ever despite his forty nine years, coach Keegan was seen on the side line, his barracking as one eyed as ever. He, however, extends his thanks to the soccer and Aussie rules players for giving his lads a run.

History was made during the game as the referee, 'Tiny' Carrick score a try for the soccer players. All bets have thus been cancelled.

The result of the game was indefinite but a detailed report of same has been forwarded to 'The Sporting Globe' where it is expected that it will baffle the experts.

"Neville Cardus"
with apologies to the "Observer."

An Unexpected Trip To Charters Towers
Constance Bradley

It was June 1944 when a friend and I got 14 days home leave from 136RS at Alligator Creek, QLD. At the end of our leave we met and reported to the Railway Transport officer at Central Railway Station, Sydney.

However, as we were unable to get seats on the troop train we were sent home again. This occurred on about three or four days in a row and my father (being a soldier in both WWI and WWII) insisted that we report each day until we got seats.

Eventually we got seats and got back to our unit only to find that we were given another week's leave - they did not need us for a week!! What a disaster, we could have had all that extra leave at home!! Apparently our unit had been taken over to give RAAF personnel, on their way to New Guinea, some experience on GCI equipment.

Naturally after our home leave we had no money to really go anywhere so we decided to hitch hike to Charters Towers. Together with another WAAAF, we made a party of three and set out westwards along the road to Charters Towers. We were eventually picked up by a car going part of the way. When we got to their turn off they stopped and persuaded another car, which really did not have room for us as they were going to a wedding, to take us the rest of the distance.

What a town!! Goats were wandering down the main street, although it had been quite a place in its day and I believe it has revived a bit in recent times. We sought out the YWCA and were able to get a bed. We even enjoyed our stay in the Towers.

Of course at the end of our leave we had to hitch a ride back to camp. Fortune was on our side as we were picked up by the Salvation Army van heading for Townsville. That ride was both enjoyable and funny, singing popular songs and 'Sally' hymns accompanied by a trumpet.

That extra leave was enjoyed by all.

Three cheers to the YWCA and the Salvation Army. They were wonderful to us in those far off days.

55RS at Bowen
Phil Loh

After a brief stay at 42 Radar Wing I was posted to 55RS as Technical Officer travelling to the unit with A/SO Lynn Braddock and 20 WAAAF's on 25 September 1943. F/Lt Williams was being relieved and it was my first experience at a handover/ takeover. It was not completed at the time as we found that he was engaged to one of the operators and was therefore a frequent visitor later on.

Before Williams departed we had great trouble with a bushfire coming up from the town swamp right to the unit's boundary.

The living quarters were designed to look like holiday houses on the foreshores of Queens Beach. Officers' quarters were rooms in an old cottage on stilts which also housed the medical orderly's dispensary. The young OIC had the distractions of coping with morning coffee in bed, and being woken by a long legged red head in the briefest of heavily starched shorts.

The doover was on top of a nearby hill disguised to look like the rock that topped the next hill. It was an exhausting climb from the beach up past the power igloo from whence phone messages emanated, warning operators to don blouses before the OIC arrived at the doover.

It was the most thoroughly inspected unit in 42 Wing with S/Ldr Weston making several visits with Group Officer Stevenson and/or Starkie.

The nearby Catalina squadron had a Walrus flying boat which one day decided to do over the radar HQ. Lyn Braddock and I were on the verandah watching its approach, below our level, from the sea. At the last minute it lifted with a deafening roar of its radial engine. We turned to see the clerk Cpl Nan Francis flat on her back next to us.

Lyn was furious and when the Walrus had had time to land she got on the phone to give the pilot her full blast. Next day he took her out to dinner and a night out. Her report was not logged so the incident did not get back to the Squadron Leader.

Pay day was a big event. After all pay sheets and dissections had been made there was a trip to the Commonwealth Savings bank in town. The OIC in full belted revolver and an armed escort for the 50 x 14 x 3/- per diem - a £110 pay packet!! [Were they underpaid or had the staff made allotments?]

H P Simpson of Dunk Island fame was to take over 55RS, being a member of Simpson's Cosmetics, his first call after arrival was to inspect the canteen to see that his products were adequately displayed.

But all good things come to an end and I was posted to 26RS at Cape Cleveland but the posting was short circuited and I spent a very hot December and January in the igloo store at Garbutt (42 Wing) trying to rationalise the complex nomenclature of the stocks of resistances and condensers.

Dot Loutit and Ruth Lack (later Professor of Chemistry at Sydney University), also from Bowen, were there busily making up 'spotted dogs' of the Gulf stations and those stations already established in Dutch New Guinea. One night we all went up to Mt Spec to make up numbers for a dance which the town of Paluma put on.

All the AWC constructions were blown down in a post war hurricane but the ancient officers' quarters still stand as does the kitchen/mess house. The Queens Beach Hotel and much of the foreshore subsided into the Bay. The present hotel is nothing like the old one with its little cubicles off the bar area.

Bowen has a dry climate and is worth a visit today. Many WAAAF married crews from the Catalinas and reside near the slipway.

339RS at Yule Island
David Bell

339RS was formed at Mascot late in October 1943 moving by rail to Brisbane, then by plane to Port Moresby, arriving there on 8 November. Staging at 41 Wing all equipment and stores were checked before the unit was moved by an American landing barge to Yule on 19 December.

An American radar, RS405, was already operating on the island but it moved in late January. ANGAU was established on the other side of the island which also was the home of a mission run by a French Catholic Order. Initially we were accommodated in some of the mission buildings until such time as we could get our camp organised and established.

The first site for the doover was on a small hill near the mission where we became operational on Xmas day - the W/T was on air three days beforehand. But results were not good so on 30 December we moved to the second site about a mile away as shown on the map. We became operational on 3 January but there were still problems. So once again we moved the doover to a hill above the second spot and results were much better. This last move occurred on 14 October 1944 and we were operational again on the 16th.

Results were then much better than at the other two sites. On the other hand the camp stayed put because there was no water supply near the doover site. Frank Allen has said that change of shift at low tide was OK because the jeep carrier could transport the crew both ways. However, at high tide it was a 30-40 minute walk in each direction.

Grass fires were a problem on the island as the natives had a habit of lighting the grass and undergrowth to flush out snakes and rodents considered by them to be a delicacy. One such fire came horribly close to the doover and was put out just in time, just short of the doover area. We imagined what the reaction would be to a signal to 41 Wing if the doover had burned down - something like, “off air stop doover burnt down stop caused by grass fire lit by natives flushing out snakes stop please send replacement gear ASAP stop CO 339.”

F/O Glassop had driven us rather hard, you would imagine that it was a case of life or death situation. Fortunately the natives were good workers and very friendly; some were very well educated. We even worked by torch light until midnight.

Christmas Eve was different. It rained fairly heavily after tea. The Xmas party was put on by the Americans at RS405 with the Mission sisters doing all the cooking etc. Not bad at all was the general feeling amongst the boys.

The Missionaries invited us all to their Midnight Mass. I think the whole camp went along, Catholics and non-Catholics alike. That was an eye-opener. The church had an excellent organ equal to any in the capital cities. The ceremony was lit by candles - no sermons or hymns - just prayers.

On Christmas Day we had turkey for lunch and we also received our Australian Comforts Fund hampers - a good day was had by all. A RAAF hospital plane landed on the field and stayed overnight. Then the natives from Yule Island and the mainland held dances and celebrations on the field, not finishing until 9.30 pm. They had very colourful head dresses and skirts etc. As a competition between shifts a performance figure was developed on 339RS but unfortunately no one can remember how it was worked out. An example from a diary is, “had best day for some time with 67 tracks and five tracks with over 100 miles, finished with a 4.8.”

Like many other units a lot of personnel spent 15 months straight on the island without any leave and this induced boredom which was relieved in part by cricket matches with the natives, poker and euchre schools and they were fortunate in being able to see films on a more or less regular basis.

Temperature Inversion and the Meteorological Bureau
John Allan

One morning in September 1942 W/Cdr Pither called me into his office. He had two charts on his table, one from Fighter Sector, Sydney and one from the Navy. The chart from Fighter Sector displayed the plot of a ship's course compiled from 16RS at Gabo Island, ranging out to some 200 miles plus. The normal range for surface vessels for this station was typical of what could be expected, i.e. about 30 miles.

The plots from Gabo very closely followed the course prepared by the Navy from the ship's log after its arrival in Sydney from Auckland. The very serious aspect of these phenomena was the fact that under long range surface conditions there was virtually no air warning.

For obvious reasons the Wing Commander was very concerned and I was ordered to find an explanation for this extraordinary departure from the norm. Nobody in the Directorate could help except that one officer (another amateur radio operator) remembered seeing an article in about 1936/7 in the QST magazine suggesting that the weather was in some way involved in long range anomalous VHF propagation.

Armed with this information I approached the Weather Bureau in Melbourne. This was not going to be easy. In 1942 anything to do with RDF was “TOP SECRET” which made it difficult to explain the nature of the problem without transgressing security. The two meteorologists assigned to the project were most sympathetic and understanding. Fortunately, one remembered that Temperature Inversions extended the range of lighthouses at night far beyond the distance shown on navigation charts. A check of the weather conditions for the period under examination ruled out TI. However, there was one pattern that seemed to fit consistently and that was the existence of high pressure systems. The meteorologist explained to me the mechanism of the subsidence mechanism generally associated with high pressures and subsequent events over the following weeks proved this to be the source of the trouble.

It must be remembered that we were involved with a very new technology and had a lot to learn. And learn we did the hard way. What we did not realise at the time was the fact that we were helping to make radar history in this country. Incidentally when I returned to the Directorate with this information it created somewhat of a furore amongst the amateur fraternity who correctly foresaw the possibility of long range QSO's in the post war period. Subsequent events proved them right.

There was an interesting sequel. The Met people asked if we could help solve a problem for them. Each day they released a balloon with a radio-sonde attached which transmitted back information important for their day to day forecasting - the balloon was tracked by a kine-theodolite to ascertain upper wind direction and velocity. Unfortunately, on overcast days the balloon could disappear from sight at say 5000 feet and that was the end of their wind information. Could our radar track their balloon?

The RAAF had no radar in or around Melbourne at the time so I arranged for an Army Ack-Ack unit at Williamstown to use their radar. Having grave doubts that the small package would reflect sufficient energy I arranged for two resonant dipoles, set at right angles on a garden stake to be attached to the balloon. It worked very well indeed and balloons were tracked to ranges far beyond those achieved by optical tracking and the Met people were delighted.

This, of course, is standard practice today.

Comment: So far no official records have been located confirming that the RAAF had weather radar stations but several people, including Arthur Billington and John McDavitt, have written about experiences operating such a station which was usually an Army GL set. One wonders why the SCR268 was not used instead. Reports were sent direct to the appropriate ADHQ.

Weather or Knot
John McDavitt

Meteorological unit predictions were also assisted by a few scattered radar stations equipped with specific instruments such as wet and dry bulb thermometers, aneroid barometers, wind vane, anemometer and rain gauge.

For upper atmosphere wind measurements a large hydrogen filled balloon, with crossed copper dipoles slung beneath it, was tracked by radar from 1000 to 30000 feet. Range, bearing and height readings of the balloon were taken and later converted to wind direction and velocity for each 1000 feet. Readings were taken at 0300 hours and at 1500 hours each day.

Selected COL or LW/AW radar stations for air warning also used an Army GL for tracking the weather balloons. The inscape of the GL was separate sites and housing for the transmitter and receiver, about 80 yards apart. These were not synchronised and it was necessary for the receiver operator to follow a pointer, indicating the transmitter direction, by hand winding the receiver cabin to the same direction. The method was crude but effective.

Balloons were made of nylon and were about five feet in diameter. After inflation with hydrogen they were tied off and attached with string to the crossed dipoles which hung about four feet below the inflated balloon. A further cord was attached which enabled the operator to hold the balloon prior to release.

Hydrogen was generated on site in a three foot high cylinder, equipped with a pressure gauge, safety valve and a bleeder nozzle and tap. The cylinder was charged with powdered zinc and caustic soda pellets, water added, screw cap replaced and then shaken. When sufficient pressure was available the balloon was filled by a rubber hose connected to the bleeder nozzle.

It proved an interesting experience. On a very hot day the chemicals would rapidly react sending the pressure gauge to a maximum before the gas could be transferred to the balloon. Often the safety valve would blow off sending a geyser of gas and vapour hissing into the air and scattering airmen into the slit trenches. Or the balloon would inflate quickly to capacity and burst, again scattering the airmen.

The worst action that could happen was the inadvertent early release of the balloon before the radar operators were standing by to track. A general panic ensued until the rising target was located and data could be recorded. I recall that this situation occurred one clear, bright moonlit morning when I was holding the string attached to the gas-filled balloon which floated serenely, well above my head.

The other operators had gone ahead from the cylinder, along the track through the thick bush, to the GL radar site. They were not yet in readiness when I followed slowly behind, dragging the playful plenum along above me. It bobbed and tugged, straining at the string as the low sigh of a breeze swelled in the quiet air. The bush divided the moonlight into bars of silver, falling across a curtain of indigo shadows and the countryside was like a chalk sketch on a blackboard. Through the occasional gap in the tree canopies stars resembled bursting skyrockets on cracker night. I was almost intoxicated and walked in a daze, but firmly held onto the string from the restless billowing balloon.

An object began bouncing and swinging in front of my face and it took several seconds to dismiss my reverie and focus on the intruding object. In the passing streaks of moonlight I could not fully

discern the intruder's identity, now swinging freely in front of me. I passed into a moonlit space where I could clearly observe the interloper. It was spinning slowly on a silver thread a few inches from my face and I suddenly froze as I recognised its features. In a reflex action I screamed in horror, staggered backwards and simultaneously released the balloon's string.

A giant bird-catching spider was on its way to the troposphere.

The spider's web had been spun between the trees across the track about 20 feet up. It had been waiting quietly in the web's centre when the balloon had crashed into it, destroyed the web and left the spider clinging desperately to the nylon.

It began a rapid abseil only to be confronted with an unshaven, screeching face, then to find itself being rapidly carried aloft.

I hurried to the radar shack to inform the operators. They were unsympathetic as they frantically traversed the transmitter searching for the absconding target. It was floating free at about 2000 feet before its blip appeared on the radar screen.

This incident occurred at 134RS when at Beverley Hills, an outer suburb of Sydney. At that time the surrounds were thick bush with only a few houses near the railway station - the whole area is now covered with them!

A Tribute To Missionaries

In reading many of the stories the message comes through loud and clear that the Missionaries of various denominations and native labour made a very significant contribution to the war effort as shown by their support of the radar station in their area. This very welcome support was not limited to mainland Australia, nor was it restricted to Missionaries of Australian origin. The efforts of German, Spanish and Dutch nationals have been recorded in various documents and should not be overlooked.

One has to remember that Father McGrath, on Bathurst Island, gave the first warning of the Japanese attack on Darwin on 19 February 1942. The fact that the authorities did not take advantage of that warning is one of the sad aspects of war. It is of interest to note that as the result of Hal Porter sending a copy of his book *Adventures In Radar* to Bathurst Island, evidence was provided to Brother John Pye for a Governmental enquiry to assist the children of some of the Tiwi tribe to get payment for their fathers' work with 38RS on Bathurst Island.

Father Docherty at Ports Keats, 39RS, also was outstanding in the way he provided termite free timber from his saw mill for the ablution block etc and in addition supplied gravel from his quarry for the extension of the airstrip and road construction. Like Father Cuberno, Father Docherty and others attended to the spiritual needs of the RAAF personnel regardless of denomination.

The Victorian RAAF Radar Branch has taken positive steps to commemorate the work done by Kalumburu Mission which was previously known as the Drysdale Mission. A plaque funded by the branch has been cast and placed in a moving ceremony. The wording of the plaque is on the facing page and it, in very brief terms, highlights some of the activities of the people of Kalumburu Mission.

A Radar Operator Turns Anthropologist

Brian Wardle

It was late August 1945, the war was over and things quietened down a little. With Bernie Geraghty, an operator, and Frank Stubbs, a mechanic, I managed to arrange my shifts on the doover and my other camp duties at 154RS in the Kimberleys so that I could be away from the station for five days. We planned to walk to the southern end of Vansittart Bay, camping each night in the open.

The route we took is shown on the map on the previous page. Late on the first day we came across a large outcrop of sandstone, and found some caves in it. The soft earthy floor contained bones and seashells, so we reluctantly had to admit that we were not the first humans to explore these caves. On the walls were drawings in white, brown and red pigments which really excited us. I quickly sketched some of them on some note paper from our last Comforts Fund parcel before going to make camp for the night.

After our return to the radar unit some days later, I asked some of the Drysdale natives to identify the drawings for me. These men were a friendly lot and often came to our camp. They did not work for us, nor did they ask for food; but we did give them some at times and we did send various supplies to the Drysdale Mission [now Kalumburu Mission] where they belonged, down at the foot of Napier Broome Bay.

I obtained the meaning of the commonplace things and of most of the drawings made in the cave. I had the drawings and meanings copied and sent them to a friend, Dr Leonhard Adam, a lecturer in anthropology at the University of Melbourne.

In those days before the dangers of cigarette smoking were so well recognised, I took my ration of cigarettes from the canteen and gave them to the aborigines in exchange for the word meanings. I hope that not of them developed lung problems but on the positive side their explanations are stored in the Archives of Melbourne University.

An Ack-Ack Man at Merauke
Arch R. Mathieson

Comment: Arch was with an Ack-Ack unit and was involved with the Fighter Control operations room at Merauke. His recollections reinforce the fact that all services had representatives at each Fighter Sector.

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On the occupation of Merauke and setting up the Ops room it was found that the only maps available were those used by the Dutch and that they in no way conformed with British Standards. Gun sites, searchlight sites etc were, according to the Dutch maps, in the sea, river or other strange places. So Lt Mathieson and his second-in-charge WOII A G Shadford were given the task of revamping the Fighter Sector table and all plotting boards. A very large task when neither had any survey experience and only had the knowledge of a right angled triangle learned up to Intermediate Certificate at school.

The first complication was that the highest point above sea level for miles and miles was 10 feet, however, the pair found a trig point. On approaching the Ack-Ack Commander, Lt/Col J England, he agreed to allow a searchlight to be switched on showing a vertical beam to allow them to take back bearings. Lt/Col England was nearly ‘bowler hatted’ later for agreeing to expose the light.

Having located all of the important features, the two Army men then re-drew Fighter Sector's main plotting table and all other plotting boards without any real survey drafting equipment. Some time later the Navy survey ship HMAS Endeavour carried out a survey and these novice Army surveyors were advised that no alterations were needed to their maps.

There was the occasion when a young RAAF man from 322RS at Tanah Merah had gone ‘troppo’ and, as a result, had been sent back to Merauke where he was given guard duty. One day this poor chap decided he was going home and he set off with a rifle and some ammunition. Arch Mathieson was given the task of recovering him - it took 72 hours with the Army chaps keeping him moving until he physically collapsed and they were then able to take him back to Merauke from whence he was repatriated to Australia.

Arch also has other recollections of the RAAF being involved with the sale of grog at exorbitant prices, plus substitutions in horse races held at Merauke which are being left for others to tell.

A lesson on incentives could be learned from the building of the airstrip by the US 96th Engineers. The mainly Negro troops were told that if they completed the strip in three months they would get extra pay and three months leave state-side. It was finished in six weeks!

20RS - The Longest Serving RAAF Radar Station?
C.E. (Ted) Williams

Jacky Holmes, Harry Spry, and I had been together since we enlisted on 6 August 1941. Since that date, we had endured rookies at Laverton and Ascot Vale and were among the 18 survivors of the 52 who started No 1RM's at the Melbourne Technical College.

Now, at Radio School, we had completed 4G Course and were half way through 6A, when, late on the Wednesday afternoon following Easter 1942, we were called out of class to the Orderly Room. There we were told that we, along with Ed Noonan, a rather elderly 30-35 year old direct entry, had been posted, and the gentleman standing nearby, P/O Roy E Abbott, was our new CO, and henceforth we would take our instructions from him.

Mr Abbott checked that we all had 14 day rail tickets, and told us to report to him next morning.

In the morning, we found that the Boss had an assistant with him, P/O Dave Swan. We all caught the train to Redfern, and then walked through the back streets to Radiophysics. In a short time, a tender rolled up and we piled aboard to be driven to Homebush, where, in the loading bay of the Gramophone Company, we gazed in awe at the two cubicles of Serial No 1, the first factory produced version of the AW equipment. Perhaps our awe was understandable, if it is mentioned that, not only had we not seen a portion of AW equipment, but neither had any of our instructors, and hence our images were entirely constructed from their imagination.

After loading the cabinets into our tender, we went back to Radiophysics, where the experts started their testing and tuning-up. We stood quietly in the background, and carefully kept our hands in our pockets.

Late in the afternoon we went back to Richmond, and the next day was spent packing our gear and getting clearances. Short arm parade, etc.

On Saturday morning, we again presented ourselves at Radiophysics, loaded our equipment into a tender, and headed north across the Bridge. Fortunately, Harry had displayed great foresight by bringing along a bottle of COR 10 [COR 10 was the name given by airmen to the Australian made Corio Whisky which was not highly regarded but better than nothing - COR was the acronym for the Commonwealth Oil Refinery], and this proved to be a useful way of coping with our journey to Williamtown which we reached mid-afternoon. There were the usual formalities associated with the arrival of a new station. As evening fell we met up with the Hexham Greys, Australia's most famous mosquitoes.

When we set out next morning, we had acquired quite a team, operators, a clerk, a fitter DMT, a cook, but above all and most valuable, W/O 'Scotty' Henderson-Wilson and F/Sgt Ray Howe.

Being cooped up in the back of the tender, we didn't see what was ahead of us. Tomaree is essentially a huge boulder about 500 feet high, and forms the southern headland of the entrance to Port Stephens, which, incidentally, is an excellent deep water port. It was officially Fort Tomaree, and housed about 500 Army men, but there was also a contingent of Garrison Infantry, 'The Old and Bold', all WWI veterans. There were also a few Navy types for ship recognition.

Mains power had not yet been brought through, so we would have to rely on a stand-by unit, a 25KVA Ford V8.

When we drew up to the bottom of the 'hill', we saw that there were two ways to the top. The people who had erected the building had constructed a miniature railway going up the hill at an angle of 45º with a trolley operated by a cable and winch. The alternative was a narrow path which

zig-zagged its way to the top. Needless to say, for some reason which eludes me now, we were unable to use the trolley, and obviously we would have to do this job the hard way, a man on the corner of each cabinet, with frequent changes of men, and much loss of sweat. [The receiver cabinet weighed 1000 pounds and the transmitter 1200.] Up to this time, most of our experience with NCO's had been DI's, and I am quite certain that the example set by Scotty and Ray, influenced us all, when we too became NCO's.

When we finally made it to the top, we found that everything had been prepared for us. The aerial was all matched up, the TR switch was mounted on the wall, and it was obvious where we were to position the transmitter and receiver. There was even a duct under the floor to take the synchronising cable from the receiver to the transmitter. Unfortunately we could not use it because the conduit was too small to take the PT29M which was the only cable that we had.

At this stage, we became aware of two deficiencies in our training. No one had taught us how to terminate the Amphenol 93M plugs on coaxial cable. Ray Howe soon remedied this omission. On the desk in front of the receiver was a box containing a Selsyn motor. All of us could 'box the compass' with the best Boy Scout, but none of us knew anything about this system of bearing display. Ray Howe came to the rescue again (after all he was wearing an Observer's 'Flying Anus') and at the same time he taught us how to cope with magnetic variation. No doubt these omissions were soon passed back to Radio School.

So, late in the afternoon of Sunday 12 April 1942, 20RS became operational, three weeks to the day after 31RS at Darwin.

Up to this point quite a few firsts were involved:

(a) The first time mechanics, other than direct entries, went to a station.
(b) The first factory made AW equipment was brought into service, and
(c) utilising the first fully prepared radar building and aerial installation specifically for the RAAF. [Darwin was a makeshift arrangement].

Now we must admit that the steel mesh and concrete camouflage was incomplete, and on going on my first leave to Newcastle, the unpainted mortar stood out like a sore thumb.

Because of the dangers of the path, it was decided to run eight hour shifts, midnight to 8 am etc. The Boss quickly organised bunks, for anyone who didn't want to risk the path in darkness; most decided to take the chance.

One of the lovely things about this camp, was that the Army had a wet canteen. Life was indeed good.

A few days later, the operators spotted on the screen, something that later became known as 'walking sticks', this was probably the first time this phenomenon had been observed in Australia, and while intermittent, it generally seemed to be coming from a southerly direction. I figured that we might learn something if we were able to listen to what was being displayed on the screen. After switching off the transmitter, I connected a capacitor in series with a pair of headphones and touched the capacitor onto the anode of the 807 video amplifier. There was a clear indication of a note in the order of 400 cycles per second. We therefore decided that this must be Shepherd's Hill, and we lost no further sleep over it.

My pay book shows that we, the mechanics, were reclassified as LAC's on 16 April 1942 and acting corporals on 1 May 1942. Naturally we did not know this till some time later.

From here on, I no longer have documentary evidence of the sequence of events, so happenings are not necessarily in chronological order. Our first real fault manifested itself when the operators started complaining that they could not focus the display. It took a lot of tracking down to find the villain, a 60K resistor in the auxiliary focus had gone high resistance. Figuring that this component

would not have failed so quickly if it had not been overloaded, we replaced it with two 30K resistors in series.

Not long after this I was thoroughly caught out one night when I was on the dog watch. The Boss had told me that W/Cdr Pither was paying us a visit and would be arriving about midnight. Therefore would I apply a bit of spit and polish so that the place looked good when Mr Pither inspected it. About 0100 hours when the plotting board operator was curled up on the floor alongside the plotting board, and I was thinking that I had better start some cleaning up, there was a loud knock at the door. Fortunately this woke up my sleeping beauty who scrambled onto his chair, because when I opened the door, there was the Boss with the Wing Commander. Luckily the place was not too messy, but the Boss did give me a rather reproachful look. However, I put it to you, what other 'stranger' would be so foolhardy as to climb that path at 0100 hours. Perhaps it was this ability that permitted George Pither to achieve so much in radar.

In due course, the mains power came through, and our rather worn stand-by unit was relegated to its proper task, with an off-duty operator sleeping alongside it in case of power failure.

About this time Harry and Ed were posted north in quick succession. They were to be the experienced hands at new stations to be established at those Hell Holes - Coolangatta and Caloundra!

Also about this time, stresses caused by high winds knocked a few teeth off a cog in the aerial turning gear. This put us off the air for a few days until the NSW Government Railways came galloping to the rescue with a replacement gear made from stronger steel. For me, climbing out to the end of the array to fasten a rope so that we could stop it thrashing around, was just a foretaste of some of my future RAAF activities.

Soon after this we had our tragedy. One of the replacement mechanics, along with one of the operators, was rock fishing when a freak wave got them both. One body was recovered but not the other. At this stage, I discovered that there was more to being a corporal than going to the head of the meal line. The CO gave me the job of going through their belongings, and making an inventory. This rather harrowing experience contributed to the growing up of a corporal who had celebrated his nineteenth birthday at Tomaree.

Somewhere about the three month mark, I had the dog watch, and went up to the radar about 2200 hours, to find Jacky in a state of near panic. The screen was so filled with interference that the station was effectively off the air. After a bit of elimination, we tracked the problem down to the transmitter blower, which, while quite adequate for aircraft use, was quite unsuitable for continuous operation, where 1000 hours was run up every six weeks.

A vacuum cleaner seemed to be the best solution as a stop-gap, so we roused the CO out of the Officers' Mess. He in turn roused the Fitter DMT and gave him a purchase order, and despatched him to Newcastle with instructions to find a shop where the owner lived on the premises, and which furthermore, had a vacuum cleaner for sale.

The Fitter DMT did his job well, and by 0600 hours we were back on the air with the vacuum cleaner propped up on a log. It 'held the fort' nobly, until a really suitable blower turned up in two or three weeks. Since this blower was now located outside the building, we had a much quieter operations room.

Shortly after this, Jacky was posted, to where I can't recall. However he did spend a lot of time at Merauke.

By now the equipment had got over its birth pangs, and had settled down to a relatively trouble free existence. This gave us time for such niceties as painting the concrete floor to control dust, etc.

Sometime during July around 1530 hours we spotted a periscope travelling northwards so it was promptly reported to Fighter Sector. Time went by; we followed its straight line path for about an hour. Nothing happened until about 1800 hours when a Walrus appeared to survey the scene, of course by then the submarine had long since departed leaving us to wonder about the activities of Fighter Sector.

On 21 August 1942, I parted company with 20RS being posted to 1RIMU to a new, fascinating, and nerve wrecking life, that ultimately nearly destroyed me.

A WAAAF at Kiama
Freda Fairlie (nee Hoult)

Our first posting after Radar School was quite an event. After de-training at Kiama railway station we were met by our truck driver who was very drunk but we scrambled aboard in the back and began the ascent of Saddleback Mountain in heavy fog. The driver unable to see for two reasons, fog 'n grog, stood outside the vehicle with his right foot on the running board of the truck, his left foot on the accelerator and steering with one hand, but youth has no fear and we just thought it to be funny.

At last the truck came to a halt in some trees, that is after a password had been given and a corporal had lifted the gate with a ram's head on it.

"Everybody out", was the cry but there was no sign of barracks so well hidden was our station, our eyes soon adjusted to the dark and a line of huts became visible. Of course the first job was to fill a palliasse with straw and we also hoped that not too many cows had been near it.

The night was full of bush noises and the scuttling rats in the rafters, which occasionally jumped on the beds, brought a horrified yell from one of the girls. We called our station the 'country club' with such a beautiful view but we worked diligently in the doover so cleverly hidden and entered only by password.

Secrecy, at the time, was very important and our camouflage had to be preserved so we carefully walked among the trees so as not to make tracks. The people in Kiama had many fanciful ideas of what went on up on the mountain. One thing that did go on was the terrible cooking. Our cook made green custard and informed us that, "it would stick to our guts!"

Not long after our arrival some Japanese planes were picked up by our radar. As we were not on shift at the time we spent a period in a slit trench and envied those on duty.

135RS at Pinkenba
Freda Fairlie (nee Hoult)
After a rather idyllic life on Saddleback Mountain, Pinkenba was a shock, even though it was situated near the river on the outskirts of Brisbane.

The area was flat and unattractive, surrounded by odoriferous factories emitting awful fumes and smells which changed in nature depending on the wind direction, the station became known as 'Stinkenba'. The conditions were not improved by the presence of a sewer outfall which was not all that distant from us. We mostly walked to the doover, half a mile away, escorted by a black cloud of mosquitoes.

To relieve the boredom of life in the barracks we started a secret newspaper and deposited it at the door of the Orderly Room where it was printed and later distributed. A wedding took place on the station and all turned their hands to making the 'Rec Hut' look like a church, while the cook made a wedding cake for the occasion.

Being a GCI station we tracked our own aircraft and those Americans who could not seem to be able to find their own aerodrome. The unit was surrounded by American Army camps and the men

were generally well behaved and often brought us apple pies which were an improvement on the mess food.

As we knew the movement of aircraft we occasionally managed to get an unofficial flight when going on leave. It took a little courage to go uninvited by speed boat to an awaiting Catalina and ask for a lift. One I travelled on was so overcrowded that all the extra bods had to stand down the back so that the pilot could raise the nose enough to take off.

It was fun, it was boring but the friendships we made still remain.

346RS - Isolated and Negleted
Noel McCormack

Comment: It is difficult to comprehend, in 1992, how the conditions at 346RS at Bundralis could have been allowed to deteriorate to the state which they did. On page 28 of the Historic Background the view was expressed that "many of those who served on isolated stations feel, even today, that they were neglected".
Noel McCormack is writing the history of this unit and he has kindly supplied information which supports the above-mentioned statement.
Furthermore the story tells of an incident when aircrew rescued a member of a ground radar station which was the reverse of normal procedures where radar stations directed Air Sea Rescue to save ditched aircrews.

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The unit was one of the several radar stations deployed to operate with the American 13th Air Force when the Admiralty Islands were invaded by the American 1st Cavalry Division on 29 February 1944.

346RS was formed at Richmond, NSW in December 1943 and, after staging at Finschhafen for some weeks left in a convoy on 17 March 1944 arriving Los Negros on the 19th. The convoy was fired on at the entrance to Seeadler Harbour and fighting and artillery barrages could be seen and heard on Los Negros and Manus islands. The beachhead was a scene of utter desolation reeking with the stench of decay and death. Personnel were told to shoot first and ask questions later.

Loading of the ships at Finschhafen had been done by the Americans without any attempt to keep any unit's equipment together on one ship. American and Australian work parties, using LCM barges, unloaded the ships and each working party was allocated a section of the beach to place the cargo they unloaded. The end result was equipment was scattered along the beach so parties were formed to search and locate equipment and stores belonging to the respective radar units. The LW/AW equipment for 347RS could not be located so 346RS's set was given to 347RS so that it could become operational at Mokerang Point.

When advice was received from the Americans that the Japanese had been cleared from the proposed site, a siting party departed from Hyane Harbour in the RAAF crash boat 0310 on 14 April to inspect both Ahevos Point and Bundralis Mission. The night was spent ashore at Ahevos Point when a severe storm with gale force winds struck, resulting in the crash launch dragging its anchor and running aground. Fortunately the boat was not damaged and the party proceeded to Bundralis Mission which was selected as the site.

The CO, P/O Harris, returned to organise the transportation of the unit to the site. The AT5/AR8 set was housed in a native hut near the beach. The American detachment saw at least one Japanese near the hut but did not open fire in case they hit LAC McCormack who was sleeping in the hut 'baby sitting' the gear - footprints of the characteristic Japanese two-toed boots were found next morning near the hut !!

346RS staged at ‘Red Beach’, Salami on Los Negros, until it was sent on 24 April to Bundralis, about 30 miles west of the American base at Lorengau. There were no roads and the only way to get to the unit involved a trip of six hours in a landing barge.

The doover was installed at the top of a hill about 150 feet high and about 200 yards by trail from the camp situated on the beach below. The LW/AW commenced operations at 2002 hours on 28 April but the BL4 installation was not completed at the same time as the A9 test set had been supplied without valves and none were available.

Eighteen American infantry were attached to the unit during the initial period at Bundralis so bringing the total number of personnel on site to 52. Those Americans were withdrawn on 7 May 1944.

The unit operated at Bundralis until 29 May when it closed down and was prepared for further onward deployment. On 31 May 346RS was transported to Momote where it waited for further orders. Even though the natives staged an emotional farewell to the unit and followed the barges for a distance down the beach singing songs, the event was not incident free. The barge with the heavy equipment sprang a leak and had to be beached on Hauwei Island where the gear was transferred to another LCM.

Whilst at Momote the LW/AW was erected on a temporary site and it operated on alternate 24 hour shifts with 345RS.

By 23 July 1944 new airstrips had been built at Ponam and Pityilu Islands to the north of Manus and existing radar coverage was considered to be inadequate. The US 13th Air Force therefore authorised the return to Bundralis.

On 23 July the unit departed from Momote by LCT barge at 0700 hours and arrived at Bundralis at 1300 hours. The LCT carrying the men and equipment grounded some distance from the beach which made the unloading somewhat difficult. The W/T operator, Cpl Eric Olsen, stepped off the ramp and disappeared from sight eventually bobbing up a little distance away. On seeing this Sgt Ford Wotherspoon became concerned about his wrist watch as he would have to swim ashore. He took the watch off, wrapped it in his handkerchief and put it in the pocket of his shorts, dived in and swam ashore. Several days later he wondered why his watch had stopped.

The doover became operational at 2030 hours on 26 July 1944. Instructions were received on 15 January 1945 for the unit to once again close down and prepare for a further movement. It remained non-operational at Bundralis until 29 April.

Power Problems

There were several times when the station went off the air due to fuel shortages so emphasising the bad supply arrangements for servicing the unit. Sometimes, like several other stations, the wrong fuel was delivered.

Like most LW/AW's, power was supplied by two Ford 10 5KVA alternators which used 67 octane petrol but for most of the time only 80 octane was available. On occasions 100 octane aviation fuel was delivered and this did not ‘please’ the engines at all resulting in premature coking up and burnt valves.

Normal operation was to run each engine for 12 hours a day. At 0230 on 26 May ‘44 the on-line unit became unserviceable, having burnt out valves. The other unit was started but when brought on-line, it too failed for the same reason. No valve grinding paste was available so the next morning the Fitter DMT, LAC Doyle, and party set out in a native canoe for the American naval base at Ponam five miles across the sea. Progress was very slow so the party returned to Bundralis.

LAC Doyle then used a sledgehammer to break up a small grindstone and mixed the resulting particles with grease to make the coarse grinding paste. For fine paste he used Watkins tooth

powder supplied with Comforts Fund parcels. This improvisation enabled the station to resume operations much sooner than having to wait for supply of the proper valve grinding paste.

Then on 20 October two big end bearings failed on one power unit. There being no replacement parts anywhere in New Guinea or the Admiralties, the other unit ran non-stop until it burned out valves at 0900 hours on 26 October. The motor was given a quick valve grind and was operational at 1630 on the same day. In an effort to save the second motor it was decided to close the unit down each day for two periods of an hour.

As if those happenings were not enough, the motor overheated and seized on 11 November, cracking the engine block. Upon investigation it was found that the radiator drain cock was open and water had drained from the engine block. Sabotage was suspected as natives had reported that Japanese had been stealing food from the village gardens in the vicinity of the unit.

Two days later P/O Beaton, Engineer Officer from 3RIMU, arrived to investigate the situation and also assist in rebuilding one motor using the parts of the two. The rebuilt engine was nicknamed 'Rickety Kate' because it burned oil and lacked power since it had the worn pistons and bearings from the other engine block. Of necessity restricted hours were continued until a new motor was received and normal operations resumed on 16 November.

On another occasion LAC Noel McCormack was changing over the power units when the governor on one jammed after full throttle was applied - it over-revved, the fan disintegrated, one blade damaged the radiator core and then smote Noel in the face causing some lacerations. It was easier to fix Noel's face than the radiator. The latter was replaced by a 44 gallon drum, with connections top and bottom to the engine block. It was once again LAC Doyle to the rescue.

A Mysterious Fire and Japanese Attack

At approximately 1230 hours on 29 April 1944 the tent covering the LW/AW tower was mysteriously destroyed by fire and had to be replaced by a native type thatched hut. This was followed at about 0130 hours on 30 April by an attempted attack on the installation.

Three Japanese were sighted advancing up the hill behind the doover and the guards opened fire with Thompson submachine guns. This was answered by rifle shots. The radar was closed down and a signal sent to 114MFCU for assistance. Personnel were placed on full alert and remained so until the arrival of 77 American infantry at 1000 hours. The presence of the Japanese was confirmed but they had apparently over-estimated the strength of the unit and withdrew after the initial exchange of shots. The reinforcements did not arrive until nearly nine hours after the incident as unmarked coral reefs restricted barge traffic to daylight hours.

There were other incidents involving the enemy for some months. On 16 September local natives reported the presence of a Japanese officer and 20-30 other ranks close to 346RS. A request was made through 114MFCU for reinforcements and an American cavalry patrol consisting of three officers and 37 men arrived at dawn on the next morning. They left three days later.

Isolated and Negleted

Whilst the unit was only six miles from the air base at Ponam (built after 346's first stint at Bundralis) and 30 miles from Lorengau it was isolated because no one made arrangements for the regular transportation of food, mail and essential supplies. The total time spent at Bundralis was 10 months. Three months of that time it was not operational, and with no Commanding Officer for two of those three months.

During the total time of ten months spent at Bundralis there was NO entertainment of any kind, NO concert parties, NO film shows and, in spite of many requests, NO radio was provided.

In addition failure to supply a replacement part for the unit's refrigerator meant that it was unserviceable. The refrigerator was a kerosene operated Silent Knight and the glass chimney over the small flame had been broken in transit but this small item was never replaced!!

Initially the supply of rations and mail was satisfactory with a fortnightly barge service but, as the Americans moved northwards and barge transport became scarce, the ration and mail runs became erratic. In any event, the personnel existed mainly on hard rations, tinned food etc, except on the day when rations were delivered and fresh food would be eaten before it became inedible.

Supply of Food Becomes a Problem

During the latter stages of the non-operational period the supply of rations became even more unreliable and, on several occasions, the men had to exist on baked beans for all meals. The following extracts from the unit's A50 History Sheets testify to the problems encountered:

3 Aug 1944
During the month numerous attempts were made to secure a radio set without success.

1 Sept 1944
Lack of transport has seriously affected the smooth running of the unit. With transport available only at irregular intervals, equipment on urgent demand, mail and supplies of all types may be held at Los Negros for weeks. Though repeated requests have been made to No 73 Wing Welfare Section, no wireless set has been made available to this station. If made available it would be a great source of enjoyment to this station, more particularly because of its isolated position. Medical supplies from the RAAF have been exhausted. None of this unit's medical demands for the last three months have been fulfilled and it is necessary that some urgent action be taken to supply the needs of this unit.

30 Nov 1944
Morale; this remains at a high standard in spite of the lack of mail and entertainment of any description. It would be of great assistance if the station could be provided with a radio.

1 Mar 1945
Almost fifty per cent of personnel have now spent more than nine months, the last three non-operational, at Bundralis which is completely isolated. Mail service has been poor throughout and organised entertainment such as concerts or films, nil.

The overdue rations did not arrive until 26 March and the following extracts for April 1945 paint a graphic picture of the situation:

2 Apr 1945
Rations due do not arrive.

16 Apr 1945
Rations due on 2 Apr still have not arrived, food position becoming acute.

19 Apr 1945
Rations arrive on barge provided by RNZAF.

23 Apr 1945
Unit advised that there is no likelihood of transport being available to deliver rations in the future.

A serious situation had now developed where a few men, without a CO, were left in isolation with no entertainment, dwindling food supplies and no constructive work to do.

Lucky Escapes

The seriousness of the situation prompted the Senior NCO in charge to organise a trip by native canoe across the six miles of unpredictable sea to Ponam Island, a Naval Air Station recently taken over from the Americans by the Royal Navy. This turned out to be the first of two unsuccessful attempts to obtain badly needed food supplies.

The following extracts from the A50’s tell, graphically, the events of both attempts which almost ended in tragedy:

21 Mar 1945
LAC McFadyen and Cpl Cameron leave by native canoe for Ponam, the former on posting to Australia and carrying mail to RAAF Los Negros, the latter to bring meat from Ponam where it is kept in refrigeration. A sudden squall caused the canoe to overturn one mile south of Ponam. Both men were picked up by the US Navy crash boat and returned to the unit. LAC McFadyen lost all personal documents and equipment together with the unit mail.

22 Mar 1945
Signal received stating our ration party cannot obtain transport until 25 March at earliest. Official mail lost on 21st duplicated. At 1600 hours three men leave for Ponam in sailing skiff. LAC McFadyen carrying mail for Los Negros and LAC's Shearn and Doyle to sail back on 23 March with fresh food.

1825hrs
Skiff observed in difficulties making towards reef approximately one mile east of Ponam. Following message sent by Aldis Lamp to freighter lying between us and Ponam; "Three men in difficulties east of you one mile". Message relayed immediately to Ponam. Shortly after dusk, crash boat was seen proceeding on search.

2005hrs
The following message received from freighter; "One man, LAC McFadyen picked up unhurt. Two men began swimming ashore now presumed drowned".

2330hrs
Following message received from aircraft carrier HMS Unicorn lying off Ponam, "Two men from overturned RAAF sailing boat LAC Shearn and LAC Doyle last seen swimming towards Ponam at 1850 hours Thursday 22 March. Member of crew LAC McFadyen, 423406 RAAF has been picked up unhurt and is now on board Unicorn". Crash boat then anchored near Bundralis.

22Mar 1945 0100hrs
Message received from Ponam; "We have one man LAC Doyle here. He swam ashore and is in good shape except for a few bruises and is a little exhausted".

0115hrs
Carrier makes contact with crash boat through us, crash boat resumes search until 0430 hours.

0515hrs
Message received from crash boat; "No sign of third man. Plane coming to help us search at dawn".

0700hrs
Catalina seen circling the reef. Crash boat reaches Catalina then proceeds to carrier.

1000hrs
Message received from carrier; "Third survivor, LAC Shearn is now on board Unicorn in a very exhausted condition and cannot be moved before ship sails. I will take him on and endeavour to have him returned by air. First survivor, LAC McFadyen is being sent ashore".

The outcome of the story was that LAC Noel Shearn, a guard, went to the Philippines by courtesy of HMS Unicorn and was subsequently returned by air transport. He had been swimming and treading water from approximately 1830 hours on Thursday 22 March until 0700 hours on 23 March. He was so weak by the time the Catalina landed beside him that, as soon as he saw the dinghy launched to pick him up, he relaxed and sank. A crewman dived overboard and brought him to the surface.

Who Needs Enemies....
On 3 October 1944 the 1st Cavalry Division set up an observation post on 346RS so that the US Navy could have a practice shoot. The following day the US cruiser Nashville, with two

destroyers, started firing and one six inch shell from the Nashville landed about 100 yards to the rear of the unit.

The practice continued on 5 October and at 1000 hours 14 six inch shells, once again from the Nashville firing from over the horizon, landed in the camp area, some within 50 yards of the doover!! Colonel Cullicutt, the officer in charge of the observation post immediately ordered the ships to cease firing and refused permission for them to continue.

Fortunately there were no casualties and the only major damage was the cutting of both the power lines and telephone cable between the doover and the camp. Temporary repairs were made and 346RS was back on the air at 1000 hours.

Some of the off duty personnel were playing cards in a tent which had been erected on the concrete floor of the old church. They heard pieces of shrapnel whizzing around but were somewhat amazed when they saw a largish groove gouged out of the concrete floor by a piece which had apparently passed between their legs!!

Evacuation At Last

The plight of 346RS was finally recognised by F/Lt Hatty, the CO of 347RS, during a visit when he came to get the indicator unit from the LW/AW receiver from 346RS for his unit. On arrival he found several of the men flying large kites which they had built in an effort to relieve the boredom. Before leaving, he commented that, in his opinion, all personnel appeared to be suffering from the effects of the long period of isolation (ie "were going troppo"). On his return to Los Negros arrangements were soon made to uplift the remnants of the unit as soon as transport became available.

An LCT arrived at Bundralis at 1800 hours on 28 April and loading commenced at 0700 hours.

The CO of the Royal Navy unit, which had taken over the base at Ponam from the Americans, had also become aware of the problems. He arrived during the loading of the LCT saying that he had organised films and entertainment for the unit. It is ironic that this occurred on the unit's last day at the site.

Loading was completed at 1630 hours and personnel boarded the barge which then anchored off shore for the night in preparation for an early departure next morning.

At 0700 hours 30 April 1945 346RS departed Bundralis for the last time and moved, via Momote, to 3RIMU at Madang for re-fit and re-deployment.

346RS To The Rescue (of 340RS)

Comment: When 346RS was staging at Salami, Los Negros, before going to Bundralis, 340RS had become operational on Bat Island. Early March 1944 the RAAF decided to evacuate Bat Island as it was too unhealthy [see page 65 of *Radar Yarns*]. 346RS assisted in the evacuation by first sending LAC John Reid, a W/T operator, down to Bat Island followed by a group of which Keith Croft was a member. The story is told in two parts.

Part 1

John Reid

Comment: The following are extracts from John's diary.

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7-4-44

Nothing unusual happened today. Informed after tea that I was to go down to Bat Island to help evacuate 340RS on account of scrub typhus.

8-4-44
Left for Bat Island but had to wait at 337RS for the night and leave in the morning. The same old fights going on between the different musterings.

9-4-44
Stood guard at 337RS overnight. Left from Momote strip for Bat Island at 1000 hours. Arrived just after lunch and had to wade ashore with my clothes over my head. Bat Island is about 400 yards long and 200 yards wide and about 2ft 6ins above sea level at high tide. It is connected to another island about half that size by a low strip of sand about 500 yards long. The island is not too bad to look at and is covered by palms and low scrub. The place is over-run with pigs, rats and sea gulls. Owing to it being so low the centre is nearly all mud and pools of water which breed mosquitoes galore. The place is absolutely useless for living on as there is no fresh water and it is lousy with scrub typhus. The Walrus has done wonderful work here in rescuing the sick and evacuating them to Los Negros. If it hadn't been for the 'Rescue Queen', as the Walrus is called, many more chaps would have died. Working 6 on and 12 off all the time although most of the time off is spent in the W/T tent as things are pretty busy as they are leaving.

13-4-44
Barge and Corvette arrived at 1700 but went on a reef so is standing off until morning.

14-4-44
Spent whole day packing W/T gear and en-cyphering and decyphering messages. Technical gear loaded but stores etc are being left till a later date. Some of the chaps from 346RS came down to help with the loading. At last on board HMAS Stawell at 1900 and had a good hot meal the first since I arrived on this unit. The Navy lads want to drop some depth charges and sink the island. Bloody good idea! Slept the night on deck on top of a pile of kit bags.

15-4-44
Discovered I have lost my wallet containing my pay book, identity card, photos and everything. Search made of the ship but no trace of it, the rats must have fed on it. Arrived at Seeadler Harbour at 1200, landed and had dinner. Went round to the hospital and had examination but Doc reckons I'm OK. I sure hope so. Found out that yesterday three messages came in saying that 340RS was definitely to stay at Bat and that reinforcements were coming. All messages were from S/Ldr Hannam at Fighter Command. I wish that he was there and we'd see if he'd like to stay. Of the 54 chaps that went to Bat, 17 walked off and most of them were just on their feet. Two chaps died and most of the others were invalided back to Australia, probably wrecks for the rest of their lives.

Part 2
Keith R. Croft
Early in March 44 about fourteen of us from 346RS were sent to help in the evacuation of Bat Island. We sailed down in the RAN Corvette HMAS Stawell, towing an American barge. It was a great trip, smooth as glass.

We reached Bat about dark, six of us had just eaten so we went ashore in a ship's boat which landed us on a sand spit alongside the barge. As there seemed to be no arrangements for us, Bernie Fox used a torch to signal the ship to hold the rest of our crew until we worked something out. There were no lights to load by and no place for us to sleep so we were going back to sleep on the boat. But there was no answer to our signal for a boat to pick us up.

Of course, a ship could not sit around in those waters then, so it had gone off patrolling - we slept on tarps on the barge. Early next morning we went in the barge all round the island and couldn't get any closer because of the reef, so we ended up about 150 yards out along the sand spit. We went to the camp and found the boys of 340RS were busy pulling down the gear and packing up, using their jeep and trailer to cart the light gear and unloading it at the start of the spit, they would have got bogged if they had tried to go any further.

We helped to load the gear into a folding pontoon pushing it along in 12 inches of water alongside the spit until we were opposite the barge. Then we had to carry it across the spit and load it into the barge. The Stawell came in, landed the rest of our crew and then went off patrolling again. Things went better then with more hands to do the work but we got hungry. No one looked like feeding us so we opened some cans of peaches - one of the chaps didn't like that but that was all we had to eat. It was a hard day.

Towards sundown we had loaded all the gear we could, the heavy motors and such were left to be picked up by heavy equipment later. The ship came back and we all went aboard. The sailors were great and gave us a good tea, change of clothes and hot showers. We had to sleep on the deck but being so tired we didn't mind.

The sailors had washed and dried our clothes overnight and we arrived back at Salami late in the morning. After lunch we had to go to the hospital for a checkup, just to see if we had got any bites etc. We were OK, except for Jack Clancy, a mechanic, who got malaria and dysentery and was in hospital for three weeks, catching up with us at Bundralis about four weeks later. 340RS went to Aitape.

Non Radar Snippets from 59RS - Lee Point

Paul Butler

Somehow or other I was given the task of running the canteen at Lee Point. The building was only a little bigger than a sentry box - maybe six feet square with a hinged awning. It served the purpose and by adding an extra penny on lolly water and a halfpenny to a box of matches meant that I had no outlay for my own needs - naughty wasn't I! Then one day I had the honour of having a check stock take by two accounting officers without warning too. My memory tells me I was 2d (tuppence) out.

Running the canteen and hearing that the Allied Works Council was short of toilet paper and soap we did a deal. We swapped a box of soap and toilet paper for a tennis court. One Sunday morning six huge machines arrived and we had a first class surface from ant-hills done in an hour.

We had frequent trips to the open-air theatre and one night almost ended in disaster when the headlights of the Chev truck failed - my trusty Winchester torch saved the day. This was the same torch which had rolled off the seat of the four holer a couple of nights before. Still switched on at the time it revealed an unforgettable sight from eight feet down.

VP Day at 15RS

Gwen Cole (nee Stuart)

The end of the war was imminent. My shift, D shift, was on the dog watch - 2400 hours to 0600 hours. At 0900 hours the news came through, the war was over. Everyone was jubilant and we danced all afternoon in the recreation hut made all the better by a couple of nine gallon kegs as evidenced by photos taken on the day.

All personnel on the unit who were not on duty were invited to a Victory Dance at the RAAF General Reconnaissance School at Bairnsdale. So after the evening meal we piled into the unit tender/truck at 2130 hours.

The road from Metung to Bairnsdale was, from memory, slow and bumpy, bordering on being dangerously slow. Well, bad luck struck on that stretch of road when a wheel came off. We spent one and a half hours in the cold on the side of the road but we were determined to get to that Victory Dance at the school. Ultimately we arrived at 2255 hours.

When it came time for us to return to Metung the school provided us with a tender. Since it the first opportunity for many outsiders to see inside a radar station or doover, a few pilots and air gunners came along for the trip. We got back to the unit at 0310 hours and the operators on the tender took the pilots and air gunners to the doover where they had a look and were entertained for supper.

As usual eggs were boiled in the electric jug and toast was made on the radiator. After they left I went to bed until 1500 hours so that I could go on to the evening shift.

In a comparatively short time postings were effected almost daily. Many of those WAAAF who had pre-war experience in typing and clerical duties were posted to Air Force Headquarters to assist in the Discharge Section where they were given the opportunity to defer their discharge. This I did, staying in the service for an extra year.

There I worked with young girls who had not been in the services and they were typing 'circumcision' on discharge certificates under scars if the chap had been circumcised while in the RAAF. They just did not know - I could not imagine that happening today!!!

I now realise how innocent we were in 1945 when compared with the youth of today.

Port Keats - 39RS and Kangaroo 92
Morrie Fenton

Fifty years have brought some astonishing advances in RAAF radar!

Back in 1942, a team of some 30 men anxiously waited at Darwin for their new Australian equipment - then loaded it on a small vessel and set off down the coast to Port Keats. There, with the assistance of the Mission aborigines, the equipment was taken into bush country, and manhandled to the top of Mount Goodwin. Trees were felled, sheds built, and a camp set up at the foot of the mountain. A road was constructed from the Mission to the camp, and after several weeks 39RS came 'on air' using the Australian AW gear, an AW 'Transportable' tower and aerial, and Ford V8 driven alternators - an early and vital radar link in the defence of Darwin. Visions and memories of that hair-raising climb on rickety ladders from the camp to the top - in the dark - still remain with the survivors of 39RS!

The Australian innovative spirit prevailed and the men were never caught out by a surprise visit by the CO. A microswitch was fitted to the ladder and whenever someone trod on the ladder a shutter fell so indicating that someone was on the way up.

Fifty years later, Mount Goodwin has been featured on TV in the K89 and K92 exercises. A good road sweeps from the town and strip to the very top of Mount Goodwin. Helicopters land and take off. Communications are effected by satellite dish - a far cry from the old AT5/AT8 radio set, designed for use in aircraft, which was the only means of communication with the outside world. And the impressive Doover itself, an AN/TPS-43F from 41 Wing, Westinghouse-built, and similar to the equipment that added status to our Reunion in Bendigo. It makes it all the harder for one to remember the plain old 'AW' of our time.

Jim Flaherty recalls that today's equipment appears to be set in almost the same locations as the old 39 radar station of 50 years ago - but he rather doubts that the family of rock pythons still lurks over the edge of the cliffs to the right of the photograph.

It is interesting for us 'Veterans' to reflect for a moment how the helicopters of today with their direct access to such an installation could have greatly influenced the everyday life of the isolated stations where we worked and lived in mighty hard conditions for up to 15 months at a time.

THE FIFTIETH ANNIVERSARY REUNION OF RAAF RADAR BENDIGO, MARCH 1992

Nearly 500 ex-RAAF and WAAAF, with their spouses, gathered at Bendigo to celebrate the 50th Anniversary of the first detection of enemy aircraft by a RAAF radar station in a combat zone on 22 March 1942.

This Reunion was indeed a great radar experience and an event of considerable historical importance.

It was a proud and truly a significant occasion when the men and women of World War II Radar marched together again, preceded by the Queen's Colours, the Flag Bearers, contingents of serving members of the RAAF, the RAAF Central Band and ably supported by the local RSL sub-branch and other service groups.

The march was followed by a Commemorative Service conducted by the RAAF Senior Chaplain and Mr Walter Fielder-Gill, the Chairman of the National Planning Committee.

It was a time when wreaths were laid on the Cenotaph in memory of comrades in arms who made the supreme sacrifice.

A time of reflection, and sadness when thinking of our confreres who are no longer with us.

A time to renew and re-kindle acquaintances and friendships which started during our service days.

And a time for humorous recollections.

POSTSCRIPT

To those who sent contributions for *Radar Yarns* and *More Radar Yarns* Norm Smith and I would like to express our sincere thanks. Wherever possible the veracity of stories has been checked and while some may think that a few of the anecdotes are exaggerated I would rather think that those few may have become somewhat coloured with the passage of time.

The reader is reminded that, even though two books depicting the sociological and anecdotal side of the history of RAAF ground radar have been produced, it does not mean that the job has been completed.

There are still hundreds of stories of incidents to be gathered and what's more the story of the airborne component has not been touched as far as is known. It would be nice if someone 'volunteered' to undertake the latter. From past experience it can be said that it will involve that person in a lot of time-consuming effort but they can be assured that the results will more than compensate for the time spent.

Over the past four or five years we have been able to renew friendships and, more importantly, been able to put people in touch with one another after nearly 50 years - to say the least, this has been most gratifying.

Stay tuned - there are still two more books to come. The first will be technical in nature so if you have comments to make on this subject, please send them to me ASAP.

The last book is intended to cover the operational side of ground radar and is notionally called *Echoes Over The Pacific*. This will cover the activities of the RAF in Singapore, the RAAF, RNZAF and USAF in the SWPA south of latitude 5^{o} north, ie south of the Philippines. Norm has been very busy researching the subject while I proceeded with *More Radar Yarns*.

APPENDIX A
STATION NUMBERING

Even though stations were being established from January 1942 onwards, it was not until mid or late 1942 that the RAAF started to record the formation of individual stations.

Fortunately the numbering system appears to have grouped the stations by their function with three exceptions. No's 50, 53 and 61 were LW/AWs even though their numbers were in the first group. No explanation has been found for No's 50 or 53 but 307RS was re-numbered to 61RS as it was intended that the LW/AW equipment would be replaced by a Mk V COL. Spare parts for the Mk V equipment were actually delivered to the station but the conversion did not proceed.

The grouped numbers and functions of the stations are seen to be:

Station Numbers	**Function**
7- 49, 51, 52 & 54-59	Fixed stations, either on the mainland or islands & close to the mainland, Australian AW or English Mk V COL.
101 - 109	MAWD (Modified Air Warning Device). American SCR268 Gun Laying sets.
131 - 168	Mobile GCI (Ground Control Interception). Three types were in this grouping: English Mk V, Canadian RWG/GCI and Australian LW/GCI Mk I and Mk II.
207 - 228	Fixed stations, wholly on the mainland using English ACO equipment.
251 - 257	LW/LFC (Light Weight/Low Flying Cover). Only two sets 'almost' in operation at the end of the war - 10 cm set with Australian designed and constructed aerials & huts with English 500 KW Type 277 equipment.
50, 53 & 61, 301-355	Australian air transportable equipment using LW/AW Mk 1, Mk 1A, Mk 2 and Mk 5.

LOCATION OF THE 'ORIGINAL' RADAR STATIONS PROPOSED BY W/CDR PITHER

The following is an extract from file no 201/28/22 Pt 1 which was recently sighted in the Canberra National Archives. It is part of a letter to the Minister from the Chief of Air Staff.

> "On 23 October 1941, the Joint Planning Committee of the three Services recommended that Radio Location cover is necessary in 30 areas round the Australian coast.
> More recently, equipment has been ordered from England to meet these requirements, and in addition, there is a number of Australian sets being manufactured to meet interim needs.
> The following programme is proposed:

LOCALITY	TRU	COL	GCI	271
Sydney	1	1	1	
Darwin	1	1	1	
Kiama	1	1		
Moresby	1	1	1	
Gabo Island	1	1		1
Wilsons Promontory	1	1		1
Cape Otway	1	1		1
Neptune	1	1		1
Whyalla	2	2		
Bairnsdale	1	1		
Sandy Cape	1	1		1
Cape Grafton	1	1		1
Brisbane Area	3	3	1	
Townsville Area	2	2	1	
Victor Harbor	1	1		
Perth-Fremantle	2	2	1	
Smoky Cape	1	1		
Cape Jaffa	1	1		
Portland	1	1		
Moruya	1	1		
Cape Leeuwin-Albany	2	2		
Tasmania	5	5		
TOTALS	32	32	6	6

Note:
TRU = Long range warning. High flying aircraft.
COL = Medium range warning. Low flying aircraft.
271 = Long range warning. Ships only.
GCI = Ground controlled interception. For fighter sectors
AW = Australian version of COL"

****

The above was dated 2 April 1942 and the Minister gave approval in principle four days later on the 6th. It is also to be noted that at the meeting on 23 October 1941 there was another recommendation for the installation of CHL sets of local manufacture pending the availability of the [English] CHL set.

It is of interest to note that the English 10cm set, type 271 was available but it was reserved for the Army for watching shipping.

LOCATION OF OPERATIONAL RADAR STATIONS

The starting point for this list was the official listing of stations. In some cases it appears that the place mentioned was the unit's mailing address rather than their actual location. Every effort has been made to make the list as accurate as possible, however, as mentioned in the text, secrecy seems to have been applied to some movements of stations and quite a lot of the A50 History Sheets do not now exist. Once again, maybe E & OE is applicable.

Of the 210 operational locations about 42% were overseas with a little over half (22%) being in Papua New Guinea. 29% were in either Western Australia and the Northern Territory or islands just off the coast of those States. The remaining 29% were in the Eastern States but none were positioned in Tasmania.

NOTES: * - Station never numbered
τ - Multiple Sites

ABBREVIATIONS:

42(55)	42RS renumbered to 55RS	NB	New Britain	SMG	Saint Mathias Group
ADMI	Admiralty Islands	NSW	New South Wales		
BOR	Borneo	NT	Northern Territory	SOL	Solomon Islands
DEI	Dutch East Indies	PNG	Papua New Guinea	SA	South Australia
DMG	Dutch New Guinea	QLD	Queensland	VIC	Victoria
				WA	Western Australia

RADAR STATIONS

	Shepherd's Hill *
	Port Kembla *
	Parkes *
7	Wedge Island SA
10	Cape Jervis SA
13	Cape Otway VIC
14	Wilson's Promontory VIC
15	Metung VIC
16	Gabo Island VIC
17	Burrewarra Pt, Moruya NSW
18	Saddleback Mtn, Kiama NSW
19	Bombi NSW
20	Tomaree, NSW
23	Lytton QLD
24	Caloundra QLD
25	Sandy Cape QLD
	Reformed as No 167
26	Cape Cleveland QLD
27	Dunk Island QLD
28	Fitzroy Island QLD
29	King Spur, Pt Moresby PNG
31	Dripstone Caves NT
	Pt Charles NT
	Fenton NT
	Exchanged number with 310RS
32	Rottnest Island WA
33	Cape Naturaliste WA
35	Stony Ridge, Albany WA
36	Hammond Island QLD
	Horn Island QLD
37	Gurney, Milne Bay, PNG
38	Cape Fourcroy, Bathurst Is. NT
39	Port Keats NT
40	Merauke DNG
42(55)	Bowen QLD
43	Portland Roads QLD
44(56)	Cooktown QLD
45	Stanley Island QLD
46	Cape Don NT
47	Gin Gin WA
	Kalamunda WA
	Geraldton WA
48	Jurien Bay WA
49	Point Lookout QLD
50	Dobodura PNG
	Tsili Tsili PNG
	Amami PNG
	Nadzab PNG
51	Point Danger QLD
52	Mutee Head Qld
53	Mount Surprise QLD
54	Collaroy NSW
55	Bowen QLD
56	Cooktown QLD
57	Belgian Gardens, T'ville QLD
58	Mt Spec, Paluma QLD
59	Lee Point NT
60	Cape Van Diemen (Melville Is) NT
61(307)	Peron Is NT

101(54) North Head, Sydney NSW
Collaroy NSW
102 Point Danger QLD
103 Stradbroke Is QLD
104(57) Kissing Point, T'ville QLD
105 Point Charles NT
108 Quamby QLD
109 Mount Woods NT
Adelaide River NT
Dripstone Caves NT
Lee Point NT
131 Kogarah NSW
Kyeemagh NSW
Ash Island NSW
2 OTU Mildura VIC
132 Knuckey's Lagoon NT
134 Bunnerong Park, NSW
Beverley Hills NSW
135 Pinkenba QLD
136 Bunnerong Park NSW
Alligator River QLD
138 Waigani, Port Moresby PNG
Dobodura PNG
144 Cannington WA
150 Adelaide River NT
151 Merauke DNG
152 Ash Island NSW
Tadji PNG
153 Port Moresby PNG
Finschhafen PNG
154 Truscott Strip WA
155 Ash Island NSW
Exmouth Gulf WA
161 Adelaide River NT
Truscott Strip WA
North West Cape WA
Sattler NT
Morotai DEI
Balikpapan BOR
162 Knuckey's Lagoon NT
Morotai DEI
Balikpapan, BOR
163 Essendon VIC
Lutong BOR
164 Bankstown NSW
Bargo NSW
165 Bargo NSW
Quaker's Hill NSW
166 Labuan Is, BOR
167 Lingkas, Tarakan BOR
168 Tarakan BOR
169 Marsden Park NSW
170 Marsden Park NSW
207 Lilli Pilli NSW
208 Mine Camp, Swansea NSW
209 Benowa QLD
210 Toorbul Point QLD
211 Home Hill QLD
220 Bones Knob, Tolga QLD
224 Old Southport Rd, Darwin NT
227 Yanchep WA
228 Rockingham WA
251 Collaroy NSW
257 Casuarina, Darwin NT
301 Kanokopi, Milne Bay PNG
Saidor PNG
302 East Cape, Milne Bay PNG
Old Southport Road NT
Balikpapan BOR
303 Townsville QLS
Forduma, Tufi PNG
Boirama Island PNG
Port Moresby PNG
Meimeiara Island PNG
304 Cape Pierson, Normandy Is PNG
Gurney Strip, Milne Bay PNG
Hood Point PNG
305 Mwononoia, Goodenough Is. PNG
Bomatu Point, Kiriwina PNG
306 Bulolo PNG
307(61) Peron Island NT
308 Millingimbi NT
Cape Pasir, Tarakan BOR
Deniliquin NSW
309 North Goulburn Island NT
Tarakan BOR
310 Vlaming Head WA
Exchanged numbers with 31RS
311 Archer Bay QLD
Nissan Island SOL
312 Wessel Is NT
Wells Feature, Tarakan BOR
313 Mornington Island NT
Nissan Is SOL
Cape Cunningham, Jacquinot Bay NB
314 Onslow WA
315 Cape Ward Hunt PNG
Middleburg Is PNG
316 Kombies PNG
Morotai DEI

Coal Point, Labuan Is BOR

317 Old Drysdale Mission WA τ
Sir Graham Moore Is WA

318 Batchelor NT
Cape Don NT
Cape Van Diemen NT

319 Fenton NT
Drysdale WA
Truscott WA

320 Mitchell River QLD
Puruata Island, Torokina SOL

321 Millingimbi NT
Cape Arnhem NT τ

322 Tanah Merah DNG

323 Boepel DNG
Mapi Post DNG
Muara Island BOR
Brunei Bluff BOR

324 Paradise, Noonkanbah WA
Cockatoo Island WA
Papen Is BOR

325 Corruna Downs WA
Labuan BOR
Miri BOR

326 Cape Leveque WA

327 Reddells Beach, Broome WA

328 Red Hill WA
Wallal Downs WA

329 Warriearran WA

330 Koitaki PNG

331 Tami Island PNG

332 Lae Terrace PNG
Malahang PNG
Sio PNG

333 Goodenough Is PNG

334 Gusap PNG
Cape Gloucester NB

335 Pilelo Island NB
Emirau Island SMG

336 Glibu, Trobriand Islands PNG
Tufi PNG
Safoa PNG
Oro Bay PNG

337 Kiriwina PNG
SE Point, Momote ADMI

338 White Road, Long Island PNG
Matafuma Point, Long Is PNG
Biak DNG

339 Yule Island PNG τ

340 Bat Island ADM I
Tadji PNG
Tadji Beach PNG
Tadji Point PNG

341 Mulgrave Is QLD

342 Mt Spec QLD
Eilanden River DNG
Victoria, Labuan BOR

343 Townsville QLD
Mt Spec QLD
Sattler Strip NT
Balikpapan BOR

344 West Montalivet Island WA

345 Bipi Island ADMI
Los Negros ADMI
Harengan Island ADMI

346 Bundralis ADMI τ

347 Mockerang Point ADMI τ

348 Tadji PNG
Tumleo Island PNG
Humbolt Bay, Hollandia DNG

349 Hansa Bay PNG

351 Lee Point NT
Balikpapan BOR

352 Sattler NT
Kokoya Island, Halmaheras DEI

354 Lingkas, Tarakan BOR

355 Sadau Is BOR

410 Gin Gin WA This title was issued as a RAAF unit title while RAAF personnel, using SCR 270-B equipment, trained USN personnel at Gin Gin WA. The unit was then disbanded and reformed as 47RS.

UNNUMBERED STATIONS

Shepherd's Hill The first radar station installed and operated by the RAAF commenced in January 1942 - two months before 31RS at Dripstone Caves. The gear was later moved to Bombi where it became 19RS.

Port Kembla An Army AW station operated for a short time by Don Kennedy and crew before they set up Kiama.

Parkes No record has been found so far that this station actually operated. It was a GCI.

INCOMPLETE STATIONS

The civil works were completed at the following stations which never became operational as equipment was not installed

1 King Island, Bass Strait
2 Flinders Island, Bass Strait
8 Elliston, SA
9 Whyalla, SA
11 Robe, SA
12 Cape Nelson, VIC
21 Smoky Cape NSW
22 Yamba NSW
141 GCI, Wingfield, SA
202 Victor Harbor SA
203 Cowell SA

LOCATION OF ASSOCIATED UNITS

FIGHTER SECTORS[1]

1 Sydney NSW
Bankstown, NSW
2 New Lambton, NSW
3 Townsville, QLD
4 Port Moresby, PNG
5 Darwin, NT
6 Mt Lawley, WA
7 Preston, VIC
8 Brisbane, QLD
Amberley QLD
9 Cairns, QLD
Milne Bay, PNG
Goodenough Island, PNG
Dobodura, PNG
Madang, PNG
10 Darwin, NT
Sattler, NT
Darwin, NT
Morotai, DEI
11 Yanrey, WA
Giralia WA
Potshot WA
Lae PNG
Nadzab PNG
Cape Gloucester PNG
Tadji PNG
Morotai DEI
Labuan BOR
12 Horn Island, QLD
Townsville, QLD
Torokina, NB
13 Garbutt, QLD
Merauke, DNG
14 Camden, NSW
Goodenough Is, PNG
Kiriwina, PNG
Los Negros, ADM I
Tarakan, BOR

RADIO INSTALLATION AND MAINTENANCE UNITS

1 Coydon NSW[2]
2 Townsville QLD
3 Milne Bay PNG
Kranket Is, Madang PNG
4 Nadzab PNG
Noemfoor DNG
Morotai DEI
Labuan BOR
5 58 Mile, NT
6 Morotai DEI

RADAR WINGS

41 Port Moresby PNG
42 Townsville QLD with detachments at Horn Is QLD and Port Moresby PNG
44 Adelaide River NT

RADIO SCHOOL[3]

1 Richmond NSW
Maryborough QLD

[1] All Fighter Sectors were reclassified to Fighter Control Units on 7-3-44 and then renumbered by adding 100 to the original unit number (eg 7FS became 107FCU)

[2] Renamed to Radar Development and Installation Unit (RDIU)

[3] Renamed to RDF School and then Radar School

REPORTS AND REPORTING

For most historians official reports held in archives and the War Memorial are a major source of information. In the case of radar, Commanding Officers were not instructed or asked to fill in the A50 Unit History Sheet until some time around June 1942 or even later. Regrettably the situation is compounded by the fact that there are gaps in those records which still exist. An added complication is that some A50's were altered (see para 1 in Administrative Instruction No 11 on the next page). The extent to which they were altered is not known but it raises doubts as to the accuracy of A50's. Some of them leave much to be desired - being little more than a visitor's book. One could almost believe that the CO's were told that the less they wrote the less they had to defend later.

There are many instances of omissions which of course means that the full story of RAAF ground radar can never be told. Secrecy may have also played a part as many A50's do not adequately cover the events and incidents.

For example, in August 1945 a fire occurred at 301RS at Saidor. The A50's for the period June to September inclusive are missing and the only recorded reference to the fire is an entry on 18 November 1945 when the station was being disbanded and the equipment was being destroyed. It stated, "Similar action was taken on the original equipment burnt by the Japanese in August". Investigation has not established that the Japanese did actually burn the unit down and there are some who have definite views to the contrary.

In the case of 161RS, the official entry merely states "moved for special operation". The details of this special operation and subsequent fire were obtained from Wal Cornish and confirmed by others - this story is in *Radar Yarns*.

On the other hand some illuminating, but non radar, items have added colour to what was at many locations an isolated and boring life style not experienced by many other arms of our defence forces. At 27RS on Dunk Island, on 15 September 1944, F/Lt Simpson wrote :

> "Two new types of orchids found. A pencil and bottle brush orchid make a total of eight now found on the Island. These consist of two golden orchids, two varieties of ground orchids and two tree orchids yet to be named. To quote Banfield, 'This is veritably an orchid growers paradise'."

Then some personal feelings were expressed from time to time as shown by P/O B P Baker who, on 31 August 1945, wrote, "Will exchange one radar station complete for passage to AUSTRALIA for one officer and 29 men".

However, it was nice to read that S/Ldr Chilton, the CO of 44 Wing, used the A50 to record his appreciation of the efforts of radar personnel when the Wing was disbanded on 22 August 1944. The final paragraph of his entry reads :

> " In achieving all this [establishment and maintenance of stations], the degree of personal service given by the individual members of the Wing has been higher than is normally expected of men who joined the service to serve. Many have toiled under most arduous conditions to establish radar stations where not even the aboriginal could live before. Many have maintained vigilant watch despite the extreme tedium of the job. Some have worked at higher pressure for long hours every day at Wing Headquarters.
> Their job is not glamorous, it is secret and not talked about. Their reward is their pride of achievement."

Obviously 44 Wing was concerned at the level of reporting as the following instruction was sent to the CO's of stations in its area.

ADMINISTRATIVE INSTRUCTION No 11
UNIT HISTORY SHEET - FORM A50

1. The compilation of the Unit History Sheet, Form A50, as laid down in AFO 18/F/5 is not clearly understood by the majority of radar stations and every month this Headquarters finds it necessary to alter Unit History Sheets and re-type them for submission to HQ NWA. [Editor's emphasis in italics]

2. It is essential that Commanding Officers become acquainted with AFO 18/F/5 para 3(b) and compile the form A50 in accordance with these orders, bearing in mind the application the orders have to radar stations.

3. HQ NWA and higher formations are not interested in such items as "the seats of the Officers' latrines were raised" and "Half the Unit attended the picture show last night". Therefore discretion and thought should be given to particulars forwarded. In giving the details of visiting officers and civilians, full particulars, such as rank, correct name and initials, appointments and authority for such visit and nature of duty is to be stated and special care must be exercised in spelling names correctly. Every day events and happenings, unless of importance, should not be mentioned in the Unit History Sheet.

4. Unit History Sheets are impersonal and such references to "I, we, he," are not to be included. When referring to officers, all references must be by rank, name and appointment.

5. Some Radar Stations will have very little information and data to record on the Form A50, but it is not essential to record something for every day of the month unless it is important and in accordance with AFO 18/F/5 para 3(b).

6. Form A50 is to be numbered consecutively, numbered from month to month, eg if March records consisted of sheets No 1 to No 3, April records would commence with sheet No 4. This system of numbering, if not already in use, is to be introduced forthwith.

7. Form A50 is to be written up daily so that details and exact times of important occurrences may be noted while they are fresh in the mind of the officers compiling the record. This also permits the closing off of the sheet, and the entry of the strength of Officers and Airmen on the last day of the month. Both copies must be forwarded to Wing Headquarters.

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When the radar network began, paperwork was minimal and W/Cdr Pither ignored or cut any red tape, but things changed as can be seen by the following instruction also from 44 Wing. It may explain why many CO's and their clerks may have seemed to be preoccupied from time to time.

RETURNS TO BE RENDERED

WEEKLY

1. Ration Weekly Issue Sheets, Forms A1, A2, A3, A4 and B1.
2. Ration Return Form E143 all stations. Stations drawing from DID to Forward E143 together with daily copies of AB55's and P/P 27 (Ration and Parade States) 2 copies.
3. Weekly Medical Comforts Return.
4. Admissions to hospital - on occurrences only.
5. Return of N/T [W/T?] serviceability as at 2359 each Tuesday.
6. Defect reports.
7. Notification of change of address of next-of-kin or person to be notified in the event of casualty, on occurrence only.

8. Two copies of all charge forms (Form P/P27) Forms P/P7 NOT to be signed by Officer Commanding detachment except in column “by whom awarded” - on occurrence only.

BI-WEEKLY

1. Strength Return (for Medical Officer).

MONTHLY

1. Ammunition Return - 12th day of the month.
2. Fuel & Oil Return - last day of the month.
3. Welfare items held at the last day of the month (duplicate)
4. Canteen return as at last day of the month.
5. Return of Rations held in store as at last day of the month
6. Supplementary Allowance register, Form A (duplicate).
7. Return of indents submitted during month in accordance with Equipment Instruction No 6 - last day of the month.
8. Monthly Technical Maintenance Report - last day of month.
9. ‘Spotted Dog’ last day of month. To be submitted by new stations until notified otherwise by Wing Headquarters.
10. Technical Stock Return as at last day of month.
11. Unit History Sheet (Form A50) first day of each month.
12. Medical & Hygiene Report as at 30th day of month (For Medical Officer).
13. Return of Telephones & Telegraph Equipment - last day of each month.
14. Return of W/T Equipment & Power Plants -last day of each month in duplicate. Initial return to be rendered in full, showing serial numbers of all equipment held. Subsequent returns alterations only - NIL alterations returns if applicable.

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In all of our research we have not located any of the above, apart from the A50's which still exist. Much of it would have been very useful - in particular the ‘spotted dogs’. There must have been literally hundreds of those produced by stations and at the Radar Wings yet we have not seen one of them so far.

In view of the large number of stations, in most areas, which did not have food delivered, sometimes for several weeks, one wonders whether the Returns were actually read or whether it was a case of bureaucracy for bureaucracy’s sake.